

Chippewa County Land & Water Resource Management Plan

2019 - 2023



CHIPPEWA COUNTY LAND AND WATER RESOURCE MANAGEMENT PLAN

**Our mission is to encourage
“Stewardship for Sustainability”.....
to support a quality environment
and productive economy.**

***“We provide the services that allow people to make the conservation choices that
benefit us all.”***

Chippewa County Department of Land Conservation & Forest Management
Chippewa County, Wisconsin
May 14, 2019

Land Conservation & Forest Management Committee:

D. Gullickson, Chair	J. Pingel
J. Bergeron	G. Sikorski
J. Ewer	L. Willkom

Citizens Ad Hoc Advisory Committee:

Agricultural Interests

L. Danielson
M. Holub
T. Lueck
P. Michels
B. Panzer
K. Schmitt

Conservation/Land Trusts Interests

G. Bergstrom
R. Smith

Student Advisors

A. Jinkerson

Non-Metallic Mining Interests

C. Anderson
K. Filkins

Outdoor Recreational Interests

D. Dukerschein
S. Gygi

Woodlot Owners

J. Skorczewski

Streams, Lakes, & Water Interests

T. Bowe
S. Hilger
P. LaLiberte
B. Steele

Agency advisors:

UWEX

J. Clark

USDA

T. Lindsay, NRCS
K. Lentz, FSA

LCFM

M. Dahlby, Chip. Co. LCFM
R. Yohnk, Chip. Co. LCFM

C. Meyer, Meyer Environmental, LLC

DNR & DATCP

T. Kafka, DNR
J. Lepsch, DNR
M. Hazuga, DNR
C. Willger, DNR
S. Schneider, DATCP

Chippewa Co. Planning & Zoning Dept.

D. Clary

Plan prepared by:
D. Masterpole

Clerical and editorial support:
J. Schemenauer

For information about this document, please contact:
Dan Masterpole, County Conservationist/Dept. Director
Chippewa Co. Dept. of Land Conservation & Forest Management
711 N. Bridge Street, Chippewa Falls, WI 54729
#715-726-7920, www.co.chippewa.wi.us/lcfm

TABLE OF CONTENTS

	<u>Page</u>
Listing of Plan Maps, Figures, and Tables.....	vi
Listing of Appendices and Appendix Figures.....	viii
Executive Summary.....	1
1.0 Introduction.....	3
1.1 Overview of Statutory Authorities and Requirements.....	3
2.0 Purpose of Plan.....	4
3.0 Planning Methods.....	6
4.0 Geographic and Physical Characteristics of the County.....	8
5.0 Overview of Resource Conditions & Trends.....	12
5.1 Overview of Recent Research Studies.....	12
5.2 Information on Resource Conditions and Trends.....	13
5.21 Assessment of Land Cover and Land Use.....	15
5.22 Assessment of Soil Condition.....	21
5.23 Assessment of Surface Water Resource Condition.....	23
5.24 Assessment of Groundwater Condition.....	26
5.25 Assessment of Wetland Condition.....	32
6.0 Land and Water Issues of Priority Concern.....	33
7.0 Resource Management Objectives.....	37
7.1 Land Management Objectives.....	37
7.2 Surface Water Management Objectives.....	39
7.3 Groundwater Management Objectives.....	40
7.4 Wetland Management Objectives.....	41
8.0 Program Goals and Objectives.....	42
8.1 Energy Conservation and Waste Reduction.....	42
8.2 Land Conservation and Sustainability.....	45
8.3 Water Conservation.....	51
8.4 Lake and Flowage Management	53
8.5 Nonpoint Source Water Pollution Control.....	55
8.6 Planning and Environmental Regulation.....	59
9.0 Plan Implementation.....	61
9.1 Land Conservation & Forest Management Committee Program Support and Service Levels.....	63
9.2 Annual Work Plan Development and Reporting	64
9.3 Overview of Approach to Conduct Public Education and Community Outreach	65
9.31 Educational Service Delivery.....	65
9.32 Agricultural Agency Education Coordinating Council.....	66
9.33 Internet Web and Social Media Access.....	67
9.34 Relationships with Educational Institutions.....	67
9.35 Community Outreach.....	68
9.4 Overview of Approach to Preserve Unique Parcels and Working Lands.....	69
9.41 Cooperating Municipalities and Agencies.....	69
9.42 Use of Chippewa County Stewardship Fund.....	70

	<u>Page</u>
9.5 Overview of Approach to Control Agricultural Nonpoint Source Pollution Using NR 151 Agricultural Nonpoint Performance Standards.....	71
9.51 Fiscal Policy.....	73
9.52 Priority for Servicing Farms.....	74
9.53 Priority for Public Cost-Share Allocations.....	75
9.6 Overview of Approach to Control Urban Nonpoint Source Pollution Using NR 216 and NR 151 Urban Runoff Performance Standards.....	77
9.61 Storm Water Services Within the Chippewa Falls Urban Area.....	77
9.62 Storm Water Services Outside of the Chippewa Falls Urban Area.....	77
9.7 Application of Nonpoint Performance Standards and Best Management Practices to Pursue Land and Water Resource Objectives.....	78
9.71 State and County Standards.....	78
9.72 Best Management Practices.....	79
10.0 Performance Measures, Tracking and Public Accountability.....	80
10.1 Land Based Monitoring, Modeling, & Tracking.....	80
10.2 Nonpoint Source Pollution Control & Mine Reclamation Tracking.....	80
10.3 Water Based Monitoring, Modeling, & Tracking.....	82
10.4 Administrative Tracking.....	83
11.0 Year 2019–2023 Activity Schedule.....	83

Listing of Plan Maps, Figures and Tables

	<u>Maps</u>	<u>Page</u>
Map 1	Location of Chippewa County.....	8
Map 2	Pleistocene Geology of Chippewa County.....	9
Map 3	Major Soil Associations.....	9
Map 4	Location of Major Surface Waters, Watershed & Water Resource Monitoring Sites.....	11
Map 5	Distribution of Land Cover and Land Use.....	15
Map 6	Distribution of New Wells in Unincorporated Areas of Chippewa County.....	20
Map 7	Location of Livestock Facilities Subject to Chippewa County Animal Waste & Utilization Ordinance Meeting State NR-151 Ag Performance Standards & 590 Nutrient Management Standards.....	22
Map 8	Location of Exceptional and Outstanding Resource Waters, 303(d) Surface Waters Impaired by Sediment & Nutrient Sources, & WPDES Stormwater Permit Boundary.....	24
Map 9	Location of Lake Wissota Stewardship Project & Project Locations.....	25
Map 10	Location of Wells Where Information About Water Chemistry has been Compiled Through County Sponsored Water Sampling Projects.....	28
Map 11	Concentration of NO ₃ -N Located Throughout Chippewa Co.....	30
Map 12	2016 Nitrate-N Inverse Distance Weighting.....	30

	<u>Figures</u>	<u>Page</u>
Figure 1	Cattle, Calves, & Milk Cows in Chippewa County.....	16
Figure 2	Total Milk Cow Herds in Chippewa County	17
Figure 3	Acres Planted/Harvested for Crops in Chippewa County, WI.....	17
Figure 4	Acres of Farmland in Chippewa County, Wisconsin Converted to Nonagricultural Use, 1988-2016.....	19
Figure 5	Components of the Chippewa County Groundwater Inventory.....	27
Figure 6	2016 Water Quality by Pleistocene Geology Category.....	29
Figure 7	Comparison of Nitrate Concentrations Over Time.....	31

	<u>Tables</u>	<u>Page</u>
Table 1	A Partial Listing of Resource-Based Management Plans & Scientific Studies for Areas of Chippewa County Prepared by Public Agencies.....	13
Table 2	A Partial Listing of Dynamic GIS-Based Resource Inventories and Data Sets Maintained by Chippewa County.....	14
Table 3	Acres Planted/Harvested for Crops in Chippewa County, Wisconsin.....	18
Table 4	A Summary of Chippewa County Land Sales Total Number of Annual Agricultural Land Sales and Percent Converted to Nonagricultural Use.....	19
Table 5	Local Priorities for Implementing Agricultural Nonpoint Standards in Chippewa County Based Upon Need, Type, and Location of Practice.....	76
Table 6	Schedule of Activities to Implement LWRM Plan.....	85
Table 7	Benchmark Measures for High Priority Activities to Track Progress Toward LWRM Plan Implementation.....	95
Table 8	Anticipated Budget by Program Area to Implement LWRM Plan.....	105

<u>Appendices</u>		<u>Page</u>
Appendix 1	Overview of Public Participation	A1-1
Appendix Figure 1.1	Outline of Ad Hoc Advisory Committee Charge Chippewa County Land and Water Resource Management Plan Revision and Citizens Ad Hoc Advisory Committee Members.....	A1-2
Appendix Figure 1.2	Schedule of planning activities.....	A1-6
Appendix Figure 1.3	Press release to inform public of listening sessions.....	A1-8
Appendix Figure 1.4	Summary of listening sessions & information.....	A1-9
Appendix Figure 1.5	Public Hearing Notice.....	A1-10
Appendix 2	Resource Management Information Provided by DNR.....	A2-1
Appendix Figure 2.1	Watershed tables for the Lower and Upper Chippewa River Basin and associated classification in Chippewa County.....	A2-2
Appendix Figure 2.2	Water quality standards for each class of water.....	A2-60
Appendix 3	Chippewa County Stewardship Fund Policy and Procedures for Program Administration.....	A3-1
Appendix 4	Addendum to the Chippewa County Operational Agreement Between DNR & Chippewa County Land Conservation Department for the Administration and Implementation of Agricultural Nonpoint Pollution Performance Standards and Prohibitions Under NR151 and NR243, April 16, 2004.....	A4-1
Appendix 5	Amendment to Chippewa County Operational Agreement Between DNR, Chippewa County Land Conservation Department, and Chippewa County Zoning Department for Stormwater Plan Review and Associated Engineering Services in Chippewa County.....	A5-1
Appendix 6	Format for Annual Interagency Soil & Water Conservation Work Plan.....	A6-1

CHIPPEWA COUNTY LAND AND WATER RESOURCE MANAGEMENT PLAN

EXECUTIVE SUMMARY

In Wisconsin, counties have been assigned statutory authority to plan and implement soil and water conservation, and nonpoint source water pollution control programs to meet local needs. Wisconsin Stats., Chapter 92 requires the county to develop a county land and water resource management plan.

This plan has been developed by the Chippewa County Land Conservation Committee, serving as the County Land Conservation & Forest Management Committee, to meet state requirements and to serve as a guide for local conservation efforts administered by the county, and cooperating state and federal agencies.

The plan has been developed using input from a citizens advisory group representing a wide-range of local agricultural, forestry, land development, and environmental interests.

This plan describes the existing condition of land and water resources in Chippewa County, and outlines conservation issues of primary concern. It also describes how the county will direct its programs to address these issues.

The plan places a priority on land and water conservation programs that will conserve the natural resource base and contribute to the rural economy through sustained agricultural, forestry, and mining production.

A review of resource conditions has shown that global trends are placing an increasing demand on the local resource base.

The plan clarifies how the county will begin to respond to climate change, and how it will support efforts to pursue renewable energy production, assure mine reclamation, and encourage recycling.

The plan clarifies how the county will work with interested landowners and nonprofit conservation organizations to identify and preserve unique parcels of high environmental value.

The plan outlines an approach to preserve blocks of “agricultural working lands” and forests using voluntary conservation agreements. These agreements would be augmented through use of rural density limits and agricultural zoning, if established and adopted by individual towns.

Importantly, the plan clarifies how the county will manage soil erosion and nonpoint water pollution from both agricultural and nonagricultural sources.

In agricultural areas, public funds will be used to maintain a Voluntary Farm Evaluation and Certification Program that will be used to introduce and administer state mandated agricultural performance standards. This voluntary program will be augmented by a regulatory program that will be pursued through the county’s Manure Storage and Livestock Facility Ordinance and its comprehensive zoning ordinances.

In urbanizing areas, the county will work with municipalities to control storm water runoff. The county will work with the Village of Lake Hallie and the towns of Anson, Eagle Point, and Lafayette to maintain a joint storm water management program to meet state and federal storm water permit requirements for the Chippewa Falls Urban Area.

With regard to management of public lands, the county will work with town officials, state agencies, and nonprofit organizations to purchase conservation easements or select parcels from willing sellers in designated management areas.

The county will manage the Chippewa County Forest for timber production, resource protection, and public use as defined in the Chippewa County Forest Management Plan.

To implement the plan, the county will work closely with all other local, state, and federal conservation agencies, including the USDA Farm Service Agency (FSA) and Natural Resource Conservation Service (NRCS), the WI Dept. of Natural Resources (WNDR), the WI Dept. of Agriculture, Trade, and Consumer Protection (DATCP), the University of Wisconsin – Extension (UWEX), the United States Environmental Protection Agency (EPA), and the United States Department of Interior.

As a basis for this effort, the county will actively work with existing educational institutions and conservation and civic organizations, with the objective of providing opportunities for direct citizen involvement and community participation in the local conservation effort.

Chippewa County will implement this plan within the limits of available resources using a schedule of activities contained in the plan. The county will use an annual work planning and budget process to systematically evaluate progress toward plan implementation.

This plan was developed using a ten (10) year planning horizon to meet the requirements of Wis. Stats. 92.06 for a five (5) year period. If, at the end of those five years, no amendments are warranted, the county may seek a five (5) year extension to the plan.

1.0 INTRODUCTION

1.1 Overview of Statutory Authorities and Requirements

In Wisconsin, counties have been assigned responsibility to plan and manage the local land, soil, and water resource base. In carrying out this responsibility, counties work directly with individual landowners, other municipalities, state and federal agencies, and nonprofit conservation organizations.

Wisconsin Stats., Chapter 59.69 assigns counties the authority and responsibility to plan and regulate land use to protect the public health, safety, and welfare. Wisconsin Stats., Chapter 287.09 assigns the authority to plan and administer solid waste and recycling programs. Wisconsin Stats., Chapter 28.11 assigns the authority to establish, plan, and manage county forest land.

Wisconsin Stats., Chapter 92 establishes a general framework for land and water conservation programs. Wisconsin Stats. 92.06 requires that each county create a land conservation committee.

Wisconsin Stats. 92.10 establishes a state land and water resource management planning program and requires that each county prepare a land and water management plan. Wisconsin Admin. Code ATCP 50.10(1)(a) requires each land conservation committee to establish a land and water resource management plan and a program to implement that plan.

2.0 PURPOSE OF PLAN

This plan has been developed by the Chippewa County Land Conservation & Forest Management (LCFM) Committee to meet the requirements of WI Stats., Chapter 92.10(6). These requirements are specified as follows:

“92.10(6) IMPLEMENTATION; COMMITTEE DUTIES. (a) Plan preparation. A land conservation committee shall prepare a land and water resource management plan that, at a minimum, does all of the following:

- 1. Includes an assessment of water quality and soil erosion conditions throughout the county, including any assessment available from the department of natural resources.*
- 2. Specifies water quality objectives for each water basin, priority watershed, as defined in s. 281.65(2)(c), and priority lake, as defined in s. 281.65(2)(be).*
- 3. Identifies the best management practices to achieve the objectives under subd. 2. and to achieve the tolerable erosion level under s. 92.04(2)(i).*
- 4. Identifies applicable performance standards and prohibitions related to the control of pollution from nonpoint sources, as defined in s.281.65(2)(b), and to soil erosion control, including those under this chapter and chs. 281 and 283 and ss. 59.692 and 59.693.*
- 5. Includes a multi-year description of planned county activities, and priorities for those activities, related to land and water resources, including those designed to meet the objectives specified under subd. 2. and to ensure compliance with the standards and prohibitions identified under subd. 4.*
- 6. Describes a system to monitor the progress of activities described in the plan.*
- 7. Includes a strategy to provide information and education related to soil and water resource management.*
- 8. Describes methods for coordinating activities described in the plan with programs of other local, state, and federal agencies.”*

In doing so, this plan has also been prepared by Chippewa County to serve the following purposes:

1. Define local environmental issues of priority concern, and to establish local natural resource management goals and conservation program objectives.
2. Provide an implementation framework and activity schedule that will be applied to pursue the natural resource management goals, as defined.
3. Serve as a guide for local, state and federally-sponsored soil and water conservation, and nonpoint source water pollution control programs and projects.
4. Document the procedures that will be used by Chippewa County to engage the community and to coordinate local land and resource management programs administered by county departments with those administered by state and federal agencies.
5. Serve as a contributing component to the Agricultural, Natural, and Cultural Resource Element of the Chippewa County Comprehensive Plan, and serve to support the implementation of the Chippewa County Strategic Plan.

3.0 PLANNING METHODS

This plan was prepared by the Chippewa County Department of Land Conservation & Forest Management using an interagency process for natural resource planning, adopted by Chippewa County and cooperating state and federal agencies through an interagency memorandum of understanding titled: Chippewa County Operational Agreement, (April, 1999).

Participating agencies under that agreement include the Chippewa County Land Conservation & Forest Management Committee, the U.S. Dept. of Agriculture, Farm Service Agency and Natural Resource Conservation Service, the University of Wisconsin-Extension Service, the Wisconsin Dept. of Natural Resources, and the Wisconsin Dept. of Agriculture, Trade, and Consumer Protection.

Minor changes to this process were made to meet requirements for planning and public participation, as defined in Wisconsin Stats. 92.10, and ATCP 50.12 and 50.16.

Planning oversight was provided by the Chippewa County Land Conservation & Forest Management Committee through scheduled committee meetings.

At the onset of the planning effort, the Department's web page was upgraded to inform the public of the plan revision process, post planning materials, and provide opportunities for public participation.

A local stakeholder advisory committee was appointed to assure structured input from a range of public interests. The assigned charge of the advisory committee and stakeholder representation is provided in Appendix 1, Figure 1.1.

To assure coordination between the Land Conservation & Forest Management Committee and the stakeholder advisory committee, a parallel planning process was used. Under this process, a coordinated meeting schedule was set, with identical planning materials provided to each group. Minutes of meeting discussions and working drafts of the plan elements were systematically exchanged through the course of the planning process.

The stakeholder advisory committee met a total of five (5) times in 2018 and 2019 to systematically review and revise the existing Chippewa County Land and Water Resource Management Plan. A series of focus questions were used to solicit comments and guide discussions. All meetings were publically noticed and posted on the Chippewa County website, www.co.chippewa.wi.us/lcfm, following requirements of the Wisconsin Open Meetings Law.

The planning schedule and public meeting dates are provided in Appendix 1, Figure 1.2. The meeting materials and minutes documenting points of discussion are on file as public record.

A revised working draft of the Chippewa County Land and Water Resource Management Plan, (2019-2023), was developed and forwarded on 1/23/19 to the Dept. of Agriculture, Trade, and Consumer Protection and the WI Dept. of Natural Resources for initial agency review.

Three (3) public listening sessions were held (2/19/19, 2/20/19, 2/21/19) to present an overview of the updated plan, with opportunities for public questions and dialogue.

The press release used to inform the public of the listening sessions is provided as Appendix 1, Figure 1.3. A summary of the listening sessions and information presented is provided in Appendix 1, Figure 1.4.

A public hearing was held on 3/11/19 with opportunities for formal public comment.

A copy of the published public hearing notice is provided as Appendix 1, Figure 1.5.

The draft plan and public hearing record was considered and amended by the Land Conservation & Forest Management Committee on 3/20/19 and 4/17/19.

The plan was then forwarded to the Chippewa County Board of Supervisors for consideration on 5/14/19 and to the Wisconsin Land and Water Conservation Board for consideration on 6/3/19.

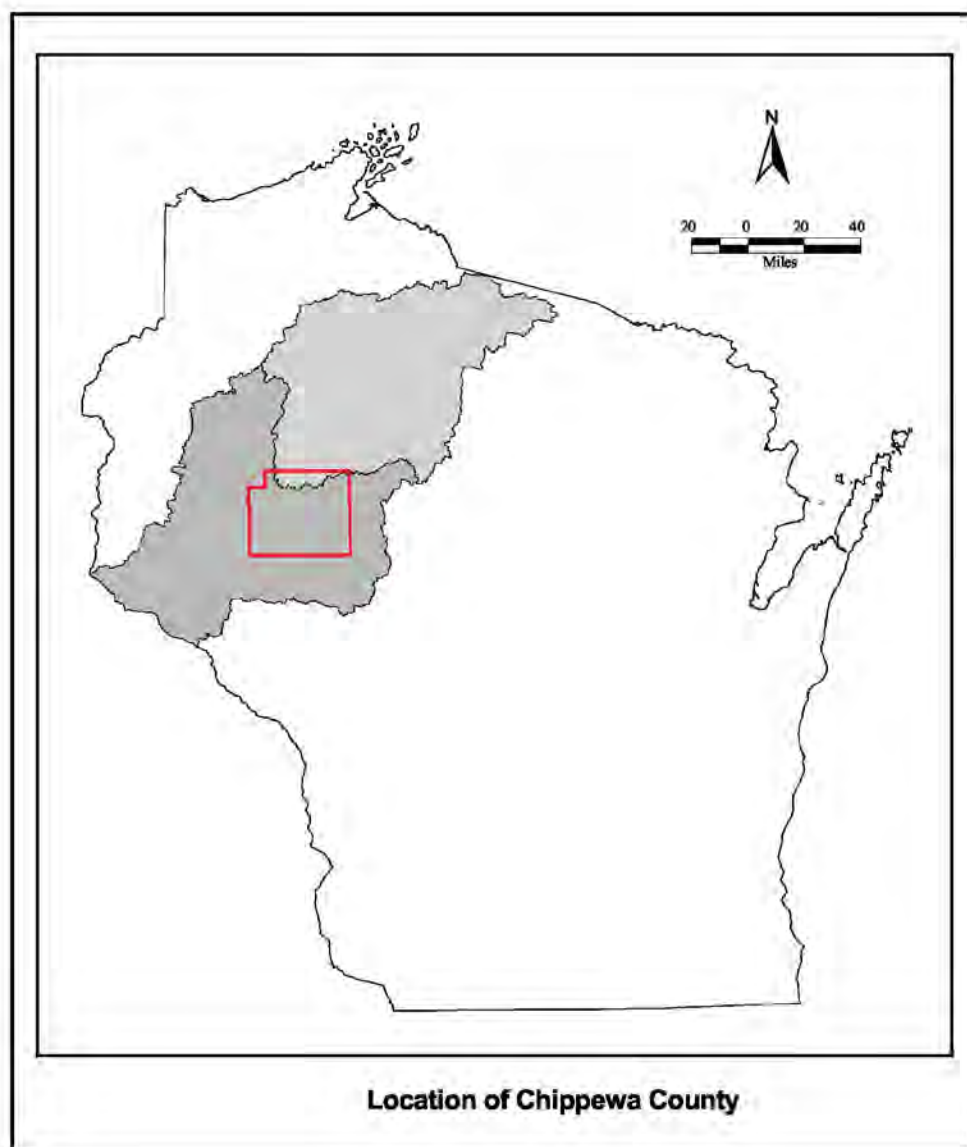
4.0 GEOGRAPHIC AND PHYSICAL CHARACTERISTICS OF THE COUNTY

Chippewa County is located in west central Wisconsin. It encompasses 656,000 acres and lies entirely within the Chippewa River Basin of the Mississippi River Basin.

The county is located in an ecological transition zone and contains a diverse mix of high quality northern and southern plant communities.

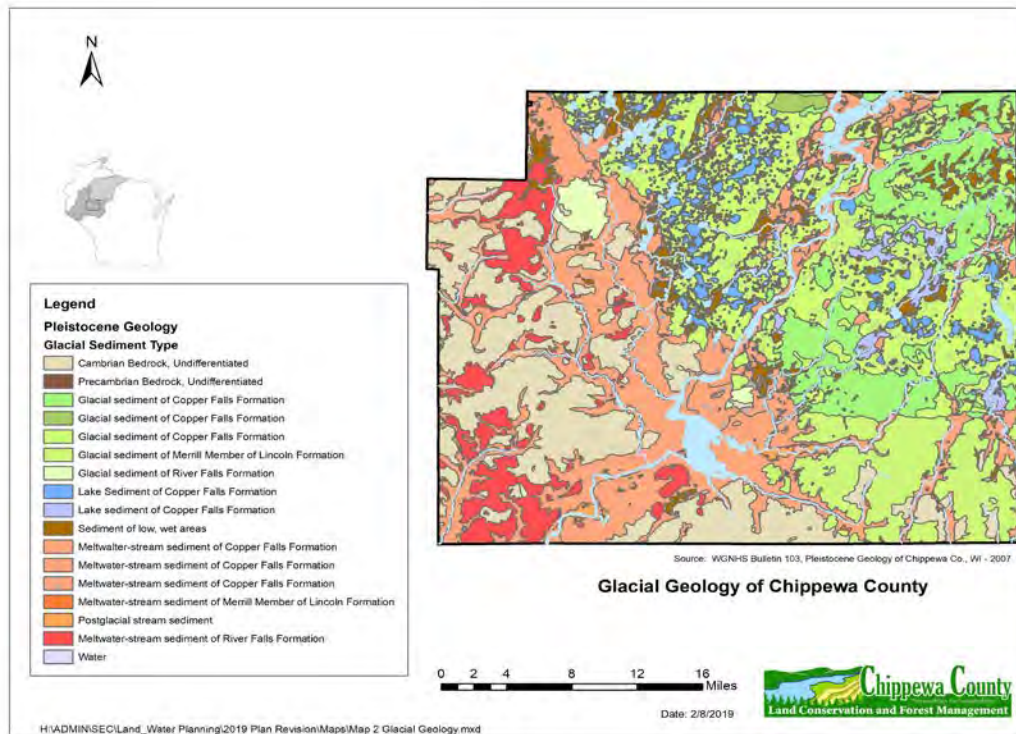
Map 1 shows the location of the county in proximity to the upper and lower Chippewa River Basins.

Map 1



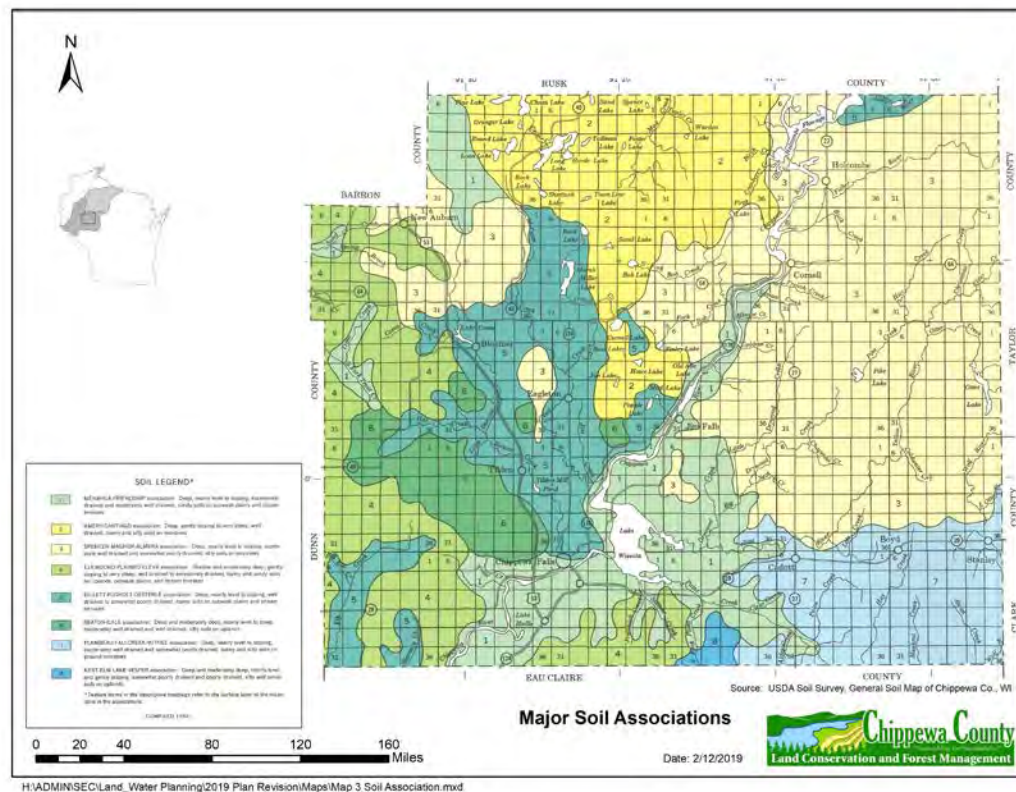
Map 2 illustrates the Pleistocene geology of Chippewa County showing major glacial deposits.

Map 2



Map 3 illustrates the corresponding soil associations.

Map 3



The glacial geology and landscape in Chippewa County is complex.

Four (4) geographic areas can be distinguished based upon landscape type and drainage features: a well-defined recessional moraine, till plain, outwash plain, and a steeply rolling sandstone upland.

A description of these land forms and the corresponding influence on soil capability and land use can be summarized as follows:

Moraine

A well-defined recessional moraine extends southeast from New Auburn, in the northwest corner of the county, to Jim Falls on the Chippewa River. From Jim Falls, glacial deposits extend further southeast to Cadott providing evidence of earlier glacial advances. Surface features of the moraines are characterized by hummocky topography, closed surface depressions, and numerous kettle hole lakes, bogs, and wetlands. Soils of the area are of the Amery Association. Land is used predominantly for forest production, outdoor recreation, and residential development.

Till Plain

A gently rolling till plain, drained by the Fisher River and Yellow River watersheds, extends north and east of Cadott to the borders of Clark, Taylor, and Rusk County. Drainage patterns in these watersheds are poorly defined and reflect glacial processes. Many perched and groundwater contact wetlands are found in closed surface depressions and along drainage ways.

Soils are generally of the Magnor-Almena-Spencer Association. Till deposits are in turn underlain by Cambrian sandstone or Precambrian granite or gneis. Land is used predominately for dairy-based agriculture.

Outwash Plain

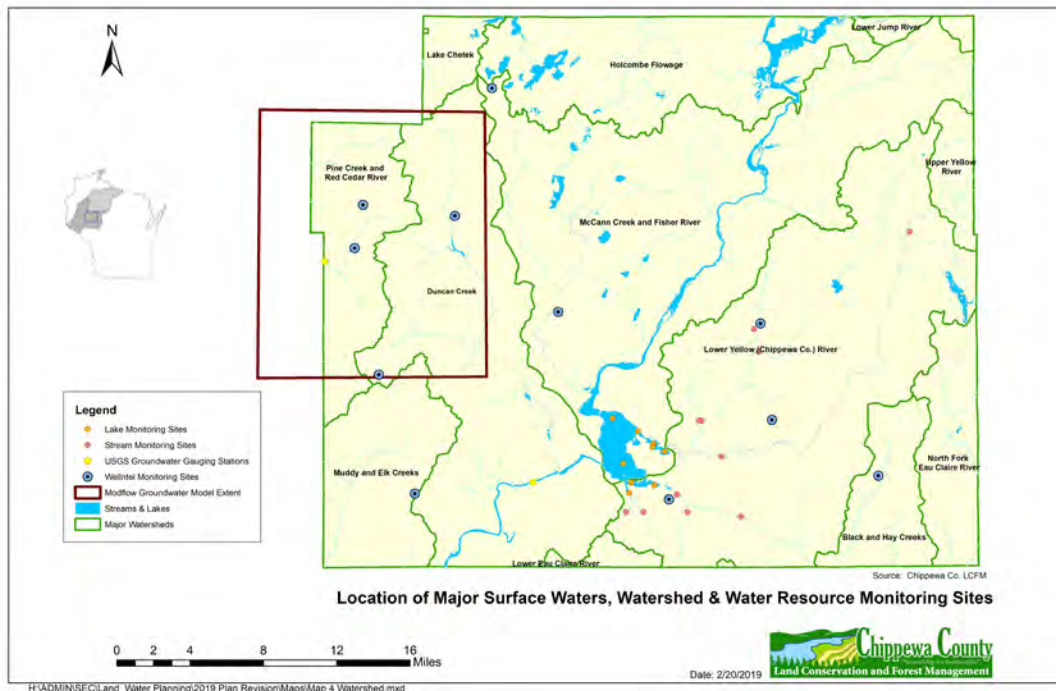
A broad, nearly level, outwash plain extends south from the recessional moraine to the Chippewa River. The area is drained by sub-basins of the Duncan Creek, Fisher River, and Lower Yellow River watersheds. Drainage patterns are very poorly defined. Wetlands are limited to groundwater contact areas adjacent to surface waters. Soils are of the Menahga-Friendship and Billett-Rosholt-Oesterle Associations. Outwash deposits may extend 100 feet below the land surface and are underlain by Cambrian sandstone and Precambrian Granite. Land is used predominately for cash grain agriculture.

Sandstone Upland

A steeply rolling sandstone upland abuts the central outwash plain and extends west to the Dunn County border. The area is drained by the Red Cedar, Muddy Creek, and Duncan Creek Watersheds. Drainage patterns are very well defined with channelized intermittent streams often extending to the upper reaches of the landscape. Wetlands are limited to groundwater seep areas found in association with contact springs in hillside draws or adjacent stream channels. Soils are generally of the Elkmound-Plainbo-Eleva Association or the Seaton-Gale Association. Land is used predominately for dairy and cash grain agriculture.

Map 4 shows the location of surface water resources and associated EPA HUC 12 watershed management areas. It also shows the location of active surface and groundwater gauges, and the location of known surface water quality monitoring sites managed by the WDNR and citizen volunteers.

Map 4



5.0 OVERVIEW OF RESOURCE CONDITIONS & TRENDS

5.1 Overview of Recent Research Studies

From approximately 2009 to the present, there has been a significant development and expansion of irrigated agriculture and non-metallic mining in western Chippewa County.

In response to public concerns over the cumulative impacts of this development, Chippewa County and the effected industries initiated environmental monitoring, and then collaborated to develop and conduct a series of scientific studies to assess the immediate and potential longer-term impacts of this on the land and water resource base.

These studies have documented the current physical condition of the affected soil, land, and water resources, the anticipated environmental impacts, and the resource management and conservation measures that can be applied to limit those impacts.

The purposes of these studies, as designed, can be summarized as follows;

1. Hydrogeologic Study of Western Chippewa County, (2012-2017), conducted by WI Geologic and Natural History Survey and US Geological Survey, (2012-2017) to evaluate how increased water demand by irrigated agriculture and industrial sand mines will affect groundwater levels and stream baseflows.

Note: Importantly, as part of this effort, a groundwater model has now been developed by the United States Geological Survey and the Wisconsin Geological and Natural History Survey (ModFlow 3D State Study) to evaluate the cumulative impacts of new and existing high capacity wells on groundwater elevations and surface water in western Chippewa County and eastern Dunn County.
2. Non-Metallic Mine Reclamation Research Study (2012-2024), conducted by UW-River Falls Dept. of Geology and Soil Science to demonstrate mine reclamation processes, and to document soil properties and functions before and during mine reclamation.
3. 2016 Chippewa County Groundwater Inventory and Well Sampling Project, conducted by UW-Stevens Point, UWEX Center for Watershed Science and Education (2016-2018), to update groundwater chemistry throughout Chippewa County, and to document spacial patterns and changes that have occurred from 1985 to 2007, and from 2007 to present.
4. West Central WI Groundwater Elevation Monitoring Network Feasibility Study, conducted by WGNHS, USGS, Wellntel, and Chippewa, Dunn, and Eau Claire Counties (2015-2018), to field test and document the feasibility of establishing an automated groundwater elevation monitoring network.

5.2 Information on Resource Conditions and Trends

A series of reports, maps, and data sets have been compiled that summarize the condition of land, water, and associated natural resources in Chippewa County. Much of this information is contained in published management plans developed by county departments, the Wisconsin Department of Natural Resources (WDNR), and the West Central Wisconsin Regional Planning Commission (WCWRPC).

A listing of resource-based management plans and studies that describe natural resource conditions in Chippewa County, is provided in Table 1.

Table 1

**A PARTIAL LISTING OF RESOURCE-BASED MANAGEMENT PLANS & SCIENTIFIC STUDIES
FOR AREAS OF CHIPPEWA COUNTY
PREPARED BY PUBLIC AGENCIES**

Type of Plan	Responsible Agency	Date of Plan
Land Resource- Based Plans		
Chippewa County Farmland Preservation Plan	LCFM	1985
Chippewa County Erosion Control Plan	LCFM	1993
Chippewa County Forest Comprehensive Land Use Plan 2006-2020	LCFM	2008
Chippewa County Outdoor Recreation Plan	LCFM	2008
Water Resource-Based Plans, Studies, Inventories		
Surface Water Inventory of Chippewa County	WDNR	1963
Chippewa/Eau Claire Urban Area Sewer Service Plan	WCWRPC	1985
Chippewa Co. Baseline Groundwater Inventory & Water Quality Assessment	WGHNS	1985
Duncan Creek Priority Watershed Plan	WDNR/LCFM	1995
Lower Chippewa River Basin Water Quality Mgt Plan	WDNR	1996
Yellow River Nonpoint Source Pollution Inventory	LCFM	1998
Hallie Water Quality Management Plan - Phase I	WDNR	1999
Upper Chippewa River Basin Water Quality Mgt Plan	WDNR	2000
Hallie Water Quality Management Plan - Phase II	WDNR	2000
State of the Lower Chippewa River Basin Report	WDNR	2001
Phosphorus Loading & Trophic Status of Lakes in the Yellow River Watershed	WDNR	2004
Biotic Inventory of Native Plant Communities & Threatened/Endangered Resources	WDNR/LCFM	2006
Chippewa County Forest 15-Year Plan 2006-2020	WDNR	2007
Pleistocene Geology of Chippewa County, WI	UWEC/WGNHS	2007
Chippewa Falls Urban Area Storm Water Mgt Plan	LCFM	2007
2007 Chippewa County Groundwater Inventory & Water Quality Assessment	LCFM	2008
Little Lake Wissota WQ Modeling Study & TMDL Plan	WDNR	2008
Chippewa County Flood Plain Map & Report	FEMA	2008
Phosphorus Loading Model for Lake Eau Claire & Altoona	UWSP	2008
Little Lake Wissota Watershed Soil Test Inventory	LCFM	2009
Current Resource Inventories		
2016 Chippewa County Groundwater Inventory & Water Quality Assessment	UW-Stevens Point	2016
Hydrogeologic Study of Western Chippewa Co.	USGS/WGNHS	2018
WellIntel Groundwater Elevation Monitoring Network Study	WGNHS/LCFM	2018
Non-Metallic Mine Test Pilot Study	UW-River Falls	2018
Chippewa Falls Urban Area Storm Water Facilities Inventory	LCFM	2019

This information is augmented by a number of detailed resource inventories that are systematically updated and maintained by county, state, and federal agencies. A partial listing of pertinent resource inventories, data sets, and computer maps routinely maintained by Chippewa County is provided in Table 2.

Table 2

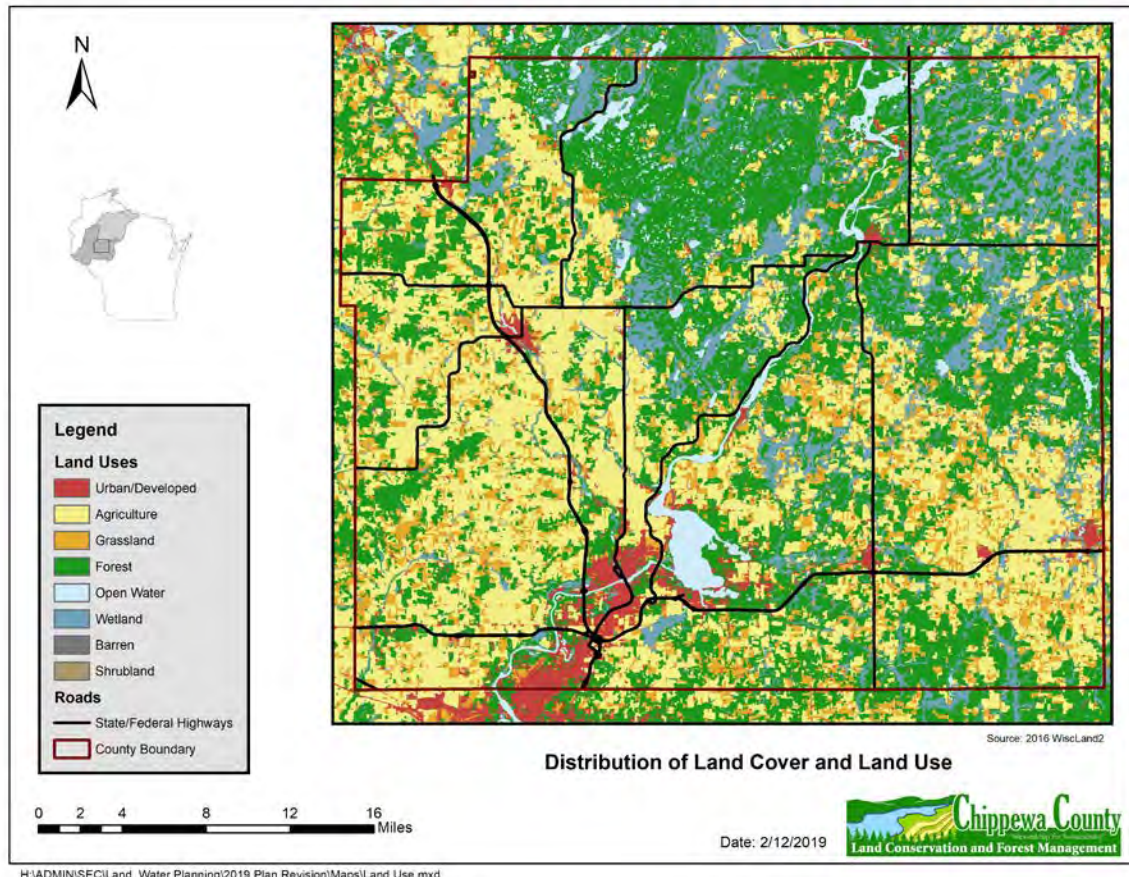
A PARTIAL LISTING OF DYNAMIC GIS-BASED RESOURCE INVENTORIES AND DATA SETS MAINTAINED BY CHIPPEWA COUNTY

Dynamic GIS Layers	Maintenance Responsibility
Ownership Management Units	
Tax parcel boundaries	Land Records
Aerial Imagery	
1995 Landsat	
1998 Isc	
02, 04, 05, 06, 08, 10, 12, 14, 16, 18	USDA; NAIP
2012 LIDAR	Land Records
Farmland Management	
Farmland Preservation tracts and parcels	LCFM
USDA field and tract boundaries	USDA
Animal Waste Ordinance - manure storage sites	LCFM
Animal Waste Ordinance - nutrient mgt. fields	LCFM
NR151 Standard - evaluated parcels	LCFM
Erosion monitoring - individual fields	LCFM
Conservation Easements	
CREP	LCFM
Stewardship	LCFM
Non-Point Source	LCFM
Chippewa County Groundwater Inventory	
New well and replacement permits	LCFM
Private well chemistry	LCFM
Private well geology	LCFM
WellIntel groundwater elevations	LCFM
County Ordinance Monitoring	
NR135 non-metallic mines	LCFM
CF urban area storm water mg - BMP's	LCFM
Stormwater plan reviews	LCFM
Wetlands	
WDNR wetlands	WDNR
NRCS wetlands	USDA
Forestry Land Use	
County Forest Land Forest Management Units	LCFM
Natural Resource Features	
Perennial and intermittent streams	WGNHS
Drainageways	USDA
Lakes	WGNHS
Soils	USDA
Geology	WGNHS
Surface contours	WGNHS
Groundwater contours	WGNHS
Bedrock	WGNHS
Land cover	WDNR

5.21 Assessment of Land Cover and Land Use

The type and extent of current land cover and land use in the county has been established through satellite-based remote sensing techniques (1993 State LANDSAT, 1995 Chippewa County Land Use Project; 1998 WISCLAND). Land use changes are monitored through time using USDA (NAIP) and WDNR aerial photography and remote sensing data. Map 5 illustrates the current distribution of land cover and land use.

Map 5



Ongoing land use trends in unincorporated areas of the county are currently determined by monitoring agriculture land sales, the location of new domestic well permits, and general agricultural statistics.

Figures 1, 2, and 3 reflect an ongoing land use and economic trend in Chippewa County whereby small dairy farms are being replaced by cash grain operations or by large-scale dairy, swine, and poultry operations.

Figure 1 and 2 show the reduction of milk cow herd and cattle. Table 3 and Figure 3 show the corresponding change in crops grown as the crop producers have shifted from dairy-based forages to cash grain crops.

Figure 1

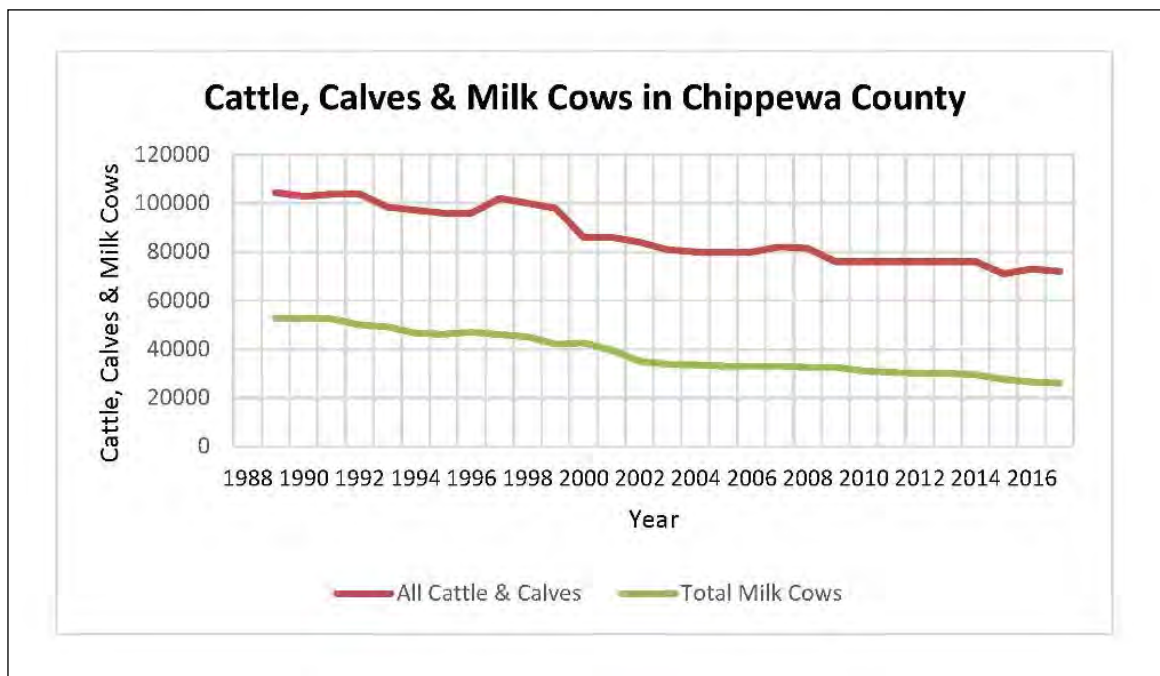


Figure 2

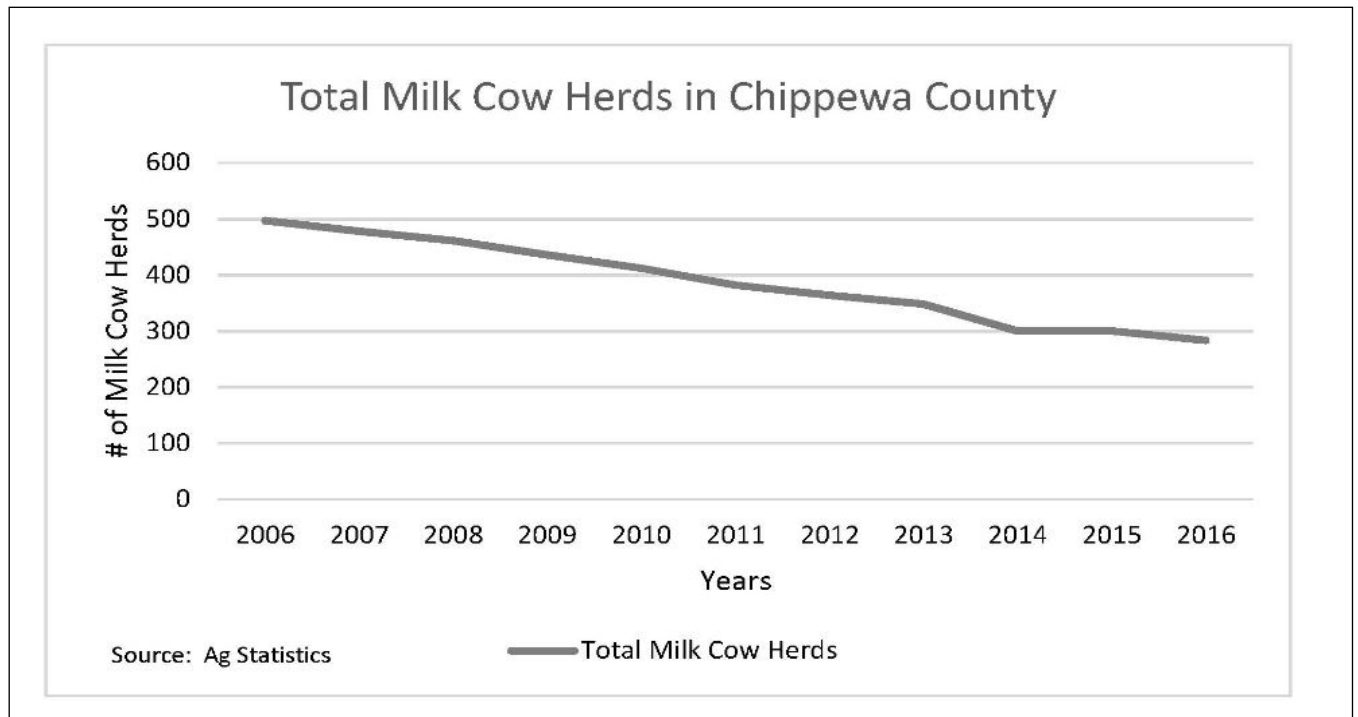


Figure 3

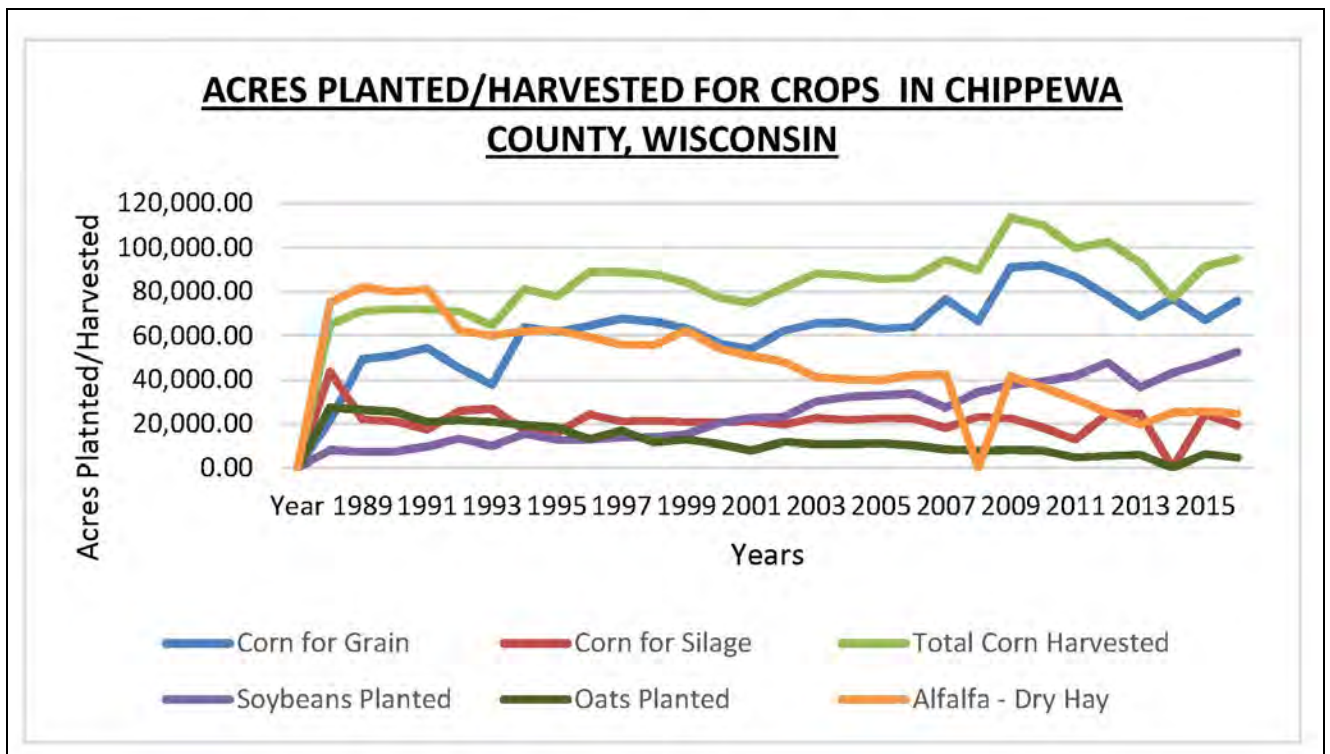


Table 3

4/27/2018

ACRES PLANTED/HARVESTED FOR CROPS IN CHIPPEWA COUNTY, WISCONSIN

Year	Corn Harvested for Grain	Corn Harvested for Silage	Total Corn Harvested	Soybeans Planted	Oats Planted	Alfalfa Harvested as Dry Hay	Other Hay Harvested as Dry Hay	Specialty Crops Plants
1988	21,500	43,600	65,100	8,000	27,400	75,100	28,200	4,150
1989	49,300	21,900	71,200	7,250	26,300	82,000	20,900	3,770
1990	51,000	21,000	72,000	7,400	25,400	80,000	18,700	2,550
1991	54,400	17,400	71,800	9,600	20,900	81,000	13,800	3,050
1992	45,200	25,800	71,000	13,300	21,600	62,200	22,500	3,100
1993	37,700	26,800	64,500	9,900	20,800	60,000	25,500	3,100
1994	63,900	17,200	81,100	15,400	19,400	62,000	16,200	3,000
1995	61,800	15,900	77,700	12,700	18,300	62,200	16,400	3,100
1996	64,500	24,200	88,700	12,700	13,100	59,400	16,400	*1,900
1997	67,700	21,000	88,700	13,700	16,900	55,900	18,400	*1,600
1998	66,400	21,400	87,800	14,000	11,400	55,800	17,900	*2,000
1999	63,400	20,700	84,100	15,300	12,800	62,400	20,500	*2,200
2000	56,500	20,600	77,100	20,200	10,800	54,100	9,700	*1,900
2001	54,000	21,000	75,000	22,800	7,700	50,700	9,400	*1,300
2002	62,200	19,500	81,700	23,100	11,800	48,100	13,100	*1,700
2003	65,500	22,700	88,200	30,100	10,700	41,000	16,400	*1,400
2004	65,800	21,700	87,500	32,200	10,800	40,100	14,600	*1,800
2005	63,000	22,500	85,500	32,800	11,200	39,800	15,600	*1,600
2006	63,900	22,300	86,200	33,600	10,200	42,000	15,500	*2,100
2007	76,400	18,100	94,500	27,300	8,300	42,300	11,500	*1,700
2008	66,500	23,100	89,600	34,400	7,700	*51,700	-----	*1,900
2009	91,000	22,500	113,500	37,400	8,000	41,500	10,400	Not Available
2010	92,000	18,200	110,200	39,300	7,800	36,400	10,000	*700
2011	86,800	12,800	99,600	41,700	4,700	31,100	Not Available	Not Available
2012	78,000	24,600	102,600	47,800	5,400	24,900	Not Available	Not Available
2013	68,500	24,600	93,100	36,400	5,900	19,600	Not Available	Not Available
2014	76,900	Not Available	76,900	43,100	Not Available	25,000	Not Available	Not Available
2015	67,100	24,300	91,400	47,300	6,300	25,700	Not Available	Not Available
2016	75,900	19,200	95,100	52,600	4,600	24,600	Not Available	Not Available

Specialty crops include barley, winter wheat, snap beans, green peas, and sweet corn.

*All dry hay (alfalfa & other hay harvested)

*Barley Only

Source: Wisconsin Agricultural Statistics, 1988 - 2016

Additional statistics on farm ownership compiled by the USDA Farm Service Agency (FSA) indicates that approximately 50% of the agricultural cropland in Chippewa County is now “owner operated” with the remaining 50% being owned by rural landowners and leased to agricultural producers.

Nearly all of this leased land is rented to immediate neighbors or to a limited number of larger-scale cash grain producers who use the acreage to accrue an economically viable land base. From discussions with producers, rental agreements in Chippewa County generally range in length from one to five years, with approximately 50% of the agreements based upon a three to five year lease, and 50% of the rental agreements conducted on an annual basis with year to year renewals.

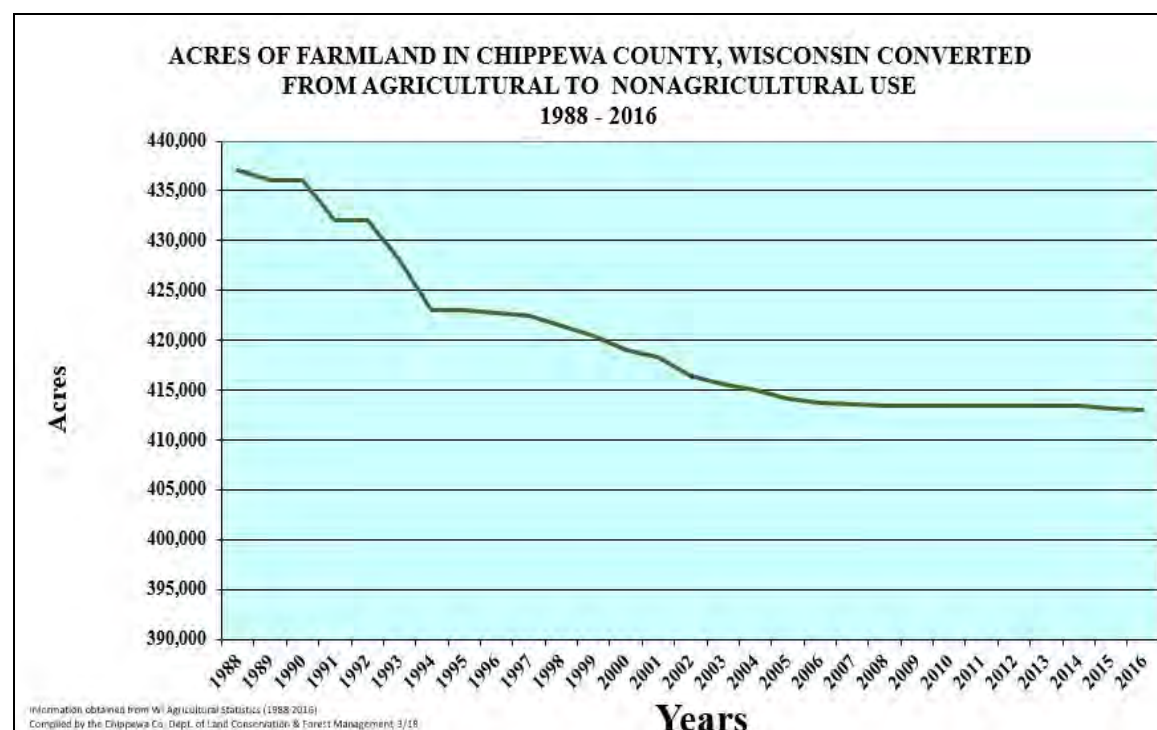
Table 4 documents the number of agricultural land sales from 1996-2017 and the percent of those sales converted to non-agricultural use. Figure 4 shows the rate at which agricultural land in Chippewa County is being converted to nonagricultural use.

Table 4

A Summary of Chippewa County Land Sales										
Total Number of Annual Agricultural Land Sales and Percent Converted to Nonagricultural Use										
Year	Total of all agricultural land			Agricultural land continuing in agricultural use			Agricultural land being diverted to other uses			The percent of acres of agricultural land sold and converted to nonagricultural use
	No. of transactions	Acres sold	Dollars per acre	No. of transactions	Acres sold	Dollars per acre	No. of transactions	Acres sold	Dollars per acre	
1996	38	1503	480	29	1300	487	9	203	433	14%
1997	39	1893	599	30	1615	539	9	278	946	15%
1998	89	5877	1067	68	4826	1030	21	1051	1235	18%
1999	86	5010	1274	62	3893	1138	24	1117	1748	22%
2000	100	6050	1297	66	4638	1226	34	1412	1533	25%
2001	74	3727	1398	50	3046	1307	24	681	1807	18%
2002	86	4446	1732	52	2676	1627	34	1770	1889	40%
2003	84	5492	1598	56	4573	1460	28	919	2284	17%
2004	81	4961	1854	60	4386	1886	21	575	1610	12%
2005	52	2687	2464	35	1794	2178	17	893	3038	33%
2006	33	2573	1983	26	2149	1838	7	424	2718	16%
2007	51	3571	2150	48	3478	2084	3	93	4590	4%
2008	50	3607	2978	48	3498	2717	2	109	11370	3%
2009	35	2166	3061	34	2154	3065	1	12	2553	1%
2010	42	3458	3076	42	3458	3076	*			*
2011	52	3704	2476	50	3624	2494	2	80	1655	3%
2012	56	3374	3038	56	3374	3038	*			0%
2013	49	2443	3510	48	2408	3474	1	35	6000	1%
2014	43	3025	4536	42	3015	4546	1	10	1730	0%
2015	37	1871	4583	31	1631	3804	6	240	9880	13%
2016	31	2285	4497	27	2132	4417	4	153	5613	7%
2017	16	990	3967	15	939	3729	1	51	8335	5%

Information obtained from Wisconsin Agricultural Statistics (1996-2016)
 Compiled by the Chippewa County Dept. of Land Conservation & Forest Management, 6/11/18
 *Information not available through Wisconsin Agricultural Statistics (2010) or (2012)

Figure 4

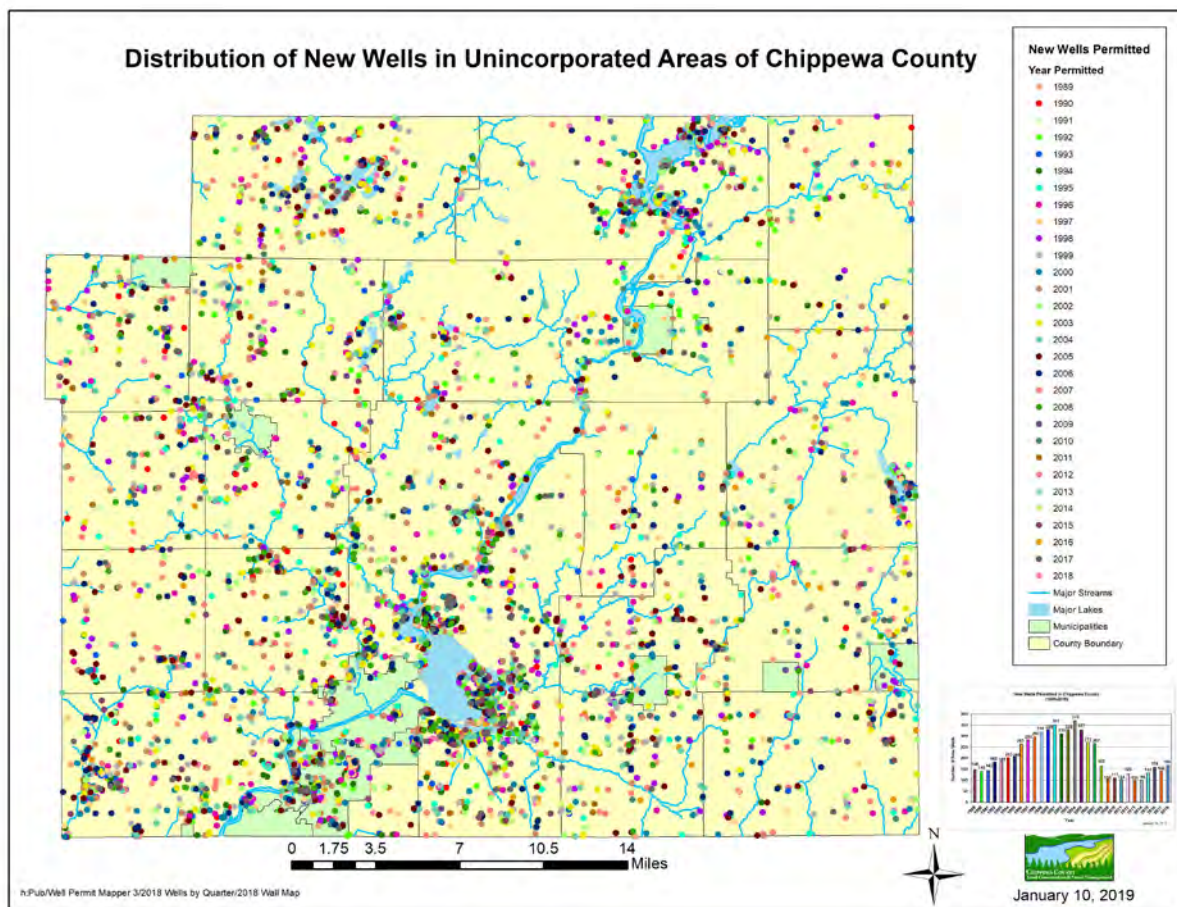


Results of this monitoring show a trend where land historically used to support agricultural production is being converted to rural residential, commercial, and other nonfarm use.

Importantly, results of this monitoring would suggest that the rate of agricultural land conversion has slowed and stabilized since 2005, with most new rural residential development occurring on single lots in shoreland areas and residential subdivisions located in Chippewa Falls.

Map 6 illustrates the location, distribution, and rate of new residential development in unincorporated areas of the county.

Map 6



5.22 Assessment of Soil Condition

The Chippewa County Soil Survey (USDA, 1987) documents the distribution of soil types in Chippewa County. This soil survey provides a benchmark of soil conditions using measurements of soil depth, organic matter, and extent of topsoil loss.

The current rate of agricultural soil erosion was first estimated in the Chippewa County Erosion Control Plan, (1985), based upon a representative sample of small watersheds and farm fields.

Efforts have since been made by the USDA Natural Resource Conservation Service (NRCS) to periodically monitor soil condition and erosion rates through use of a transect survey conducted as part of a nationwide Natural Resource Inventory (NRI). This survey was last conducted in 2002 to document cropping practices and land cover at predetermined sample locations.

Results of the year 1985 soil erosion inventory and the 2002 transect survey are similar and suggest that approximately 80% of farm fields are being managed within the erosion control standard for sustained production (T - value; USLE). The remaining 15% are farmed at a rate 1-2 times T-value, with 5% farmed at a rate greater than 2T. Results of these assessments indicate that higher rates of erosion occur on fields situated on sandstone uplands located in the western one-third of the county.

NRCS now conducts annual 5% spot checks of conservation plans developed for highly erodible lands (HEL) to monitor erosion rates and the extent of compliance with federal erosion standards. Results of this compliance monitoring from 2015-2018 are now being compiled and reflect a growing use of no-till and cover crops applied to corn and soybeans harvested as grain.

Results of field spot checks during this period indicate a growing use of no-till applied to corn and soybeans harvested as grain.

The extent of soil erosion from nonagricultural sources has not been formally evaluated or qualified. Current land use trends suggest that there is the potential for accelerated rates of erosion on construction sites in urbanizing areas and on recreational trails subject to high intensity use on county forest lands.

From 2008-2019, there have been a number of recorded high intensity rainfall events that have routinely exceeded the 25 year, 50 year, and 100 year storms of record for the area.

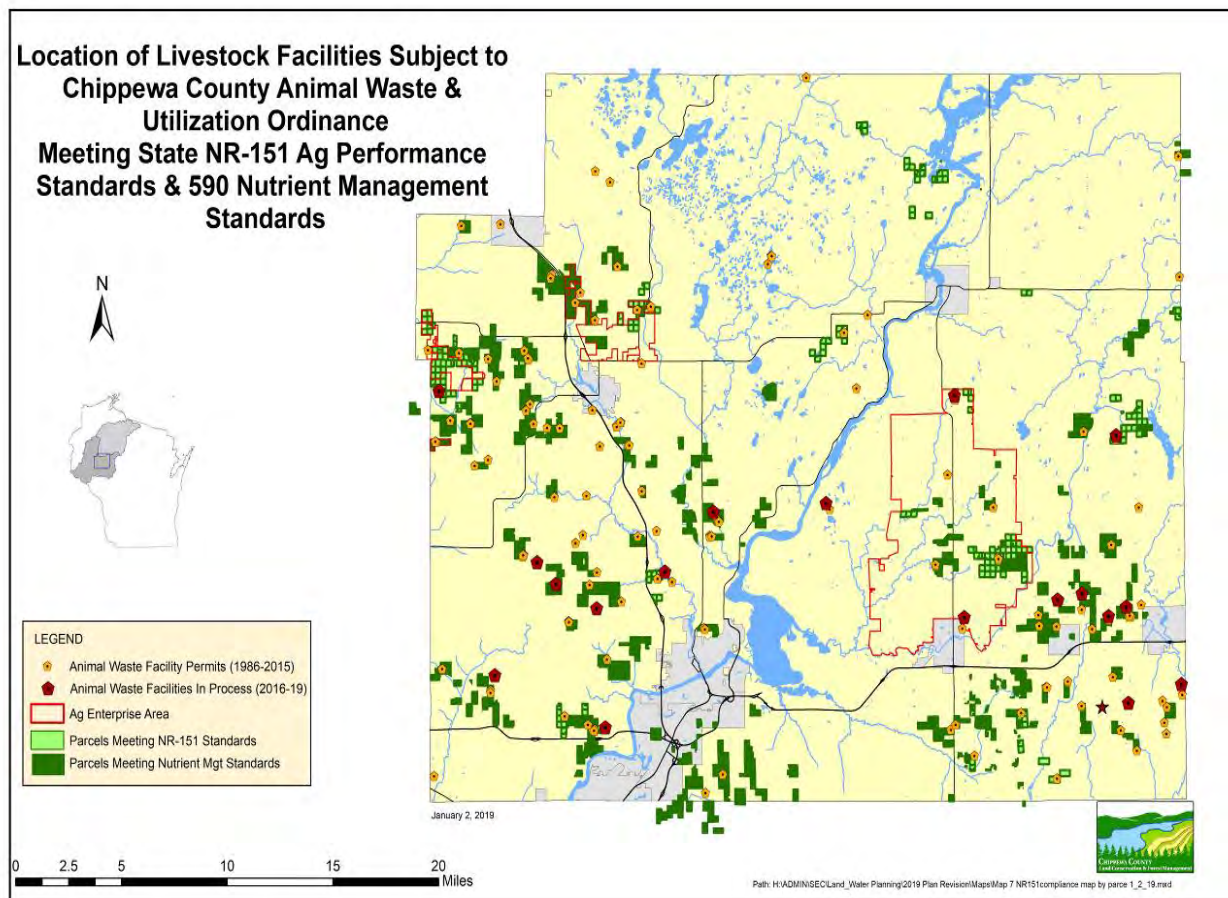
These extreme weather events have resulted in significant sheet, rill, and gully erosion, as reported and observed on both agricultural and non-agricultural lands, and are a part of significant concern.

In 1987, the Chippewa County Land Conservation Committee instituted an annual crop reporting process to systematically monitor the management of farms subject to compliance with county soil and water conservation standards, and more recently, on farms subject to compliance with state agricultural runoff performance standards.

Map 7 shows the location of farm parcels that have been evaluated by the LCFM, are routinely monitored, and are in compliance with the NR 151 agricultural performance standards.

No other information has been gathered by the LCFM or other public agencies regarding the NR 151 compliance status of the other farm parcels or operations.

Map 7



5.23 Assessment of Surface Water Resource Condition

As a result of location, geology, and land cover, there are many high value and high quality surface water resources in Chippewa County.

The location and physical characteristics of these water resources are documented in an extensive inventory titled: Surface Water Resources of Chippewa County, (Wis. Conservation Dept., 1963).

The condition of each lake, stream, and river in Chippewa County has been evaluated and characterized by the Wisconsin Department of Natural Resources (WDNR) through use of a classification code assigned under the State of Wisconsin Surface Water Classification System. The code provides information regarding the current physical characteristics of the water resources, the degree and source of impairment, the potential optimal use, and the need for additional assessment, monitoring, and management. This information is maintained by WDNR, and is posted on the WDNR website at <https://dnr.wi.gov/topic/surfacewater/swdv/>

This information has been compiled in a series of watershed tables that summarize water resource conditions, as contained in detailed basin reports. (The State of the Upper Chippewa River Basin, WDNR, 1996; and The State of the Lower Chippewa River Basin, WDNR, 2002). An explanation of these tables and information available for watersheds in Chippewa County is provided in Appendix 2, Figure 2.1, with most current updates posted at the site listed above.

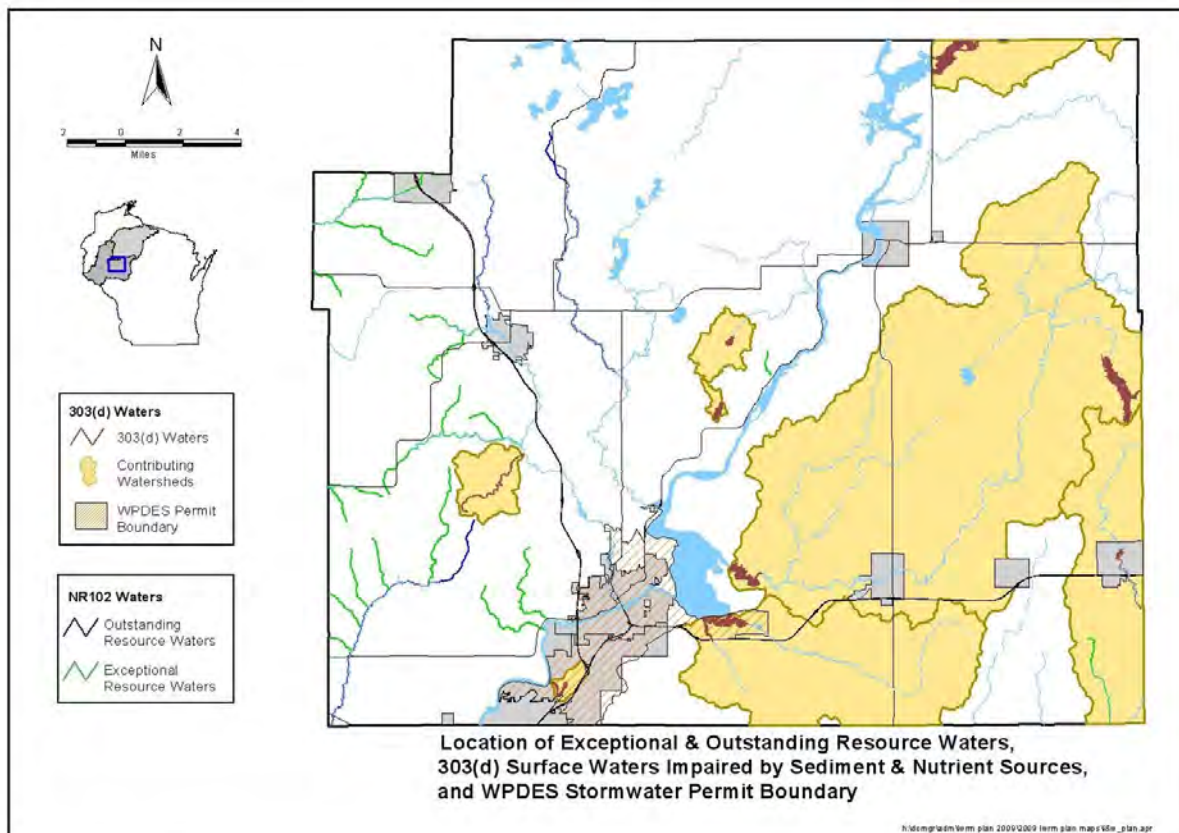
The WDNR has also established instream water quality standards that apply to select classes of water resources. These water quality standards are subsequently used by WDNR to develop and implement strategies to meet water quality goals, set effluent discharge limits, and as a basis for making other regulatory, permitting, or funding decisions. The categories of water quality standards, which exist for each class of water, are defined by State Administrative Code NR102. This information is provided in Appendix 2, 2.2.

In response to requirements of Section 303 of the Federal Clean Water Act, WDNR has prepared a list of impaired waters. Through this list, the state identifies water bodies that do not currently meet water quality standards and those where the potential use of the water body is restricted by a specific pollutant or physical degradation.

The WDNR Bureau of Watershed Management is responsible for Wisconsin's 303(d) Impaired Waters Program and for the development of a Total Maximum Daily Load (TMDL) strategy to improve the condition of impaired waters. As part of current state program efforts, WDNR West Central Region has initiated and completed the resource monitoring, data collection, and modeling phase of the TMDL planning process for three (3) impaired water bodies in the Lower Chippewa River Basin located in Chippewa County: Otter Lake, Little Lake Wissota and Moon Bay of Lake Wissota. Results of that effort have been summarized in a report titled: Phosphorus Loading and Trophic Status of Lakes in the Yellow River Watershed, West-Central Wisconsin, (C.O.E. Feb. 2004).

Map 8 shows the location of exceptional and outstanding resource waters, the location of impaired surface waters included on the 303(d) list as a result of sediment or nutrients, and the location of urban storm water management areas subject to WPDES permit. The rivers and streams with 303(d) designation include those located in the Yellow River and Paint Creek Watersheds, as contributing to Otter Lake, Moon Bay of Lake Wissota, and Little Lake Wissota.

Map 8



The WDNR West Central Region has now completed the TMDL planning process for Little Lake Wissota and has completed results in a report titled: Total Maximum Daily Load (TMDL) for the Little Lake Wissota Embayment of Lake Wissota Chippewa County, Wisconsin, (WDNR Draft Report, 1/22/09).

In response to that designation, the Jacob Leinenkugel Brewing Company and Chippewa County LCFM worked with cooperating state and federal agencies to develop and implement a community-based public/private watershed business model titled: Little Lake Wissota Stewardship Project.

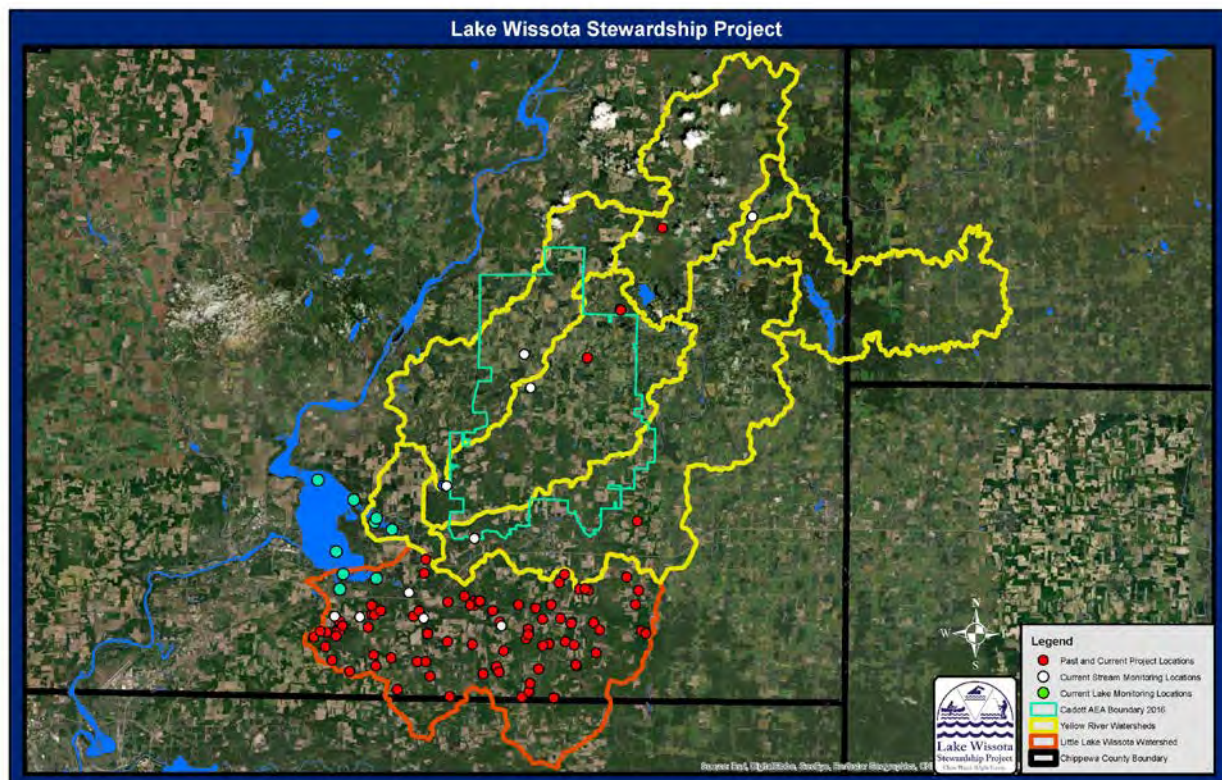
The project was implemented from 2009-2018 as a pilot project to document the extent of nonpoint source pollution control that could be achieved through use of targeted agricultural shoreland buffers and wetland restorations.

In 2019, Chippewa County entered a new five (5) year agreement with the Lake Wissota Improvement & Protection Association (LWIPA) to extend the project and expand it to include the Lower Yellow River Basin and Moon Bay of Lake Wissota.

As part of that effort, the LCFM is now working through WDNR to develop EPA Nine (9) Key Element Watershed Plans for Little Lake Wissota and for Moon Bay of Lake Wissota.

Map 9 shows the location of Little Lake Wissota, Moon Bay of Lake Wissota, and the contributing watersheds. It also shows the location of stream and wetland buffers that have been installed in the project areas under the current Lake Wissota Stewardship Project initiative.

Map 9



5.24 Assessment of Groundwater Condition

The condition of the groundwater resource in Chippewa County was initially established through the Chippewa County Groundwater Inventory, (WGNHS, 1985). The inventory was based upon information compiled from approximately 3,000 recorded well locations and documented aquifer characteristics, groundwater elevation, and groundwater chemistry throughout the county.

Since its establishment, this groundwater inventory has been systematically expanded and is routinely maintained by the Dept. of Land Conservation & Forest Management, with support of the Planning & Zoning Dept., which administers the state well permitting program, under the authority of NR 812.

The Chippewa County Groundwater Inventory is a collection of hydrogeologic and well data that can be used to characterize, monitor, and model current groundwater conditions.

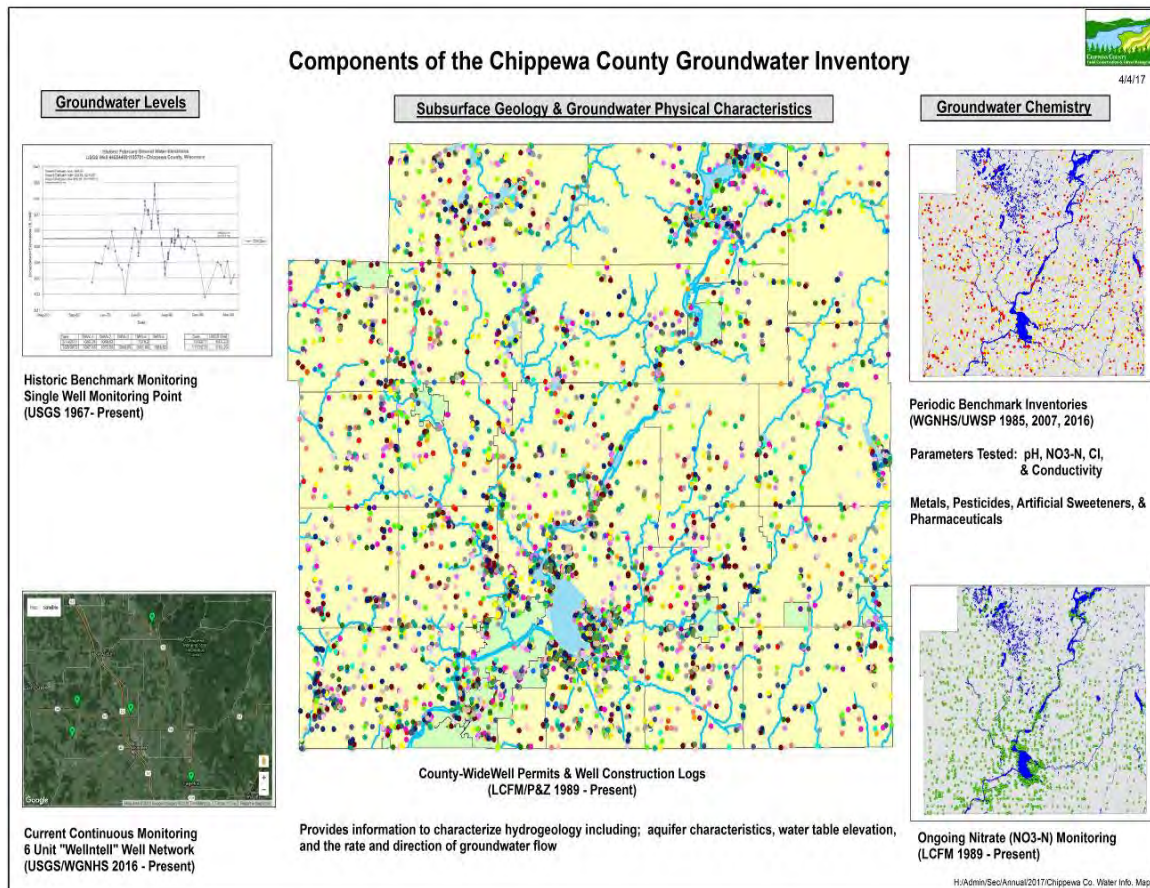
The sources of information used to create and maintain the inventory include:

1. The ongoing and systematic collection of permitted domestic well point locations and well construction logs used to characterize subsurface geology, groundwater elevations, and groundwater chemistry.
2. Scheduled county-wide groundwater sampling projects conducted at approximately ten (10) year intervals, used to characterize groundwater chemistry, determine spacial trends, and to document changes over time.
3. The ongoing and systematic collection of groundwater chemistry through the Chippewa County Rural Drinking Water Testing Program, used to encourage rural residents to test their wells, and to collect and map data on NO₃-N concentrations and point locations on an ongoing basis.
4. The ongoing and systematic collection of groundwater elevation monitoring information through the Chippewa County automated groundwater elevation monitoring network (Wellntel) used to continuously monitor groundwater elevations, determine aquifer trends, and to document changes over time.
5. Scheduled research studies, conducted by universities, geologic agencies, and accredited consultants to collect and evaluate scientific data, and to model groundwater systems.

In 2018, Chippewa County amended Chapter 62 of its Code of Chippewa County, directing the LCFM to actively maintain this inventory on an ongoing basis to provide a scientific basis for future groundwater management efforts.

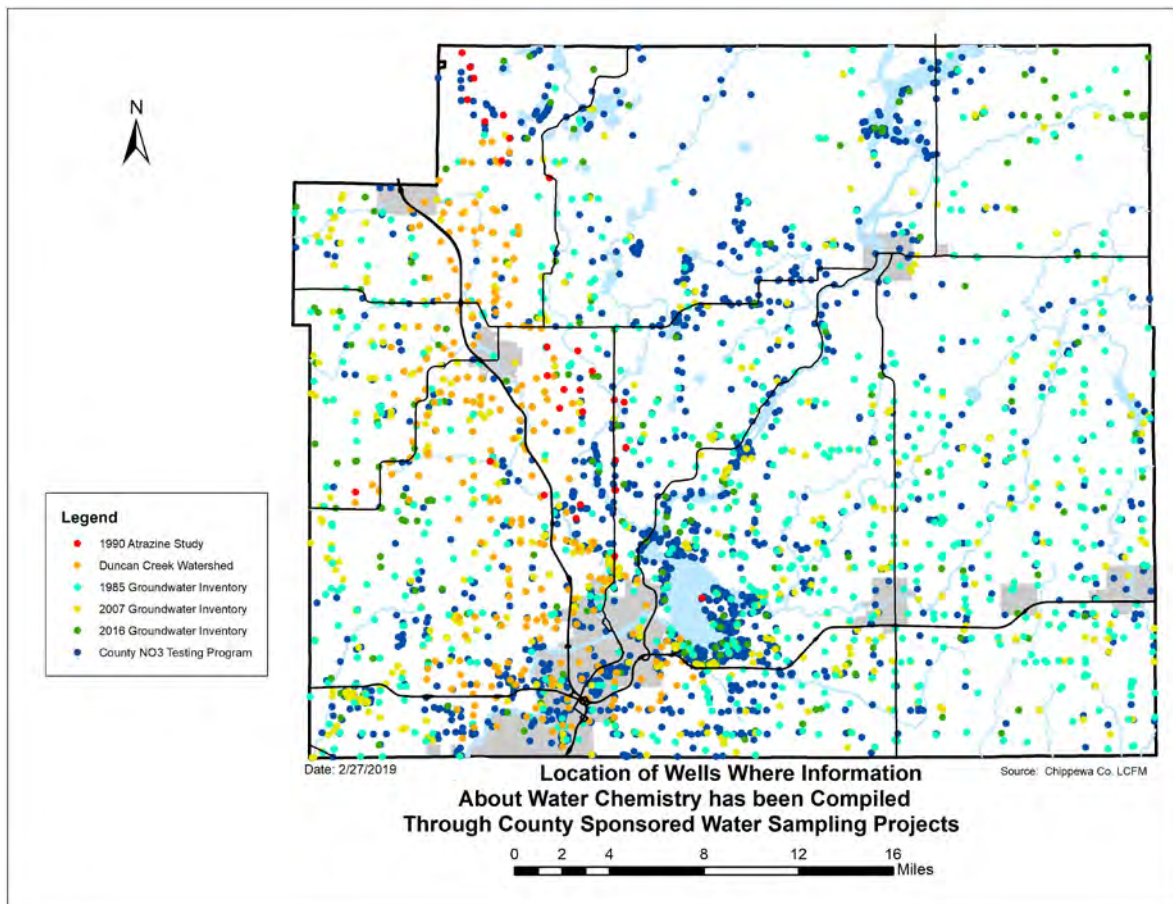
The contributing elements of the groundwater inventory are illustrated in Figure 5.

Figure 5



Map 10 shows the location of wells where all domestic groundwater water chemistry has been compiled since 1985.

Map 10



The last scheduled county-wide groundwater sampling project was conducted in 2016 and 2017 by the UW-Stevens Point Center for Watershed Science and Education. Results of this effort are documented in a report titled: 2016 Chippewa County Groundwater Quality Inventory.

Under this project, approximately 750 domestic wells were sampled for a wide range of chemical parameters, including pH, standard metals, nitrates, chlorides, and phosphorus.

The chemical results of this sampling project, as summarized by geological deposit and aquifer type, are provided in Figure 6.

Figure 6

2016 water quality by Pleistocene geology category

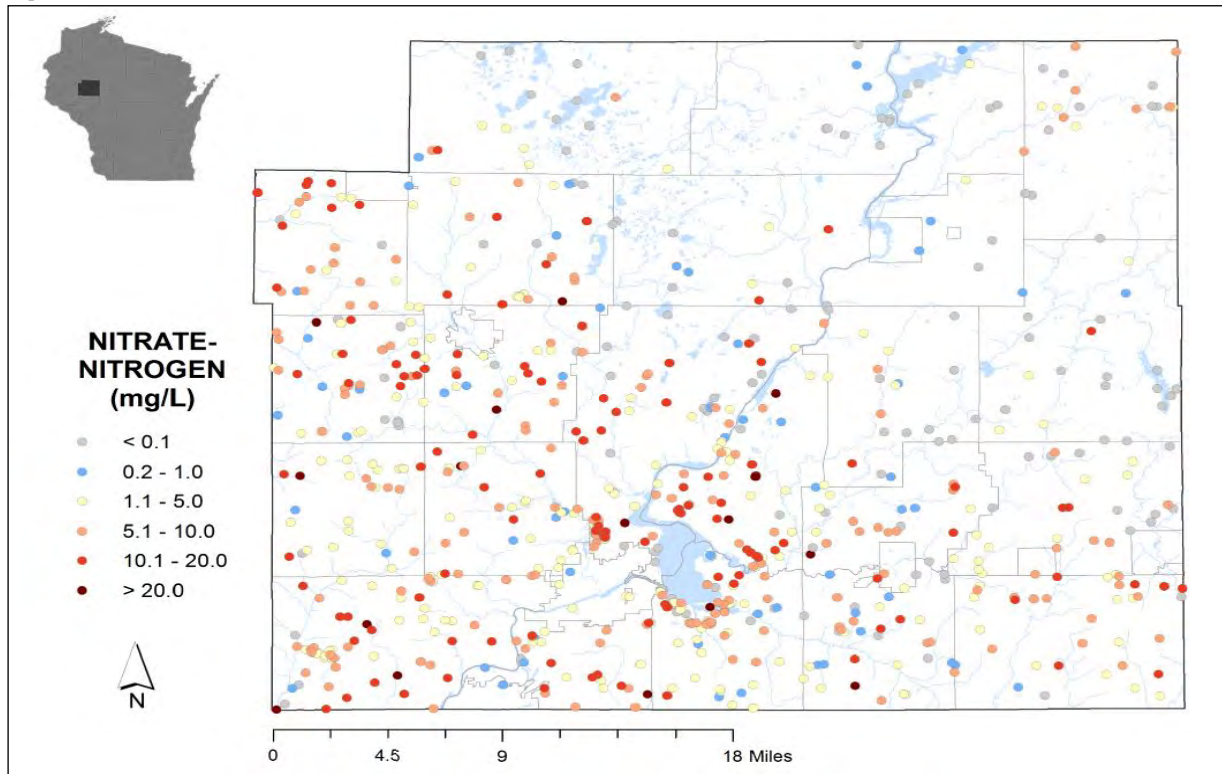
Analyte	Cambrian (n=170)					Glacial Sediment (n=207)					Meltwater Stream Sediment (n=360)				
	Mean	StDev	Median	Min	Max	Mean	StDev	Median	Min	Max	Mean	StDev	Median	Min	Max
Alkalinity (mg/L as CaCO ₃)	28	34	16	2	268	121	73	137	5	358	48	42	32	4	289
Arsenic (mg/L)	<0.003	0.001	<0.003	<0.003	0.005	<0.003	0.001	<0.003	<0.003	0.008	<0.003	0.001	<0.003	<0.003	0.007
Calcium (mg/L)	15.8	9.0	15.0	<0.2	50.4	37.3	24.8	36.3	<0.2	207.7	22.2	15.3	20.7	<0.2	139.5
Chloride (mg/L)	18.6	18.2	12.8	0.9	102.2	35.6	118.4	11.8	0.8	1520	27.3	41.7	14.2	0.6	451
Conductivity (umhos/cm)	168	109	139	26	759	359	399	302	29	5220	222	156	192	31	1561
Iron (mg/L)	0.066	0.345	0.055	<0.004	4.092	0.427	1.106	0.032	<0.004	6.963	0.495	2.061	0.019	<0.004	22.1
Magnesium (mg/L)	5.2	4.2	4.2	<0.2	31.7	13.8	10.3	13.2	<0.2	87.9	7.8	5.7	7.0	<0.2	43.7
Manganese (mg/L)	0.025	0.088	0.005	<0.002	0.014	0.166	0.325	0.010	<0.002	1.849	0.138	0.572	0.005	<0.002	7.17
Nitrate (mg/L)	5.9	4.7	5.0	<0.1	29.6	3.6	4.3	1.9	<0.1	18.1	6.4	6.3	4.8	<0.1	34.9
Phosphorus (mg/L)	0.359	0.333	0.301	<0.004	1.813	0.080	0.135	0.040	<0.004	1.334	0.126	0.203	0.028	<0.004	1.11
pH (standard units)	6.3	0.7	6.18	406	9.78	7.2	0.7	7.36	5.17	8.31	6.8	0.5	6.70	5.48	8.87
Potassium (mg/L)	4.5	14.9	2.1	<0.2	167.9	1.6	1.4	1.2	<0.2	9.7	1.5	2.2	1.2	<0.2	38.4
Sulfate (mg/L)	9.9	6.3	8.2	0.8	37.1	10.8	8.0	9.5	<0.2	58.6	7.8	4.7	6.9	<0.2	31.9
Total Hardness (mg/L as CaCO ₃)	61	37	56	<4	211	150	103	147	<4	881	88	61	80	<4	529

Results were then compiled, analyzed, and mapped.

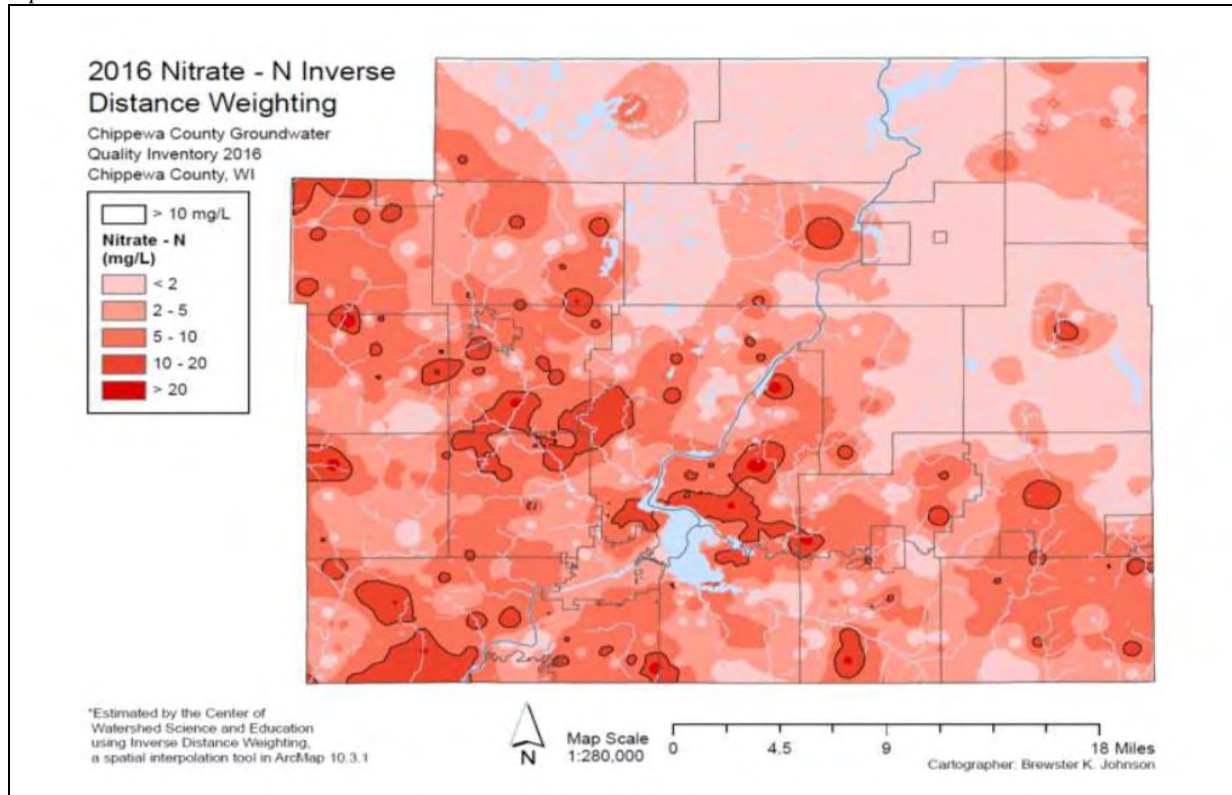
Results show that nitrate and chloride concentrations in agricultural and urbanizing areas are elevated above background levels. In these areas, fifty percent (50%) of the wells tested had concentrations of nitrate-nitrogen (NO₃-N) that reflected cultural influences, ranging from 3-9 mg/l. Approximately 25% of the wells tested approached or exceeded the safe drinking standard of 10 mg/l, with 18% exceeding the standards.

Map 11 and 12 illustrate the concentration of $\text{NO}_3\text{-N}$ located throughout the county using the well point locations and then depicted using spacial analysis.

Map 11



Map 12

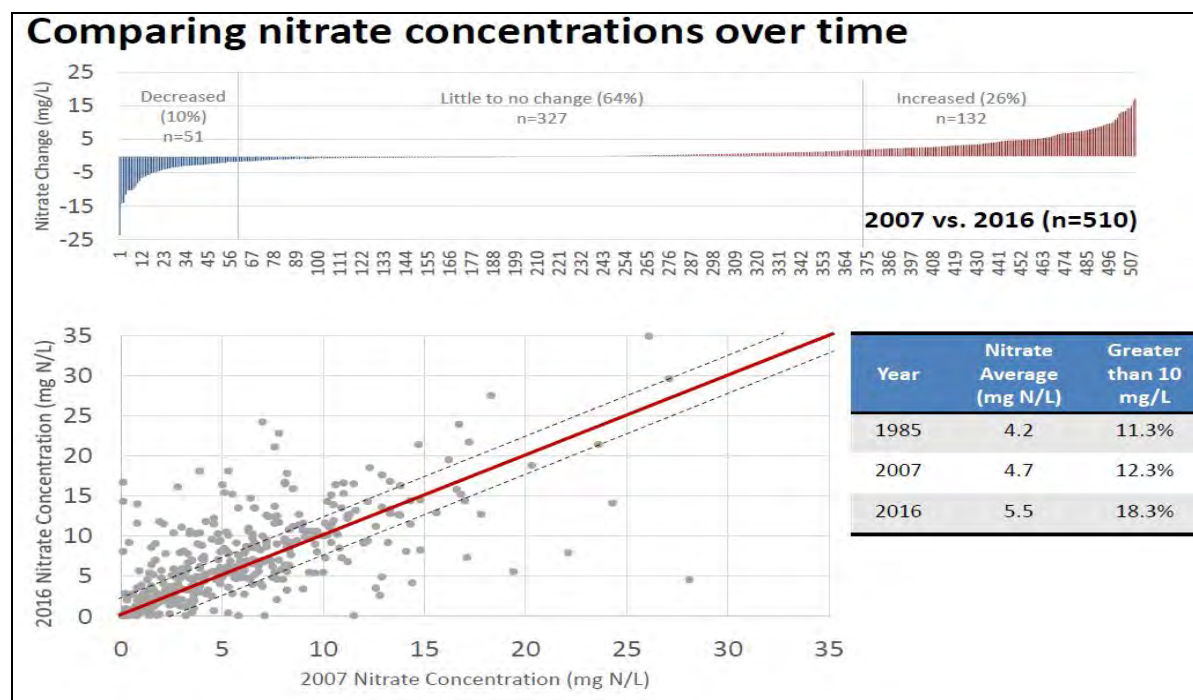


In circumstances where wells had been previously sampled through earlier county-wide projects (1985 and 2007), a statistical analysis was conducted to determine the extent and rate of change over time.

A separate nitrate source analysis was conducted using a subset of 200 wells to determine the source of nitrate in circumstances where elevated concentrations were detected.

Figure 7 provides a comparison of NO₃-N concentrations generated from three (3) separate county-wide sampling projects conducted in 1985, 2007, and 2016, which attempted to use the sample wells with known point locations and well construction logs.

Figure 7



Results show that in 1985, 11.3% of the wells sampled exceeded the 10 mg/l standard, with concentrations increasing to 12.3% in 2007, and then to 18.3% in 2016.

Importantly, a direct comparison of 510 wells sampled in both 2007 and 2016 showed that 64% showed little change in NO₃-N concentrations while 10% decreased and 26% increased in concentrations.

Results of the nitrogen source analysis shows that both agricultural land use and septic systems contribute to elevated nitrate concentration. Results indicated that higher concentrations of NO₃-N in agricultural areas with low density of septic systems, attributed largely to agricultural sources while higher concentrations of NO₃-N in urbanizing areas with higher density of septic systems attributed largely to urban sources.

5.25 Assessment of Wetland Condition

The type, size, and location of wetlands in the county have been documented in the Chippewa County Wetland Inventory, (WDNR, 1983, 1996). A second, more detailed inventory of agricultural areas has documented the location of wetlands, farmed wetlands, and converted wetlands (NRCS, 1987, 1996).

As a result of the location, glacial geology, and land cover, there is a wide range of wetland hydrologic types and associated wetland plant communities.

The condition of these wetlands vary greatly based upon their location, extent of disturbance, and surrounding land use.

Results of recent biological surveys suggest that there are many diverse and high-quality wetland sites in undisturbed areas throughout the county. Surveys also suggest that there are many drained or highly degraded wetland sites that could be readily restored.

Activities that contribute to wetland degradation include agricultural drainage and drainage system maintenance, wetland fills associated with urban development, changes in wetland hydrology from increased urban runoff, and sediment from urban and agricultural sources.

As a result of agricultural production trends and deregulation, there has been a recent increase in the number of agricultural drainage systems installed in farmed wetlands and in isolated wetlands, as authorized under the Section 313 of the Clean Water Act or the WDNR Administrative Rules.

Similarly, as a result, state deregulation has seen a recent increase in the number of small wetland fills that have occurred, primarily in shoreland areas associated with urban development.

6.0 LAND AND WATER ISSUES OF PRIORITY CONCERN

Land and water issues of priority concern have been identified using planning methods described in Sec. 3.0, and the information about current resource condition and use, as described in Sec. 5.2. These issues are complex and significantly interrelated. Issues of priority concern have been defined for the local environmental setting as follows:

Issue 1

There is a global trend toward climate change that will have direct impacts on the growing season, weather events, and the land, water, and natural resource base.

The impacts of climate change, as modeled for Wisconsin, suggest that the state will become warmer and wetter overall, have higher seasonal temperatures, and experience more extreme storm events.

If realized, these changes will directly affect the duration of the growing season, the hydrology of surface and groundwater systems, and will impact all associated aspects of the environment.

Issue 2

As a result of changing demographics and current agricultural trends, there are fewer members of the community who are directly engaged in agricultural production, processing, or related agribusiness service support.

As a consequence, there is a diminished understanding of local agriculture and the linkages between food, land, and water.

Issue 3

As a result of current agricultural and land use trends, there are now fewer farms in the county, with a growing portion of the agricultural land base that is either owned by, or leased to larger-scale producers.

There now remains a number of smaller-scale agricultural operations, (supported by on or off farm income), that continue to produce agricultural products. Many of these operations produce or house livestock on farmsteads, that do not have animal waste management systems, that are located in close proximity to surface waters.

As a result, there are separate groups of landowners and producers that have a different set of soil and water conservation challenges that are unique to the type and scale of their operations.

Issue 4

There is an ongoing trend in production agriculture where small-scale dairy operations are being replaced by cash grain operations.

These cash grain operations now produce corn and soybeans to meet domestic and international market demand.

The resulting change from forage-based livestock agriculture to cash grain agriculture has significantly reduced the amount of grasses, forages, and small grains on the landscape.

Given market forces and economics of scale, these operations are seeking greater assurance of sustainable yields by installing irrigation and agricultural drainage systems to overcome soil limitations at select locations.

If not properly managed, these changes may result in higher rates of soil erosion, increased runoff, and increased potential for surface and groundwater pollution.

Issue 5

There is an ongoing trend in production agriculture where small-scale dairy operations are being replaced by larger-scale dairy, hog, or poultry operations, or by small-scale beef operations.

If not properly managed, the change from a forage livestock-based cropping system to a cash grain cropping system will reduce the diversity of crops grown and may result in higher rates of soil erosion, the depletion of soil organic matter, and higher rates of commercial fertilizer and pesticide use.

The change from small dairy operations to large-scale livestock operations will result in higher concentrations of animals and animal waste at select locations. If not properly managed, these higher concentrations at select locations increase the potential for point and nonpoint source air and water pollution.

In conjunction with unlimited residential development in unincorporated areas, this trend toward more intensive agricultural use will increase the potential for rural land use conflict between agricultural producers and rural nonfarm residents.

Issue 6

There is an ongoing demand and need for non-metallic minerals available from finite deposits, located in select locations throughout the county. -

Commercial grade sand and gravel deposits in Chippewa County are generally located in proximity to lakes, streams, and rivers, and are used to supply aggregate to build and maintain infrastructure.

Commercial grade sandstone deposits in the county occur at or near the surface in a bedrock controlled landscape in western Chippewa County, in proximity to high quality streams. These deposits are used to supply industrial sand for natural gas and oil production.

These commercial grade mining deposits occur at sites that are also highly sought for residential development, and agricultural and forest production.

If left undisturbed, these sites have an inherent environmental value and contribute to the natural ecology of the area.

If not properly planned, managed, and restored, non-metallic mining operations may cause land use conflicts, create runoff and nonpoint pollution, and degrade the value and productivity of the land base.

Issue 7

There is a land use trend in Chippewa County where most new residential development is occurring outside of municipal service urban service areas, in shoreland areas, and in rural areas historically used for agricultural production.

If not properly planned and managed, unsewered lots and subdivisions in urbanizing areas and shorelands will increase storm water runoff and pollutant loads from private onsite waste treatment systems (POWTS).

These nonpoint pollution sources can, in turn, cause direct impacts to groundwater, lakes, streams, and flowages.

If not properly planned and managed, residential and commercial development in shoreland corridors will increase storm water runoff and nonpoint pollution, causing direct impacts to lakes and streams.

If not limited or properly managed, nonfarm development in agricultural areas will have a negative effect on the viability of ongoing agricultural operations. Nonfarm development in agricultural areas causes land values to escalate, removes land from production, and increases the potential for conflict between farm and nonfarm residents.

Issue 8

As a result of ongoing land use trends, many undisturbed areas located throughout the county will be either converted to other uses or will be used more intensively, resulting in a potential loss of ecological diversity and an accelerated increase in exotic and invasive species.

If not properly managed, there will be greater fragmentation, site conversion, and more intensive use of undisturbed forested tracts, wetlands, stream drainage corridors, and shoreland areas.

This fragmentation and more intensive use of relatively undisturbed areas will result in the further degradation of native plant communities and will contribute to the spread and proliferation of nonnative and invasive species, both plants and animals, terrestrial and aquatic.

Issue 9

As a result of agricultural and land use development trends, there has been a documented increase in the concentration of Nitrate-Nitrogen in groundwater, (above the established safe drinking standard of 10mg/l), as measured in domestic wells from 1985 to 2016, with the rate of increase accelerating significantly from 2009 to 2016.

NO₃-N concentrations in groundwater can be used as an indicator of other pollutants that may be entering groundwater. NO₃-N concentrations occurring above 10 mg/l are a public health concern.

If not properly informed of these facts, county residents who consume water from domestic wells may unknowingly be assuming undue health risks.

If not properly managed, nitrate concentration in groundwater from agricultural sources and from private onsite waste treatment systems can be expected to increase throughout the county and over time, particularly at sites with a limited capacity to attenuate groundwater pollutants.

Issue 10

In response to ongoing growth and recreational trends, there is an increasing demand for landscape-scale outdoor recreational trails and supporting facilities on public land.

Recreational trails and supporting facilities are primary vectors for invasive plants, animals, and associated pathogens. These pests disrupt native species and communities, disrupt physical, chemical, and biologic cycles, reduce biodiversity, and devaluation of sustainably harvested forest products.

If not properly developed and managed, public use of recreational trails and supporting outdoor recreational facilities may cause soil erosion and soil compaction, resulting in loss of soil productivity and the degradation of aquatic habitat and water quality.

Issue 11

Recent changes to the organizational structure and service delivery areas of cooperating state and federal agencies, have negatively affected communications among agency staff and, in turn, the capacity of the county and public agencies to coordinate local service delivery at the county level.

A lack of structured communication among agency staff now limits the ability of the county and public agencies to exchange information and to explore opportunities to optimize the use of available resources (staff hours, skill sets, and \$), to pursue local resource management objectives.

7.0 RESOURCE MANAGEMENT OBJECTIVES

General goals and management objectives for land and natural resource management in Chippewa County have been outlined in a series of previous planning efforts conducted by the Wisconsin Dept. of Natural Resources and Chippewa County (Chippewa County, the Present and the Future, (1971); Chippewa County Farmland Preservation Plan, (1985); Chippewa County Erosion Control Plan, (1987); Duncan Creek Clean Water Plan, (1991), and Chippewa County Land and Water Resource Management Plan, (2004, 2008, 2014), the Chippewa County Forest Comprehensive Land Use Plan, 2006 – 2020, (2008), and the Chippewa County Comprehensive Plan, (2010).

7.1 Land Management Objectives

Public goals and policies for land use, agricultural land preservation, and environmental preservation have been previously adopted through the Chippewa County Farmland Preservation Plan, (1985), the Chippewa County Comprehensive Plan, (2010), and the Chippewa County Land & Water Resource Management Plan, (2014).

To meet the planning requirements of Wisconsin Stats., Chapter 91 and 92, the resource management objectives for land conservation, agriculture, and natural resource management are as follows:

Objective 1

Maintain the physical condition, biodiversity, ecology, and environmental functions of the landscape, including its capacity for flood storage, groundwater recharge, water filtration, plant growth, ecological diversity, wildlife habitat, and carbon sequestration.

Objective 2

Maintain the capacity of the land to support productive forests and agricultural working lands to sustain food, fiber, and renewable energy production.

- Manage soil quality to maintain the land's capacity to support sustained production.
 - Measure and monitor soil quality using soil organic matter, carbon content, moisture holding capacity, fertility, and current erosion rates.
- Identify and preserve designated blocks of working lands to maintain an adequate landmass to support agricultural and forestry operations that are production-oriented and that contribute to the county's economy.
 - Identify the location, size, and boundaries of working land conservation areas through use of town or county-based planning processes, and landowner registries.

- Limit the fragmentation and urban development of productive forests and agricultural working lands.

- Manage the extent of fragmentation and urban development through the adoption and use of rural density standards and land division ordinances, as established by towns in cooperation with the county.

- Manage the type and location of new development in unincorporated areas through the adoption and use of voluntary land conservation agreements developed with interested landowners; and zoning districts and structural setbacks, as established by towns in cooperation with the county.

- As a priority, seek to protect those productive forest and agricultural lands identified as prime agricultural land, Land Capability Classes I-III.

Objective 3

Encourage future urban development to occur within incorporated municipalities; or in designated urban service areas where development and associated public services have been planned by a responsible municipality (Note: altered from Chippewa County Farmland Preservation Plan, 1983).

- Identify the location, size, and boundaries of urban service areas through the use of public planning processes initiated by the towns, cities, or villages.

Objective 4

Protect areas of special environmental, natural resource, or open space significance.

- As a priority, seek to conserve:

- Land located in a planned conservation or land management area, formally designated and adopted by a public agency or municipality.

- Land located immediately adjacent publicly owned forest, park, or recreational land.

- Undisturbed stream corridors, undeveloped lakes, and areas where threatened or endangered species have been inventoried and documented.

- Inventory, monitor, and control terrestrial invasive species to protect and maintain the ecological value of high-value plant communities and natural resource areas.

Objective 5

Restore the condition, environmental functions, and productive capacity of abandoned or degraded lands.

- Reclaim and revegetate abandoned farmland, surface mined lands, and brownfields to:

- Produce biomass for energy production.

- Reestablish native plant communities through planting or natural progression.

7.2 Surface Water Management Objectives

General management objectives for surface waters located in Chippewa County have been established in a report published by the Wisconsin Department of Natural Resources, titled The State of the Lower Chippewa River Basin Plan, (2001). These state objectives are recognized by Chippewa County as a foundational element of interagency efforts to manage water resources.

For the purpose of this plan, the resource management objectives for surface water in Chippewa County are as follows:

Objective 1

Manage storm runoff to limit flood peaks and maintain current stream base-flow conditions and lake elevations.

- Accelerate the use of best management practices (BMP's) to increase soil moisture holding capacity, landscape depressional storage, and groundwater infiltration and recharge.

Objective 2

Reduce sediment and nutrient loading to surface waters from nonpoint sources to levels necessary to meet:

- The potential use classification for the waterbody, as designated in the Wisconsin Surface Water Classification System, or
- The planned water resource management objective, or the prescribed Total Maximum Daily Load Limits (TMDLs), as developed through a formal watershed planning process, or
- Instream water quality standards as established for individual lakes, streams, or stream reaches.

Objective 3

Maintain, improve, and restore the natural condition of the shoreland corridor, littoral zone, and instream habitat of streams and lakes.

Objective 4

Inventory, monitor, and control aquatic invasive species, both plant and animal.

7.3 Groundwater Management Objectives

For the purpose of this plan, the resource management objectives for groundwater in Chippewa County are established as follows:

Objective 1

Manage concentrations of contaminants in groundwater aquifers to pursue Preventative Action Limits (PAL), as established in Wisconsin Admin. Code NR 140.

Reduce or reverse the rate of increase in NO₃-N concentrations as measured in groundwater, using a defined network of domestic wells, established as the “Chippewa County Groundwater Monitoring Index”.

Objective 2

Maintain historic groundwater levels and limit impacts to surface waters, wetlands, and well water supplies by managing the depletion of groundwater resources from high and low volume consumptive uses:

- Monitor the groundwater elevations in aquifers that are used to support municipal water supplies, as measured by the extent of permanent drawdown in wellhead protection zones.
- Monitor the groundwater elevations in rural subdivisions and high density developments, as measured by the extent of drawdown in the affected private wells.
- Institute urban and rural water conservation programs to conserve groundwater supplies.

Objective 3

Manage concentrations of groundwater contaminants in the zone of influence of municipal water supplies, to within prescribed standards for public and municipal water supplies, as defined in NR 140.10 and NR 140.12.

7.4 Wetland Management Objectives

For the purpose of this plan, the resource management objectives for wetlands in Chippewa County are established as follows:

Objective 1

Seek to achieve a net gain of wetland acres in Chippewa County through wetland restoration and creation, as measured through program tracking and wetland inventory monitoring.

Objective 2

Avoid the destruction of existing wetlands, and maintain the environmental functions that these sites provide by seeking development alternatives that will not impact the wetland site.

When destruction cannot be avoided, minimize the degradation of wetland sites and the loss of environmental functions by incorporating principals of engineering into site design.

When site avoidance and minimization through engineering design are not feasible, compensate for the loss of wetlands through onsite mitigation conducted to reestablish the natural functions, hydrologic values, and plant communities in the immediate watershed of wetland loss.

When inkind, onsite mitigation is not feasible, compensate for wetland losses using the concept of a wetland mitigation bank.

8.0 PROGRAM GOALS AND OBJECTIVES

Program goals and objectives have been developed to describe how the county will address land and water issues of environmental concerns, in order to pursue resource management objectives.

Broad goals have been established for the following program areas: energy conservation and waste reduction, land conservation and sustainability, water conservation, lake and flowage management, nonpoint source pollution control, and planning and environmental regulation.

Individual program objectives are provided as a means to pursue each goal. These program objectives are outcome-based, measurable, and are intended to be accomplished over a period of years. A series of stepped actions are then listed that could be used to advance each program objective.

8.1 Energy Conservation and Waste Reduction

Goal 1

Develop, support, and advance county initiatives that prepare the county to adapt to climate change, including initiatives that conserve energy, reduce waste, and serve as a catalyst for broader community efforts to conserve energy, limit carbon emissions, and increase renewable energy production.

Objective 1

Factor climate change into county operational plans as these plans affect:

1. Emergency response and disaster relief.
2. Road and dam infrastructure, as managed and mandated by the county departments.
3. Management of the County Forest timber resources.
4. Soil and water conservation, storm water management, and flood and prevention on private lands.

Objective 2

Develop and implement an energy conservation program for county operations.

Action 1

Review and evaluate the operational status of the existing Chippewa County energy conservation plan.

Action 2

Consider the costs and benefits of updating the plan to systematically record and monitor energy use and to identify, select, and implement new energy conservation projects.

Action 3

Establish an energy conservation education and outreach project and program to inform the employees, other municipalities, and the public of the energy conservation savings achieved to date, and plans and opportunities for future savings.

Objective 3

Encourage alternative energy production that uses wind, solar, waste stream bi-products, or biomass generated from agricultural or forestry operations.

Action 1

Design and implement a pilot project to evaluate, further refine, and advance the use of agricultural biodigesters using animal waste as a fuel source for local heat, fuel, or electrical energy production.

Action 2

Design and implement a pilot project to evaluate the use of industrial-scale composting technology, using animal waste and crop residue from a working livestock facility, to evaluate the feasibility and cost efficiency of producing compost as a soil amendment.

Action 3

Design and implement a pilot project to determine the feasibility of producing renewable electrical energy from distributed sources, including manure digesters and small-scale farmstead-based wind generators or solar technology.

- Assess interest by local electrical utilities and farm organizations to explore and evaluate this technology.
- Prepare a project proposal that includes funding and site selection.
- Assist interested operator(s) to plan, implement, monitor, and evaluate a renewable energy project.

Objective 4

Develop and administer recycling and solid waste management programs that reduce, reuse, and ensure the proper disposal of waste materials.

Action 1

Maintain the county's role as Responsible Unit Coordinator for municipalities.

Action 2

Conduct evaluations and collaborate with public and private schools (K-12) to encourage, and increase the rate of recycling.

Action 3

Conduct evaluations and collaborate with municipalities to encourage recycling at all public facilities, including public parks, campgrounds, ballfields, and facilities.

Action 4

Design and implement a project to collect and market office paper from all county-owned and other municipal and public institutional facilities.

8.2 Land Conservation and Sustainability

Goal 2

Develop and administer conservation programs that preserve the land, support sustainable production, provide biodiversity, and protect the natural ecology.

Objective 1

Actively support the economic viability and sustainability of existing agricultural operations, the local agricultural economy, and rural communities.

Action 1

Establish structured and ongoing communication with the Chippewa County Economic Development Corporation (CCEDC) to identify and support economic development opportunities for agricultural producers, processors, and related business enterprises.

Action 2

Working in association with local agricultural producers and processors, agricultural organizations, UWEX and CCEDC, define and implement project initiatives that seek to assure a diverse mix of agricultural operations that are approximately scaled to provide local job opportunities, maintain and support the local agricultural economy, and sustain rural communities.

Actively explore and support initiatives that maintain existing family-owned operations and agri-businesses, establish local food to table markets, encourage farm-based renewed energy production, and encourage cooperative development and business ventures.

Action 3

Develop a pilot project, working through agricultural producers in an established Agricultural Enterprise Area (AEA), to meet a defined community need and agricultural business objective.

Action 4

Develop and implement pilot project(s) to evaluate emerging technology that can be applied to optimize inputs, limit environmental concerns, and sustain crop production (irrigated and non-irrigated).

Objective 2

Support the efforts of individual landowners, private nonprofit conservation organizations, and local municipalities to protect farmland and to preserve productive “working lands” under WI Stats., Chapter 91.

Action 1

Actively support the efforts of landowners and agricultural producers who petition to develop and implement an Agricultural Enterprise Area (AEA), or who seek to participate in Farmland Preservation Zoning under WI Stats., Chapter 91.

Action 2

Provide technical, financial, and administrative support to landowners and producers who enter farmland preservation contracts or who participate in Farmland Preservation Zoning to meet state program requirements.

- To meet state and county program requirements, conduct NR 151 farm evaluations and provide technical services to all new and existing program participants.
- Provide ongoing agronomic and conservation technical support to assist landowners and producers to adopt and install agricultural best management practices to meet and exceed state agricultural performance standards.
- Conduct annual reporting and certification process to verify landowner compliance.

Objective 3

Administer the Wisconsin Conservation Reserve Enhancement Program (CREP) to establish stream and wetland buffers, and assess program options for continued county administration.

Action 1

Maintain and expand an annual buffer evaluation and maintenance program to assure contract compliance and to assist landowners to maintain the biodiversity and environmental functions of buffers over time.

Action 2

With DATCP and FSA, explore USDA program options to establish special area designation to facilitate expanded program functions as targeted to watersheds with poorly defined drainage patterns located east of the Chippewa River.

Action 3

With DATCP and FSA, explore USDA program options to allow periodic mowing and harvest of perennial hay to control woody vegetation, maintain grassland habitat cover, and remove nutrients.

Note: Assuming a strong local USDA Farm Service Agency commitment, the CREP Program will be administered and managed in 2019-2023 as the county's highest priority for implementation of state and federal conservation programs. As a priority, county services will be directed to assist landowners to participate in either the 15 year or permanent conservation easement program option.

Objective 4

Encourage biodiversity and sustainable agriculture, forest, and biomass production on private lands by providing technical assistance and conservation program services to landowners.

Action 1

Administer educational services, technical services, and financial incentives to agricultural producers through state/federal agricultural conservation and nonpoint pollution control programs.

Action 2

Administer educational services, technical services, and financial incentives to woodland producers through local producer networks, woodland management organizations, and state/federal forestry programs.

Action 3

Provide technical services to the owners and operators of non-metallic mine sites, abandoned mines, and brown fields to reclaim disturbed sites and achieve end land uses that are productive and sustainable.

Objective 5

Support the efforts of major farm and forestry organizations and public agencies to develop and pursue market-based mechanisms to sequester carbon and increase soil organic matter, improve water quality, and mitigate climate change as part of ongoing agricultural and forestry operations, including efforts to compile, market, and monitor carbon or water quality credits.

Objective 6

Support the efforts of individual landowners, private nonprofit conservation organizations, and municipalities to preserve unique lands with high public and environmental value.

Action 1

Actively administer and maintain the Chippewa County Stewardship Program to support the acquisition of land and/or conservation easements by municipalities or nonprofit organizations for conservation purposes.

Action 2

Initiate a project to increase public awareness of the “Living Land Endowment” as an established agency-directed endowment of the Chippewa County Community Foundation, to encourage and facilitate county giving to support public acquisitions of land with high natural, ecological, or scientific value.

Action 3

With private, nonprofit conservation organizations, define the location of high priority conservation areas having significant public value or unique ecological significance.

Action 4

In cooperation with nonprofit conservation organizations, maintain a wild lakes registry for undeveloped lakes as a companion to the Wisconsin Scientific and Natural Areas Program.

Objective 7

Encourage land conservation and biodiversity through use of corridor initiatives.

Action 1

Work in association with local landowners, the National Park Service, the Ice Age Trail Alliance, and the Chippewa County Chapter of the Ice Age Trail Alliance to plan and establish the location of the Ice Age Trail Corridor of Opportunity and Trail, east of the Chippewa River.

Action 2

Work in cooperation with the WI Dept. of Natural Resources and interested landowners to determine the feasibility of establishing an environmental corridor linking the McCann Creek Fishery Area to the Ice Age National Scientific Reserve.

Objective 8

Encourage and support efforts to reclaim surface mined lands to native plant communities with high ecological value or to working lands with limited potential for surface water or groundwater pollution by applying reclamation performance standards of NR 135 and nonpoint source pollution control standards of NR 151.

Action 1

Develop and expand working relationships with permitted non-metallic mines and university researchers to establish test plots to demonstrate non-metallic mine reclamation processes and to establish reclamation test plots.

Action 2

Establish and maintain a working relationship of ecological consultants to assist landowners to restore, manage, and maintain native plant communities on private lands.

Action 2

Establish and maintain a working relationship with consultants and the WDNR to provide controlled burn services on public and private lands.

Objective 9

Encourage biodiversity and sustainable forest and biomass production on public lands by supporting the efforts of the custodial agencies responsible for developing and administering property management plans.

Action 1

On county forest lands managed by Chippewa County, identify areas of unique ecological significances and apply the County Forest Plan to manage and monitor these areas.

Action 2

On public lands managed by state agencies, actively participate in the public participation process used to develop and periodically revise property management plans.

Action 3

Design, install, and manage standardized interpretive signage at select units of the County Forest system and other public lands to raise awareness of physical site characteristics and ecological/environmental functions and values.

Objective 10

Protect and buffer the existing public land base by pursuing conservation easements or fee title purchase options on select parcels located within and immediately adjacent the designated blocking boundaries of public forests, parks, or conservation management areas.

Action 1

Implement a project to identify select parcels of high environmental or ecologic value located within or adjacent public land management areas.

Action 2

Contact landowners to explain options for permanent resource protection through use of conservation easements or fee title sale.

Objective 11

Support efforts by public agencies and nonprofit conservation organizations to inventory and control upland and aquatic invasive species on public and private land.

Action 1

Participate in information exchange and networking opportunities, through the Lower Chippewa Invasive Partnership, Inc., to raise public awareness, monitor, and control upland invasive species populations.

Action 2

Support efforts by individuals, lake organizations, and local municipalities to inventory, monitor, and control aquatic invasive species.

Action 3

Working through the Chippewa County Forest Comprehensive Land Use Plan and land management program, further develop and continually refine efforts to control upland and aquatic invasive species on lands managed as part of the Chippewa County Forest system.

Action 4

Working through the Dept. of Administration, Facilities and Parks Division, develop and refine efforts to control upland and aquatic species on land managed as part of the County Parks system.

Objective 12

With WDNR and interested non-profit conservation organizations, develop a community-based habitat improvement and access program to expand public hunting, fishing, trapping, and outdoor recreation uses on private lands.

Objective 13

Working with interested landowners and farm operators, encourage and facilitate the use of standardized conservation leases to provide economic stability to assist landowners to meet agricultural performance standards for cropland and to improve soil health.

8.3 Water Conservation

Goal 3

Develop, support, and implement water conservation programs to maintain current aquifer volumes and to protect the county's drinking water supply.

Objective 1

Develop and implement soil and water conservation programs that protect wetlands, restore hydrology and improve storm water storage capacity, soil infiltration, and groundwater recharge.

Action 1

Develop a small watershed project proposal to restore natural hydrology by implementing cropping systems and structured practices to improve groundwater recharge in select watersheds where infiltration has been reduced as a result of non-metallic mining.

Action 2

Develop and support project proposals and local, state, and federal initiatives to protect, restore, and enhance wetlands.

Objective 2

Maintain and expand the utility of groundwater quantity and groundwater quality programs conducted to maintain the Chippewa County Groundwater Inventory.

Action 1

Routinely administer and compile data to support the contributing components of the Chippewa County Groundwater Inventory.

Action 2

Establish and actively maintain the groundwater index monitoring network to continuously monitor annual groundwater chemistry at representative wells located throughout the county over time.

Action 3

With WDNR, evaluate the feasibility and develop formal agreements to exchange water quality information generated through state well sampling conducted under NR 812.27, and well permit locations generated through county well permitting under NR 845.05.

Objective 3

Upgrade and actively maintain the Chippewa County's WellIntel groundwater monitoring network to remotely monitor and record groundwater elevations and associated stream baseflow conditions at representative locations throughout the county.

Action 1

Actively maintain the existing WellIntel network, as established at select well locations to continuously monitor groundwater elevations.

Action 2

Compile and post existing groundwater elevation monitoring data to extend the record of groundwater monitoring and to document fluctuations through time.

Action 3

Develop a project design and grant proposal to further refine, enhance, and improve the utility of the monitoring network by linking groundwater elevation monitoring to stream baseflow monitoring and gauged stream locations.

Objective 4

Actively encourage and support the development of water conservation programs to protect and maintain public and private water supplies.

Action 1

Distribute, actively apply, and support the use of the USGS ModFlow Groundwater Model that has been created to evaluate high capacity wells in western Chippewa County.

Action 2

Contact municipalities to determine the status of wellhead protection programs and to determine any municipal concerns or interests.

Support the efforts of municipalities that implement wellhead protection planning projects and programs.

8.4 Lake and Flowage Management

Objective 1

Establish mechanisms to facilitate structured communication between the county, WDNR, and established lake district(s), lake associations, and other lake organizations to improve institutional capacity for lake and flowage management.

Action 1

Conduct a formal survey to assess interest on behalf of lake districts and associations.

Action 2

Establish web page links to network and share lake management information of common value to riparian residents and shoreland owners.

Action 3

Plan and conduct an annual Chippewa County Lake Conference sponsored by cooperating lake organizations on a round robin basis.

Objective 2

With WDNR and interested lake organizations, design, implement, and maintain a county-based lake water quality program, supported by citizen science volunteers, and to use remote sensing technology to monitor changes over time.

Objective 3

With WDNR and interested conservation non-profit organizations, establish a Wild Lakes Program for the purpose of scientific study, ecological monitoring, and permanent lakes protection.

Action 1

With WDNR, conduct an inventory of native lakes with no development, including a compilation of available data.

Action 2

With interested landowners and interested land trusts, establish a wild lakes registry to facilitate scientific study and permanent lake protections.

Objective 4

With WDNR, evaluate interest and feasibility of sponsoring a phased hydrologic study of the Holcombe Flowage to:

- Design and implement a water quality monitoring program for the Holcombe Flowage.
- Model the estimated values, phosphorus concentrations, and residency time of streamflow contributed from the Chippewa River and Jump River sub-basins, and

- Model the relationship between phosphorus concentrations, phosphorus loads, chlorophyll, and the frequency of algae blooms on the Jump River embayment.

Objective 5

Refine the existing flowage management plans for each of the managed flowages in the Chippewa County Forest to identify the specific management goals for each based upon the physical site limitations, the intended outdoor recreational seasonal use, and any broader County Forest management objectives.

Objective 6

For each of the dams, lakes, and flowages managed by the county, conduct all scheduled inspections, associated engineering analysis, and required dam maintenance to meet state dam licensing and safety requirements.

8.5 Nonpoint Source Water Pollution Control

Goal 4

Develop and administer nonpoint source water pollution control programs to pursue state and local water quality objectives, and protect the public health, safety, and welfare.

Objective 1

Administer the NR 151 agricultural nonpoint source pollution control performance standards on a county-wide basis, using authority of Wisconsin Stats. 59, 92, 281, and Administrative Rules NR 115, NR 243, NR 151, and ATCP 50.

Action 1

Assess interest on behalf of the major farm organizations to implement an educational outreach project to inform agricultural producers, rural landowners, and the general public about agriculture and agricultural performance standards and the county's program to administer them.

Action 2

Systematically schedule and conduct site specific farm walkovers and farm evaluations on priority farms to explain the agricultural performance standards and to prepare written reports that document the extent of current compliance.

Action 3

Administer a voluntary farm evaluation and certification program following the practices and management approach established in this plan.

Action 4

Implement a well-defined county regulatory framework to enforce the NR 151 standards.

In doing so, evaluate and update the WDNR/County MOU that clarifies the local/state regulatory framework, and the role of the county and state under NR 243 permitting and enforcement authorities.

Action 5

Actively participate in the Wisconsin WPDES Permitting Processes for livestock facilities administered by WDNR under NR 243 or NR 151.

Note: When administering the State standards for tillage setback from streams, as established under NR 151, recognize and apply a 20' tillage setback under NR 151.03(2) as a minimum requirement in all physical settings.

Objective 2

Support efforts of crop and livestock producers, their agronomic service providers, and associated certified crop advisors, to develop, implement, and maintain nutrient management plans that meet the WI NRCS Technical Guide 590 standards.

To support nutrient management plan development by private sector consultants:

Action 1

Conduct farm walkovers to identify soil and water conservation needs and objectives.

Action 2

Gather information on current soil testing, cropping, and nutrient management procedures to create baseline information in selected field record keeping format, compatible with prescribed nutrient management software (SNAP Plus Map or state approved alternative).

To assure ongoing plan implementation and quality control:

Action 1

Encourage direct involvement by individual crop and livestock producers as annual plan updates are prepared by state certified crop advisors (CCA).

Action 2

Compile, review, and maintain a record of all annual plan updates and submittals. Track and monitor cropland field erosion rates, soil organic material, and cropland field and farm weighted average phosphorus index values.

Action 3

Arrange and participate in a state and local quality control program using a system of annual farm spot checks to assure compliance with Wisconsin Admin Rules, county ordinances, and county, state, or federal contracts.

Action 4

With UWEX, sponsor annual meeting of all certified crop advisors, consultants, custom manure and fertilizer applicators, and other agronomic service providers who provide nutrient and pest management services to agricultural producers.

Objective 3

Develop and implement a climate change flood control stream and wetland buffer initiative to mitigate the impacts of extreme weather events associated with climate change, with the objective of reducing runoff controlling flood peaks, and limit nonpoint source pollution.

Apply the initiative to augment and expand the scope and utility of the WI Conservation Reserve Enhancement Program (CREP) using the administrative framework of that program.

Action 1

Create a conceptual proposal for a pilot project using permanent conservation easements and advance a funding request through the County Capital Improvement Program (CIP) planning process.

Objective 4

With interested lake associations and WDNR, determine interest and feasibility of advancing a basin-wide management approach to manage water quality on the impounded flowages of the Chippewa River.

Objective 5

Support state and local efforts to pursue water quality objectives through the development and implementation of Total Maximum Daily Load (TMDL) limits in designated EPA 319 watersheds.

Action 1

Develop and seek approval of an EPA Nine Key Element watershed implementation plan for Little Lake Wissota.

- Systematically implement the watershed plan using the established administrative framework of the Lake Wissota Stewardship Project.
- Systematically evaluate the progress that is being made during and at the end of the prescribed project period (2018-2023).

Action 2

With the Lake Wissota Improvement & Protection Association, co-sponsor and participate in an EPA Nine Key Element watershed planning process to develop water resource management and pollution load reduction goals and water quality objectives for Moon Bay of Lake Wissota.

- Develop, enter, and if appropriate, periodically renew formal working agreements and service contracts with project sponsors and participating municipalities and funding agencies.

Action 3

With the Lake Wissota Improvement & Protection Association, administer the Lake Wissota Stewardship Project as the water resource management mechanism to account for, reduce, and monitor point and nonpoint source pollutant loads to Little Lake Wissota, and to meet any established TMD pollution load reduction goals and water quality management objectives for Moon Bay of Lake Wissota.

- Support efforts to actively solicit corporate and business co-sponsors using the existing public/private sector watershed business model.
- Actively pursue state and federal grants, private grant sources, and community contributions to meet planned program objectives.

Objective 6

Administer a joint storm water management program, that meets EPA and NR 216 storm water permit requirements, with affected municipalities in the Chippewa Falls Urban Area to meet requirements of General Storm Water WPDES Permit #WI-S050075-2.

Action 1

Administer components of the joint program following process and commitments defined in the Chippewa Falls Urban Area Storm Water Plan, the Chippewa County Stormwater and Construction Site Erosion Control Ordinance, and associated Chapter 66.03 agreement between Chippewa County, the Village of Lake Hallie, and the Towns of Eagle Point, Anson, and Lafayette.

Objective 7

Administer the NR 151 storm water nonpoint pollution control performance standards in select circumstances using the authority of Wisconsin Stats. 92, 281, and Administrative Rules NR 103, NR 115, and NR 216.

Action 1

Review and revise the existing working agreement between Chippewa County and WDNR as it applies to storm water plan review in unincorporated areas, subject to NR216 storm water permit requirements.

Objective 8

Recognize and better define the linkages between public health, climate change, land use, and nonpoint source pollution.

Action 1

Establish structured and ongoing communication between the Chippewa County LCFM Committee, Planning & Zoning Committee, and the Chippewa County Health & Human Services Board, and associated departments, to identify and address issues related to environmental public health.

8.6 Planning and Environmental Regulation

Goal 5

Facilitate community-based land use planning, and develop and administer local ordinances that address local needs and augment the community's voluntary conservation efforts.

Objective 1

Track the location and rate of new development in unincorporated areas using approved subdivision plats, certified survey maps, and new well permits.

Action 1

Maintain current Chippewa County well permitting and Chippewa County groundwater inventory GIS database.

Action 2

Establish and implement a land division mapping and tracking procedure to monitor the location and rate of development in unincorporated areas of the county.

Objective 2

Provide opportunities for greater communication and cooperation in land use planning and land use regulation between the county, towns, cities, and villages.

Action 1

Sponsor periodic land use educational conferences to encourage communication and provide information of value to town and county officials.

Objective 3

In cooperation with County Planning & Zoning, provide ongoing planning, administrative, and enforcement services to towns that participate in County Comprehensive Zoning, and to towns or other municipalities that have entered agreements or contracts for specified services.

Action 1

Provide information and educational support to towns regarding procedures to develop and implement town-based comprehensive plans and ordinances.

Action 2

Provide information, educational support, and consultation to towns that have adopted comprehensive plans to assist them to develop, administer, and enforce local ordinances.

Objective 4

With the WI Dept of Safety & Professional Services (DSPS) and the University of Wisconsin system, develop and implement a field-based research project to:

- Conduct a literature review of current regulatory authority and best available science, and
- Document the pollutant loads to groundwater from conventional private onsite waste systems on sites susceptible to groundwater contamination, and
- Evaluate the feasibility and the specific costs and benefits of requiring alternative POWTS technology in high density areas on sites susceptible to groundwater pollution.

Objective 5

Systematically review and update selected county land use and environmental ordinances to be consistent with the County Comprehensive Plan and State Administrative Rule changes.

Action 1

Evaluate and revise the Chippewa County Animal Waste Management and Utilization Ordinance, within the authority of WI Stats., Chapter 92 and 59, to redefine the purpose and scope of regulation, incorporate state agricultural performance standards, and better define enforcement authority under State Administrative Rule NR 243, NR 151, and ATCP 50 (LCFM).

Action 2

Evaluate and revise the Chippewa County Non-Metallic Mining Reclamation Ordinance, within the authority of NR 135 to more directly reference and incorporate policy and procedures, and administrative guidance used in ordinance administration (LCFM).

Action 3

Initiate a comprehensive revision to the Chippewa County Comprehensive Zoning Ordinance, within the authority of WI Stats., Chapter 59, to define and apply new zoning districts as they apply to rural residential development and livestock facility siting (P&Z).

Action 4

Evaluate and revise the Chippewa County Storm Water Management and Construction Site Erosion Control Ordinance, within the authority of WI Stats. 59, and NR 216, to refine administrative requirements and processes to meet the requirements of the Chippewa Falls Urban Area General Storm Water WPDES Permit #WI-S050075-2 (P&Z/LCFM).

9.0 PLAN IMPLEMENTATION

Chippewa County has prepared this plan to guide its operations, and to document local issues of environmental concern so that they might be considered by other municipalities, public agencies, and cooperating nonprofit conservation organizations as they allocate staff and funding.

Chippewa County will apply this plan to deliver programs and conduct scheduled activities that will be directed to meet local needs. The actual extent of program support and service levels allocated by the county, will be determined by the county through the annual budget process.

To optimize efficiency and the use of available resources, it is the intent of Chippewa County to develop and maintain an ongoing working relationship with all public agencies and nonprofit conservation organizations that provide conservation services in the county.

The public agencies that now implement land conservation related programs and regulations in Chippewa County are the Farm Service Agency (FSA), the Natural Resource Conservation Service (NRCS), the U.S. Fish and Wildlife Service (USFWS), the U.S. Army Corps of Engineers (USACE), the Wisconsin Dept. of Natural Resources (WDNR), the Wisconsin Dept. of Commerce (DOC), the University of Wisconsin-Extension (UWEX), the Wisconsin Dept. of Agriculture, Trade, and Consumer Protection (DATCP), the United States Environmental Protection Agency (EPA), and the United States Department of Interior.

Private nonprofit conservation organizations that now implement important conservation related services and programs in Chippewa County include local lake organizations, the Landmark Conservancy, the Chippewa County Land Conservancy, local chapters of Pheasants Forever, the Turkey Federation, Trout Unlimited, Musky, Inc., and numerous local sportsman's organizations.

In Chippewa County, several standing committees have a shared responsibility to implement the contributing components of a coordinated conservation program. The standing committees of county government with well-defined responsibility in conservation, land use, agriculture, forestry, and public health include: the Chippewa County Land Conservation & Forest Management Committee, the Chippewa County Planning & Zoning Committee, the Agricultural Extension Committee, and the Chippewa County Health & Human Services Board.

The lead responsibility for advancing and implementing the program activities, outlined in this plan, will be that of the committee and department with the assigned program and ordinance authority to implement the activity.

To encourage structured communication between the county and state and federal agencies, the Department of Land Conservation & Forest Management will, on an annual basis, convene a work group and sponsor an interagency planning process, as outlined in the Chippewa County Operational Agreement. This planning process will be scheduled to coincide with the county's annual budget process.

County departments and cooperating agencies will be encouraged to use this process to evaluate progress toward plan implementation and to develop grant requests, budget proposals, and individual staffing plans to advance program objectives.

Chippewa County Land Conservation & Forest Management Committee and Department will use the county budget process to routinely review this plan and to develop a recommended annual LCFM budget proposal that will be used to pursue the program objectives and activities determined to be of highest priority.

This Land & Water Resource Management Plan will be formally reviewed and updated in accordance with a five (5) year schedule, as established by the State, but may be amended if warranted before that time following procedures established in ATCP 50.12.

9.1 Land Conservation & Forest Management Committee Program Support and Service Levels

Efforts will be made to maintain core conservation program services, historically funded through the current county tax levy.

The county's commitment to extend services beyond that core levy commitment will be based upon its ability to secure funds through outside grant sources, including revenue generated through local service fees, agency and municipal service contracts, and public and corporate contributions.

Importantly, the priorities for plan implementation and associated service levels will be set based upon the extent of funding that can be secured to pursue program objectives and associated project initiatives.

At present, the demand for conservation related program services exceeds the county's capacity to deliver those services. Given current economic conditions and environmental concerns, it is anticipated that the level of state and federal funding support, administered through DATCP, WDNR, and USDA grant programs, will remain constant, or may increase modestly, under the 2019-2020 and 2021-2022 state budget cycles.

To address anticipated shortfalls, additional sources of revenue will be actively sought by the LCFM to meet service demand. These revenue sources will include federal service contracts, direct service fees charged to those receiving conservation services, and short-term project-based bridge grants that may be available through public agencies, private corporations, and nonprofit conservation organizations.

9.2 Annual Work Plan Development and Reporting

The program goals, objectives, and associated activities contained in this Land & Water Resource Management Plan will be prioritized and implemented through an annual work plan prepared by the Department.

The annual Department work plan will be reviewed annually by the LCFM Committee, in conjunction with the county budget process. This review will be conducted to evaluate progress toward meeting planned objectives, and to solicit feedback on scheduled activities and program priorities.

The resulting Department work plan and budget will be used by each LCFM staff member as a basis for developing individual staff work plans that will be implemented to pursue scheduled activities.

To assure full accountability, the Department and the LCFM Committee will present an annual department performance report to the County Board during Qtr. 2 of each year. This report will outline the work that was accomplished in the previous year and the activities planned in the current year.

To meet its core responsibilities under WI Stats., Chapter 92.10, it is the intent of the county to establish and facilitate structured agricultural agency reporting, both to and between the Chippewa County LCFM Committee and Chippewa County Farm Service Committee.

At a minimum, the reports should be planned on either a quarterly or semi-annual basis, and should focus on natural resource conditions, resource management tracking and monitoring results, and the status of soil and water conservation and other related program activities that are being planned and implemented by the agencies.

9.3 Overview of Approach to Conduct Public Education and Community Outreach

It is the intent of the county to work with and use the structure of existing educational institutions and community organizations to deliver the community outreach and educational programs that will be applied to pursue natural resource management and program objectives, established in this plan.

9.31 Educational Service Delivery

Historically, community outreach efforts to support conservation programs in Chippewa County have been developed and administered independently by each agency to meet the program objectives of individual agencies.

The specific community outreach and educational programming support necessary to advance identified program objectives will be the responsibility of the county department or cooperating agency that intends to pursue the objective.

To advance this general management objective, the county will establish and support mechanisms that will serve to facilitate structured communication and coordination among agencies responsible for soil and water conservation, and natural resources management.

The county departments and cooperating agencies will be encouraged to work collectively through the county's annual work planning process to identify common educational needs and to work in collaboration with local educational service providers and community organization.

9.32 Agricultural Agency Education Coordinating Council

To assure that there is an ongoing institutional commitment toward public education and community outreach, it is the intent of Chippewa County to establish and support a standing Chippewa County Agricultural Agency Education Coordinating Council. This council will serve to:

1. Facilitate structured communication among public agencies responsible for agricultural outreach, agricultural education, and agriculturally-based program administration.
2. Develop and oversee the implementation of an annual interagency soil and water conservation education work plan, to advance the goals and objectives of the Chippewa County Land & Water Resource Management Plan.
3. Apply the annual education work plan to identify and pursue opportunities to improve the public's understanding of agriculture and agricultural operations, and associated linkages to food, land, and water.
4. Develop and oversee the implementation of other educational outreach activities of value to agriculture and the public in Chippewa County.

At a minimum, the group will be comprised by the UWEX agent and the agricultural agency directors representing UWEX, Land Conservation & Forest Management (LCFM), USDA Farm Service Agency (FSA), USDA Natural Resource Conservation Services (NRCS), Chippewa Valley Technical College (CVTC), and representatives from high school agricultural, vocational, and FFA programs.

The suggested format for the annual interagency soil and water conservation work plan is provided in Appendix 7.

9.33 Internet Web and Social Media Access

To assure that there is an ongoing institutional commitment to engage the public and to provide access to conservation and natural resource related information, it is the intent of the county to:

1. Update, upgrade, and actively maintain the LCFM web page to improve its utility and function. In doing so, the county will establish live links to the web pages of cooperating agencies and organizations, and live links to resource monitoring and remote sensing data.
2. Evaluate the costs and benefits of engaging in social media as a public service, including the appropriate platform and staff position(s) responsible for managing a social media presence.

9.34 Relationships with Educational Institutions

To establish synergies and to optimize the use of public resources, it is the intent of the county to cooperate with and support the efforts of existing educational institutions that have a shared objective toward conservation of natural resource related education. To do so, the county will seek to:

1. Expand working relationships and develop agreements with youth-based community organizations (Scouts, 4-H, FFA, others) to provide opportunities for applied environmental education and civic engagement.
2. Establish working relationships with public educational institutions (K-12) to identify existing educational programs that focus on the earth, biological, and agricultural sciences.
3. Maintain and expand working relationships with post-secondary education institutions (technical college, UW system,) to sponsor applied research, special environmental studies, and opportunities for student internship.

9.35 Community Outreach

To facilitate community outreach efforts, it is the intent of the county to:

1. Develop institutional framework and management structure to further engage citizen volunteers, civic organizations, and youth to pursue resource management program objectives.
2. Apply existing policy and program framework, developed by the LCFM Forest & Trails Division (F&T Div.), to recruit, train, and manage volunteers.
 - a. Conduct needs assessment to evaluate LCFM staff & conservation organization capacity to expand community engagement.
 - b. Evaluate the “Rusk County Volunteer Challenge” model to determine concepts that may transfer.
3. Explore the feasibility of establishing a working arrangement with the county court system to provide opportunities for conservation-based community service projects for troubled youth or for low risk non-violent offenders.

9.4 Overview of Approach to Preserve Unique Parcels and Working Lands

The county will work cooperatively with individual landowners, local municipalities, state and federal agencies, and nonprofit conservation organizations to conserve and permanently protect the land base.

In doing so, the county will provide educational, technical, and administrative services that will assist the landowner to determine and select the site specific development and conservation options that meet the landowner's management objectives.

9.41 Cooperating Municipalities and Agencies

In administering its land conservation programs, the county will work cooperatively with the local municipalities that choose to plan and manage land use within their respective jurisdictions.

Similarly, the county will work cooperatively with the state and federal agencies that have historically administered a broad range of incentive-based programs to encourage conservation on private lands. These programs include nonpoint pollution control and farmland protection programs administered by the U.S. Dept. of Agriculture, the WI Dept. of Agriculture, Trade, and Consumer Protection, and the WI Dept. of Natural Resources, and programs intended to preserve natural ecology on private lands, administered through the U.S. Fish and Wildlife Service, the U.S. Dept. of Agriculture, and the WI Dept. of Natural Resources.

In conjunction with these public efforts, the county will work cooperatively with individual volunteers and private nonprofit conservation organizations to pursue land conservation objectives.

In Chippewa County, local sportsman's organizations have a long history of working directly with landowners to sponsor conservation and habitat improvement projects on private and publicly held land.

In recent years, these efforts have been augmented by local land trusts and other nonprofit conservation organizations, including the Chippewa County Land Conservancy, Inc., the West Wisconsin Land Trust, and the Chippewa County Outdoor Resource Alliance, who offer options for permanent resource protection through use of conservation easements or fee title purchase.

9.42 Use of Chippewa County Stewardship Fund

Chippewa County has established the Chippewa County Stewardship Fund and will administer this program to support the voluntary land conservation efforts of individual landowners working in cooperation with the county, nonprofit conservation organizations, and public agencies.

The program provides the policy and administrative framework that enables the county to accept gifts of land or conservation easements from the public, and to receive and distribute matching grants to municipalities and nonprofit conservation organizations for permanent resource protection. The policy for administration of this program is titled: Chippewa County Stewardship Fund Policy and Procedures for Program Administration, (LCD 12/7/99), and is provided as Appendix 3.

Chippewa County will use this framework to support ongoing efforts to permanently preserve select working lands and areas of high environmental and public value.

9.5 Overview of Approach to Control Agricultural Nonpoint Source Pollution Using NR 151 Agricultural Nonpoint Performance Standards

In 2004, given the limits of state funding, the county changed its water resource management approach from an effort to improve water quality in select watersheds to an effort to maintain water quality throughout the county by controlling runoff from urban development and from new and expanding agricultural operations. In circumstances where the state initiates a targeted watershed planning effort, the county will assist and cooperate in that effort within the limits of accelerated state funding.

As a basis for its efforts to control nonpoint pollution from agricultural sources, the county will implement a voluntary farm evaluation and certification program. Participation in the farm evaluation process will be a prerequisite and eligibility requirement for the allocation of technical services or state cost-share funds administered by the county.

The county will seek to work cooperatively with the USDA Farm Service Agency and Natural Resource Conservation Service to develop and optimize voluntary opportunities which will enable producers to use USDA conservation programs to meet state performance standards.

The process that will be used to administer the standards is that outlined in state planning guidance titled: Implementation Strategy for NR151, Agricultural Performance Standards and Prohibitions, (April 2002, Appendix E, Land and Water Resource Management Guidelines).

The specific roles and responsibilities of Chippewa County and state agencies in implementing these standards have been outlined in a Memorandum of Understanding (MOU) between the county and the Wisconsin Department of Natural Resources. This agreement will be used to assure compliance with the agricultural nonpoint performance standards. A copy of the MOU is provided as Appendix 4.

To support these local program efforts, a detailed information and education program has been developed to explain the agricultural nonpoint pollution control standards and the local delivery system that will be used to administer the standards. This plan defines target audiences, informational messages and delivery mechanisms, and outlines state agency and county responsibilities to implement the program.

To date, state and local resources have not been available to systematically deliver that outreach program. To address this shortfall, the county will attempt to work on a regional basis through local farm organizations and cooperating agency networks to deliver core educational messages.

Under this program approach, onsite evaluations will be systematically scheduled and conducted to introduce and explain the agricultural nonpoint performance standards.

In conducting evaluations, the county will pursue a comprehensive approach toward parcel evaluation. In conducting the evaluation, the county will determine which of the state standards apply to parcels being evaluated and determine the extent of compliance for each of the applicable standards.

Upon completion of the evaluation, the county will review the results with the landowner and provide the opportunity for review, comment, and appeal. In circumstances where full compliance has not yet been achieved, the county will work with the landowner to secure technical assistance and cost-share funding available to pursue compliance.

The voluntary component will be augmented by a regulatory option. Farms subject to direct regulation will be limited to:

1. Operations which require permits under the Chippewa County Animal Waste Storage Ordinance to install or alter manure storage facilities.
2. Livestock operations which are new or expanding, and which require zoning or conditional use permits for livestock expansion through the Chippewa County Comprehensive Zoning Ordinance.
3. Operations which are subject to state jurisdiction under Wisconsin Stats. 281 and Wisconsin Administrative Rules NR 243 or NR 151 that are found to be out of compliance with the NR 151 agricultural standards, as determined by a site evaluation conducted as part of routine permit monitoring or in response to a public complaint.

In responding to public complaints, priority will be assigned to livestock facilities and cropping operations located in water quality management areas and shoreland corridors.

Copies of current ordinances are on file as public record with the Chippewa County Clerk.

9.51 Fiscal Policy

To encourage participation in the voluntary farm evaluation and certification program, and to optimize the use of available cost-share funds, the county will attempt to dovetail state funds with federal funds to increase the public cost-share rate for operations that seek to meet the state's agricultural performance standards and prohibitions.

In circumstances where cost-share funding is required to support non-voluntary enforcement action, the county will attempt to secure state grant funding available through state programs.

9.52 Priority for Servicing Farms

Public requests for administrative, technical, and regulatory services, administered through the Land Conservation & Forest Management Committee, currently exceed the capability of the county to provide these services.

It is anticipated that the cost of fully servicing state conservation programs, administered under ATPC 50, NR 151, and NR 216, will exceed the state staffing grant allocations offered under ATPC 50.30(3).

In establishing its service priorities, the county will require that landowners that request services or funds allocated by the Land Conservation & Forest Management Committee to provide information about past and ongoing field and crop management practices, participate in a voluntary farm evaluation process (Section 4.54), and to meet the Wisconsin Agricultural Performance Standards and Prohibitions, as established in NR 151.

In allocating its resources, the county will recognize legal requirements imposed by ATPC 50.16, and attempt to meet those requirements within the limits of state staffing grant funding. In administering the agricultural performance standards and prohibitions, the county will allocate its staff and financial resources to farm operations according to the following priorities:

Priority 1

- New and expanding livestock operations, subject to regulation under the Wisconsin WPDES permit system or the Chippewa County Manure Storage and Livestock Facility Ordinance.

Note: Chippewa County will provide cost-share funding to new and expanding operations, and only in circumstances where it is required under NR 151.

- Existing agricultural operations subject to public complaint or state enforcement action under NR 243 or NR 151.

Priority 2

- New and expanding livestock operations, and existing agricultural operations that participate in the Chippewa County Voluntary Farm Evaluation and Certification Program.

- New and expanding cropping operations that use agricultural irrigation.

Priority 3

- Existing operations that participate in the Wisconsin Conservation Reserve Enhancement Program (CREP).

9.53 Priority for Public Cost-Share Allocations

The agricultural performance standards and prohibitions, established in NR 151, have been adopted to control nonpoint pollution. Public funds available from state and federal sources are expected to be limited.

To most cost effectively pursue water resource management objectives, the county will pursue a comprehensive full farm, all standards approach toward farm evaluations. In administering this approach, the county will assign cost-share funding priority to those farms agreeing to pursue full compliance.

In circumstances where public cost-share funds are limited, the agricultural standards and prohibitions have been prioritized so that they may be implemented through a phased approach. These priorities have been established based upon the source of nonpoint pollution and the environmental cost effectiveness of implementing each performance standard.

The priority for implementing the standards, when conducted through other than a fully funded whole farm, all standards approach, is outlined in Table 5. It is the intent of the county that the local system of priorities be considered by state and federal agencies as local strategies are developed and decisions are made regarding public cost-share allocations.

Table 5

**Local Priorities for Implementing Agricultural Nonpoint Standards
In Chippewa County
Based Upon Need, Type, and Location of Practice**

RELATIVE PRIORITY	AGRICULTURAL STANDARD OR PROHIBITION
High Level	
	☐ NR151.08 - Manure Management Prohibitions -No unlimited livestock access to streams. -No overflow of manure storage facilities. -No unconfined manure pile in Water Quality Management Areas (WQMA) -No direct runoff from feedlot or stored manure. ☐ NR151.05 - Manure Storage Facilities -New facilities to meet 313 siting and design standards. -New facilities operators to meet 590 nutrient management standards. -Closure of abandoned structures. ☐ NR151.06 - Clean Water Diversions in Water Quality Management Areas -Runoff to be diverted from feedlots.
Medium Level	
	☐ NR151.05 - Manure Storage Facilities -Repair or replacement of failing and leaking facilities. ☐ NR151.02 - Sheet, Rill and Wind Erosion -Control within water quality management areas. ☐ NR151.07 - Nutrient Management -Operators using agricultural irrigation.
Low Level	
	☐ NR151.02 - Sheet, Rill and Wind Erosion -Control outside of water quality management areas. ☐ NR151.07 - Nutrient Management -Operators not associated with storage, or WPDES permits, or irrigation

In circumstances where watershed studies have been completed, this priority schedule will be considered and may be amended for the purpose of developing a watershed-based implementation strategy that would meet the management needs of the water resource and of the water pollution control objectives that have been established for the watershed.

9.6 Overview of Approach to Control Urban Nonpoint Source Pollution Using NR 216 and NR 151 Urban Runoff Performance Standards

To control nonpoint pollution from nonagricultural sources, the county will work cooperatively with local municipalities and state agencies to implement performance standards for storm water runoff, as established in NR 151.10.

The extent of the county's commitment and service level will be determined by its legal obligation to meet EPA urban storm water permit requirements, as established in WPDES Permit #S050121-1, as it applies to the City of Chippewa Falls urban storm water area and its ongoing capacity to allocate staff support and technical services outside of the Chippewa Falls urban area.

9.61 Storm Water Services Within the Chippewa Falls Urban Area

As a basis for its efforts, the county will work with affected municipalities in the Chippewa Falls urban area to develop and implement a storm water management program under the EPA MS4/WDNR WPDES permitting process. To accomplish this, the county has worked with the affected municipalities to develop the Chippewa Falls Urban Area Storm Water Management Plan, (2007).

9.62 Storm Water Services Outside of the Chippewa Falls Urban Area.

To augment this core effort, the county will work cooperatively with WDNR to provide storm water plan review and post-construction plan verification of all developments subject to State NR 216 storm water permit requirements, that are regulated by the county under the Chippewa Co. Manure and Livestock Facility Ordinance and the Chippewa Co. Non-Metallic Mining Reclamation Ordinance. These storm water management services will be provided within the limits of available funding and staff resources in accordance with a storm water services MOU between Chippewa County and WDNR, dated 3/6/02. This MOU is provided as Appendix 6.

To further augment this effort, the Chippewa County Highway Department and WDNR will work cooperatively with the towns and municipalities to meet standards for roads and transportation related facilities, as established in NR 151.20.

Explanatory Note: Under subchapter III of NR 216, Wisconsin Adm. Code, a notice of intent shall be filed with the WDNR by any landowner who disturbs one or more acres of land. This disturbance can create a point source discharge of storm water from the construction site to waters of the state and is, therefore, regulated by WDNR. Agriculture is exempt from this requirement for activities such as planting, growing, cultivating and harvesting crops for human or livestock consumption, and pasturing or yarding of livestock as well as sod farms and tree nurseries. Agriculture is not exempt from the requirement to submit a notice of intent for one or more acres of land disturbance for the construction of structures such as barns, manure storage facilities, or barnyard runoff control systems. (See s. NR 216.442(2), Wisconsin Adm. Code). Furthermore, construction of an agricultural building or facility must follow an erosion and sediment control plan consistent with s. NR 216.46, Wisconsin Adm. Code, and meet the performance standards of s. NR 151.11, Wisconsin Adm. Code. An agricultural building or facility is not required to meet the post-construction performance standards of NR 151.12, Wisconsin Admin. Code.

9.7 Application of Nonpoint Performance Standards and Best Management Practices to Pursue Land and Water Resource Objectives

Wisconsin Stats., Chapter 92.07 authorizes the Land Conservation & Forest Management Committee to develop and adopt standards and specifications for management practices to control erosion, sedimentation, and nonpoint source water pollution.

Wisconsin Stats., Chapter 281 requires the Wisconsin Department of Natural Resources (WDNR) to develop performance standards to control nonpoint source water pollution from agricultural and nonagricultural sources. These performance standards have now been established in Administrative Rule NR 151. Wisconsin Stats. 92.10(6)(4) requires that this plan identify the applicable standards that will be used to control nonpoint source pollution.

9.71 State and County Standards

In Chippewa County, the performance standards to be applied to control agricultural and non-agricultural sources of nonpoint pollution will be those established in WI Administrative Rules NR151.

With the adoption of the 2004 Chippewa County Land and Water Resource Management Plan, the county clarified its intent to:

1. Retain the previously adopted county non-metallic mining siting reclamation standards.
2. Retain the previously adopted Chippewa County storm water and non-metallic mine reclamation standards for use in select applications where storm water quantity, quality, and flood control are identified as management issues of local concern.

Explanatory Note 1: It is the intent of the county to apply state storm water quality standards, established in NR151 and NR216, as a requirement in all circumstances where these standards apply.

In conducting storm water plan reviews, the county will recognize and administer other, more restrictive water quantity-based standards, but only in circumstances where these local standards have been adopted or are administered by the county or a municipality through local ordinance.

The existing county storm water standards will be retained as a reference for use in local zoning and subdivision applications, at the discretion of local municipalities.

In circumstances where it is deemed necessary to develop or apply more restrictive performance standards to control nonpoint pollution, the county will follow administrative processes for State review and approval, as established in WI Stats., Chapter 92 and 281.

In the event that the legislature changes the state standards or alters the scope of their application to state administrative programs, the county will apply the new standards, as established by law.

9.72 Best Management Practices

The best management practices, which will be used to control nonpoint source pollution from agriculture, forestry, and urban sources, will be those established in the following guides:

- Wisconsin Adaptation of the USDA, NRCS Technical Guide.
- The Wisconsin Handbook of Forestry Best Management Practices.
- Wisconsin Construction Site Erosion Handbook.
- Wisconsin Standards Oversight Council (S.O.C.) Standards.
- Others as published and updated.

In circumstances where public cost-share is provided, producers are obligated, under state and federal administrative rules, to install conservation practices. The conservation practices are established in ATCP 50.61 - 50.98, in accordance with prescribed technical standards. Examples of these practices include structural measures such as surface water diversions, barnyards, sediment basins, manure storage structures, and non-structural practices such as field layout, crop rotations, crop residue management, and stream buffers.

As an alternative to cost-shared practices, Chippewa County will actively encourage agricultural producers to meet performance standards through the use of innovative management techniques, which may not be contained in the State's technical standards or best management practice handbooks. These innovative techniques may include structural or non-structural measures which enable the landowner to demonstrate that a performance standard has been achieved and can be maintained on a continuous and ongoing basis.

10.0 PERFORMANCE MEASURES, TRACKING AND PUBLIC ACCOUNTABILITY

Progress toward achieving the natural resource management, and program goals and objectives established in Sec. 5.3 and 5.4, will be measured through direct environmental monitoring, environmental modeling, and tracking.

10.1 Land Based Monitoring, Modeling, & Tracking

A series of land-based resource inventories will be systematically maintained by the county to monitor ongoing land use and existing land cover. These inventories will be reviewed annually as part of the interagency planning process to track land use trends. The inventories that will be used in this monitoring include current satellite imagery and GIS map compilations.

10.2 Nonpoint Source Pollution Control and Mine Reclamation Tracking

Chippewa County has designed and implemented a land-based tracking system to systematically record and monitor the location of farm operations and tax parcels where farm evaluations have been conducted and where state (NR 151) nonpoint pollution control standards have been met. This system is managed as a data base and associated map layer on the Chippewa County Geographic Information System (GIS).

The farm operations tracked through this system provide annual cropping and nutrient management information. This information is, in turn, applied to model current erosion rates and to monitor soil phosphorus concentrations and potential nutrient and sediment loads.

For the purposes of evaluating progress toward meeting resource management and program objectives for nonpoint source water pollution control on agricultural lands, the following measures and tracking method will, at a minimum, be applied:

- a. The number, acres, and mapped location of farm evaluations and NR 151 compliance reports, completed per year to explain and implement state agricultural performance standards established in NR 151.09 and NR 151.095.
- b. The number, acres, and mapped locations of the farms evaluated that fully meet, and those that partially meet, specific agricultural performance standards for cropland, including field soil erosion, tillage setbacks, phosphorus index (PI), and the 590 nutrient management standard.
- c. The number, acres, and mapped locations of the farms evaluated that fully meet, and those that partially meet, specific agricultural performance standards for livestock facilities.
- d. The number, acres, and mapped locations of farms that have been evaluated that self-certify annually that they are operating in compliance with the standards.

- e. The number, acres, and mapped locations of conservation lands that have been removed from production that are managed under state or federal conservation contracts or conservation easements, including lands enrolled in the USDA Conservation Reserve Program (CRP) and the Wisconsin Conservation Reserve Enhancement Program (CREP).

For the purpose of evaluation, progress toward meeting program objectives of non-metallic mine reclamation at permitted mine sites, the following performance measures will, at a minimum, be applied:

- a. The number, acres, and mapped location of permitted non-metallic mines, including the acres at each mine site that are disturbed, undergoing reclamation, and certified as meeting reclamation standards.

10.3 Water Based Monitoring, Modeling, & Tracking

Surface Water

Surface water quality monitoring will be conducted by WDNR following a monitoring plan that will be applied to meet state and local priorities. The monitoring approach will address a variety of natural resource information needs, as required to support ongoing management decisions.

Statewide baseline monitoring using standardized sampling protocols will be used to identify broad trends affecting aquatic resources.

Data from these sites along with others selected statewide will be used to develop expectations for different aquatic stream communities. Data collected from these sites include: fishery and habitat surveys, continuous temperature monitoring, one time growing season water chemistry sampling and macroinvertebrate sampling.

Where environmental problems are identified locally, more intensive sampling can occur under targeted evaluation monitoring to determine the cause and extent of the problem. This site-specific monitoring of targeted areas can be used to develop management plans for corrective action.

Groundwater

Progress toward meeting defined resource management objectives for groundwater quality will, at a minimum, include:

- a. The number and mapped location of wells sampled per year (NO₃-N results) contributing to the Groundwater Quality Index.
- b. The number, mapped location, and percent of wells sampled with NO₃-N concentrations that increase or decrease from the prior year.
- c. The number, mapped location, and percent of wells sampled with NO₃-N concentration that fall into standardized reporting ranges.

10.4 Administrative Tracking

Progress toward achieving the program goals and objectives, established in Sec. 5.4, will be measured through administrative tracking.

Under this approach, the plan will be reviewed on an annual basis as a part of the county's work planning and budgeting process. Scheduled activities will be recognized as benchmarks and will be applied to monitor progress toward long-term program goals.

To measure performance and account for accomplishments, an annual activities report will be prepared to document the status and outcome of the activities planned under Sec. 8.0.

For the purpose of evaluating the implementation of planned activities initiated to pursue established program objectives, the following measures and tracking method will, at a minimum, be applied:

- a. An annual plan review will be conducted to assess the status of each activity listed on the activity schedule.
- b. The results of the review will be documented and provided to the LCFM Committee and funding agencies as part of annual reporting.

11.0 YEAR 2019-2023 ACTIVITY SCHEDULE

This plan will be systematically implemented using an annual work plan to pursue the program objectives and actions established in Sec. 5.4.

Table 6 is a five (5) year schedule of activities, as planned to advance program objectives during the years 2019-2023. Those activities identified as a priority for consideration in the development of annual work plans and budgets during that period are highlighted. Table 7 lists these priority activities and the performance-based benchmarks that will be applied to measure progress toward plan and program implementation.

Table 8 is a program budget for the same time period. The budget shows the amount of projected local property and sales tax that has historically been allocated by the county by major program area, and the amount of state grant funding that is now anticipated based upon historic state budget allocations to implement the planned program activities.

This activity schedule and budget is subject to change and will be systematically evaluated and updated using an annual interagency working planning process, conducted in conjunction with the county's annual budget process.

This page left intentionally blank.

SCHEDULE OF ACTIVITIES TO IMPLEMENT LWRM PLAN

3/29/19

ENERGY CONSERVATION & WASTE REDUCTION

[illegible]

Goal 2. Develop and administer conservation programs that preserve the land, support sustainable production, provide biodiversity, and protect the natural ecology.

Objective 1. Actively support the economic viability & sustainability of existing agricultural operations, the local ag economy, & rural communities.

- Establish structured & ongoing communication with the Chippewa Co. Economic Development Corp. to identify & support economic development opportunities for agricultural producers, processors, & related business enterprises
- Working in association with local ag organizations & processors, ag org., UWEX & CCEDC, define & implement project initiatives that seek to assure a diverse mix of ag operations that are scaled to provide local job opportunities, maintain & support local ag economy, & sustain rural communities
- Actively explore & support initiatives that maintain existing family-owned operations & agri-businesses, establish local food to table markets, encourage farm-based renewed energy production, & encourage cooperative development & business ventures
- Develop a pilot project working through ag producers in an established Agricultural Enterprise Area (AEA) to meet a defined community need & agricultural business objective
- Develop & implement pilot project(s) to evaluate emerging technology that can be applied to optimize inputs, limit env. concerns, & sustain crop production (irrigated & non-irrigated)

Objective 2 - Support the efforts of individual landowners, private nonprofit conservation organizations, & local municipalities to protect farmland & to preserve productive "working lands" under WI Stats., Chapter 91.

- Actively support the efforts of landowners & agricultural producers who petition to develop & implement an Agricultural Enterprise Area (AEA) or who seek to participate in Farmland Preservation Zoning under WI Stats., Chapter 91
- Provide technical & administrative support to landowners & agricultural producers who enter farmland preservation contracts or who participate in Farmland Preservation Zoning to meet state program requirements
 - Conduct NR151 farm evals & provide tech services to all new & existing program participants
 - Conduct annual reporting & certification process to verify landowner compliance

Objective 3. Administer the WI CREP Program to establish stream & wetland buffers.

Assess program options for continued co. administration under the WI CREP Program.

- Maintain & expand an annual buffer evaluation & maintenance program to assure contract compliance & to assist landowners to maintain the biodiversity & enviro function of buffers
- With DATCP & FSA, explore USDA program options to establish special area designation to facilitate expanded program functions as targeted to watersheds with poorly defined drainage patterns located east of the Chippewa River
- With DATCP & FSA, explore USDA program options to allow periodic mowing & harvest of perennial hay to control woody vegetation, maintain grassland habitat cover, & remove nutrients

LAND CONSERVATION AND SUSTAINABILITY

Goal 2. Develop and administer conservation programs that preserve the land, support sustainable production, provide biodiversity, and protect the natural ecology, con't.	2019				2020				2021				2022				2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Objective 4. Encourage biodiversity & sustainable ag., forest & biomass production on private lands by providing tech. assistance & conservation program services to landowners. •Administer educational services, technical services, & financial incentives to ag producers through state/federal ag conservation & nonpoint pollution control programs •Administer ed services, technical services, & financial incentives to woodland producers through local producer networks, woodland mngt orgs, & state/federal forestry programs •Provide tech services to the owners & operators of non-metallic mine sites, abandoned mines, & brown fields to reclaim disturbed sites & achieve productive & sustainable end land uses	⊗				⊗				⊗				⊗							
	?																			
Objective 5. Support the efforts of major farm & forestry org. & public agencies to develop & pursue market-based mechanisms to sequester carbon & increase soil organic matter, improve water quality and mitigate climate change, as part of ongoing go & forestry operations, including efforts to compile, market, & monitor carbon or water quality credits	⊗				⊗				⊗				⊗							
Objective 6. Support the efforts of individual landowners, private nonprofit conservation orgs. & municipalities to preserve unique lands with high public & environmental value. •Actively administer & maintain the Chippewa Co. Stewardship Program to support the acquisition of land and/or conservation easements by municipalities or nonprofit orgs for conservation purposes •Initiate project to increase public awareness of the "Living Land Endowment" as an established agency directed endowment of the Chippewa Co. Community Foundation, to encourage & facilitate co. giving to support public acquisitions of land with high natural, eco or scientific value •With private, nonprofit conservation orgs, define the location of high priority conservation areas having significant public value or unique ecological significance •In cooperation with nonprofit conservation organizations, maintain a wild lakes registry for undeveloped lakes as a companion to the WI Scientific & Natural Areas Program	⊗			X	⊗				⊗				⊗				⊗			
Objective 7. Encourage land conservation & biodiversity through use of corridor initiatives. •Work in assoc. with local landowners, National Park Service, Ice Age Trail Alliance, & Chip. Co. Chapter of the Ice Age Trail Alliance to plan & establish the location of the Ice Age Trail corridor •Work in conjunction with the WDNR and interested landowners to determine the feasibility of est. environmental corridor linking McCann Ck. Fishery Area to the Ice Age National Scien. Rsv.				X	X	X														
Objective 8. Encourage & support efforts to reclaim surface mined lands to native plant communities with high ecological value as wildlife habitat. •Develop & expand working relationships with permitted nmm & university researchers to est. test plots to demonstrate nmm reclamation processes & establish reclamation test plots •Establish & maintain a working relationship of ecological consultants to assist landowners restore, manage, & maintain native plan communities on private lands •Establish & maintain a working relationship with consultants & the WDNR to provide controlled burn services on public & private lands	X																			
	X																			

[illegible]

WATER CONSERVATION

Goal 3. Develop, support, and implement water conservation programs to maintain current aquifer volumes and to protect the county's drinking water supply.

Objective 1. Develop & implement soil & water conservation programs that protect wetlands, restore hydrology & improve stormwater storage capacity, soil infiltration & grdwtr recharge

- Develop a small watershed project proposal to restore natural hydrology by implementing cropping systems & structured practices to improve groundwater recharge in select watersheds where infiltration has been reduced as a result of non-metallic mining
- Develop & support project proposals & local, state, & federal initiatives to protect, restore, & enhance wetlands

Objective 2. Maintain & expand the utility of groundwater quantity & groundwater quality programs conducted to maintain the Chippewa Co. Groundwater Inventory

- Routinely administer & compile data to support the contributing components of the Chippewa Co. Groundwater Inventory
- Establish & actively maintain the groundwater index monitoring network to continuously monitor annual groundwater chemistry at representative wells located throughout the co.
- With WDNR, evaluate the feasibility & develop formal agreements to exchange water quality info. generated through state well sampling & well permit locations generated through co. well permitting

Objective 3. Upgrade & actively maintain the co.'s newly developed groundwater monitoring network to remotely monitor & record groundwater elevations & assoc. stream baseflow conditions at representative locations throughout the county.

- Complete & actively maintain the existing WellIntel network, as est. at select well locations to continuously monitor groundwater elevations
- Compile & post existing groundwater elevation monitoring data to extend the record of groundwater monitoring & to document fluctuations through time
- Develop a project design & grant proposal to further refine, enhance, & improve the utility of the monitoring network by linking groundwater elevation monitoring to stream baseflow monitoring & gauged stream locations

Objective 4. Actively encourage & support the development of water conservation programs to maintain public & private water supplies.

- Distribute, actively apply, & support the use of USGS ModFlow Groundwater Model that has been created to evaluate high capacity wells in Chippewa Co.
- Contact municipalities to determine the status of wellhead protection programs and to determine any municipal concerns or interests
- Support the efforts of municipalities that implement wellhead protection planning projects

2019				2020				2021				2022				2023			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
								X											
⊗				⊗				⊗				⊗				⊗			
⊗				⊗				⊗				⊗				⊗			
			X																
			X	⊗															
			X	⊗															
												X							
		X	X	X															

Goal 3. Develop, support, and implement water conservation programs to maintain current aquifer volumes and to protect the county's drinking water supply, con't.

[illegible]

Goal 4. Develop & administer nonpoint sources of water pollution control programs to pursue state and local water quality objectives.

- Assess interest on behalf of the major farm org. to implement an educational outreach project to inform ag producers, rural landowners, & general public about agriculture & the ag performance standards & the co.'s program to administer them
- Systematically schedule & conduct site specific farm walkovers & farm evaluations on priority farms to explain the ag performance standards & prepare written reports that doc the extent of current compliance
- Admin voluntary farm evaluation & certification program following the practices & mngt approach established in this plan
- Implement a well-defined co. regulatory framework to enforce NR151 standards
- Actively participate in WI WPDES permitting process for livestock facilities administered by WDNR under NR 243 or NR 151

To support nutrient mgnt plan development by private sector consultants:

- Conduct farm walkovers to identify soil & water conservation needs & objectives
- Gather information on current soil testing, cropping, & nutrient mngt procedures to create baseline information in selected field record keeping format, compatible with prescribed nutrient mngt software (SNAP Plus Map or state approved alternative)

To support ongoing plan implementation & quality control:

- Encourage direct involvement by individual crop & livestock producers as annual plan updates are prepared by state certified crop advisors
- Compile, review, & maintain a record of all annual plan updates & submittals. Track & monitor cropland field erosion rates, soil organic material, & cropland field & farm weighted average phosphorus index values
- Arrange & participate in a state & local quality control program using a system of annual farm spot checks to assure compliance with WI Admin. Rules, co. ord., & co., state or fed contracts
- With UWEX, sponsor annual meeting of all certified crop advisors, consultants, custom manure & fertilizer applicators, & other agronomic service providers who provide nutrient & pest mngt services to ag producers

[illegible]

NONPOINT SOURCE WATER POLLUTION CONTROL

Goal 4. Develop and administer nonpoint sources of water pollution control programs to pursue state and local water quality objectives (Cont.).

Objective 3. Develop & implement a climate change flood control stream & wetland buffer initiative to mitigate the impacts of extreme weather events associated with climate change, with the objective of reducing runoff controlling flood peaks, & limit nonpoint source pollution.

- Create a conceptual proposal for pilot project using permanent conservation easements & advance a funding request through the Co. Capital Improvement Program (CIP)

Objective 4. With interested lake associations & WDNR, determine interest & feasibility of advancing a basin-wide mngt approach to manage water quality on the impounded flowages of the Chippewa River.

Objective 5. Support state & local efforts to pursue water quality objectives through the development & implementation of TMDL limits in designated EPA 319 watersheds.

- Develop & seek approval of an EPA Nine Key Element watershed plan for Little Lake Wissota
- With LWIPA, co-sponsor & participate in an EPA Nine Key Element watershed planning process to develop water resource mngt & pollution load reduction goals & water quality objectives for Moon Bay of Lake Wissota
- With the LWIPA, administer the Lake Wissota Stewardship Project as the water resource mngt mechanism to account for, reduce, & monitor point & nonpoint source pollutant loads to the Little Lake Wissota & to meet any established TMDL pollution load reduction goals & water quality mngt objectives for Moon Bay of Lake Wissota

Objective 6. Administer a joint stormwater mngt program that meets EPA & NR 216 storm water permit requirements, with affected municipalities in the Chippewa Falls Urban Area, to meet requirements of General Storm Water WPDES Permit #WI-S050075-2

- Administer components of the joint program following process & commitments defined in the Chippewa Falls Urban Area Storm Water Plan, Chippewa Co. Stormwater & Construction Site Erosion Control Ord., & associated Chapter 66.03 agreement between Chippewa Co., Village of Lake Hallie, Towns of Eagle Point, Anson, & Lafayette

Objective 7. Administer the NR 151 stormwater nonpoint pollution control performance standards in select circumstances using the authority of WI Stats., 92, 281, & Admin Rules NR 103, NR 115, & NR 216.

- Review & revise the existing working agreement between Chippewa Co. & WNDNR as it applies to storm water plan review in unincorporated areas, subject to NR 216

2019				2020				2021				2022				2023			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	X			X															
							X												
X																			
	X	X	X																
⊗				⊗				⊗				⊗							
⊗				⊗				⊗				⊗				⊗			
				X	X														

PUBLIC EDUCATION AND COMMUNITY OUTREACH

Goal 6. Facilitate Public Education and Community Outreach.

Educational Service Delivery

Objective 1. Use the structure of existing educational institutions & community organizations to deliver the community outreach & educational programs to pursue natural resource management & program objectives.

- Create and implement Agricultural Agency Education Coordinating Council to:
 - Facilitate structure communication & develop & oversee the implementation of an annual interagency soil & water conservation education workplan
- Expand working relationships with youth-based community orgs to provide opportunities for environmental education & civic engagement
- Establish working relationships with public education institutions (K-12) to inventory, customize, & support programs that focus on earth, biological, & agricultural sciences
- Maintain & expand working relationships with post-secondary education institutions (technical college, UW system) to sponsor applied research, special environmental studies, & opportunities for student internship

Community Outreach

Objective 1. Develop institutional framework and management structure to further engage citizen volunteers, civic organizations, & youth to pursue resource management program objectives

- Apply existing program LCFM Forest & Trails Div. framework to recruit, train, & mng volunteers
- Conduct needs assessment to evaluate LCFM staff & conservation organization capacity to expand community engagement
- Evaluate the "Rusk County Volunteer Challenge" model to determine concepts that may transfer
- Explore the feasibility of establishing a working arrangement with the co. court system to provide opportunities for conservation-based community service projects for troubled youth or for low risk non-violent offenders

2019				2020				2021				2022				2023			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	X			⊗				⊗				⊗				⊗			

Note 1: Activities to pursue program objectives are prioritized for implementation, as placed on the quarterly project schedule. Higher priority initiatives and activities for 2019-2021 are highlighted and denoted with an X symbol.

Note 2: ⊗ Ongoing action items implemented throughout the year.

Note 3: ? Symbol depicts unknown scheduling of initiative, or activity is fully contingent upon expressed interest & commitment provided by a cooperating organization or agency.

BENCHMARK MEASURES FOR HIGH PRIORITY ACTIVITIES TO TRACK PROGRESS TOWARD LWRM PLAN

3/29/19

ENERGY CONSERVATION & WASTE REDUCTION

Goal 1 - Develop, support and advance county initiatives that allow the county to adapt to climate change, including initiatives that conserve energy, reduce waste, and serve as a catalyst for broader community efforts to conserve energy, limit carbon emissions, and increase renewable energy production.	BENCHMARK PRODUCTS
Objective 1 - Factor climate change into county operational plans as these plans affect: • Emergency response and disaster relief • Road and dam infrastructure as managed and mandated by the County Departments • Management of the County Forest timber resources • Soil & water conservation, stormwater management, & flood & prevention on private lands	•? Updated emergency response •? Status report; road dam preparedness • Revised Co. Forest Comprehensive Land Use Plan •?
Objective 2 - Develop and implement a county energy conservation program for co. operations. • Review & evaluate the operational status of the existing Chip. Co. energy conservation plan • Consider the costs & benefits of updating the plan to systematically record & monitor energy use and to identify, select, and implement new energy conservation projects • Establish an energy conservation education & outreach project & program to inform employees, other municipalities, & the public of energy conservation savings achieved to date, & future savings	•? •? •?
Objective 3 - Encourage alternative energy production that uses wind, waste stream bi-products, or biomass generated from agricultural or forestry operations. • Design and implement pilot project to evaluate, further refine, & advance the use of ag biodigesters using animal waste as a fuel source for local heat, fuel or electrical energy production • Design & implement a pilot project to evaluate the use of industrial scale composting tech, using animal waste & crop residue from a working livestock facility, to evaluate the feasibility & cost-efficiency of producing compost as a soil amendment • Design & implement a pilot project to determine the feasibility of producing renewable electrical energy from distributed sources, including manure digesters & small-scale farmstead-based wind generators -Assess interest by local electrical utilities & farm organizations to explore and evaluate technology -Prepare a project proposal that includes funding & site selection -Assist interested operator(s) to plan, implement, & eval a renewable energy project	• Written pilot project proposal/MOU's/RFP • Written pilot project proposal/MOU's/RFP
Objective 4 - Develop & administer recycling & solid waste management programs that reduce, reuse, & ensure the proper disposal of waste materials. • Maintain role as Responsible Unit Coordinator for municipalities • Design & implement a project to collect & market office paper from all public & county-owned facilities • Conduct evals & collaborate with municipalities to encourage recycling at all public facilities • Conduct evals & collaborate with public & private schools to encourage & increase recycling	• Written project proposal/MOU's • Written project proposal/MOU's • Written project proposal/MOU's

LAND CONSERVATION AND SUSTAINABILITY

Goal 2. Develop and administer conservation programs that preserve the land, support sustainable production, provide biodiversity, and protect the natural ecology.

Benchmark Products

Objective 1. Actively support the economic viability & sustainability of existing agricultural operations, the local ag economy, & rural communities.

- Establish structured & ongoing communication with the Chippewa Co. Economic Development Corp. to identify & support economic development opportunities for agricultural producers, processors, & related business enterprises
- Working in association with local ag organizations & processors, ag org., UWEX & CCEDC, define & implement project initiatives that seek to assure a diverse mix of ag operations that are scaled to provide local job opportunities, maintain & support local ag economy, & sustain rural communities
- Actively explore & support initiatives that maintain existing family-owned operations & agri-businesses, establish local food to table markets, encourage farm-based renewed energy production, & encourage cooperative development & business ventures
- Develop a pilot project working through ag producers in an established Agricultural Enterprise Area (AEA) to meet a defined community need & agricultural business objective
- Develop & implement pilot project(s) to evaluate emerging technology that can be applied to optimize inputs, limit env. concerns, & sustain crop production (irrigated & non-irrigated)

- Letter of interest
- Annual letter of interest & inquiry
- Written project proposal/MOU's
- Letter of inquiry to AEA; written project proposal; grant app.
- Written pilot project proposal; monitoring plan, MOU, grant app.

Objective 2 - Support the efforts of individual landowners, private nonprofit conservation organizations, & local municipalities to protect farmland & to preserve productive "working lands" under WI Stats., Chapter 91.

- Actively support the efforts of landowners & agricultural producers who petition to develop & implement an Agricultural Enterprise Area (AEA) or who seek to participate in Farmland Preservation Zoning under WI Stats., Chapter 91
- Provide technical & administrative support to landowners & agricultural producers who enter farmland preservation contracts or who participate in Farmland Preservation Zoning to meet State program requirements
 - Conduct NR151 farm evals & provide tech services to all new & existing program participants
 - Conduct annual reporting & certification process to verify landowner compliance

- Written NR 151 farm evals. for all applicants
- Annual compliance report summary, as submitted to DATCP; updated compliance monitoring map

Objective 3. Administer the WI CREP Program to establish stream & wetland buffers. Assess program options for continued Co. administration under the WI CREP Program.

- Maintain & expand an annual buffer evaluation & maintenance program to assure contract compliance & to assist landowners to maintain the biodiversity & enviro function of buffers
- With DATCP & FSA, explore USDA program options to establish special area designation to facilitate expanded program functions as targeted to watersheds with poorly defined drainage patterns located east of the Chippewa River
- With DATCP & FSA, explore USDA program options to allow periodic mowing & harvest of perennial hay to control woody vegetation, maintain grassland habitat cover, & remove nutrients

- Annual compliance/map letter to all CREP & co. conservation easement part. with 25-50% annual field reviews
- Annual CREP/easement summary report & co. easement compliance monitoring map
- Letter of inquiry to FSA/DATCP
- Letter of inquiry to FSA/DATCP

LAND CONSERVATION AND SUSTAINABILITY

Goal 2. Develop and administer conservation programs that preserve the land, support sustainable production, provide biodiversity, and protect the natural ecology, con't.	Benchmark Products
Objective 4. Encourage biodiversity & sustainable ag., forest & biomass production on private lands by providing tech. assistance & conservation program services to landowners. •Administer educational services, technical services, & financial incentives to ag producers through state/federal ag conservation & nonpoint pollution control programs •Administer ed services, technical services, & financial incentives to woodland producers through local producer networks, woodland mngt orgs, & state/federal forestry programs •Provide tech services to the owners & operators of non-metallic mine sites, abandoned mines, & brown fields to reclaim disturbed sites & achieve productive & sustainable end land uses	
Objective 5. Support the efforts of major farm & forestry org. & public agencies to develop & pursue market-based mechanisms to sequester carbon & increase soil organic matter, improve water quality & mitigate climate change as part of ongoing ag & forestry operations, including efforts to compile, market, & monitor carbon & water quality credits.	
Objective 6. Support the efforts of individual landowners, private nonprofit conservation orgs. & municipalities to preserve unique lands with high public & environmental value. •Actively administer & maintain the Chippewa Co. Stewardship Program to support the acquisition of land and/or conservation easements by municipalities or nonprofit orgs for conservation purposes •Initiate project to increase public awareness of the "Living Land Endowment" as an established agency directed endowment of the Chippewa Co. Community Foundation, to encourage & facilitate co. giving to support public acquisitions of land with high natural, eco or scientific value •With private, nonprofit conservation orgs, define the location of high priority conservation areas having significant public value or unique ecological significance •In cooperation with nonprofit conservation organizations, maintain a wild lakes registry for undeveloped lakes as a companion to the WI Scientific & Natural Areas Program	• Annual public notice of grant availability & annual grant criteria • Written project proposal small contract purchase order; completed project initiative • Letter of inquiry to local & regional land trusts; MOU; completed registry
Objective 7. Encourage land conservation & biodiversity through use of corridor initiatives. •Work in assoc. with local landowners, National Park Service, Ice Age Trail Alliance, & Chip. Co. Chapter of the Ice Age Trail Alliance to plan & establish the location of the Ice Age Trail corridor •Work in conjunction with the WDNR and interested landowners to determine the feasibility of est. environmental corridor linking McCann Ck. Fishery Area to the National Ice Age Scien. Rsv.	• Letter of inquiry to Ice Age Trail Alliance; map of recommended trail corridor & preferred route • Letter of inquiry to affected landowners & WDNR
Objective 8. Encourage & support efforts to reclaim surface mined lands to native plant communities with high ecological value as wildlife habitat. •Develop & expand working relationships with permitted nmm & university researchers to est. test plots to demonstrate nmm reclamation processes & establish reclamation test plots •Establish & maintain a working relationship of ecological consultants to assist landowners restore, manage, & maintain native plan communities on private lands •Establish & maintain a working relationship with consultants & the WDNR to provide controlled burn services on public & private lands	• MOU's with individual mines that sponsor projects & with researchers that conduct research

LAND CONSERVATION AND SUSTAINABILITY

Goal 2. Develop and administer conservation programs that preserve the land, support sustainable production, provide biodiversity, and protect the natural ecology, con't.	Benchmark Products
Objective 9. Encourage biodiversity & sustainable forest & biomass production on public lands by supporting the efforts of the custodial agencies responsible for developing & administering property management plans. • On co. forest lands managed by Chippewa Co., id areas of unique ecological significances & apply the Co. Forest Plan to manage & monitor these areas • On public lands managed by state agencies, actively participate in the public participation process used to develop & periodically revise property management plans • Design, install, & manage standardize interpretive signage at select units of the Co. Forest to system & other public lands to raise awareness of physical site characteristics & ecologic/environmental functions & values	• Updated Chippewa County Forest Comprehensive Land Use Use Plan, (Section 8.2 of LWRMP)
Objective 10. Protect & buffer the existing public land base by pursuing cons. easements or fee title purchase options on select parcels located within & immediately adjacent the designated blocking boundaries of public forests, parks, or conservation management areas. • Implement a project to identify select parcels of high environmental or ecologic value located within or adjacent public land management areas • Contact landowners to explain options for permanent resource protection through use of conservation easements or fee title sale	
Objective 11. Support efforts by public agencies & nonprofit conservation organizations to inventory & control upland & aquatic invasive species on public & private land. • Participate in information exchange & networking opportunities through the Lower Chippewa Invasive Partnership to raise public awareness, monitor, & control upland invasive species. • Support efforts by individuals, lake organizations, & local municipalities to inventory, monitor, & control aquatic invasive species • Working through the Chippewa Co. Forest Comprehensive Land Use Plan & land mgmt. program, further develop & continually refine efforts to control upland & aquatic invasive species on land managed as part of the Chippewa Co. Forest system • Working through the DOA, Facilities & Parks Division, develop & refine efforts to control upland & aquatic species on land managed as part of the Co. Parks system	• Letter of intent to participate in Lower Chippewa Invasive Partnership • ? • Updated Chippewa Co. Forest Comprehensive Land Use Plan, (Sec. 8.2 of LWRMP); & freestanding invasive control plan
Objective 12. With WDNR & interested non-profit conservation organizations, develop a community-based habitat improvement & access program to expand public hunting, fishing, trapping, & outdoor recreation uses on private lands.	
Objective 13. Working with interested landowners & farm operators, encourage & facilitate the use of standardized cons. leases to provide economic stability to assist landowners to meet agricultural performance standards for cropland & to improve soil health.	• Standardize conservation lease with leases systematically applied under state program contracts

WATER CONSERVATION

Goal 3. Develop, support, and implement water conservation programs to maintain current aquifer volumes and to protect the county's drinking water supply.	Benchmark Products
Objective 1. Develop & implement soil & water conservation programs that protect wetlands, restore hydrology & improve stormwater storage capacity, soil infiltration & growth recharge • Develop a small watershed project proposal to restore natural hydrology by implementing cropping systems & structured practices to improve groundwater recharge in select watersheds where infiltration has been reduced as a result of non-metallic mining • Develop & support project proposals & local, state, & federal initiatives to protect, restore, & enhance wetlands	
Objective 2. Maintain & expand the utility of groundwater quantity & groundwater quality programs conducted to maintain the Chippewa Co. Groundwater Inventory • Routinely administer & compile data to support the contributing components of the Chippewa Co. Groundwater Inventory • Establish & actively maintain the groundwater index monitoring network to continuously monitor annual groundwater chemistry at representative wells located throughout the co. • With WDNR, evaluate the feasibility & develop formal agreements to exchange water quality info. generated through state well sampling & well permit locations generated through co. well permitting	• Annual report of activity & status of all contributing components of Chippewa Co. Groundwater Inventory • Annual report summarizing current water chemistry & changes recorded through time • Letter of inquiry & MOU or agency letter of intent to exchange data
Objective 3. Upgrade & actively maintain the co.'s newly developed groundwater monitoring network to remotely monitor & record groundwater elevations & assoc. stream baseflow conditions at representative locations throughout the county. • Complete & actively maintain the existing WellIntel network, as established at select well locations to continuously monitor groundwater elevations • Compile & post existing groundwater elevation monitoring data to extend the record of groundwater monitoring & to document fluctuations through time • Develop a project design & grant proposal to further refine, enhance, & improve the utility of the monitoring network by linking groundwater elevation monitoring to stream baseflow monitoring & gauged stream locations	• Completed map & posted web links on LCFM web page • Annual report with map & compiled record of all groundwater elevation monitoring sites • Written project proposal to link groundwater elevation monitoring to rainfall, stream baseflow, & lake elevation monitoring to rainfall, stream baseflow, & lake elevation
Objective 4. Actively encourage & support the development of water conservation programs to maintain public & private water supplies. • Distribute, actively apply, & support the use of USGS ModFlow Groundwater Model that has been created to evaluate high capacity wells in Chippewa Co. • Contact municipalities to determine the status of wellhead protection programs and to determine any municipal concerns or interests • Support the efforts of municipalities that implement wellhead protection planning projects	• MOU with custodial agency (WGNHS/USGS) & orientation/multiyear training schedule

WATER CONSERVATION - Lake & Flowage Management

Goal 3. Develop, support, and implement water conservation programs to maintain current aquifer volumes and to protect the county's drinking water supply, con't.	Benchmark Products
<i>Lake & Flowage Management</i> Objective 1. Establish mechanisms to facilitate structured communication between the co., WDNR, & est. lake district(s), lake assoc., & other lake orgs. to improve institutional capacity • Conduct formal survey to assess interest on behalf of lake districts & associations • Establish web page links to network & share lake mngt info. of common value to riparian residents & shoreland owners • Plan & conduct an annual Chippewa Co. Lake Conference sponsored by cooperating lake org. on a round robin basis	• Written survey with compiled results • Posted web links on LCFM & lake association web page • Annual conference ltr of invitation, meeting agenda, materials, attendance, & feedback survey
Objective 2. With WDNR & interested organizations, design, implement, & maintain a co.-based stream & lake water quality program, supported by citizen science volunteers & use remote sensing technology	
Objective 3. With WDNR & interested conservation non-profit org., establish a Wild Lakes Prog. for the purpose of scientific study, ecological monitoring, & permanent lakes protection • Conduct inventory of native lakes with no development & compilation of data with WDNR • Establish wild lakes registry to facilitate scientific study & permanent lake protection	• Letters of inquiry or intent to establish a Wild Lakes Program • Wild Lakes inventory, database, & monitoring method; registry & listing of research sites
Objective 4. With WDNR, evaluate interest & feasibility of sponsoring phased hydrologic study of Holcombe Flowage • Design & implement water quality monitoring program • Model the estimated volume, phosphorus concentrations, & residency time of streamflow contributed from Chippewa River & Jump River subbasins • Model the relationship between phosphorus concentrations, phosphorus loads, chlorophyll, & the frequency of algae blooms on the Jump River embayment	• Written water quality program design with costs, program responsibilities, & implementation schedule • Hydrologic model design with costs, program responsibilities, & implementation schedule • Water quality model design with costs, program responsibilities, & implementation schedule
Objective 5. Refine the existing flowage management plans for each of the managed flowages in the Chippewa County Forest to identify the specific mngt goals for each based upon the physical site limitations, the intended outdoor recreational seasonal use, & any broader County Forest mngt objectives.	• Upgraded flowage management plans
Objective 6. For each of the dams, lakes, & flowages managed by the co., conduct all scheduled inspections, associated eng. analysis, & required dam maintenance to meet State dam licensing & safety requirements.	• Written inventory report & database that documents the licensing status & requirements for all county-owned impoundments • Individual license, databases, mngt records for each impoundment

NONPOINT SOURCE WATER POLLUTION CONTROL

Goal 4. Develop & administer nonpoint sources of water pollution control programs to pursue state and local water quality objectives.

Benchmark Products

Objective 1. Administer the NR151 agricultural nonpoint source pollution control performance standards on a co.-wide basis, using authority of WI Stats. 59, 92, 281, & Admin Rules NR 115, NR 243, NR 151 & ATCP 50.

- Assess interest on behalf of the major farm org. to implement an educational outreach project to inform ag producers, rural landowners, & general public about agriculture & the ag performance standards & the co.'s program to administer them
- Systematically schedule & conduct site specific farm walkovers & farm evaluations on priority farms to explain the ag performance standards & prepare written reports that doc the extent of current compliance
- Admin voluntary farm evaluation & certification program following the practices & mngt approach established in this plan
- Implement a well-defined co. regulatory framework to enforce NR151 standards
- Actively participate in WI WPDES permitting process for livestock facilities administered by WDNR under NR 243 or NR 151

- Letter of inquiry to farm organizations
- NR 151 farm evaluation data
- Base and monitoring maps
- NR 151 farm evaluation reporting

Objective 2. Support efforts of crop & livestock producers, their agronomic service providers, & associated certified crop advisors, to develop, implement, & maintain nutrient mngt plans that meet the WI NRCS Technical Guide 590 standards.

To support nutrient mngt plan development by private sector consultants:

- Conduct farm walkovers to identify soil & water conservation needs & objectives
- Gather information on current soil testing, cropping, & nutrient mngt procedures to create baseline information in selected field record keeping format, compatible with prescribed nutrient mngt software (SNAP Plus Map or state approved alternative)

- NR 151 farm evaluation data
- Base and monitoring maps
- NR 151 farm evaluation reporting
- 590 nutrient management records

To support ongoing plan implementation & quality control:

- Encourage direct involvement by individual crop & livestock producers as annual plan updates are prepared by state certified crop advisors
- Compile, review, & maintain a record of all annual plan updates & submittals. Track & monitor cropland field erosion rates, soil organic material, & cropland field & farm weighted average phosphorus index values
- Arrange & participate in a state & local quality control program using a system of annual farm spot checks to assure compliance with WI Admin. Rules, co. ord., & co., state or fed contracts
- With UWEX, sponsor annual meeting of all certified crop advisors, consultants, custom manure & fertilizer applicators, & other agronomic service providers who provide nutrient & pest mngt services to ag producers

- Ltr of recommendation to crop producers & crop advisors
- Database of nutrient plan records
- Annual written report of spot check audits with recommendations for improvements to nutrient mngt program
- Annual meeting agenda meeting materials & attendance

NONPOINT SOURCE WATER POLLUTION CONTROL

Goal 4. Develop and administer nonpoint sources of water pollution control programs to pursue State and local water quality objectives (Cont.).	Benchmark Products
Objective 3. Develop & implement a climate change flood control stream & wetland buffer initiative to mitigate the impacts of extreme weather events associated with climate change, with the objective of reducing runoff controlling flood peaks, & limit nonpoint source pollution. • Create a conceptual proposal for pilot project using permanent conservation easements & advance a funding request through the Co. Capital Improvement Program (CIP)	• Written project proposal & CIP request
Objective 4. With interested lake associations & WDNR, determine interest & feasibility of advancing a basin-wide mngt approach to manage water quality on the impounded flowages of the Chippewa River.	
Objective 5. Support state & local efforts to pursue water quality objectives through the development & implementation of TMDL limits in designated EPA 319 watersheds. • Develop & seek approval of an EPA Nine Key Element watershed plan for Little Lake Wissota • With LWIPA, co-sponsor & participate in an EPA Nine Key Element watershed planning process to develop water resource mngt & pollution load reduction goals & water quality objectives for Moon Bay of Lake Wissota • With the LWIPA, administer the Lake Wissota Stewardship Project as the water resource mngt mechanism to account for, reduce, & monitor point & nonpoint source pollutant loads to the Little Lake Wissota & to meet any established TMDL pollution load reduction goals & water quality mngt objectives for Moon Bay of Lake Wissota	• Completed & approved EPA 319 plan, Little Lake Wissota • Completed & approved EPA 319 plan for Moon Bay; Lake Wissota • Annual Power Point project report & 5 year written project report(s)
Objective 6. Administer a joint stormwater mngt program that meets EPA & NR 216 storm water permit requirements, with affected municipalities in the Chippewa Falls Urban Area, to meet requirements of General Stormwater WPDES Permit #WI-S050075-2 • Administer components of the joint program following process & commitments defined in the Chippewa Falls Urban Area Storm Water Plan, Chippewa Co. Stormwater & Construction Site Erosion Control Ord., & associated Chapter 66.03 agreement between Chippewa Co., Village of Lake Hallie, Towns of Eagle Point, Anson, & Lafayette	• Annual WDNR storm water report for CF Urban Area
Objective 7. Administer the NR 151 stormwater nonpoint pollution control performance standards in select circumstances using the authority of WI Stats., 92, 281, & Admin Rules NR 103, NR 115, & NR 216. • Review & revise the existing working agreement between Chippewa Co. & WNDNR as it applies to storm water plan review in unincorporated areas, subject to NR 216	• Revised stormwater MOU

PLANNING AND ENVIRONMENTAL REGULATION

Goal 5. Facilitate community-based land use planning, & develop & administer local ord. that address local needs & augment the community's voluntary conservation efforts.	Benchmark Products
Objective 1. Track the location & rate of new development in unincorporated areas using approved subdivision plats, certified survey maps, & new well permits • Maintain current Chippewa Co. well permitting & Chippewa Co. groundwater inventory GIS database • Establish & implement a land division mapping & tracking procedure to monitor the location & rate of development in unincorporated areas of the county	• Annual groundwater inventory report
Objective 2. Provide opportunities for greater communication & cooperation in land use planning & land use regulation between the co., towns, cities, & villages. • Sponsor periodic land use educational conferences to encourage communication & provide info of value to town & co. officials	
Objective 3. In cooperation with Co. Planning & Zoning, provide ongoing planning, admin., & enforcement services to towns that participate in Co. Comprehensive Zoning & to towns or other municipalities that have entered agreements or contracts for specified services • Provide info & educational support to towns regarding procedures to develop & implement town-based comprehensive plans & ordinances • Provide info, education support, & consultation to towns that have adopted comprehensive plans to assist them to develop, administer, & enforce local ordinances	
Objective 4. With the WI Dept. of Public Safety & the University of WI system, develop & implement a field-based research project. • Conduct a literature review of current regulatory authority & best available science • Document the pollutant loads to groundwater from conventional private onsite waste systems on sites susceptible to groundwater contamination • Evaluate the feasibility & specific costs & benefits of requiring alternative POWTS technology in high density areas on sites susceptible to groundwater pollution	
Objective 5. Systematically review & update selected co. land use & environmental ord. to be consistent with the Co. Comprehensive Plan & State Admin Rule changes. • Evaluate & revise Chippewa Co. Animal Waste Mngt & Utilization Ord to refine the purpose & scope of regulation, incorporate state ag. Performance standards, & better define enforcement authority under State Admin Rule NR 243, NR 151, and ATCP 50 (LCFM) • Evaluate & review the Chippewa Co. Non-Metallic Mining Reclamation Ord. to more directly reference & incorporate policy & procedures, & administrate guidance used in ord. admin. • Initiate a comprehensive revision to the Chippewa Co. Comprehensive Zoning Ord., to define & apply new zoning districts as they apply to rural residential dev. & livestock facility siting • Evaluate & revise the Chippewa Co. Storm Water Management & Construction Site Erosion Control Ord. to refine administrative requirements & processes to meet the requirements of the Chippewa Falls Urban Area Permit	• Updated Animal Waste Storage & Livestock Fac. Ord. • Updated NMM Ord. • Updated ag zoning districts, comprehensive zoning text, changes & zoning maps • Updated stormwater ord.

PUBLIC EDUCATION AND COMMUNITY OUTREACH

Goal 6. Facilitate Public Education and Community Outreach.

Benchmark Products

Educational Service Delivery

Objective 1. Use the structure of existing educational institutions & community organizations to deliver the community outreach & educational programs to pursue natural resource management & program objectives.

- Create and implement Agricultural Agency Education Coordinating Council to:
 - Facilitate structure communication & develop & oversee the implementation of an annual interagency soil & water conservation education workplan
- Expand working relationships with youth-based community orgs to provide opportunities for environmental education & civic engagement
- Establish working relationships with public education institutions (K-12) to inventory, customize, & support programs that focus on earth, biological, & agricultural sciences
- Maintain & expand working relationships with post-secondary education institutions (technical college, UW system) to sponsor applied research, special environmental studies, & opportunities for student internship

- Letter of invitation, meeting agenda, materials
- Annual soil & water conservation & ag education workplan & activities report
- Letters of inquiry
- Project proposal to inventory & evaluate opportunities, including costs & implementation schedule
- Research proposals & service contracts

Community Outreach

Objective 1. Develop institutional framework and management structure to further engage citizen volunteers, civic organizations, & youth to pursue resource management program objectives

- Apply existing program LCFM Forest & Trails Div. framework to recruit, train, & mng volunteers
- Conduct needs assessment to evaluate LCFM staff & conservation organization capacity to expand community engagement
- Evaluate the "Rusk County Volunteer Challenge" model to determine concepts that may transfer
- Explore the feasibility of establishing a working arrangement with the co. court system to provide opportunities for conservation-based community service projects for troubled youth or for low risk non-violent offenders

- Listing of existing vol. job descriptions & projects
- Letter of inquiry & report of interest & capability
- Written report outlining model & concepts that may be transferable

Note 1: Activities to pursue program objectives are prioritized for implementation. Higher priority initiatives and activities for 2019-2021 are highlighted.

ANTICIPATED BUDGET BY PROGRAM AREA TO IMPLEMENT LWRM PLAN 2019-2021

3/29/19

ENERGY CONSERVATION & WASTE REDUCTION

Goal 1. Develop, support, & advance county initiatives that allow the county to adapt to climate change, including initiatives that conserve energy, reduce waste, & serve as a catalyst for broader community efforts to conserve energy, limit carbon emissions, & increase renewable energy production.	2019				2020				2021			
	LCFM Resources		Other Resources		LCFM Resources		Other Resources		LCFM Resources		Other Resources	
	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$
Objective 1 - Factor climate change into county operational plans. - Emergency response and disaster relief - Road and dam infrastructure as managed and mandated by the County Departments - Management of the County Forest timber resources - Soil & water conservation, stormwater management, & flood & prevention on private lands												
Objective 2 - Develop and implement a county energy conservation program for co. operations. - Review & evaluate the operational status of the existing Chip. Co. energy conservation plan - Consider the costs & benefits of updating the plan to systematically record & monitor energy use and to identify, select, and implement new energy conservation projects - Establish an energy conservation education & outreach project & program to inform employees, other municipalities, & the public of energy conservation savings achieved to date, & future savings												
Objective 3 - Encourage alternative energy production that uses wind, waste stream bi-products, or biomass generated from agricultural or forestry operations. - Design and implement pilot project to evaluate, further refine, & advance the use of ag biodigesters using an. waste as a fuel source for local heat, fuel or electrical energy production - Design & impl. a pilot project to evaluate the use of industrial scale composting tech, using animal waste & crop residue from a working livestock facility, to evaluate the feasibility & cost-efficiency of producing compost as a soil amendment - Design & implement a pilot project to determine the feasibility of producing renewable electrical energy from distributed sources, including manure digesters & small-scale farmstead-based wind generators -Assess interest by local electrical utilities & farm organizations to explore and evaluate technology -Prepare a project proposal that includes funding & site selection -Assist interested operator(s) to plan, implement, & eval a renewable energy project	0.25	2500			0.25	2,500		50,000				
					0.25	25,000		25,000				
Objective 4 - Develop & administer recycling & solid waste management programs that reduce, reuse, & ensure the proper disposal of waste materials. - Maintain role as Responsible Unit Coordinator for municipalities - Design & implement a project to collect & market office paper from all public & county-owned facilities - Conduct evals & collaborate with municipalities to encourage recycling at all public facilities - Conduct evals & collaborate with public & private schools to encourage & increase recycling	0.25	2,500			0.1	5,000						
					0.1	50,000			0.25	25,000		

LAND CONSERVATION AND SUSTAINABILITY

Goal 2. Develop and administer conservation programs that preserve the land, support sustainable production, provide biodiversity, and protect the natural ecology.	2019				2020				2021			
	LCFM Resources		Other Resources		LCFM Resources		Other Resources		LCFM Resources		Other Resources	
	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$
Objective 1. Actively support the economic viability & sustainability of existing agricultural operations, the local ag economy, & rural communities. • Establish structured & ongoing communication with the Chippewa Co. Economic Dev. Corp. to identify & support economic development opportunities for agricultural producers, processors, & related business enterprises • Working in association with local ag organizations & processors, ag org., UWEX & CCEDC, define & implement project initiatives that seek to assure a diverse mix of ag operations that are scaled to provide local job opportunities, maintain & support local ag economy, & sustain rural communities • Actively explore & support initiatives that maintain existing family-owned operations & agri-businesses, establish local food to table markets, encourage farm-based renewed energy production, & encourage cooperative development & business ventures • Develop a pilot project working through ag producers in an established Agricultural Enterprise Area (AEA) to meet a defined community need & agricultural business objective • Develop & implement pilot project(s) to evaluate emerging technology that can be applied to optimize inputs, limit env. concerns, & sustain crop production (irrigated & non-irrigated)					0.25	10,000						
Objective 2 - Support the efforts of individual landowners, private nonprofit cons. organizations, & local municipalities to protect farmland & to preserve productive "working lands" under WI Stats., Chapter 91. • Actively support the efforts of landowners & agricultural producers who petition to develop & implement an Agricultural Enterprise Area (AEA) or who seek to participate in Farmland Preservation Zoning under WI Stats., Chapter 91 • Provide technical & administrative support to landowners & agricultural producers who enter farmland preservation contracts or who participate in Farmland Preservation Zoning to meet State program requirements -Conduct NR151 farm evals & provide tech services to all new & existing program part. -Conduct annual reporting & certification process to verify landowner compliance	0.25				0.25				0.25			
Objective 3. Administer the WI CREP Program to establish stream & wetland buffers. Assess program options for continued Co. administration under the WI CREP Program. • Maintain & expand an annual buffer evaluation & maintenance program to assure contract compliance & to assist landowners to maintain the biodiversity & enviro function of buffers • With DATCP & FSA, explore USDA program options to establish special area designation to facilitate expanded program functions as targeted to watersheds with poorly defined drainage patterns located east of the Chippewa River • With DATCP & FSA, explore USDA program options to allow periodic mowing & harvest of perennial hay to control woody vegetation, maintain grassland habitat cover, & remove nut.	0.25				0.25				0.25			

LAND CONSERVATION AND SUSTAINABILITY

Goal 2. Develop and administer conservation programs that preserve the land, support sustainable production, provide biodiversity, and protect the natural ecology, con't.	2019				2020				2021			
	LCFM Resources		Other Resources		LCFM Resources		Other Resources		LCFM Resources		Other Resources	
	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$
Objective 4. Encourage biodiversity & sustainable ag., forest & biomass prod. on private lands by providing tech. assistance & conservation program services to landowners. •Administer educational services, technical services, & financial incentives to ag producers through state/federal ag conservation & nonpoint pollution control programs •Administer ed services, technical services, & financial incentives to woodland producers through local producer networks, woodland mngt orgs, & state/federal forestry programs •Provide tech services to the owners & operators of non-metallic mine sites, abandon mines, & brown fields to reclaim disturbed sites & achieve productive & sustainable end land uses												
Objective 5. Support the efforts of major farm & forestry org. & public agencies to develop & pursue market-based mechanisms to sequester carbon increase, soil organic matter, improve water quality & mitigate climate change as part of ongoing ag & forestry operations, including efforts to compile, market, & monitor carbon & water quality credits.												
Objective 6. Support the efforts of individual landowners, private nonprofit conservation orgs. & municipalities to preserve unique lands with high public & environmental value. •Actively administer & maintain the Chippewa Co. Stewardship Program to support the acquisition of land and/or conservation easements by municipalities or nonprofit orgs for conservation purposes •Initiate project to increase public awareness of the "Living Land Endowment" as an est. agency directed endowment of the Chippewa Co. Community Foundation, to encourage & facilitate co. giving to sprt. public acquisitions of land with high natural, eco or scientific value •With private, nonprofit conservation orgs, define the location of high priority conservation areas having significant public value or unique ecological significance •In cooperation with nonprofit conservation organizations, maintain a wild lakes registry for undeveloped lakes as a companion to the WI Scientific & Natural Areas Program	0.1	50,000		?	0.1	50,000		?	0.1	50,000		?
	0.1	5,000										
Objective 7. Encourage land conservation & biodiversity through use of corridor initiatives. •Work in assoc. with local landowners, US Park Service, Ice Age Council, & Chip. Co. Chap. of the Ice Age trails to plan & establish the location of the Natural Ice Age Trail corridor •Work in conjunction with the WDNR and interested landowners to determine the feasibility of est. enviro. corridor linking McCann Ck. Fishery Area to the Ice Age National Scien. Rsv.					0.1	5,000						
Objective 8. Encourage & support efforts to reclaim surface mined lands to native plant communities with high ecological value as wildlife habitat. •Develop & expand working relationships with permitted nmm & university researchers to est. test plots to demonstrate nmm reclamation processes & establish reclamation test plots •Establish & maintain a working relationship of ecological consultants to assist landowners restore, manage, & maintain native plan communities on private lands •Establish & maintain a working relationship with consultants & the WDNR to provide controlled burn services on public & private lands	0.1	10,000			0.1	10,000			0.1	10,000		

LAND CONSERVATION AND SUSTAINABILITY

Goal 2. Develop and administer conservation programs that preserve the land, support sustainable production, provide biodiversity, and protect the natural ecology, con't.	2019				2020				2021			
	LCFM Resources		Other Resources		LCFM Resources		Other Resources		LCFM Resources		Other Resources	
	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$
Objective 9. Encourage biodiversity & sustainable forest & biomass production on public lands by supporting the efforts of the custodial agencies responsible for developing & administering property management plans. - On co. forest lands managed by Chippewa Co., id areas of unique ecological significances & apply the Co. Forest Plan to manage & monitor these areas - On public lands managed by state agencies, actively participate in the public participation process used to develop & periodically revise property management plans - Design, install, & manage standardize interpretive signage at select units of the Co. Forest to system & other public lands to raise awareness of physical site characteristics & ecologic/environmental functions & values												
Objective 10. Protect & buffer the existing public land base by pursuing cons. easements or fee title purchase options on select parcels located within & immediately adjacent the designated blocking boundaries of public forests, parks, or conservation management areas. - Implement a project to identify select parcels of high environmental or ecologic value located within or adjacent public land management areas - Contact landowners to explain options for permanent resource protection through use of conservation easements or fee title sale												
Objective 11. Support efforts by public agencies & nonprofit conservation organizations to inventory & control upland & aquatic invasive species on public & private land. - Participate in information exchange & networking opportunities through the Lower Chipp. Invasive Partnership to raise public awareness, monitor, & control upland invasive species. - Support efforts by individuals, lake organizations, & local municipalities to inventory, monitor, & control aquatic invasive species - Working through the Chippewa Co. Forest Comprehensive Land Use Plan & land mgmt. program, further develop & continually refine efforts to control upland & aquatic invasive species on land managed as part of the Chippewa Co. Forest system - Working through the DOA, Facilities & Parks Division, develop & refine efforts to control upland & aquatic species on land managed as part of the Co. Parks system					0.1	5,000	0.1	5,000	0.1	5,000	0.1	5,000
					0.1	10,000		?	0.1	10,000		?
Objective 12. With WDNR & interested non-profit conservation organizations, develop a community-based habitat improvement & access program to expand public hunting, fishing, trapping, & outdoor recreation uses on private lands.												
Objective 13. Working with interested landowners & farm operators, encourage & facilitate the use of standardized cons. leases to provide economic stability to assist landowners to meet agricultural performance standards for cropland & to improve soil health.												

WATER CONSERVATION

Goal 3. Develop, support, and implement water conservation programs to maintain current aquifer volumes and to protect the county's drinking water supply.	2019				2020				2021			
	LCFM Resources		Other Resources		LCFM Resources		Other Resources		LCFM Resources		Other Resources	
	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$
Objective 1. Develop & implement soil & water conservation programs that protect wetlands, restore hydrology & improve stormwater storage capacity, soil infiltration & growth recharge. - Develop a small watershed project proposal to restore natural hydrology by implementing cropping systems & structured practices to improve groundwater recharge in select watersheds where infiltration has been reduced as a result of non-metallic mining - Develop & support project proposals & local, state, & federal initiatives to protect, restore, & enhance wetlands												
Objective 2. Maintain & expand the utility of groundwater quantity & groundwater quality programs conducted to maintain the Chippewa Co. Groundwater Inventory - Routinely administer & compile data to support the contributing components of the Chippewa Co. Groundwater Inventory - Establish & actively maintain the groundwater index monitoring network to continuously monitor annual groundwater chemistry at representative wells located throughout the co. - With WDNR, evaluate the feasibility & develop formal agreements to exchange water quality info. generated through state well sampling & well permit locations generated through co. well permitting	0.1	2,500		7,500	0.1	2,500			0.1	2,500		
	0.1	15,000			0.1	15,000			0.1	15,000		
Objective 3. Upgrade & actively maintain the Co.'s newly developed groundwater monitoring network to remotely monitor & record groundwater elevations & assoc. stream baseflow conditions at representative locations throughout the co. - Complete & actively maintain the existing WellIntel network, as established at select well locations to continuously monitor groundwater elevations - Compile & post existing groundwater elevation monitoring data to extend the record of groundwater monitoring & to document fluctuations through time - Develop a project design & grant proposal to further refine, enhance, & improve the utility of the monitoring network by linking groundwater elevation monitoring to stream baseflow monitoring & gauged stream locations	0.1	7,500			0.1	7,500			0.1	7,500		
Objective 4. Actively encourage & support the development of water conservation programs to maintain public & private water supplies. - Distribute, actively apply, & support the use of USGS ModFlow Groundwater Model that has been created to evaluate high capacity wells in Chippewa Co. - Contact municipalities to determine the status of wellhead protection programs and to determine any municipal concerns or interests - Support the efforts of municipalities that implement wellhead protection planning projects												

Goal 3. Develop, support, and implement water conservation programs to maintain current aquifer volumes and to protect the county's drinking water supply.	2019				2020				2021			
	LCFM Resources		Other Resources		LCFM Resources		Other Resources		LCFM Resources		Other Resources	
	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$
<u>Lake & Flowage Management</u>												
Objective 1. Establish mechanisms to facilitate structured communication between the co., DNR, & est. lake district(s), lake assoc., & other lake orgs. to improve institutional capacity •Conduct formal survey to assess interest on behalf of lake districts & associations •Establish web page links to network & share lake mngt info. of common value to riparian residents & shoreland owners •Plan & conduct an annual Chippewa Co. Lake Conference sponsored by cooperating lake org. on a round robin basis	0.1	5,000	?	?	0.1	5,000	?		0.1	5,000	?	
Objective 2. With WDNR & interested organizations, design, implement, & maintain a co.-based stream & lake water quality program, supported by citizen science volunteers & use remote sensing technology					0.1	2,500	?		0.1	2,500	?	
Objective 3. With DNR & interested conservation non-profit org., establish a Wild Lakes Prog. for the purpose of scientific study, ecological monitoring, & permanent lakes protection •Conduct inventory of native lakes with no development & compilation of data with DNR •Establish wild lakes registry to facilitate scientific study & permanent lake protection					0.1	2,500	?		0.1	2,500	?	
Objective 4. With WDNR, evaluate interest & feasibility of sponsoring phased hydrologic study of Holcombe Flowage •Design & implement water quality monitoring program •Model the estimated volume, phosphorus concentrations, & residency time of streamflow contributed from Chippewa River & Jump River subbasins •Model the relationship between phosphorus concentrations, phosphorus loads, chlorophyll, & the frequency of algae blooms on the Jump River embayment							0.1	2,500				
							0.25	10,000			0.25	10,000
Objective 5. Refine the existing flowage management plans for each of the managed flowages in the Chippewa County Forest to identify the specific mngt goals for each based upon the physical site limitations, the intended outdoor recreational seasonal use, & any broader County Forest mngt objectives.					0.1	2,500						
Objective 6. For each of the dams, lakes , & flowages managed by the Co., conduct all scheduled inspections, associated eng. analysis, & required dam maintenance to meet state dam licensing & safety requirements.									0.25	15,000		

NONPOINT SOURCE WATER POLLUTION CONTROL

Goal 4. Develop & administer nonpoint sources of water pollution control programs to pursue state and local water quality objectives.	2019				2020				2021			
	LCFM Resources		Other Resources		LCFM Resources		Other Resources		LCFM Resources		Other Resources	
	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$
Objective 1. Administer the NR151 agricultural nonpoint source pollution control performance standards on a co.-wide basis, using authority of WI Stats. 59, 92, 281, & Admin Rules NR 115, NR 243, NR 151 & ATCP 50. •Assess interest on behalf of the major farm org. to implement an educational outreach project to inform ag producers, rural landowners, & general public about agriculture & the ag performance standards & the co.'s program to administer them •Systematically schedule & conduct site specific farm walkovers & farm evaluations on priority farms to explain the ag performance standards & prepare written reports that doc the extent of current compliance •Admin voluntary farm evaluation & certification program following the practices & mngt approach established in this plan •Implement a well-defined co. regulatory framework to enforce NR151 standards •Actively participate in WI WPDES permitting process for livestock facilities administered by DNR under NR 243 or NR 151	0.75				0.75				0.75			
Objective 2. Support efforts of crop & livestock producers, their agronomic service providers, & associated certified crop advisors, to develop, implement, & maintain nutrient mngt plans that meet the WI NRCS Technical Guide 590 standards. •Conduct farm walkovers to identify soil & water conservation needs & objectives •Gather information on current soil testing, cropping, & nutrient mngt procedures to create baseline information in selected field record keeping format, compatible with prescribed nutr. mngt software (SNAP Plus Map or state approved alternative) To support ongoing plan implementation & quality control: •Encourage direct involvement by individual crop & livestock producers as annual plan updates are prepared by state certified crop advisors •Compile, review, & maintain a record of all annual plan updates & submittals. Track & monitor cropland field erosion rates, soil organic material, & cropland field & farm weighted average phosphorus index values •Arrange & participate in a state & local quality control program using a system of annual farm spot checks to assure compliance with WI Admin. Rules, co. ord., & co., st. or Fed contracts •With UWEX, sponsor annual meeting of all certified crop advisors, consultants, custom manure & fertilizer applicators, & other agronomic service providers who provide nutrient & pest mngt services to ag producers	1.0				1.0				1.0			
Objective 3. Develop & implement a climate change flood control stream & wetland buffer initiative to mitigate the impacts of extreme weather events associated with climate change, with the objective of reducing runoff controlling flood peaks, & limit nonpoint source pollution. •Create a conceptual proposal for pilot project using permanent conservation easements & advance a funding request through the Co. Capital Improvement Program (CIP)					0.25	50,000		?	0.25	50,000		?

NONPOINT SOURCE WATER POLLUTION CONTROL

Goal 4. Develop & administer nonpoint sources of water pollution control programs to pursue state and local water quality objectives.	2019				2020				2021			
	LCFM Resources		Other Resources		LCFM Resources		Other Resources		LCFM Resources		Other Resources	
	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$
Objective 4. With interested lake associations & WDNR, determine interest & feasibility of advancing a basin-wide mngt approach to manage water quality on the impounded flowages of the Chippewa River.												
Objective 5. Support state & local efforts to pursue water quality objectives through the development & implementation of TMDL limits in designated EPA 319 watersheds.												
•Develop & seek approval of an EPA Nine Key Element watershed plan for L. Lake Wissota												
•With LWIPA, co-sponsor & participate in an EPA Nine Key Element watershed planning process to develop water resource mngt & pollution load reduction goals & water quality objectives for Moon Bay of Lake Wissota	0.25		0.25	50,000	0.25		0.25	50,000	0.25			
•With the LWIPA, administer the Lake Wissota Stewardship Project as the water resource mngt mechanism to account for, reduce, & monitor point & nonpoint source pollutant loads to the Little Lake Wissota & to meet any established TMDL pollution load reduction goals & water quality mngt objectives for Moon Bay of Lake Wissota	0.25		0.75	100,000	0.25		0.75	250,000	0.25		1.0	250,000
Objective 6. Administer a joint stormwater mngt program that meets EPA & NR 216 storm water permit requirements, with affected municipalities in the Chippewa Falls Urban Area, to meet requirements of WPDES Permit WI-S050121-1												
Objective 7. Administer the NR 151 stormwater nonpoint pollution control performance standards in select circumstances using the authority of WI Stats., 92, 281, & Admin Rules NR 103, NR 115, & NR 216.												

PUBLIC EDUCATION AND COMMUNITY OUTREACH

Goal 6. Facilitate Public Education and Community Outreach.	2019				2020				2021			
	LCFM Resources		Other Resources		LCFM Resources		Other Resources		LCFM Resources		Other Resources	
	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$	# FTE	\$
Educational Service Delivery												
Objective 1. Use the structure of existing educational institutions & community organizations to deliver the community outreach & educational programs to pursue natural resource management & program objectives.												
• Create and implement Agricultural Agency Education Coordinating Council to: - Facilitate structure communication & develop & oversee the implementation of an annual interagency soil & water conservation education workplan	0.1				0.1				0.1			
• Expand working relationships with youth-based community orgs to provide opportunities for environmental education & civic engagement												
• Establish working relationships with public education institutions (K-12) to inventory, customize, & support programs that focus on earth, biological, & agricultural sciences	0.1	7,500			0.1	7,500						
• Maintain & expand working relationships with post-secondary education institutions (technical college, UW system) to sponsor applied research, special environmental studies, & opportunities for student internship	0.5	20,000			0.5	20,000			0.5	20,000		
Community Outreach												
Objective 1. Develop institutional framework and management structure to further engage citizen volunteers, civic organizations, & youth to pursue resource management program objectives.	0.1			?	0.1			?	0.1			?
• Apply existing program LCFM Forest & Trails Div. framework to recruit, train, & mng vol.												
• Conduct needs assessment to evaluate LCFM staff & conservation organization capacity to expand community engagement												
• Evaluate the "Rusk County Volunteer Challenge" model to determine concepts that may transfer												
• Explore the feasibility of establishing a working arrangement with the co. court system to provide opportunities for conservation-based community service projects for troubled youth or for low risk non-violent offenders												

Note 1: Projected estimates are provided to illustrate the anticipated scope of the project and are offered for planning purposes.

Note 2: Actual project estimates will be prepared as part of the county budget process at the time the specific project initiatives or activities are advanced.

Appendices

Appendix 1

Overview of Public Participation

Appendix Figure 1.1	Outline of Ad Hoc Advisory Committee Charge Chippewa County Land and Water Resource Management Plan Revision and Citizens Ad Hoc Advisory Committee Members
Appendix Figure 1.2	Schedule of planning activities
Appendix Figure 1.3	Press release to inform public of listening sessions
Appendix Figure 1.4	Summary of listening sessions & information
Appendix Figure 1.5	Public Hearing Notice

Appendix 2

Resource Management Information Provided by DNR

Appendix Figure 2.1	Watershed tables for the Lower and Upper Chippewa River Basin and associated classification in Chippewa County
Appendix Figure 2.2	Water quality standards for each class of water

Appendix 3

Chippewa County Stewardship Fund Policy and Procedures for Program Administration

Appendix 4

Addendum to the Chippewa County Operational Agreement Between DNR & Chippewa County Land Conservation Department for the Administration and Implementation of Agricultural Nonpoint Pollution Performance Standards and Prohibitions Under NR151 and NR243, April 16, 2004

Appendix 5

Amendment to Chippewa County Operational Agreement Between DNR, Chippewa County Land Conservation Department, and Chippewa County Zoning Department for Stormwater Plan Review and Associated Engineering Services in Chippewa County.

Appendix 6

Format for Annual Interagency Soil & Water Conservation Work Plan

Appendix 1

Overview of Public Participation

**WORKING DRAFT OF
OUTLINE OF AD HOC ADVISORY COMMITTEE CHARGE
CHIPPEWA COUNTY LAND AND WATER RESOURCE MANAGEMENT
PLAN REVISION**

The ad hoc committee is advisory to the Chippewa County Dept. of Land Conservation & Forest Management, and is established to assist the Department to revise the current Chippewa County Land and Water Resource Management Plan.

The stated purpose of the plan is to:

1. Meet statutory requirements for County Land and Water Plan content, outlined in WI Stats. 92.10(6)1-8, as it applies to land conservation and nonpoint source pollution control.
2. Document procedures used to plan and coordinate land and natural resource management programs administered by Chippewa County departments.
3. Define local program objectives and activities that will be used to implement land conservation and resources management efforts administered by the County.
4. Compile information and recommendations that may contribute to the cultural, natural resource, and agricultural protection components of the Chippewa County Comprehensive Plan.

Duties and Responsibilities

The ad hoc committee is responsible for reviewing the content of the Chippewa County Land and Water Resource Management Plan and providing structured feedback on the plan goals, objectives, and proposed activities.

Specific duties and tasks are as follows:

1. Review natural resource conditions and issues, as defined in the current Chippewa County Land and Water Resource Management Plan. Review and provide comment on revised issue statements.
2. Review resource management goals and objectives, as defined in the current Chippewa County Land and Water Resource Management Plan. Review and provide comment on existing land and resource management goals and objectives.
3. Review and provide comments on proposed program objectives that have been developed to address environmental issues and to pursue resource management goals.
4. Review and provide comments on planned program activities, as proposed to achieve program objectives.

5. Review draft revisions to the land and water plan and solicit comments from stakeholder organizations on the public hearing draft of the plan.

Term of Ad Hoc Committee and Anticipated Meetings

The Committee will serve during the plan development, committee outreach, and plan adoption phase of the land and water planning process.

The anticipated meeting schedule and meeting focus is as follows:

July 1, 2018 – December 31, 2018

Meeting 1 (7/11/18) Duties 1, 2

Meeting 2 (7/25/18) Duties 3, 4

Meeting 3 (8/22/18) As needed

Wrap up.

Public Hearing – (Tentative) Week of 10/22/18

Agency Team Advisors

DNR

DATCP

NRCS

FSA

UWEX

Planning & Zoning Dept.

Citizen Advisory Group of Stakeholder Interests

Agricultural Interests

-Farm Bureau

-Farmers Union

Conservation Nonprofits/Land Trusts Interests

Woodlot Owners & Forestry Interests

Streams, Lake, and Water Interests

Non-Metallic Mining Interests

Outdoor Recreational Interests

Student Advisors

UW-Eau Claire

-Geology/Physical Geography

-Public Health

-Biology

Chippewa Co. FFA

CITIZENS AD HOC ADVISORY GROUP MEMBERS
2018 Chippewa Co. Land & Water Resource Management Planning Process

Agricultural Interests

Farm Bureau

Bob Panzer
 5413 State Hwy 27
 Cadott, WI 54727-5102
 #920-539-8728
Tbpanzer@gmail.com

Farmer's Union

Leslie Danielson
 11543 270th Street
 Cadott, WI 54727
 #715-313-0309
farmerles@yahoo.com

Matthew Holub
 16140 322nd Street
 Boyd, WI 54726
 #715-313-4130
holub.matthew13@gmail.com
holubcustomwork@gmail.com

Ken Schmitt
 4988 120th Avenue
 Colfax, WI 54730
 #715-568-5508
kls2@bloomer.net

Travis Lueck
 20876 State Highway 40
 Bloomer, WI 54724
 #715-933-2358
NH8970NH@yahoo.com

Paul Michels
 8451 County Hwy C
 Bloomer, WI 54724
 #715-271-1942
paulbmichels@gmail.com

Non-Metallic Mining Interests

Candy Anderson
 Mathy Materials
 P.O. Box 1246
 Eau Claire, WI 54702-1246
 #715-492-0065
Candy.Anderson@monarchpaving.com

Kaitlynn Filkins
 768 US 8
 Amery, WI 54001
 715-554-7274
Kaitlynn.Filkins@monarchpaving.com

Outdoor Recreational Interests

Don Dukerschein
 12616 43rd Avenue
 Chippewa Falls, WI 54729
 #715-723-0639
dbduke@charter.net

Walker Jones
 26300 310th Street
 Holcombe, WI 54745
 715-312-0471
wdjones33@gmail.com

Sonny Gygi
 25800 266th Street
 Holcombe, WI 54745
 #715-595-4158

Woodlot Owners & Forestry Interest

Jim Skorczewski
 18916 54th Avenue
 Chippewa Falls, WI 54729
 #715-944-4897
jimskor@icloud.com

Conservation Nonprofits/Land Trusts Interests

Richard Smith
 27200 145th Street
 New Auburn, WI 54757
 #715-933-0252
rbsmith@mac.com

Caryn Treiber
 Chippewa Valley Sierra Club
 N9021 590th Street
 Colfax, WI 54730
 #715-684-9374
ctreiber@discover-net.net

Gary Bergstrom
 722 21st Avenue
 Bloomer, WI 54724
 #715-568-4527

Streams, Lakes, & Water Interests

Paul Laliberte
 3109 Milton Road
 Eau Claire, WI 54703
 #715-379-7048
Paul.Lalib@charter.net

Steve Hilger
 11147 147th Avenue
 Bloomer, WI 54724
 #715-568-1715
hilgersc@bloomer.net

Terry Bowe
 13541 85th Avenue
 Chippewa Falls, WI 54729
 #715-723-7664
Tbostudio@gmail.com

Buck Steele
 27260 269th Avenue
 Holcombe, WI 54745
 #715-312-0361
HS3779@aol.com

Student Advisors

UW-Eau Claire
 Amanda Jinkerson
 32 E. Greenville Street
 Chippewa Falls, WI 54729
 #715-210-0756
Jinkeral4822@uwec.edu

Chippewa Co. FFA

Jace McMullen
 1819 Main Street
 Bloomer, WI 54724
 #715-226-2508
jacemcm@gmail.com

ADVISORY GROUP
MEMBERS

Federal

Tammy Lindsay
NRCS
1160 Weatheridge Road
Chippewa Falls, WI 54729
#715-299-0441
tammy.lindsay@wi.usda.gov

Kristi Lentz
FSA
1160 Weatheridge Road
Chippewa Falls, WI 54729
#715-723-8556 (103)
Kristine.Lentz@wi.usda.gov

State

Terry Kafka
WI DNR
5301 Rib Mountain Drive
Wausau, WI 54401
#715-355-1363
terence.kafka@wisconsin.gov

Mark Hazuga
WI DNR
1300 W. Clairemont Avenue
Eau Claire, WI 54701
#715-839-1603
mark.hazuga@wisconsin.gov

Jodi Lepsch
WI DNR
1300 W. Clairemont Avenue
Eau Claire, WI 54701
#715-838-8385
Jodi.Lepsch@Wisconsin.gov

Chris Willger
WI DNR
1300 W. Clairemont Avenue
Eau Claire, WI 54701
#715-839-3746

ChristopherJ.Willger@Wisconsin.gov

Stephanie Schneider
WI DATCP
1304 N. Hillcrest Pkwy, Suite A
Altoona, WI 54720
#715-832-6547

Stephanie.Schneider@wisconsin.gov

County

Jerry Clark
Chippewa Co. UWEX
711 N. Bridge Street
Chippewa Falls, WI 54729
#715-726-7955
jerome.clark@ces.uwex.edu

Doug Clary
Chippewa Co. Planning & Zoning
711 N. Bridge Street
Chippewa Falls, WI 54729
#715-726-7941
dclary@co.chippewa.wi.us

Mike Dahlby
Chippewa Co. LCFM
711 N. Bridge Street
Chippewa Falls, WI 54729
#715-726-7921
mdalby@co.chippewa.wi.us

Renee Yohnk
Chippewa Co. LCFM
711 N. Bridge Street
Chippewa Falls, WI 54729
#715-726-7999
ryohnk@co.chippewa.wi.us

Caleb Meyer
Meyer Environmental
711 N. Bridge Street
Chippewa Falls, WI 54729
#715-797-3069
meyer.environmental.wi@gmail.com

SCHEDULE OF PLANNING ACTIVITIES
CHIPPEWA COUNTY LAND & WATER RESOURCE MANAGEMENT PLAN REVISION

The following schedule is proposed to guide and complete the planning process:

2/21/18	LCFM Mtg. •Introduce planning approach & activity schedule.
5/11/18	LCFM Dept. •Initiate public participation process. -Send letter of invitation to stakeholder's advisory group. -Issue public notice and press release of planning process.
6/20/18	LCFM Mtg. •Introduce and refine planning approach and activity schedule.
7/11/18	Stakeholder's Meeting #1. •Introduce available baseline data & trend statistics (2007-2018). •Introduce & receive feedback on existing Issue Statements.
7/18/18	LCFM Mtg. •Introduce available baseline data & trend statistics (2007-2018). •Introduce & receive feedback on existing Issue Statements. •Review existing program management objectives and status of activities implemented to achieve objectives (2014-2018).
7/25/18	Stakeholder's Meeting #2. •Review existing program management objectives and status of activities implemented to achieve objectives (2014-2018). •Review revised Issue Statements and receive feedback on revised program objectives and activities to pursue those objectives (2019-2023).
8/22/18	Stakeholder's Meeting #3 •Refine proposed activities and consider general activity schedule. •Identify resources required to pursue activities. •Introduce and receive feedback on methods to track and monitor progress toward achieving program management objectives.
9/19/18	LCFM Mtg. •Review outcome of stakeholders meetings; revised Issue Statements, program objectives, and activity schedule. •Consider refinements. •Introduce working concepts to advance resource management and program objectives.
10/17/18	•Review responses to focus questions received to date, as outcome of stakeholders meetings. •Introduce expanded working concepts and general activities to advance resource management and program objectives.

1/23/19	Stakeholder's Meeting #4 •Review responses to focus questions received to date, as outcome of stakeholders meetings. •Introduce expanded working concepts and general activities to advance resource management and program objectives. •Review working draft of revised Land & Water Resource Management Plan showing strikeouts and new text.
2/6/19	Stakeholder's Meeting (Voluntary) •Review plan line by line.
2/13/19	•Final comments on plan by Ad Hoc members to LCFM.
2/15/19	•Complete a revised draft of Land & Water Resource Management Plan.
Week of 2/18/19–2/22/19	•Conduct two (2) public informational meetings (east/west) •Present PPT summary report to explain the plan & address public questions on revised draft Land & Water Resource Management Plan.
2/27/19	LCFM Mtg. •Conduct joint LCFM/Stakeholders Meeting.
3/11/19	•Conduct public hearing on the revised Land & Water Resource Management Plan.
3/20/19	LCFM Mtg. •Review public hearing testimony and consider action on final revised/updated plan.
4/9/19	County Board Mtg. •Present updated plan to County Board.
6/3/19 or Before	WI Land & Water Conservation Board Mtg. •Present revised/updated plan to Land & Water Conservation Board.

h:\admin\sec\land_water planning\2019 plan revision\final schedule 2_26_19.doc

NEWS RELEASE
Public Invited to Land and Water Plan Listening Sessions

Residents of Chippewa County are invited to attend one of three (3) listening sessions being held by the Chippewa County Dept. of Land Conservation & Forest Management to explain proposed updates being made to the Chippewa County Land and Water Resource Management Plan.

The plan is used by the County to guide its conservation and natural resource programs, and to coordinate its efforts with cooperating state and federal agencies. The plan update has been developed using input from a Citizens Advisory Group representing a wide-range of farm, forest, economic development, and environmental interests.

The listing sessions are being held to explain issues of local concern, and to present recommendations for future program focus. Opportunities for public comment will be provided.

The sessions will be held Tuesday, February 19, 2019, from 1:00 – 3:00 p.m. at the Goetz Town Hall on Highway O, north of Cadott; on Thursday, February 21, 2019, from 1:00 – 3:00 p.m. at the Bloomer Town Hall on Highway 40, north of Bloomer. A third listening session will be held on Wednesday evening, February 20, 2019, from 7:00 – 9:00 p.m. in Room 3 of the Chippewa County Courthouse.

The plan clarifies how the County will use conservation programs to respond to climate change, and how it will work to control nonpoint pollution to surface and groundwater from both agricultural and non-agricultural sources.

In agricultural areas, public funds will be used to establish stream buffers, restore wetlands, and to assist producers to meet state mandated agricultural performance standards. This voluntary effort will be augmented by a regulatory program, administered using the County's Manure Storage and Livestock Facility Ordinance, and its Zoning and Sanitary Ordinances.

The plan explains the County's intended approach to preserve blocks of agricultural "working lands" and forests, using "Agricultural Enterprise Areas" (AEA's) and voluntary conservation agreements. This approach to preserving working lands will be augmented through the use of agricultural zoning, if adopted by individual towns.

In urbanizing areas, the County will work with municipalities in the Chippewa Falls/Eau Claire urban area to administer a joint storm water management program to meet state storm water permit requirements.

Importantly, as part of its program efforts, the County intends to place greater emphasis on community outreach, targeted education, and civic engagement, working through existing educational institutions and local conservation organizations.

With regard to the management of public lands, the County will continue to manage the Chippewa County Forest for timber production, resource protection, and public use using designated management areas, as defined in the County Forest Comprehensive Land Use Plan. In doing so, it is recommended that the County will continue to work with state agencies and nonprofit organizations to purchase select parcels or conservation easements from willing sellers with land located in or adjacent the County Forest Blocking Boundary.

For more information about the upcoming listening sessions or the Chippewa County Land and Water Plan revisions, please contact the Chippewa County Dept. of Land Conservation & Forest Management at 715-726-7920. Copies of the existing plan and core elements of the plan upgrade are available for public review upon request, and can be viewed on the Internet at www.co.chippewa.wi.us/lcfm.

The general public, with an interest in conservation and local environmental quality, are encouraged to mark their calendars and to attend one of these sessions.

Appendix Figure 1.4

**SUMMARY OF MEETING SCHEDULE, INFORMATION PRESENTED, AND
PUBLIC ATTENDANCE TO EXPLAIN THE UPDATED
CHIPPEWA COUNTY
LAND AND WATER RESOURCE MANAGEMENT PLAN**

Date	Location	Time	Public Attendance	Information Presented at Meeting
2/19/19 Listening Session	Town of Goetz	1:00 p.m. - 3:00 p.m.	(3)	-Power Point Presentation: <u>Chippewa County Land & Water Resource Management Plan Update</u>
2/20/19 Listening Session	Chippewa Co. Courthouse	7:00 – 9:00 p.m.	(2)	-Handout titled: <u>Overview of New or Expanded Concepts to Advance a Revised Land & Water Resource Management Plan</u> , (LCFM 1/18/19)
2/21/19 Listening Session	Town of Bloomer	1:00 – 3:00 p.m.	(4)	



LCFM 2/25/19

OFFICIAL PUBLIC NOTICE

Public Hearing on Updates to the Chippewa County Land & Water Resource Management Plan

Notice is hereby given that a public hearing will be conducted by the Chippewa County Land Conservation & Forest Management Committee regarding updates to the Chippewa County Land & Water Resource Management Plan.

The plan is used by the County to guide its conservation and natural resource management programs, and to coordinate them with cooperating state and federal agencies. The plan update has been developed using input from a Citizens Advisory Group representing a wide-range of farm, forest, economic development, and environmental interests.

The hearing will be held on Monday, March 11, 2019, at 6:30 p.m. in Room 302 at the Chippewa County Courthouse, 711 N. Bridge Street, Chippewa Falls, WI 54729.

The public hearing draft under consideration will be available for review on February 28, 2019, at the Dept. of Land Conservation & Forest Management, and will be posted on that date at the Department's website at <https://www.co.chippewa.wi.us/government/land-conservation-forest-management/land-water-conservation/chippewa-county-land-water-resource-management-plan>

For more information about the public hearing or the Chippewa County Land and Water Plan revisions, please contact the Chippewa County Dept. of Land Conservation & Forest Management at 715-726-7920.

Publish 3/2/19

Appendix 2

Resource Management Information Provided by DNR

Appendix 6 - Watershed Tables for the Lower Chippewa River Basin & Upper Chippewa River Basin

Understanding the Watershed Tables

The tables in Appendix 6 contain a wealth of information about the surface water resources in the Lower Chippewa River Basin. They include current and potential water quality conditions; the extent of assessment work that has been conducted; water quality trends; sources of pollution that are impacting the water body; the types of impacts of those pollutant sources; and recommendations for monitoring and management.

The tables are organized by the Lower Chippewa Basin's 24 watersheds (Map 1). Within each watershed, the stream tables appear first, followed by the lake tables.

Stream Table Codes

This section describes the information contained in each column of the stream table, and defines the abbreviations used in each column. *A blank space anywhere in the table means that data is unassessed or unavailable.*

Stream Name

All named streams and some unnamed streams are listed. Stream names are those found on U.S. Geological Survey (USGS) quadrangle maps unless the Wisconsin Geographic Names Council has established a different name. Unnamed streams are identified by location of the stream mouth as indicated by township, range, section and quarter-quarter section.

Waterbody ID Code (WB ID Code)

All waterbodies require a unique waterbody identification code in order to link them to other databases.

Town Range Section

This column identifies the Township, Range, and Section where the mouth of the stream is located.

County

This column indicates the county or counties in which the stream is located.

Codified Use

The codified use of a waterbody is a classification that is formally and legally recognized by NR102 and NR104, Wis. Adm. Code, and is used to determine water quality criteria and effluent limits. The codified use classification for a stream is determined by applying formal stream classification procedures, which are undergoing revision. This column includes the codified use and the approximate length in miles of the stream portion meeting this classification, for example: Cold II/8.0.

Codified use categories, known as "Fish and Other Aquatic Life Uses" (NR102.04 (3)) are:

COLD (Cold Water Community): This codified use category includes surface waters that are capable of supporting a community cold water fish and other aquatic life or serving as a spawning area for cold water fish species. A COLD water community may be further classified based on trout populations, as identified in *Wisconsin Trout Streams* (DNR Publ. 6-3600[80]).

Class I: High-quality stream where populations are sustained by natural reproduction.

Class II: Stream has some natural reproduction but may need stocking to maintain a desirable fishery.

Class III: Stream has no natural reproduction and requires annual stocking of legal-size fish to provide sport fishing.

Note 1: The Bureau of Fisheries Management has classified some streams as trout streams under NR1.02 (7) *after* the publication of *Wisconsin Trout Streams* (1980). These streams are not formally classified as COLD trout waters until code revisions of NR102 and NR104 are completed and approved. Currently, the "default" code (WWSF-Warm Water Sport Fish) is used for these streams and stream segments.

WWSF (Warm Water Sport Fish Communities): This category includes waters capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish. WWSF is the default Codified Use classification for streams that do not otherwise have an identified Codified Use.

WWFF (Warm Water Forage Fish Communities): This category includes surface waters capable of supporting an abundant, diverse community of forage fish and other aquatic life.

LFF (Limited Forage Fishery): This category includes surface waters of limited aquatic life use capacity due to low flow, naturally poor water quality or poor habitat. These surface waters are capable of supporting only a limited community of tolerant forage fish and aquatic life.

LAL (Limited Aquatic Life): This category includes surface waters that are severely limited for aquatic life use because of low flow and naturally poor water quality or poor habitat. These surface waters are capable of supporting only a limited community of aquatic life.

In addition, the codified use column identifies ORW (Outstanding Resource Waters) and ERW (Exceptional Resource Waters) streams listed in NR102.10 and NR102.11. Technically, ORW/ERW waterbodies are not "Fish and Aquatic Life Use" designations. The ORW/ERW designation was developed for the WDNR antidegradation program. These waterbodies also receive a "Fish and Aquatic Life Use" designation, as listed above, for the purpose of determining water quality criteria.

ORW (Outstanding Resource Waters): These waters have excellent water quality and high-quality fisheries. They do not receive wastewater discharges. No point source discharges will be allowed in the future, unless the quality of such discharges meets or exceeds the quality of the receiving water. This classification includes national and state Wild and Scenic Rivers and the highest quality Class I trout streams, as listed in NR102.10.

ERW (Exceptional Resource Waters): These waters have excellent water quality and valued fisheries but may already receive wastewater discharges or may receive future discharges necessary to correct environmental or public health problems. This classification includes all Class I trout streams identified in *Wisconsin Trout Streams* (1980) that are not listed as ORW, as well as additional cold and warm water streams listed in NR102.11.

Existing Biological Use

This column indicates the *biological* use that the stream or stream segment currently supports. The Existing Biological Use categories are defined in NR102 (04)(3) under "Fish and Aquatic Life Uses", and are the same categories used for the Codified Use column, as described above. The Existing Biological Use designation is based on the current condition of the surface water and the associated biological community. Information in this column is not used for regulatory purposes.

Additional biological use categories identified in this column include:

303(d): These streams have been identified as a 303(d) listed impaired water. The 303(d) list identifies waters that are not currently meeting water quality criteria for specific substances or designated uses. See Chapter 3 for a discussion of Impaired Waters.

INT (Intermittent): These streams are identified as *intermittent* (not continuously flowing).

A stream may not have the same Codified and Existing Biological uses. For example, a stream may have biological conditions of a COLD trout stream. However, if the stream is not identified as COLD in *Wisconsin Trout Streams* (1980) or NR102 or NR104, it will receive the "default" Codified use of WWSF until code revisions change its Codified use.

Attainable Biological Use (Attainable or Potential Biological Use)

This column indicates the biological use that the investigator believes the stream or stream segment could achieve through proper management of "controllable" pollution sources. Beaver dams, hydroelectric dams, low gradient streams, and low flows that are naturally occurring are generally not considered to be "controllable" problems. The Attainable Biological (or potential) use may be the same as the Existing Biological Use or it may be higher. Abbreviations for "Attainable Biological Use" are the same as those used in the "Existing Biological Use" column.

Supporting Use Level (the extent to which a stream supports its Attainable Biological Use)

This column indicates the extent to which a stream meets, or is threatened in meeting, its Attainable Biological Use. This column shows the relationship between the stream's Existing and Attainable Biological Use. Chemical, physical (habitat, morphology, etc.) and biological information or direct observation and professional judgment are used to make this determination. Biological data is considered to be the most important information in determining the Supporting Use designation. Supporting Use categories are:

FULLY (Fully Supporting): The Existing Use is the same as the Attainable Use. The stream or stream segment is *not affected* by "controllable" pollution sources. Stream segments that are impacted by *culturally irreversible* pollution sources are also designated as FULLY Supporting. For example a river system with an "optimally operating" dam (minimal to no effect on the fish and aquatic life community assemblage, productivity, and diversity) is considered FULLY Supporting. On the other hand, poorly operating dams are *not* considered "culturally irreversible" and their effect on biological resources is factored into the Supporting Use designation (see PART - Partially Supporting, below).

FULLY-THR (Fully Supporting, but Threatened): The Existing Use is the same as the Attainable Use, but there is a *clear and imminent* "threat" to the existing level of biological productivity and ecological health. Examples of threats include rapid commercial, residential, and/or industrial development in the watershed, the advent of large-scale industrial operations in the watershed, or channel modifications that have been, or will be permitted, or cannot be regulated under existing state or federal rules (i.e., drainage districts).

PART (Partially Supporting): The Existing Use is classified as the same as the Attainable Use, except that improved management practices could enhance the overall ecological health of the biological community. For example, dam operations could be modified to reduce the impact of hydrologic regimes on the biological community.

NOT (Not Supporting): The Existing Use is one or more Codified Use classifications below the Attainable Use. These Codified Use categories include COLD (I, II and III), WWSF, WWFF, LFF and LAL. For example a stream is considered NOT supporting if its Existing Use is WWFF while its Attainable Use is WWSF. The Existing Use impairment is considered reversible by improving management practices.

Assessment Level (Level of assessment the stream has received)

This column describes the quality of resource information that is available on a waterbody. These categories have been agreed upon for information included in Wisconsin's Water Quality Assessment Report to Congress (305[b]).

Mon (Monitored): A stream or stream segment is classified as "monitored " if *site-specific* data has been collected in the past five years, and is adequate to assess the quality or integrity of a resource. The WDNR or others can collect the data. The data must be adequate to develop a best professional judgment determination of the Existing and Attainable uses, and to determine the extent to which a stream supports its Attainable Use.

Eval (Evaluated): A stream is classified as "evaluated" if information *other than* site-specific data is adequate to determine the Existing and Attainable uses, and to determine the extent to which a stream supports its Attainable Use. Data sources that are adequate to "evaluate" a stream include site-specific data that is more than five years old, information on file provided by the public or others, and best professional judgment of a WDNR biologist or a WDNR fish manager.

Un (Unassessed): The available data on a stream is inadequate to consider the stream to be either Monitored or Evaluated

Resource Trend

This column indicates resource changes over time, and can be based upon best professional judgment alone or in combination with resource data trends. The trend category should indicate an actual change in waterbody condition, and not be an artifact of increased data collection. Trend categories include:

Imp - Improving

Stab - Stable

Dec - Declining

Unk (or blank) - Unknown

Sources and Impacts

These two columns indicate probable **sources** of impact to the stream and the **impacts**, or water quality problems that are present in the stream. Sources and impacts are identified using the best professional judgment of field staff. The following table explains the source and impact codes used in these columns. There is almost always a complex relationship between pollutant sources and resource impacts.

SOURCE	
BY - Barnyard or exercise lot runoff	LF - Landfill
CE - Construction site erosion	MS - Mine wastes and/or roaster piles
CL - Cropland erosion	NMM - Non-metallic mining
CM - Cranberry marsh	NPS - Unspecified nonpoint sources of pollution
DEV - Intense development pressure OBS-M - Manmade obstructions to flow such as culverts bridges fences & stream crossings (excluding dams)	
EX - Exotic species	OBS-N - Natural obstructions to flow, including thick streambank brush, debris, dams and reed canary grass
EX-PL - Exotics - purple loosestrife	PSB - Pastured streambank
EX-RC - Exotics - reed canary grass	PSI - Point source industrial discharge
F - Forestry activities	PSM - Point source municipal treatment plant discharge
FL - Flooding	PWL - Pastured woodlot
FS- BrN - A natural barrier to fish and aquatic organisms. Examples: Waterfalls and Rapids	
RS - Roadside erosion	
HM-DM - Hydrological modification caused by dam	SB - Streambank erosion
HM-DR - Hydrological modification caused by ditching or dredging	URB - Urban storm water runoff

IMPACT	
CL - Chloride toxicity	NH3 - Ammonia toxicity
COM - Competition or encroachment by introduced species	NUT - Excessive nutrient enrichment
DO - Low dissolved oxygen concentration	ORG - Organic chemical toxicity or bioaccumulation
FAD - Fish advisory	pH - Extreme high or low pH or fluctuations
FLOW - Stream flow fluctuations caused by unnatural conditions	
PCB - Bioaccumulation of PCBs	
HAB - Habitat degradation (scouring etc.)	PST - Pesticide/herbicide toxicity
HG - Mercury advisory	SC - Sediment contamination
HM - Heavy metal toxicity	SED - In-stream sedimentation
MAC - Undesirable rooted aquatic plant (macrophyte) or algal growth	
TEMP - Extreme high or low temperature or fluctuations	
MIG - Fish migration interference	TOX - General toxicity problems
TURB - Turbidity problems	

Monitoring Activity/Status/Date/Rank

The monitoring activity column includes a list of monitoring activities that have taken place on the waterbody in the past 5 years *or* are recommended for the future. These activities are described in the list below. Monitoring activities that do not include a status, rank or dates are simply suggestions for future monitoring. Examples include:

- ATOX/R/H (Aquatic Toxicity testing is Recommended, and is a High priority)
- BASE/C/1999 (Baseline monitoring was Completed in 1999).

Status: This indicates the status identified for each monitoring activity.

R=Recommended, P=Planned, O=Ongoing, C=Complete

Date: If the monitoring activity is planned or has already been completed, the planned or completion date is included.

Rank: Each of the listed monitoring activities are also assigned a priority rank, based on the best professional judgment of field staff.

L=Low, M=Medium, H=High

Monitoring Activity Codes

ATOX (Aquatic Toxicity Monitoring) - The collection of information on the concentrations of priority toxic pollutants in sediments and fish in Wisconsin's surface waters by collecting and analyzing samples from a subset of the baseline sites to obtain a broad scale coverage of the condition of surface waters.

BASE (Baseline-Wadeable & Non-Wadeable Stream Monitoring) - The collection of a suite of physical and biological parameters that identify the status or baseline condition of a stream. Those parameters include stream flow, physical habitat measurements, catch per unit effort for all species of fish and selective invertebrate sampling. Indices are calculated for fish habitat (HAB), fish community health (IBI), fish abundance (CPE) and organic pollution (HBI).

BUG - The collection of aquatic macroinvertebrates to characterize the overall biological health of a stream.

AMB (Ambient Stream Monitoring) - The collection of ambient stream water chemistry samples to provide an index of water quality conditions.

CT - Continuous temperature monitoring with the installation of data recorders at monitoring sites.

DO - Continuous dissolved oxygen monitoring with the installation of data recorders at monitoring sites.

FL - Stream flow monitoring.

FS-Comp (Comprehensive) - The collection of a suite of fisheries information on streams specifically aimed at identifying the abundance of fish populations. This includes catch per unit effort and/or population estimates. Data is often quantified as number per mile or pounds per acre.

FS-Hab - The collection of physical data used to evaluate the condition of fish habitat before and after implementation of an in-stream habitat management action. There are standardized Habitat Rating Systems used for streams greater than 10 meters and for streams less than 10 meters in width.

FS-Other – The collection of all other fisheries data that is not specifically taken to document the baseline (BASE) or comprehensive (FS-Comp) condition of fisheries resources. These monitoring activities tend to be stand-alone sampling techniques such as fish abundance (CPE), or fish community health (IBI).

FS-Regs Eval – The collection of fisheries information used to assess the net impact of a new regulation such as size and bag limit changes, seasons, quotas, refuges, bait and gear restrictions, etc.

FS-Stk Eval (Stocking) – The collection of fisheries data used to determine the success or failure of stocking various strains, sizes and densities of fish.

FS-MaxMin – The collection of water temperature range data using maximum/minimum thermometers.

FS-Tis - The collection of fish tissue for fish toxicity evaluations. Examples include mercury and PCBs.

STOX (Sediment Toxicity Testing) - The collection of sediment samples for toxicity testing. Examples include toxic metals and organic compounds.

WC - Water chemistry sampling includes a collection of samples for dissolved oxygen, temperature, pH, phosphorus or other parameters.

Management Activity/Status/Date/Rank

The management activity column includes a list of management activities that have taken place on the waterbody in the past 5 years *or* are recommended for the future. These activities are described in the list below. Management activities that do not include a status, rank or dates are simply suggestions for future management. Examples include:

- AB/O/H (Agriculture Best management practices are Ongoing, and are a High priority)
- BS/C/98 (Bank Stabilization was Completed in 1998)

Status: This indicates the status identified for each management activity.
R=Recommended, P=Planned, O=Ongoing, C=Complete

Date: If the management activity is planned or has already been completed, the planned or completion date is included.

Rank: Each of the listed management activities are also assigned a priority rank, based on the best professional judgment of field staff.
L=Low, M=Medium, H=High

Management Activity Codes

AB (Agricultural Best Management Practices) - Practices designed to reduce pollutant loads carried to surface waters and groundwater from agricultural land uses. Examples include grassed waterways, nutrient and pest management, barnyard controls, cropland practices to reduce erosion.

BC (Beaver Control) – Practices that reduce the thermal or physical impacts of overabundant beaver populations and their dams on cold water resources. This may include activities such as trapping, dam removal, and vegetative management.

BFR (Base Flow Regulation) - Activities that promote maintenance of stream base flow. Examples include regulating flow regimes of dams, and restoration of wetlands.

BS (Bank Stabilization) – A practice used to reduce bank erosion and sediment deposition in waterways. Examples include planting riparian buffer strips, rip rapping, sloping, grading and seeding or bioengineering techniques.

DR (Dam Removal and Restoration) - Removal of a dam and associated activities to restore a natural and/or functional river or stream ecosystem.

EXC (Exotic Species Control) - Control or removal of exotic and nuisance species by chemical, biological or physical means.

ES (Endangered Species) - Management actions to protect identified endangered or threatened aquatic or terrestrial species and associated habitats.

FC (Flood Control) – Upland management actions to reduce the impacts of downstream flooding on stream banks and fish habitat. Examples include dry dams, grass waterways, gully stabilization, and improved infiltration through establishment of vegetative cover.

FE (Fencing) –Upland management actions to limit or prevent livestock from damaging stream banks, fish habitat and stream corridors. Techniques may include rotational grazing, livestock watering areas or devices and fencing.

FS-Br (Fish Barrier) - In-stream management actions used to prevent or exclude upstream or downstream movement of detrimental species of fish. Examples include low head dams, electric weirs, gates or screens.

FS-PS (Fish Passage) - Modifications to manmade or natural fish barriers to allow fish passage, providing systemic benefits to the aquatic community.

FS-Ctrl (Rough Fish Control) –Instream management actions to reduce or control over abundant or nuisance fish populations. Examples include rough fish removal by commercial fishing, netting, seining, shocking or chemical treatment of waterways.

FS-Regs (Fish Regulations) - Management actions that restricts the harvest or harvest method of sport fisheries. Examples include regulation of size and bag limits, season length, refuges, and gear and bait restrictions.

FS-ST (Stocking and Transfer) –The stocking of fish raised in hatcheries or the transfer of fish from other waterways to supplement natural reproduction of native species or to create a fishery for a new species.

IHI (Instream Habitat Improvement) – Instream management actions to improve habitat and sport fish populations. Examples include the installation of artificial banks (boom covers), large woody debris, rip rap, boulder retards and other similar devices.

LA (Land Acquisition and Streambank Protection) - Acquisition of protective easements or fee title lands to protect or enhance important or critical habitat, and to provide recreational access.

NPS (Nonpoint Source) - Control of nonpoint sources of pollution, through selection of a stream or lake watershed for Priority Watershed Program funding.

PDR (Point Discharge Regulation) - Control of pollution from point source discharges through regulatory programs.

PLAN (Planning Grant) - Support of management planning through state-funded planning grants.

PROT (Protection Grant) - Support of resource protection activities through state-funded protection grants.

TMDL (Total Maximum Daily Load) - Establishment of a total maximum daily load for pollutant sources that are impairing the water body.

UB (Urban or Industrial Best Management Practices) - Management practices that reduce pollutant loads carried to surface waters and groundwater from non-agricultural land uses. Examples include stormwater infiltration, stormwater detention, construction site erosion control, and other pollutant reduction practices.

WR (Wetland Restoration) - Management actions to restore or enhance wetland habitat. Examples include breaking of drain tile and ditch plugs.

Refs (References)

Information included in the stream tables is derived from the knowledge of agency staff and from various studies conducted by the DNR and other agencies. The information is now housed in DNR files. For more in-depth information contact the Eau Claire DNR Service Center.

CHIP CO-1996 - Chippewa County Land Conservation Department Study 1996

LCRSNA - Lower Chippewa River State Natural Area 2000 Study

FH-1961 - 2001 - Studies completed by the DNR Fisheries & Habitat Bureau

Schreiber-1995 - Study completed by Ken Schreiber - Eau Claire Service Center 1995

UWEC-1999 - University of Wisconsin-Eau Claire 1999 Study

UWSP-1993 - University of Steven's Point 1993 Study

WR-1991 - DNR Water Resources Bureau 1991 Study

WRM-1992 - DNR Water Resources Management Bureau 1992 Study

Lake Table Codes

This section describes the information contained in each column of the lake table, and defines the abbreviations used in each column. *A blank space anywhere in the table means that data is unassessed or unavailable.*

Lake Name

All named lakes and some unnamed lakes larger than 10 acres in size are listed. Cold water spring or trout ponds that are smaller than 10 acres in size may also be listed. Lake names are those found on U.S. Geological Survey (USGS) quadrangle maps unless the Wisconsin Geographic Names Council has established a different name. Some lakes are known locally by other names; where available, local names have been listed with the official name. Township, range, section and quarter-quarter section identify unnamed lakes.

Waterbody ID Code (WB ID Code)

All waterbodies require a unique waterbody identification code in order to link them to other databases.

Town Range Section

This column identifies the Township, Range, and Section where the lake is located.

County

This column indicates the county or counties in which the lake is located.

Surface Area

This column indicates the surface area, in acres, as listed on the WDNR Master Waterbody File, *Wisconsin Lakes* (WDNR PUBL-FM-800-95REV) and the *Lower Chippewa River Water Quality Management Plan (1996)*.

Max Depth and Mean Depth

These two columns indicate the maximum depth and mean depth as listed in *Wisconsin Lakes* (WDNR PUBL-FM-800-95REV) and the *Lower Chippewa River Water Quality Management Plan (1996)*

Access

This column categorizes the type of public access available on the lake. If there is more than one access on a lake, only the most highly developed type of public access is listed in this column.

BR = Boat Ramp

BF = Barrier-free boat ramp (boating dock and/or wheelchair access)

P = Barrier-free pier (wheelchair access)

T = Walk-in trail

R = Roadside access

W = Wilderness access

BW = Barrier-free wilderness access (wheelchair access)

NW = Navigable water access to lake

X = Some type of access available, but not specified

Lake Type

This column categorizes the limnological characteristics of the lake based on physical and chemical properties. Each lake type category generally supports characteristic aquatic plant and animal communities. Lake type classifications and qualifying criteria are:

DG (Drainage lake) - Impoundments and natural lakes which have both a surface water (stream) inlet and outlet. The main water source to these lakes comes from stream drainage.

DR (Drained lake) - Natural lakes with the main water source dependent on the groundwater table and seepage from adjoining wetlands. These lakes seldom have an inlet but will have an outlet of very little flow. They are similar to the seepage lakes (below) except that they have an outlet.

SE (Seepage lake) - Landlocked lakes which have no surface water (stream) inlet or outlet. The groundwater table, and sediments that seal the bottom of the lake maintain water level. On some lakes, an intermittent outlet may be present.

SP (Spring lake) - Spring lakes seldom have an inlet, but always have an outlet of substantial flow. The main water source to these lakes comes from groundwater (springs).

IMP (Impoundment) - This code following the lake type code (above) indicates that an impounding structure (dam) located on a stream created that lake.

NLD (Dammed Natural Lake) - This code following the lake type code (above) indicates that dam is present on a natural lake.

Winterkill

Winterkill (winter oxygen depletion) is a common problem in many shallow Wisconsin lakes. A kill can occur when at least four inches of snow cover the lake, which prevents sunlight from reaching the water. All photosynthesis stops and plants begin to die and decompose. The extent of oxygen loss depends on the total amount of plant, algae and animal matter that decays. Drought increases the chance of winterkill by reducing the volume of water in the lake.

YES - Indicates the lake has experienced winterkill at least once.

NO (or blank) - Indicates winterkill is not known to have occurred.

NO-A - No winterkill has taken place since aeration units were installed in the lake.

Map

YES - An official lake map is available for the lake.

NO (or blank) - An official lake map is not available for the lake.

Phosphorus Sensitivity

This column indicates a lake's classification, based on an analysis of the lake's relative sensitivity to phosphorus loading and existing trophic (water quality) conditions. These phosphorus sensitivity classifications are used to prioritize lakes for nutrient control management. Lakes in each general classification are subdivided into management groups based on data needs or existing water quality conditions, and to establish appropriate management recommendations and priorities.

CLASS 1	CLASS 2
GROUP A	Existing water quality fair to excellent
	Potentially most sensitive to increased phosphorus loading. May not be as sensitive to phosphorus loading as Class 1 lakes
	High priority for protection management. Medium to high priority for protection or use impairment management
	Recommend impact assessment monitoring if water quality is less than achievable
GROUP B	Existing water quality poor to very poor
	Less sensitive to increased phosphorus loading. Low sensitivity to increased phosphorus loading
	Use impairment management recommended where appropriate. Low priority for protection management
	Medium priority for protection management
GROUP C	Data inadequate to assess trophic condition
	Classification monitoring recommended. Classification monitoring recommended
GROUP D	Water quality cannot be adequately assessed with trophic status index
CLASS 1	CLASS 2
	Physical and/or biological attributes make lake potentially less sensitive to increased phosphorus loading. Physical and/or biological attributes make lake potentially less sensitive to increased phosphorus loading
	Should be evaluated for re-classification if conditions change. Should be evaluated for re-classification if conditions change.

Trophic Class and TSI (Trophic Status Index)

These two columns indicate a lake's classification based on water quality factors including concentrations of dissolved oxygen, phosphorus and chlorophyll in water samples. Trophic State Index (TSI) values are calculated for a lake based on a series of water quality sample data. These categories are general indicators of lake productivity.

Olig (Oligotrophic) - TSI values of 39 or less: These lakes are generally clear, cold and free of many rooted aquatic plants or large blooms of algae. Because they are low in nutrients, oligotrophic lakes generally do not support large fish populations. However, they often have an efficient food chain with a very desirable fishery of large predator fish.

Meso (Mesotrophic) - TSI values of 40 - 49: These lakes are intermediate between oligotrophic and eutrophic. The bottoms of these lakes are often devoid of oxygen in late summer months, limiting available habitat for cold water fish and resulting in release of phosphorus from lake sediments into the water column.

Eutr (Eutrophic) - TSI values of 50 or greater: These lakes are high in nutrients. They are likely to have excessive aquatic vegetation and/or experience frequent or severe algae blooms. They often support large fish populations, but are also susceptible to oxygen depletion. Small, shallow lakes are especially vulnerable to winterkill (see above), which can reduce the fishery diversity and quality.

Biological Use

This column indicates the *biological* use that the lake currently supports. The Biological Use designation is based on the current condition of the surface water and the associated biological community. Information in this column is not used for regulatory purposes.

CWSF (Cold Water Sport Fish Communities): This category includes lakes capable of supporting a community of cold water sport fish or serving as a spawning area for cold water sport fish.

TSSF (Two-Story Sport Fishery): This biological use category includes lakes that are capable of supporting a community cold water fish and also a community of warm water sport fish.

WWSF (Warm Water Sport Fish Communities): This category includes lakes capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish.

WWFF (Warm Water Forage Fish Communities): This category includes lakes capable of supporting an abundant, diverse community of forage fish and other aquatic life.

LFF (Limited Forage Fishery): This category includes lakes of limited aquatic life use capacity due to low flow, naturally poor water quality or poor habitat. These lakes are capable of supporting only a limited community of tolerant forage fish and aquatic life.

LAL (Limited Aquatic Life): This category includes lakes that are severely limited for aquatic life use because of low flow and naturally poor water quality or poor habitat. These surface waters are capable of supporting only a limited community of aquatic life.

Additional biological use categories identified in this column include:

303(d): These lakes have been identified as 303(d) listed impaired lakes. The 303(d) list identifies waters that are not currently meeting water quality criteria for specific substances or designated uses. See Chapter 3 for a discussion of Impaired Waters.

ORW (Outstanding Resource Waters): These waters have excellent water quality and high-quality fisheries. They do not receive wastewater discharges. No point source discharges will be allowed in the future, unless the quality of such discharges meets or exceeds the quality of the receiving water.

ERW (Exceptional Resource Waters): These waters have excellent water quality and valued fisheries but may already receive wastewater discharges or may receive future discharges necessary to correct environmental or public health problems.

Rec Use (Recreational Use)

This category indicates the type of recreational activities known to be taking place on the lake, and the intensity of use.

BT - Boating,

FS - Fishing,

SW - Swimming,

WS - Water Sports

Use Intensity: L=Low, M=Medium, H=High, U (or blank)=Unknown.

LMO (Lake Management Organization)

This column indicates whether or not a lake management organization (LMO) exists for the lake. A LMO can range from a small, loosely organized group of lake property owners, to an association or to a district, complete with by-laws and taxing authority.

Y - Indicates that a LMO does exist

ASSC (Lake Association) - Criteria for Lake Association status are spelled out in Section 144.253(1), Wisconsin Statutes. Generally, an Association must be at least 25 members in size, allow membership to anyone living within one mile of the lake for at least one month per year, and have lake protection and improvement as its primary purpose.

DIST (Lake District) - Criteria for Lake District status can be found in Chapter 33, Wisconsin Statutes. A Lake District is a special purpose unit of government, which is formed through local government approval processes. It has specified boundaries, and its main purpose is to improve or protect a lake and its watershed.

Rec (LMO Recommended) - It is recommended that a LMO be developed.

If blank - no lake management association exists.

Sources and Impacts

These two columns indicate probable **sources** of impact to the lake and the **impacts**, or water quality problems that are present in the lake. Sources and impacts are identified using the best professional judgment of field staff. The following tables explain the source and impact codes used in these columns. There is almost always a complex relationship between pollutant sources and resource impacts, and the table below is not intended to show a relationship between specific sources and impacts.

SOURCE
AGSPR - Agricultural land spreading site. NPS - Unspecified nonpoint sources of pollution
BY - Barnyard or exercise lot runoff (animal operations) PS - Point sources of pollutants
CE - Construction site erosion. PSB - Streambank pasturing
CL - Cropland erosion. PWL - Woodlot pasturing
DEV - Intense development pressure. RS - Roadside construction erosion
EX-CP - Exotics – curly leaf pondweed. SB - Streambank erosion
EX-EWM - Exotics - Eurasian milfoil. SEP - Septic systems are or may be causing water quality problems
EX-PL - Exotics - purple loosestrife. URB - Urban storm water runoff
HM - Hydrological modification caused by damming, ditching, or wetland drainage. WLF - Water level fluctuations
INT - Internal loading

IMPACT
ACC - Access problems. The general public is unable to access a navigable waterbody, which is considered a water of the state. NUT - Excessive nutrient enrichment
ALG - Undesirable algae growth. SED - Excessive Sedimentation
BAC - Bacteria monitoring. TOX - General toxicity problems
DO - Low dissolved oxygen concentration TURB - Turbidity problems
HAB - Aquatic or terrestrial habitat degradation. WKILL - Winterkill that occurs as a result of human activity
HG - Mercury advisory
MAC - Undesirable macrophyte plant growth

Monitoring Activity/Status/Date/Rank

The monitoring activity column includes a list of monitoring activities that have taken place on the lake in the past 5 years *or* are recommended for the future. These activities are described in the list below. Monitoring activities that do not include a status, rank or dates are simply suggestions for future monitoring. Examples include:

- FS-Comp/R/M (Comprehensive Fish Survey is Recommended, and is a Medium priority)
- StkEval/C/98 (Fish stocking evaluation was Completed in 1998).

Status: This indicates the status identified for each monitoring activity.

R=Recommended, **P**=Planned, **O**=Ongoing, **C**=Complete

Date: If the monitoring activity is planned or has already been completed, the planned or completion date is included.

Rank: Each of the listed monitoring activities are also assigned a priority rank, based on the best professional judgment of field staff.

L=Low, **M**=Medium, **H**=High

Monitoring Activity Codes

AMB (Ambient Lake Monitoring) - The collection of ambient lake water chemistry samples to provide an index of water quality conditions.

BASE-T (Baseline Trend Monitoring) - The collection of a suite of physical and biological parameters that provide an assessment of trends in lake quality between lakes and over time. On a set number of lakes, water chemistry data are collected every other year and data on habitat and the fish community are collected every five years. Parameters include the levels of a variety of chemical components, physical habitat measurements, and the catch-per-unit-effort for all fish species collected.

BASE-S (Baseline Status Monitoring) - The collection of a suite of physical, chemical and biological parameters that supplements more intensive data gathered from lakes included in the trends monitoring program. This data also establishes a baseline of information or status of a number of other lakes in the basin. The types of sampling are similar to the trends monitoring program, however water chemistry data are collected every five years.

CLA - chlorophyll a sampling

DF - Diagnostic or feasibility study, to determine watershed and lake management needs to protect or improve water quality.

DOT - The collection of a dissolved oxygen and water temperature profile, generally at regular depth intervals at the deepest spot of the lake.

FS-Comp (Comprehensive) - The collection of a suite of fisheries information on lakes specifically aimed at identifying the abundance of fish populations. This includes catch per unit effort and/or population estimates. Data is often quantified as number per acre.

FS-Hab - The characterization of habitat available to fish and other aquatic life in a lake. Habitat is identified in terms of both quantity and quality to determine needs for protection and/or enhancement of the current condition.

FS-K (Fish Kill) - An assessment of the extent and duration of fish kills, most often caused by low oxygen conditions, to identify further management needs including fish stocking.

FS-Other – The collection of all other fisheries data that is not specifically taken to document the baseline (BASE) or comprehensive (FS-Comp) condition of fisheries resources. These monitoring activities tend to be stand-alone sampling techniques such as fish abundance (CPE), fish community health (IBI), or fish habitat condition (HAB).

FS-Regs Eval – The collection of fisheries information used to assess the net impact of a new regulation such as size and bag limit changes, seasons, quotas, refuges, bait and gear restrictions, etc.

FS-Stk Eval (Stocking) – The collection of fisheries data used to determine the success or failure of stocking various strains, sizes and densities of fish.

FS-Tis - The collection of fish tissue for fish toxicity evaluations. Examples: mercury and PCBs.

FS-YOY (Young Of Year Fish) - Monitoring conducted to assess the level of natural reproduction of a specific year class of fish (usually sportfish species such as walleye or musky).

LTT (Long Term Trend Monitoring) - This is an intensive monitoring program which involves collecting data on water quality and other biological and physical conditions, five times per year for a period of 10 years, from 1986 - 1996.

MOD - Modeling of lake and watershed conditions to assist in development of management plans.

SED (Sediment) - The collection of sediment samples for chemistry testing. Samples are analyzed for bulk chemistry, metals and organic compounds.

SH-C (Self-Help Program - Chemistry) - Collection of water chemistry data by Lake Self-Help Program Volunteer Monitors. Data collected includes water clarity, chlorophyll concentration, phosphorus concentration and temperature profiles.

SH-E (Extended Self Help Program - Chemistry and DO) - Collection of water chemistry and dissolved oxygen data by Lake Self-Help Program Volunteer Monitors.

SH-P (Self-Help Program - Plants) - Collection of aquatic plant data by Lake Self-Help Program Volunteer Monitors

SH-S (Self-Help Program - Secchi) - Collection of water clarity (Secchi depth) data by Lake Self-Help Program Volunteer Monitors.

VEG (Vegetation Surveys) - Collection of data about the aquatic plant community by WDNR staff. Information collected includes species presence, frequency, density and maximum rooting depth along specified transects.

WC - Water chemistry sampling includes a collection of samples for dissolved oxygen, temperature, pH, phosphorus or other parameters.

Management Activity/Status/Date/Rank

The management activity column includes a list of management activities that have taken place on the lake in the past 5 years *or* are recommended for the future. These activities are described in the list below. Management activities that do not include a status, rank or dates are simply suggestions for future management. Examples include:

- SR/R/H (Shoreline habitat restoration is Recommended, and is a High priority)
- AER/O/H (Aeration is Ongoing, and is a High priority)

Status: This indicates the status identified for each management activity.

R=Recommended, **P**=Planned, **O**=Ongoing, **C**=Complete

Date: If the management activity is planned or has already been completed, the planned or completion date is included.

Rank: Each of the listed management activities is also assigned a priority rank, based on the best professional judgment of field staff.

L=Low, **M**=Medium, **H**=High

Management Activity Codes

AER - Installation of an aeration system to prevent winterkill conditions.

APMP - Development of an aquatic plant management plan.

APM-C (Aquatic Plant Management-Chemistry) - Control nuisance aquatic plants through chemical applications.

APM-M (Aquatic Plant Management-Mechanical) - Control nuisance aquatic plants by mechanical means, such as harvesting.

BS (Bank Stabilization) – A practice used to reduce bank erosion and sedimentation to waterways. Examples include planting riparian buffer strips, rip rapping, sloping, grading and seeding or bioengineering techniques.

CHP (Critical Habitat Protection) - Management activities which protect the current state of habitat critical to the survival of fish and other aquatic life, especially endangered, threatened, and rare species. Activities may include land acquisition, no-wake zones, and more restrictive criteria applied to aquatic plant management and water regulation activities.

CR (Chemical Rehabilitation) - Chemical treatments used to rehabilitate a lake ecosystem. Examples include removal of carp through chemical treatment.

D-SC (Dredging/Sediment Control) - Dredging or removal of lake sediments to improve lake water quality or habitat conditions.

ES (Endangered Species) - Management actions to protect identified endangered or threatened aquatic or terrestrial species and associated habitats.

EXC (Exotic Species Control) - Control or removal of exotic and nuisance species by chemical, biological or physical means.

FS-Br (Fish Barrier) - In-lake management actions used to prevent movement of detrimental species of fish. Examples include low head dams, electric weirs, gates or screens.

FS-Ctrl (Rough Fish Control) – Management actions to reduce or control over abundant or nuisance fish populations. Examples include rough fish removal by commercial fishing, netting, seining, shocking or chemical treatment of waterways.

FS-Regs (Fish Regulations) - Management actions that restricts the harvest or harvest method of sport fisheries. Examples include regulation of size and bag limits, season length, refuges, and gear and bait restrictions.

FS-ST (Stocking and Transfer) – Lake management actions to restore or enhance sport and nongame species. Examples include stocking fish raised in a hatchery or field transfer of wild stocks.

IHI (In-lake Habitat Improvement) - In-lake management actions to improve habitat for fish populations. Examples include the installation of log fish cribs, large woody debris, riprap, spawning reefs, half-logs and other similar devices.

INT-M (Internal Loading Management) - Management activities intended to reduce internal phosphorous loading such as alum treatment or summer aeration.

LA (Land Acquisition and Habitat Protection) - Acquisition of protective easements or fee title lands to protect or enhance important or critical habitat, and to buffer upland uses.

LMP (Lake Management Plan) - Development of a comprehensive lake management plan.

MAP - Development of a hydrographic (contour) map of the lakebed.

NPS (Non-Point Source) - Control of non-point sources of pollution, through selection of a stream or lake watershed for Priority Watershed Program funding.

PLAN (Planning Grant) - Support of management planning through state-funded planning grants.

PROT (Protection Grant) - Support of resource protection activities through state-funded protection grants.

SR (Shoreline Habitat Restoration) - Protection or restoration of shoreland vegetative habitat to promote native species diversity.

SZ (Shoreland Zoning) - Implementation and enforcement of shoreland zoning regulations.

TMDL (Total Maximum Daily Load) - Establishment of a total maximum daily load for pollutant sources that are impairing the water body.

WLM (Water Level Management) - A practice or strategy for managing water levels and water level fluctuations to enhance recreation, wildlife, habitat and property protection.

WR (Wetland Restoration) - Management actions to restore or enhance wetland habitat. Examples include breaking of drain tile and ditch plugs.

Refs (References)

Information included in the stream tables is derived from the knowledge of agency staff and from various studies conducted by the DNR and other agencies. The information is now housed in DNR files. For more in-depth information contact the Eau Claire DNR Service Center.

FH-96 - 99 - Studies completed by the DNR Fisheries & Habitat Bureau

PRATT 1994-2000 - Studies completed by Frank Pratt - DNR Northern Region

Pine Creek and Red Cedar River Watershed - LC07

Lake Name	WB ID Code	Town Range Section	County	Surface Area	Max Depth	Mean Depth	Access	Lake Type	Winter Kill	Map	Phosphorus Sensitivity	Trophic Class	TSI	Biological Use/Status	Rec Use	LMO	Source	Impact	Monitoring Activity/Status/Date/Rank	Management Activity/Status/Date/Rank	Refs
Dallas Flowage	2088000	32 12W 14 NW SE	Barron	27	9		BR	DG-IMP	NO		2B	Eutr	58	CWSF	BT-L FS L SW-L WS-L		CL,PSB	HAB		FS-ST/O/L	
Mirror Lake	2082600	29 11W 16 NE NW	Dunn	10	13	4	T	DG	NO	X	2C										

LC013

ID Code	Lake Name	Watershed Code	WB ID Code	Town Range Section	County	Surface Area	Maximum Depth	Mean Depth	Access	Lake Type	Winter Kill	Map	Phosphorus Sensitivity	Trophic Class	TSL	Biological Use/Status	Lake Use	LMO	Source	Impact	Monitoring Recd./Status/Date	Management Recd./Status/Date
2121000LC13	Elk Creek Lake	LC13	2121000	27 11W 13 SE SE	Dunn	54	17	6	BR	DG, "IMP"	NO	YES	2B	E		WWSF	BT-L FS-L SW-L	DIST	BY, CL, SB	TURB, SED	VEG/R, BASE-S/R-02/M, SH-C/R, WC/R/M, SED/R	
2125400LC13	Halfmoon Lake	LC13	2125400	27 10W 24 SE SE	Eau Claire	132	9	6	BRP	SE, "NLD"	NO, YES	X	2A	E	63-70	WWSF	BT, FS-H, SW, WS	DIST	URB, EX-CP	MAC, ALG, TURB, DO, NUT	VEG/C'95, DF/99, FS-COMP/C'00, BASE/S/P'01/H	APM/M-O, NPS, PLAN'00, PROT, AER/O/H, FS-ST/O/M
1871400LC13	Old Elk Lake	LC13	1871400	27 11W 16 NW NW	Dunn	200	6			SE	YES	NO	2C	E	51-83		wildlife?		PSB, BY, SB, CL, AGSPR	ALG, TURB, ACC	WC/C'01, VEG/R/H	MAP/M, NPS, PROT, PLAN, SZ/H
1881800LC13	Sneen Lake	LC13	1881800	26 11W 03 NE NW	Dunn	14	4			SE	YES		2C								WC/R/M, VEG/R/M	MAP/L, SZ/H, PROT, PLAN

Last Updated on 12/06/2000
By Wisconsin DNR

LC15

ID Code	Lake Name	Watershed Code	WB ID Code	Town Range Section	County	Surface Area	Maximum Depth	Mean Depth	Access	Lake Type	Winter Kill	Map	Phosphorus Sensitivity	Trophic Class	TSI	Biological Use/Status	Lake Use	LMO	Source	Impact	Monitoring Recd./Status/Dat	Management Recd./Status/Dat
2135600LC15	Coon Fork Flowage	LC15	2135600	26 05W 29 SE SW	Eau Claire	75	20	8	BR (should be BRP)	DG-IMP	NO	X	2B	E	50-66	WWSF	BT-H, BT-L FS-H, FS-L SW-H, SW-M WS-L		BY,CL,PSB	NUT,BAC,ALG	VEG/C/97,SH-E/O,DFS/C/97,B ASE/S/P/02/H	NPS/R/H,PLAN/R/H,PROT/R/H
2133200LC15	Eau Claire Lake	LC15	2133200	26 06W 05 SW SW	Eau Claire	560 (lake map indicates 1,118)	25		BR (should be BRP)	DG-IMP	NO	X	2B	E	62-65	WWSF	BT-H FS-H SW-H WS-H	ASSC	CL,BY,IL,NP S,DEV	DEV(should be under source),NUT,SB, ALG,SED,HAB	DFS/C/98,SH-E/R/H,BASE/S/P/02/H, FS-COMP/R/07/H, FS-YOY/R/H	SR,CHP,NPS/R/H,INT-M/R/M,PLAN/R/H,PROT/R/H,D/S C/R/H,CHP/R/H, D/SC/R/M, FS-ST/O/H, IHI/R/H
2136200LC15	Fairchild Pond	LC15	2136200	25 05W 35 NW NE	Eau Claire	18	9	3	BR	DG-IMP	NO	X	2C	E	51-59	WWSF	BT-L FS-H, FS-L SW-L WS-L		BY,CL,NPS	SED, ALG, HAB, MAC, NUT	SH-S/O,VEG/C/95,B ASE/S/R/M	NPS/R/H,PLAN/R/H,PROT/R/H,S R, D/SC/R/H
2133700LC15	Unnamed Pond T27n R6w S2-2	LC15	2133700	27 06W 02 SW NE	Eau Claire	30	7		these are man-made gravel pits		NO		2C									

Last Updated on 12/06/2000
By Wisconsin DNR

42-23

LC17

ID Code	Lake Name	Watershed Code	WB ID Code	Town Range Section	County	Surface Area	Maximum Depth	Mean Depth	Access	Lake Type	Winter Kill	Map	Phosphorus Sensitivity	Trophic Class	TSI	Biological Use/Status	Lake Use	LMO	Source	Impact	Monitoring Recd./Status/Date/Rank	Management Recd./Status/Date/Rank	Refs
2147200LC17	Chapman Lake	LC17	2147200	29 05W 26 SE SE	Chippewa	34	9		BR	DG-IMP	YES (none since dredging)		2C			WWSF	BT-M SW-M FS		DEV,NPS	MAC, ALG, SED, NUT	SH-S/C87,SH-ER,VEG/R, BASE/S/IRM	SR, MAP/R/L	
2149400LC17	Unnamed Lake T30N R3W S20-2	LC17	2149400	30 03W 20 SW NE	Taylor	23	6				YES												

Last Updated on 12/06/2000
By Wisconsin DNR

LC18

ID Code	Lake Name	Watershed Code	WB ID Code	Town/Range/Section	County	Surface Area	Maximum Depth	Mean Depth	Access	Lake Type	Winter Kill	Map	Phosphorus Sensitivity	Trophic Class	TSI	Biological Use/Status	Lake Use	LMO	Source	Impact	Monitoring Recs./Status/Date/Rank	Management Recs./Status/Date/Rank	Refs.
2152600LC18	Chippewa Falls Flowage	LC18	2152600	28 08W 06 SE	Chippewa	282	29	11	R (should be BRP)	DG-IMP	NO	X	2B	E	58-59	WWSF	BT-M FS-H FS-L		EX-PL,URB, HM, WLF	HAB, HG	BASE/S/P02/H, FS-COMP/R/H	FS-REGS/R/M	FS-REGS/R/M
2152100LC18	Como Lake	LC18	2152100	30 05W 08 NW	Chippewa	98	6		BRP	DG-IMP	NO	X	2B	E	50-80	WWSF	FS-M SW-L	ASSC	NPS, DEV,URB,CL, B Y	MAC, ALG,NUT,SE D,HAB	SH- S/O,WC/R/L,FS- COMP/C00, BASE/S/R04/H	APM/M/R, SR,D/SC/R/L,CH P/R/H, D/SC/R/H, SR/R/H, NPS/R/H, FS-	
2149900LC18	Delis Pond	LC18	2149900	27 09W 18 NE	Eau Claire	739	30	9	BR (should be BF)	DG-IMP	NO	X	2B	E	58-68	WWSF	BT-H FS-H, FS-L SW-H, SW-L WS-H		WLF,EX- CP,URB, HM, NPS	HAB,ALG,TU RB,NUT,SED, HG	FS-COMP/C97	BS/R/M, CHP/R/H, FS- ST/O/H, WLM/R/H, FS- REGS/R/M	
2151000LC18	Glen Loch Flowage	LC18	2151000	29 08W 31 NE	Chippewa	39	17		T (should be BR)	DG-IMP	NO		2B	E	50-90	WWSF	FS-L		NPS,DEV,URB, SB, CL	MAC, ALG, TURB, SED	SH- S/C92,WC/R/L, B ASE/S/R/M	APM/M/R, BS/R/H	
2150200LC18	Hallie Lake	LC18	2150200	28 09W 27 NE	Chippewa	79	13	6	R (should be BF)	SE DG-IMP	NO	X	2A	E	45-62	TSSF	BT-H, BT-L FS-H	ASSC	EX- CP,URB,DEV,SED	MAC, ALG,DO,HAB, NUT, SED	SH- S/O,WC/R/L,VEG /R/L,FS- COMP/P01/H, BASE/T/P01/H, DOT/R01/H	APM/O/R,NPS/R, AER/R/H, FS- ST/O/M, SR/R/H, D/SC/R/M	
2151200LC18	Tilden Mill Pond	LC18	2151200	29 09W 24 NE	Chippewa	61	11	3	R (should be BR)	DG-IMP	NO	X	2B	E	45-90	WWSF	FS-L		NPS,DEV,CL, SB, PSB	MAC, ALG, SED, HAB, NUT	SH- S/C92,WC/R/L, B ASE/S/R/M, SED/P01	APM/M/R,BS/R/H, D/SC/R/H	

Last Updated on 12/06/2000
By Wisconsin DNR

LC19

ID Code	Lake Name	Watershed Code	WB ID Code	Town Range Section	County	Surface Area	Maximum Depth	Mean Depth	Access	Lake Type	Winter Kill	Map	Phosphorus Sensitivity	Trophic Class	TSI	Biological Use/Status	Lake Use	LMO	Source	Impact	Monitoring Recs./Status/Date/Rank	Management Recs./Status/Date/Rank	Refs
2155800LC19	Cadott Flowage	LC19	2155800	29 06W 31 SE NE	Chippewa	20	10		T	DG-IMP	NO		2C			WWSF	FS-L SW-L		CL,BY,PSB, HM, SB	BAC, NUT, SED	NOTE TO JOE ABOUT DAM		
2157000LC19	Otter Lake	LC19	2157000	30 05W 11 SW SE	Chippewa	661	43	11	BR BF	SE-NLD	YES	X	1B	E	53-65	WWSF	BT-H, BT-L FS-H SW-H, SW-L WS-H	DIST-R or ASSC-R	EX-CP,DEV,NPS	HAB, NUT, DO	SH-CIC'92, VEGIC'95,BASE/R,WCR, FS-COMP/R-'06/H, BASE/S/R-'03/H	AERO/H,SZ/R,C HP/R/H, FS-ST/O/H, LA/R/M	
2157900LC19	Pike Lake	LC19	2157900	30 06W 14 SE NW	Chippewa	192	37	12	BR	SE	NO	X	1A	E	43-55	WWSF	BT-H FS-H SW	DIST-R or ASSC-R	DEV,NPS,BY, PSB	HAB, NUT, ACC	VEGIC'95,BASE/R,WCR, FS-COMP/R-'06/H, BASE/S/R-'03/H	NPS/R, SZ/R, CHP/R, LA-ACC	

Last Updated on 12/06/2000
By Wisconsin DNR

ID Code	Lake Name	Watershed Code	WBIID Code	Town Range Section	County	Surface Area	Maximum Depth	Mean Depth	Access	Lake Type	Winter Kill	Map	Phosphorus Sensitivity	Trophic Class	TSI	Biological Use/Status	Lake Use	LMO	Source	Impact	Monitoring Recs./Status/Dal-eRank	Management Recs./Status/Dal-eRank	Refs
1832700LC21	Bass Lake T32N R9W S15	LC21	1832700	32 09W 15 NE NW	Chippewa	39	23			SE		X	1C			WWSF				ACC			
1834400LC21	Beaver Lake T31N R08W S15	LC21	1834400	31 08W 16 NE SW	Chippewa	15	15		R, NW	SE	NO YES	X	1C			WWSF	FS			DO			
2170300LC21	Big Buck Lake	LC21	2170300	31 08W 15 NW SE	Chippewa	17	45		R	SE	NO	X	1C	E	50-59	WWSF	BT-L SW-L FS		RS,NPS	NUT, ACC	SH-S/O, WC/R/L	SZ/R/L	
2178400LC21	Bob Lake	LC21	2178400	31 08W 23 NE NE	Chippewa	97	68	27	BR	DG	NO	X	1A	E	40-59	WWSF	FS		DEV	HAB	WC/R/L, VEG/R/L, BASE/S/P-03/H, FS-COMP/R/H	SZ/R/L	
1836600LC21	Boot Lake	LC21	1836600	30 08W 10 NE SE	Chippewa	27	14		R	SE	YES	X	1C			WWSF	FS			DO, ACC	SH-S/O, DOT/R/H	AER/R/M, LA-ACC/R/H	
1838200LC21	Burnt Wagon Lake	LC21	1838200	31 08W 10 NW SE	Chippewa	15	12		W	SE	YES	X	1C			WWFF				DO			
1841200LC21	Clear Lake T31N R08W S23	LC21	1841200	31 08W 23 NW SE	Chippewa	19	11			SE	NO YES	X	2C			WWSF	FS			DO			
2181400LC21	Cornell Flowage	LC21	2181400	31 08W 18 SW SE	Chippewa	836	54		BRP	DG-IMP	NO	X	2B		56-58	WWSF	FS-M, SW-L, WS-L, BT-L		EX-PL, NPS, HM, WLF	NUT, HAB, HG	FS-COMP/R-09/H, FS-REG EVAL/R/M, FS-YOY/R/M	EXC/R/H, FS-REGS/R/H, FS-ST/O/H, MAP/R/H, CHP/R/H	
2171000LC21	Cornell Lake	LC21	2171000	31 08W 34 SE SE	Chippewa	194	39	16	BR	SE	NO	X	1C	E	47-59	WWSF	FS		IL, DEV, SEP	HAB, NUT	SH-S/O, VEG/C96, BASE/R or WC/R, FS-COMP/R-08/H, BASE/S/P-03/H, FS-STK/R/H	SR, SZ/R, CHP/R/H, FS-ST/R/M	
1845300LC21	Dog Island Lake	LC21	1845300	32 08W 35 SE SW	Chippewa	5	9			SE	YES	NO	1C			WWFF				DO			
1846600LC21	Eagle Lake	LC21	1846600	31 08W 16 NE NW	Chippewa	15	15		W	SE	NO	X	1C			WWSF	FS						
2183100LC21	Ellis Flowage	LC21	2183100	32 04W 03 SE NW	Taylor	15	5			SE	YES		2C										
1847600LC21	Evans Lake	LC21	1847600	31 08W 15 SW NW	Chippewa	12	8			SE	YES	X	1C			WWSF							
2175700LC21	Finley Lake	LC21	2175700	30 08W 01 SE SE	Chippewa	56	27		NW	DG	NO	X	1C	E	51-71	WWSF	FS		PWL,NPS,B Y,INT	TURB, NUT, ACC	VEG/C96, WC/R/L, NMR	SR, NPS/R, INT-M/R, LA-ACC	
2176200LC21	Firth Lake	LC21	2176200	31 07W 02 NW SW	Chippewa	51	18		W	SE	NO YES	X	1C			WWSF				DO	DOT/R/M		
1849200LC21	Fishpole Lake	LC21	1849200	31 08W 03 NE SE	Chippewa	20	12		W	SE	NO YES	X	1C			WWSF				DO			
2183600LC21	Flowage #3 - Pershina	LC21	2183600	32 04W 26 SW NW	Taylor	14	4			SE	YES		2C										
2178900LC21	Hay Meadow Flowage No. 1	LC21	2178900	31 08W 14 SW NE	Chippewa	24	40		BR	DG, "NLD"	YES		1C			WWSF	FS			DO	DOT/R/H, BASE/S/R/M	AER/R/M	
2180100LC21	Hay Meadow Flowage No. 2	LC21	2180100	31 08W 11 SE SW SE	Chippewa	40	9		BR	DG, "IMP"	YES		2C			WWSF				DO			
2180700LC21	Hay Meadow Flowage No. 3	LC21	2180700	31 08W 11 NE SE	Chippewa	19	4		T	DG, "IMP"	YES		2C			WWFF				DO			
2180900LC21	Hay Meadow Flowage No. 4	LC21	2180900	31 06W 11 SW NE	Chippewa	24	22		T	SE, "IMP"	YES		1C			WWSF				DO			
1853400LC21	Hemlock Lake	LC21	1853400	31 08W 16 NW SE	Chippewa	28	17		T BR	SE	YES	X	1C			WWSF	FS			DO, HG	WC/R, VEG/R, DOT/R/M		
2173300LC21	Highland Lake	LC21	2173300	32 08W 34 SW SW	Chippewa	10	16		W	SE	YES	X	1C			WWSF	FS			DO			
1854200LC21	Horseshoe Lake T31N R08W S10	LC21	1854200	31 08W 10 SW SE	Chippewa	17	16		W	SE	NO	X	1C			WWSF							
1854400LC21	Horseshoe Lake T32N R9W S25	LC21	1854400	32 9W 25	Chippewa	14.6	15		W	SE	YES	X	2B	E	57-59	WWSF				DO			
1855100LC21	Howe Lake	LC21	1855100	30 08W 14 NW NE	Chippewa	68	39	18	BR	SE	NO	X	1C	M	44-54	WWSF	FS		DEV	HG	WC/R, VEG/R, BASE/S/P-03/H	SZ/R, LA-ACC/R/H	
1856300LC21	Jeanslow Lake	LC21	1856300	32 9W 36 NW NE	Chippewa	8.6	30		T, W	SE	NO	X	1B	E	50-59	WWSF							

2168800LC21	Jir	LC21	2168800	30 08W 22 SE NW	Chippewa	58	20		SE	YES	X	C			WWSF	FS			DO, ACC		LA-ACC	
1860500LC21	Little Bass Lake	LC21	1860500	32 09W 10 SW SW	Chippewa	12	7		SE	YES	X				WWSF							
1862800LC21	Long Lake T31N R07W S05	LC21	1862800	31 07W 05 SW SW	Chippewa	22	11	W no access	SE	YES	X	2C			WWFF				DO			
2173400LC21	Lowland Lake	LC21	2173400	32 08W 33 SE SE	Chippewa	11	24	BR	SE	YES	X	1C			WWSF	FS			DO			
2171200LC21	Marsh-Miller Lake	LC21	2171200	31 08W 29 NW SW	Chippewa	436	14	7 BR	DG, IMP	NO	X	2B	E	63-74	WWSF	FS-H	RECC	EX-CP, NPS, DE V	TURB, MAC, ALG, NUT, DO	VEG/C94, WCR, WR/R, FS-COMP/R-04H, BASE/S/P-04H, DOT/R/H	APMM/R, AER/R/H, CHP/R/H, LA/R/H, LA-ACC/R/H	
2171500LC21	Mary Jane Lake No. 1	LC21	2171500	31 08W 16 SE SE	Chippewa	11	20		SE	NO	X	1C			WWSF	FS						
2171400LC21	Mary Jane Lake No. 2	LC21	2171400	31 08W 21 NE NE	Chippewa	25	15		SE	NO YES	X	1C			WWSF	FS			DO			
1867500LC21	Moon Lake	LC21	1867500	31 08W 15 NW NW	Chippewa	15	11	W	SE	YES	X	1C			WWSF				DO			
2174400LC21	Mud Lake T30N R06W S24	LC21	2174400	30 08W 24 SW SE	Chippewa	18	14		SE	YES	X	1C			WWSF				DO			
2171800LC21	Mud Lake T31N R08W S08	LC21	2171800	31 08W 08 SE NE	Chippewa	23	4		SE	YES	X	2C			WWSF				DO			
2174700LC21	Old Abe Lake	LC21	2174700	30 07W 20 SW SW	Chippewa	1072	36	BRP	DG-IMP	NO	X	2B	E	59-60	WWSF	FS-L BT-L WS-L	EX-CP, HM, WLF	HAB, HG	FS-COMP/C-89, FS-REG EVAL/R/M, FS-VOL/R/L	SZ/R/L, FS-ST/O/H, IH/R/M, WLM/R/H		
2178100LC21	Oliver Lake No. 1	LC21	2178100	31 08W 24 NW SE	Chippewa	14	32	T	SE	NO YES	X	1B		45-83	WWSF		BY	NUT, DO		WR/R		
2178200LC21	Oliver Lake No. 2	LC21	2178200	31 08W 24 SW SW	Chippewa	4	62		SE	NO	X				WWSF							
2178300LC21	Oliver Lake No. 3	LC21	2178300	31 08W 23 SE SE	Chippewa	6	48		SE	NO	X				WWSF							
1874200LC21	Pheffercorn Lake	LC21	1874200	30 07W 28 SW SE	Chippewa	15	4		SE	YES		2C			WWFF				DO			
2180500LC21	Pickeral Lake T31N R08W S01	LC21	2180500	31 08W 01 SW SE	Chippewa	15	46		SE	NO	X	1C			WWSF							
1874900LC21	Planning Lake	LC21	1874900	31 07W 08 SW NW	Chippewa	16	8		SE	YES	X	2C			WWSF				DO			
2173900LC21	Popple Lake	LC21	2173900	30 08W 25 SE NW	Chippewa	90	25	13 BR	SE-NLD	NO	X	1B	E	56-63	WWSF	FS, BT, WS	SEP	NUT	BASE/S/P-03H, FS-COMP/R-08H, FS-STK/R/H, AMR/R	CHP/R/H, FS-ST/O/H, LA/R/H, SR/R/H, MOD/R		
2171600LC21	Rock Lake T31N R08W S04	LC21	2171600	31 08W 09 SW NW	Chippewa	94	35	NW BR	DG	NO	X	1C	E	40-65	WWSF	FS		NUT, INT	SH-S/O, FS-COMP/R-09H, BASE/S/P-04H, FS-STK/R/H, SED/R	LA-ACC/R/H, MOD/R		
1880000LC21	Sand Lake	LC21	1880000	31 08W 15 NE NW	Chippewa	12	8	W	SE	YES	X	2C			WWSF				DO			
1869300LC21	Shattuck Lake, North	LC21	1869300	32 08W 25	Chippewa	39	52	BR	SE	NO YES	X	1A	E	49-55	WWSF	FS		TURB, DO, HG, NUT	BASE/S/R/M, DOT/R/H, SED/R, BASE/R/H	MOD/R		
1879300LC21	Shattuck Lake, South	LC21	1879300	32 08W 31	Chippewa	59	25	BR	SE	NO YES	X	1A	E	48-55	WWSF	FS		TURB, DO, NUT	BASE/S/P-01H, DOT/R/H, SED/R	AER/R/H, CHP/R, NPS/R, MOD/R		
2177600LC21	Smith Lake	LC21	2177600	32 07W 28 SE NW	Chippewa	5	41		SE	NO	X	1A	M	41-55	WWSF							
2183500LC21	Sotak Flowage	LC21	2183500	32 04W 26 SW NE	Taylor	75	5		DG	YES		1C			WWSF	FS					NPS/R, CHP/R	
2176500LC21	Spring Creek Flowage No. 1	LC21	2176500	32 07W 33 SW NE SW	Chippewa	18	7	BR T	DG	YES		2C			WWFF							
2177300LC21	Spring Creek Flowage No. 2	LC21	2177300	32 07W 33 NW NE SW	Chippewa	19	4	BR T	DG	YES		2C			WWFF							
1883300LC21	Stanley Lake	LC21	1883300	31 08W 15 NE SE	Chippewa	12	12		SE	NO	X	1C			WWSF							
2172800LC21	Town Line Lake	LC21	2172800	32 08W 33 NE SW	Chippewa	48	26	BR	SE	NO YES	X	1A	E	37-57	WWSF	FS		TURB, DO, NUT	VEG/C96, DOT/R/H, BASE/S/P-04H	AER/R/H		

1886300LC21	Tram Lake	LC21	1886300	31 08W 02 SW SE	Chippewa	20	34		W	SE	NO YES		1C	M	44-53	WWSF	FS-L BT-L SW-L WS- H			DO	BASE/R/M-L, VEG/R/M-L	NPS/R, CHP/R	
1913400LC21	Unnamed Lake T32N R8W S33 NWSW	LC21	1913400	32 08W 33 SW NW SW	Chippewa	4	27						1C										
2184400LC21	Unnamed T31N R07W S13-3 (local name Peroh Lake)	LC21	2184400	31 07W 13 NW NE	Chippewa	14	7		R	SE	NO		2C			WWSF	FS		HM	WLF		WLM/R/H	
1896500LC21	Unnamed T31N R08W S22-3	LC21	1896500	31 08W 22 SW NE	Chippewa	11	10				YES		1C										
2177400LC21	Unnamed T32N R07W S28-9	LC21	2177400	32 07W 28 NE SW	Chippewa	11	23				NO		1C										
2043700LC21	Upper Twin Lake	LC21	2043700	30 08W 11 NE SE	Chippewa	36	25			SE	NO	X	1C			WWSF	FS			ACC		LA-ACC/R/M	
1846500LC21	Weeks Lake, East	LC21	1846500	32 08W 25 SE SE	Chippewa	4	7		W	SE	YES	X	1C			WWFF				DO			
2044900LC21	Weeks Lake, West	LC21	2044900	32 09W 25 SW SE	Chippewa	5	11		W	SE	YES	X	1B		52-55	WWSF				DO			
2152800LC21	Wissola Lake	LC21	2152800	28 08W 03 SE NW	Chippewa	6300	72		BR BF, P	DG-IMP	NO	X	1B		53-64	WWSF	FS-H, BT- H, SW-M, WS-H	ASSC	HM, CL, SB, PSB, SEP, DEV, WLF	WLF, DEV, EX-CP (these should be under source) HAB, SED, NUT, ALG, TURB, HG	SH-E/O, VEG/C'90, FS- COMP/R-'02/H, BASE/S/P-'02/H, FS-REG EVAL/R/H, FS- YOY/R/H	WLM, CHP, BS/R/H, CHP/R/H, FS- REGS/R/H, FS- ST/O/H, IHI/R/H, LA/R/M, NPS/R/H, SR/R/M, WLM/R/H	
2184100LC21	Witt Flowage	LC21	2184100	32 04W 24 NW SE	Taylor	72	5			SE	YES		2C										

Last Updated on 12/06/2000

By Wisconsin DNR

LC07

ID Code	Stream Name	Watershed Code	WB ID Code	Town Range Section	County	Coldified Use	Existing Use	Attainable Use	Supporting Use	Assessment	Trend	Integrity Indicator / Result	Data Level	Source	Impact	Monitoring Recd./Status/Date	Management Recd./Status/Date	Refs.
2084700LC07	Beaver Creek	LC07	2084700	31 11W 26 SE SW	Chippewa, Dunn	DEF	Cold Ia /4.0	Cold Ia /4.0	PART/4	E	U		B2 H P/C T	BDAM, PSB, OBS-N	MIG, HAB	BASE/R	BC, FE, IHI	FH-1994
2083300LC07	Broken Creek	LC07	2083300	30 11W 33 NE SW	Dunn	Cold II/4.5	Cold II/4.5	UNK/4.5	UNK/4.5	U	U		B H P/C T			BASE/R		
2088600LC07	Cruikshank Creek	LC07	2088600	32 11W 27 NW SE	Barron	DEF	WWFF/2	WWFF/2	UNK/2	E	D		B1 H1 P/C T	PSB, CL	HAB		AB/R/L	
2088100LC07	East Branch Upper Pine Creek	LC07	2088100	32 12W 14 NW NE	Barron	Cold II	Cold II/3.5	Cold II/3.5	PART/3.5	E	S		B1 H1 P/C T	BDAM, PSB, CL	HAB	FS-Other/R/M	AB/R/M	
2083900LC07	Eddies Creek	LC07	2083900	30 11W 16 NE NW	Dunn	DEF	UNK/2	UNK/2	UNK/2	U	U		B H P/C T	BDAM	HAB			
2082400LC07	Eighteen Mile Creek	LC07	2082400	29 11W 16 NE NW	Chippewa, Dunn	ERW Cold II/3.5 Cold II/2.0	Cold Ia/1.9 Cold IIb/ 5.0	Cold Ia/1.9 Cold IIa/ 5.0	PART/6.9	M	I	IBI-C/G HAB/G	B4 H4 P/C1 T	HM-DM(BEAVER), SB, FL, URB	HAB, TEMP, SED	BASE/R	AB, BC, BS, FL, UB, FS-STK/EVAL, IHI, LA, FE	FH-1997
2084900LC07	Hay Creek	LC07	2084900	31 11W 27 NE SE	Dunn	Cold II/8.4	Cold IIb/8.4	Cold IIa/8.4	PART/8.4	E	I		B H P/C T	PSB	HAB, SED, TEMP	BASE/R	FS-STK/EVAL	FH-1961
2085300LC07	Lower Pine Creek	LC07	2085300	31 11W 23 NW NE	Barron, Dunn	Cold III	Cold III/3.6 WWFF/8	Cold III/3.6 WWFF/8	PART/11.6	M	U S		B1 H1 P/C T	BDAM, PSB, BY, NPS	BAC, HAB, TEMP, SED	BASE/R	FS-STK/EVAL, AB/R/M	FH-1971
2088200LC07	North Branch Upper Pine Creek	LC07	2088200	32 12W 11 SW NE	Barron	Cold II	Cold II/2.5	Cold II/2.5	PART/2.5	E	S		B1 H1 P/C T	BDAM, PSB, CL	HAB	FS-Other/R/M	AB/R/M	
2084500LC07	Poppo Creek	LC07	2084500	30 11W 04 SE SW	Dunn	Cold II/4.5	Cold IIa/4.5	Cold IIa/4.5	PART/4.5	E	U		B2 H P/C T	SED	TEMP, SED, HAB	BASE/R	FS-STK/EVAL	FH-1972
2063500LC07	Red Cedar River	LC07	2063500	26 12W 30 SE NW	Sawyer, Barron, Dunn, Washburn		WWSF/40	WWSF/40	FULLY/40	M		IBI-W/E HAB/G	B4 H4 P/C T	FL, SB, NPS, CL	NUT, DO, HAB	FS-COMP/IBI, HAB, F U/1992	AB, BS, FE, NPS, PLAN, PROT	FH-1992
2082700LC07	Running Valley Creek	LC07	2082700	29 11W 11 SE SE	Dunn, Chippewa	Cold II/4.0	Cold IIb/4	Cold IIa/4	PART/4	M	U	IBI-C/P HAB/G	B4 H4 P/C1 T	HM-DR, PSB, HM-DM(BEAVER)	TEMP, SED, HAB	FS-COMP/IBI, HAB, F U/1997	AB, BC, FE	FH-1997
2086100LC07	Sand Creek	LC07	2086100	31 11W 14 SE SE	Dunn, Chippewa	ERW Cold II/1.5 ERW Cold I/5.0	Cold I/6 Cold II/1.5	Cold I/7.5	PART/1.5 FULLY/6 FULLY/7.5	E M	D		B4 H P/C T	PSB, CE, BY, BDA M (do no see CE as a source) CL, EX-PL, EX-RC, OBS-N, OBS-M	SED, HAB, MAC, MIG, COM	FS-COMP/IC-96, BASE/R	AG/R/M, BC/R/H, EXC/R/H, FE/R/H, FS-REGS EVAL/R/M, IHI/R/M, LA/R/H	FH-1996
2088700LC07	Sioux Creek	LC07	2088700	32 11W 22 NE NW	Barron	DEF	WWFF/4	WWFF/4	PART/4	E	S		B1 H1 P/C T	PSB	HAB, SED		AB/R/M	
2085600LC07	South Fork Lower Pine Creek	LC07	2085600	32 12W 28 SE SW	Barron, Dunn	Cold II/3.2 Cold III	Cold IIb/3.2 Cold III/2.1	Cold II/3.2 Cold III/2.1	PART/5.3	M	U S		B H P/C T	PSM, NPS, PSB, BY	DO, BAC, HAB	BASE/R	AB/R/M	FH-1971
2084300LC07	South Fork Trout Creek	LC07	2084300	30 10W 08 SW SW	Chippewa		UNK/4	UNK/4	UNK/4	U	U		B H P/C T			BASE/R		
2086300LC07	Spring Brook	LC07	2086300	31 10W 18 NE NE	Chippewa	ERW Cold I/2.3	Cold I/2.3	Cold I/2.3	FULLY-THR/2.3	E M	S		B4 H P/C T	BDAM, BY, PSB, EX-RC, OBS-M, OBS-N	HAB, SED, MAC, MIG, COM	FS-COMP/IC-96, BASE/R	BC/R/H, EXC/R/H, FE/R/H, FS-REGS EVAL/R/M, IHI/R/M, LA/R/H	FH-1996
2085900LC07	Spring Creek	LC07	2085900	32 12W 29 SE NW	Barron	Cold II	Cold II/0.5 WWFF/3.5	Cold II/0.5 WWFF/3.5	PART/4	E	S		B1 H1 P/C T	FL, PSB	HAB, SED, TURB		AB/R/M	
2088900LC07	Tiller Creek	LC07	2088900	32 11W 15 SE SW	Barron	DEF	WWFF/4	WWFF/4	FULLY/4	E	S		B1 H1 P/C T	PSB			AB/R/M	
2084000LC07	Trout Creek	LC07	2084000	30 11W 09 SW NE	Dunn, Chippewa	Cold III/2.3	Cold III/2.3	Cold III/2.3	PART/2.3	E	U		B H P/C T	PSB	HAB	BASE/R		FH-1971
2087300LC07	Upper Pine Creek	LC07	2087300	31 11W 03 NE SW	Barron, Dunn	ORW WWSF	Cold I/2.5 Cold II/1 WWSF/16.5	Cold I/2.5 Cold II/1 WWSF/16.5	THR/3.5 FULLY/16.5	E	U S		B1 H1 P/C T	BY, FL, SB, PSB, H M-DM	HAB, SED, TEMP	BASE/R/FS-Other/R/H	AB/R/H, DR/R/H, FE/R/H	

A2-30

2083150LC07	Creek 12-13, Trib. To 18 Mile Ck.	LC07	2083150	29 11W 12 NE SE	Dunn, Chippewa		Cold IIb/0.1	Cold IIa/0.1	PART/0.1	M	I	IBI-C/G HAB/G	B4 H4 P/C1 T	NPS	HAB, SED, TEMP	FS-COMP, IBI, HAB, F I/1997	AB	FH-1997
	Creek 11-16, Trib. To 18 Mile Ck.	LC07		29 11W 11 SE SE	Dunn, Chippewa		Cold IIb/3.0	Cold IIa/3.0	PART/3.0	M	I	IBI-C/G HAB/G	B4 H4 P/C1 T	NPS	HAB, SED, TEMP	FS-COMP, IBI, HAB, F I/1997	AB	FH-1997
2082650LC07	Creek 15-1, Trib to 18 Mile Ck.	LC07	2082650	29 11W 15 NE NE	Dunn		Cold IIb/2.6	Cold IIa/2.6	PART/2.6	M	I	IBI-C/F HAB/G	B4 H4 P/C1 T	NPS	HAB, SED, TEMP	FS-COMP, IBI, HAB, F I/1997	AB	FH-1997
2082620LC07	Creek 16-4, Trib to 18 Mile Ck.	LC07	2082620	29 11W 16 NE NE	Dunn		WWFF/1.8	WWFF/1.8	PART/1.8	M	U	IBI-C/P HAB/F	B4 H4 P/C1 T	NPS, HM-DR, PSS	HAB, SED, TEMP	FS-COMP, IBI, HAB, F I/1997	AB	FH-1997
2082800LC07	Creek 1-12, Trib. To Running Valley Ck.	LC07	2082800	29 11W 01 SE SW	Dunn, Chippewa		Cold IIb/0.9	Cold IIa/0.9	PART/0.9	M	I	IBI-C/G HAB/F	B4 H4 P/C1 T	NPS	HAB, SED, TEMP	FS-COMP, IBI, HAB, F I/1997	AB	FH-1997
2083000LC07	Creek 1-8, Trib. To Running Valley Ck.	LC07	2083000	29 11W 08 SW NW	Dunn		Cold IIb/2.8	Cold IIa/2.8	PART/2.8	M	I	IBI-C/G HAB/G	B4 H4 P/C1 T	NPS	HAB, SED, TEMP	FS-COMP, IBI, HAB, F I/1997	AB	FH-1997
2086400	Creek 8-3, Trib to Sand Ck	LC07	2086400	30 10W 08 SW NE	Chippewa	ERW Cold I/1.5	ERW Cold I/1.5	Cold I/1.5	FULLY-THR/1.5	E	S			BY, CL, EX-RC, PSB, BDAM, OBS-N	HAB, MAC, SED, COM	BASE/R	AB/R/H, BC/R/H, EXC/R/H, FE/R/H, HI/R/M, LA/R/H	
	22 Unnamed Streams						WWFF/38 WWSF/40 Cold III/10 Cold II/37.1 Cold I/12.2 UNK/9	WWFF/38 WWSF/40 Cold III/10 Cold II/22.5 Cold I/17.7 UNK/18	FULLY/68.8 PART/39.3 NOT/THR/14.2 UNK/24									

Last Updated on 12/06/2000
By Wisconsin DNR

LC13

A2-32

ID Code	Stream Name	Watershed Code	WBID Code	Town Range Section	County	Codified Use	Existing Use	Attainable Use	Supporting Use	Assessment	Trend	Integrity Indicator/Result	Data Level	Source	Impact	Monitoring Recd./Status/Data Bank	Management Recd./Status/Data Bank	Refs
2121900LC13	Big Elk Creek	LC13	2121900	28 10W 08 NE SW	Chippewa, Dunn	ERW Cold I/4.9	Cold I/4.9	Cold I/4.9	FULLY-THR/4.9	E M	S		B4 H P/C T	BDAM, PSS, BY, CL, OBS-N, OBS-M	SED, HAB, MIG	BASE/R, FS-COMP/C-97, FS-REGS EVAL/R	AB, BC, NPS, IHI, LA, FE, FS-REGS EVAL, PLAN, PROT, BS	FH-1996
2050000LC13	Chippewa River	LC13	2050000	22 14W 04 SE	Rusk, Dunn, Sawyer, Pepin, Buffalo, Eau Claire, Chippewa	DEF	WWSF/32	WWSF/32	PART/32	E M	S	IBI-W/E	B H P/C T	SB, URB, HM-DM, NPS, DEV, NMM	BAC, HAB, NUT, FLOW, HAB, MIG, SED, HG	BASE/C-00, FL/R, FS-OTHER	AB, BFR, BS, FS-PS, FS-Regs Eval, IHI, LA, NPS, PROT, ES	FH-2000, LCRSNA
2121700LC13	Creek 17-11 (Trib to Elk Creek)	LC13	2121700	28 10W 17 NW SW	Chippewa	ERW Cold I/3.0	Cold I/3.0	Cold I/3.0	FULLY-THR/3.0	M	U		B4 H P/C T	OBS-M, OBS-N, BDAM, HM-DR, NPS, SB	HAB, SED, MAC, MIG	FS-COMP/C-97, BASE/R	AB, BC, FS-PS, IHI, LA, NPS	FH-1996
	Creek 2-8 (Trib to Big Elk Creek)	LC13		28 11W 02 SE NW	Dunn		Cold I/1.9	Cold I/1.9	FULLY-THR/1.9	M	U		B4 H P/C T	DEV, OBS-N, CL	HAB, SED	FS-COMP/C-97, BASE/R	AB, BC, IHI, LA	FH-1997
2122200LC13	Creek 04-01 (Trib to Elk Creek)	LC13	2122200	28 10W 04 NW NE	Chippewa	ERW Cold I/1.7	Cold I/2.1	Cold I/2.1	FULL/2.1	M	U		B4 H P/C T	BDAM, HM-DR, NPS, SB, OBS-N, OBS-M	HAB, SED, MIG	FS-COMP/C-97, BASE/R	AB, BC, BS, FS-PS, IHI, LA, NPS	FH-1997
2122300LC13	Creek 35-12 (Trib to Elk Creek)	LC13	2122300	29 10W 35 SE SW	Chippewa	ERW Cold I/2.5	Cold I/5.3	Cold I/5.3	FULLY-THR/5.3	M	D		B4 H P/C T	BY, FL, HM-DR, PSB, SB, BDAM, OBS-M, OBS-N, CL	HAB, MAC, MIG, SED, TEMP, TURB	FS-COMP/C-97, BASE/R, FS-REGS EVAL	AB, BC, BS, FC, FE, FS-PS, FS-REGS EVAL, IHI, LA, NPS, WR	FH-1997
2122100LC13	Creek 5-16 (Trib to Elk Creek)	LC13	2122100	28 10W 05 SE SE	Chippewa	ERW Cold I/1.8	Cold I/2.8	Cold I/2.8	FULL/2.8	M	U		B4 H P/C T	NPS, BDAM, OBS-N, OBS-M	HAB, SED, MIG	FS-COMP/C-97, BASE/R	AB, BC, FS-PS, IHI, LA, NPS	FH-1997
2120800LC13	Elk Creek	LC13	2120800	27 11W 36 SE NW	Eau Claire, Chippewa, Dunn	ORW Cold I/10.8, ERW Cold I/3.0	Cold I/13.8 Cold I/3.9	Cold I/13.8 Cold I/3.9	FULLY-THR/17.7	E M	I		B4 H P/C T	CE, BDAM, SB, BY, CL, FL, PSB, OBS-M, OBS-N, HM-DM	HAB, SED, MAC, MIG, TURB	BASE/R, FS-COMP/C-97, FS-REGS EVAL/R	AG, BC, IHI, LA, FE, BS, DR, FC, NPS, FS-REGS EVAL, PLAN, PROT	FH-1997
2118400LC13	Iron Creek	LC13	2118400	27 11W 07 SW SE	Dunn	DEF	WWFF/5	WWFF/5	PART/5	E			B H P/C T		HAB, SED, TEMP	BASE/R/	AB	
2118300LC13	Muddy Creek	LC13	2118300	26 11W 08 NW NW	Dunn	Cold II/2.5 Cold III/3.5	Cold II/2.5 Cold III/3.5 WWFF/20	Cold II/2.5 Cold III/3.5 WWFF/20	PART/26	E			B H P/C T	FK	HAB, SED, TEMP	BASE/R/	AB	FH-1971
2125100LC13	Sherman Creek	LC13	2125100	27 10W 25 NE NE	Eau Claire	DEF	WWFF/14	UNK/14	UNK/14	E U	U		B H P/C T	URB, HM, RDAM, SB	HAB, SED	BASE/R/	UB	
	14 Unnamed Streams						WWFF/39 WWSF/32 Cold III/3.5 Cold I/18.7 UNK/	WWFF/25 WWSF/32 Cold III/3.5 Cold I/18.7 UNK/14	FULLY/63 PART/ NOT/ THR/22.6 UNK/14									

LC15

ID Code	Stream Name	Watershed Code	WB ID Code	Town Range Section	County	Codified Use	Existing Use	Attainable Use	Supporting Use	Assessment	Trend	Integrity Indicator / Result	Data Level	Source	Impact	Monitoring Rec./Status/Date/Rank	Management Rec./Status/Date/Rank	Refs
2135700LC15	Black Creek	LC15	2135700	26 05W 32 SW NE	Eau Claire, Clark	Cold III/9.0	Cold III/9	UNK/9	UNK/9	E U	U	HBI/G	B2 H P/C T	HM-DM, BDAM	TEMP	BUG/C/1995, AMB/C/1995, BASE/R, CT/R		
2133400LC15	Cold Creek	LC15	2133400	27 06W 27 SE NW	Eau Claire	Cold II/0.8	Cold II/0.8	UNK/0.8	UNK/0.8	U	U		B H P/C T			BASE/R		
2135100LC15	Coon Fork Creek	LC15	2135100	26 05W 17 SW SW	Eau Claire		UNK/7	UNK/7	UNK/7	U	U		B H P/C T			BASE/R		
2135000LC15	Coon Gut Creek	LC15	2135000	26 05W 13 NE SF	Eau Claire	Cold II/1.2	Cold II/1.2	UNK/1.2	UNK/1.2	U	U		B H P/C T			BASE/R		
2136500LC15	Creek 10-6 (Schoolhouse Cr. Tributary)	LC15	2136500	24 05W 10 NW NW	Jackson	Cold III/0.6	WWFF/1.5	WWFF/1.5	FULLY/1.5	E	S					BASE/R		FH-1994
2133500LC15	Darrow Creek	LC15	2133500	27 06W 22 NE SW	Eau Claire	ERW Cold I/1.4	Cold I/1.4	UNK/1.4	UNK/1.4	U	U		B H P/C T			BASE/R		
2125600LC15	Eau Claire River	LC15	2125600	27 09W 20 NE NW	Eau Claire	WWSF	WWSF/12	WWSF/12	FULLY/12	U	U	U	B H P/C T	DEV, HM-DM, SB	MIG, SED	Comp/R/2001/H, BASE/R	FS-PS, PLAN, PROT, BS,	
2134800LC15	Halfway Creek	LC15	2134800	26 06W 12 NE SW	Eau Claire	Cold II/3.0	Cold II/3	UNK/3	UNK/3	U	U		B H P/C T			BASE/R		
2133300LC15	Hay Creek	LC15	2133300	26 06W 03 NE NW	Eau Claire, Chippewa	DEF	WWFF/11	WWFF/12	WWFF/13	E	U	HBI/G	B2 H P/C T			BUG/C/1995, BASE/R		FH-1975
2136000LC15	McGaver Creek	LC15	2136000	25 05W 26 NW NW	Eau Claire	Cold II/1.8	Cold II/1.8	UNK/1.8	UNK/1.8	U	U		B H P/C T			BASE/R		
2134200LC15	Muskrat Creek	LC15	2134200	26 06W 03 NW NE	Eau Claire, Chippewa	Cold II/3.0	Cold II/3	UNK/3	UNK/3	E U	U	HBI/G	B2 H P/C T			BUG/C/1995, BASE/R		
2135200LC15	Pea Creek	LC15	2135200	26 05W 20 NE SW	Eau Claire		UNK/4	UNK/4	UNK/4	U	U		B H P/C T			BASE/R		
2135900LC15	Schoolhouse Creek	LC15	2135900	25 05W 15 NE SE	Jackson, Eau Claire	Cold II/3.8 WWSF/3.3	Cold I/4.3 WWFF/3.3	Cold I/4.3 UNK/3.3	FULLY 7.6	E	S	HBI/G	B2 B4 H P/C T	HM-DM, BDAM, PSB	SED, TEMP, HAB, MIG	BUG/C/1995, BASE/R	AS, BC, DR, FE, FS-PS	FH-1994
2134900LC15	Whippoorwill Creek	LC15	2134900	26 05W 18 SW NW	Eau Claire	Cold II/2.2	Cold II/2.2	UNK/2.2	UNK/2.2	U	U		B H P/C T			BASE/R		
	11 Unnamed Streams						WWSF/12 Cold III/3 Cold II/19.5 Cold I/1.4 UNK/32	WWSF/12 Cold III/ Cold I/ Cold I/ UNK/61.9	FULLY/12 PART/ NOT/ THRU UNK/ 51.9									

Last Updated on 12/06/2000
By Wisconsin DNR

ID Code	Stream Name	Watershed Code	WB ID Code	Town Range Section	County	Codified Use	Existing Use	Attainable Use	Supporting Use	Assessment	Trend	Integrity Indicator / Result	Data Level	Source	Impact	Monitoring Recd./Status/Data Affected	Management Recd./Status/Data Affected	Refs
2145500LC17	Beeman Creek	LC17	2145500	28 05W 10 NE NE	Eau Claire	Cold II/2.2	Cold II/2.2	UNK/2.2	UNK/2.2	U	U		B H P/C T			BASE/R, CTR		
2148800LC17	Goggle-Eye Creek	LC17	2148800	28 04W 22 SE SE	Clark		WWFF/7	WWFF/7 UNK/7	FULLY/7 UNK/7	E U	U		B H P/C T			BASE/R		
2147300LC17	Little Otter Creek	LC17	2147300	28 05W 23 SE SE	Clark, Chippewa		WWFF/6	WWFF/6 UNK/6	FULLY/6 UNK/6	E U	U		B H P/C T	PSB, SB	HAB	BASE/R		
2145900LC17	Loper Creek	LC17	2145900	27 05W 14 SE SW	Eau Claire	Cold II/1.8	Cold II/1.8	UNK/1.8	UNK/1.8	U	U		B H P/C T			BASE/R, CTR		
2148700LC17	McGrogan Creek	LC17	2148700	28 04W 03 NE NE	Clark		WWFF/3	WWFF/3	FULLY/3	E U	U		B H P/C T	PSI	PDR	BASE/R		
2145400LC17	North Fork Eau Claire River	LC17	2145400	28 05W 15 SE SW	Clark, Eau Claire, Taylor		WWSF/56	WWSF/56	FULLY/56	M U	U		B2 H1 P/C1 T	FLOW, DO, SED, PSM, NPS	FLOW, DO, SED, PDR	BASE/R	AB	
2148300LC17	Robinson Creek	LC17	2148300	27 04W 16 NW SW	Clark		UNK/2	UNK/2	UNK/2	U	U		B H P/C T			BASE/R		
2146600LC17	Roger Creek	LC17	2146600	28 05W 01 SE SE	Clark, Chippewa		UNK/7	UNK/7	UNK/7	U	U		B H P/C T			BASE/R		
2145600LC17	Shambaugh Creek	LC17	2145600	27 05W 34 NE SE	Eau Claire	Cold II/1.8	Cold II/1.8	UNK/1.8	UNK/1.8	U	U		B H P/C T			BASE/R, CTR		
2147800LC17	Simes Creek	LC17	2147800	27 05W 13 SW NE	Clark, Eau Claire		WWFF/3	WWFF/3 UNK/3	WWFF/3 UNK/3	E U	U		B H P/C T			BASE/R		
2148500LC17	Sterling Creek	LC17	2148500	28 04W 27 NE SE	Clark	Cold III/3.5	Cold III/3.5	Cold III/3.5 UNK/3.5	FULLY/3.5 UNK/3.5	E U	U		B H P/C T			BASE/R, CTR		FH-1975
2146100LC17	Swan Creek (Swim Creek)	LC17	2146100	27 05W 02 SE SE	Chippewa, Eau Claire	ERW Cold I/2.6, Cold II/1.0	Cold I/2.6 Cold II/1	Cold I/2.6 Cold II/1	FULLY/3.6 UNK/3.6	E U	U		B H P/C T	BDAM, PSB, SB		BASE/R, CTR	FE, BC, LA	
2146000LC17	Wolf River	LC17	2146000	27 05W 14 SW NE	Taylor, Clark, Eau Claire, Chippewa		WWFF/2.5 UNK/30.5	WWFF/2.5 UNK/30.5	FULLY/2.5 UNK/30.5	M U	U		B H P/C T	PSB, BDAM, HM-DM, PSI	DO, SED, HAB, MIG	BASE/R	AB	
	10 Unnamed Streams						WWFF/21.5 WWSF/56 Cold III/3.5 Cold II/2.6 UNK/39.5	WWFF/21.5 WWSF/56 Cold III/3.5 Cold II/1 Cold I/2.6 UNK/45.3	FULLY/84.6 PART NOT THR UNK/45.3									

Last Updated on 12/05/2000
By Wisconsin DNR

LC18

ID Code	Stream Name	Watershed Code	WBID Code	Town Range Section	County	Confined Use	Existing Use	Attainable Use	Supporting Use	Assessment	Trend	Integrity Indicator/Result	Data Level	Source	Impact	Monitoring Recd./Status/Date	Management Recd./Status/Date	Refs	
2150300LC18	Beaver Creek	LC18	2150300	28 09W 10 SW SE	Chippewa		Cold I/3	Cold I/3	UNK/3	E	U	HBI/E	B2 H P/C2 T	SB,CE,FL	SED,HAB	DO/C/1991, BUG/C/1990, FS-COMP/C/1991, BASER, CT/R	BS, FL, AB	WRM 1992, WR-1991	WR-1991
2050000LC18	Chippewa River	LC18	2050000	22 14W 04 SW SE	Rusk, Dunn, Sawyer, Pepin, Buffalo, Eau Claire, Chippewa		WWSF/11.5	WWSF/11.5	FULLY/11.5 PART/11.5	M	S		B4 H3 P/C3 T	URB,SB, HM-DM, DEV, NPS, PSI, PSM, FL	SED, MIG, FLOW, HAB, HG	AMB/O/2000, Comp/C/2000, BASE/C-00, FS-OTHER, FS-REGS EVAL, FL/R	FS-PS, PROT, BFR, FS-PS, FS-REGS, IHI, PDR, UB	FH-2001, FH2000	
2152300LC18	Como Creek	LC18	2152300	30 09W 06 NW SE	Chippewa	ERW Cold I/2.8	Cold I/2.8	Cold I/2.8	UNK/2.8	E U	U	HBI/F	B2 H P/C2 T	BDAM, BY, PSB, CL, OBS-N	HAB, TEMP, SED, DO, MIG	BUG/C/1990, DO/C/1991, CT/C/1991, FS-COMP/C/1991, BASER, CT/R	LA, FE, BS, AB, BC, IHI	WRM 1992	
2150600LC18	Duncan Creek	LC18	2150600	28 09W 06 SE SE	Chippewa	ORW Cold I/8.5, DEF/19.7	Cold I/8.5 WWSF/19.7	Cold I/8.5 WWSF/19.7	FULLY-THR/15.7 NOT/12.5	E M (partial)	S	HBI/G	B2 B3 H P/C T	BY,SB, HM,CE, URB, PSM, EX-RC, CL, PSB, OBS-N, BDAM	SED, HAB, COM, MIG, Ph, TEMP	BUG/C/1990, DO/C/1999, CT/C/1999, BASER, CT/R, FS-REGS EVAL, FS-COMP, FS-HAB	PLAN, PROT, BS, LA, IHI, FE, AB, BC, EXC, FS-BRS, FS-REGS, FS-ST, UB, DR	WRM 1992, FH-1995	
2151500LC18	Hay Creek	LC18	2151500	30 09W 33 SW SE	Chippewa	Cold I/8.0	Cold I/6	Cold I/6	PART/6	E M	I	HBI/G	B2 B4 H P/C2 T	BDAM, BY, CE, PSB, CUL, CL, OBS-M, FL	SED, HAB, TEMP, MIG	BUG/C/1990, DO/C/1991, CT/C/1991, BASER, CT/R, FS-STK EVALC-'95, FS-COMP/R, FS-REGS EVAL	PLAN, PROT, IHI, AB, BC, FC, FE, FS-REGS, IHI, LA	WRM 1992, FH-1995	
2151400LC18	Little Hay Creek	LC18	2151400	28 09W 04 NW NE	Chippewa		WWFF/11.8	Cold I/1.8	NOT/1.8	E	U	HBI/G	B2 H P/C T	SB,CE,PSB, BY, BDAM, OBS-N, CL	HAB, DO, TEMP, SED, TURB	BUG/C/1990, DO/C/1991, CT/C/1991, FS-COMP/C/1991, BASER, CT/R	IHI, LA, FS-ST, AB, FE	WRM 1992, WR-1991	
2152400LC18	North Fork Como Creek 1-16 (Trib to Como Creek)	LC18	2152400	30 10W 01 SE SE	Chippewa	ERW Cold I/1.0	Cold I/3	Cold I/3	UNK/3	U	U		B H P/C T	PSB, BDAM, BY, CL	SED, HAB, TEMP, MIG	BASER, CT/R	AB, BC, FE, IHI, LA		
2151300LC18	Tilden Creek	LC18	2151300	29 09W 13 SW NW	Chippewa		WWFF/5	WWFF/5 Cold I/5	FULLY/5 NOT/5	E	U	HBI/G	B2 H P/C T	BY,PSB,CE, CL	DO, HAB, SED, NH-3	BUG/C/1990, DO/C/1991, FS-COMP/C/1991, BASER, CT/R	AB, FE, LA, IHI, FS-ST	WRM 1992, WR-1991	
2150400LC18	Trout Creek	LC18	2150400	28 09W 10 SW NE	Chippewa	ERW Cold I/2.8	Cold I/2.8	Cold I/2.8	FULLY-THR/2.8	E	U	HBI/G	B2 H P/C T	FL,SB,CE,PSB, BY,	SED, HAB, TEMP, TURB	BUG/C/1990, DO/C/1991, CT/C/1991, FS-COMP/C/1991, BASER, CT/R	AB, BS, FL, FE, IHI	WRM 1992, WR-1991	
2151550LC18	Creek 32-3 (Trib to Hay Creek)	LC18	2151550	30 09W 32 SW NE	Chippewa	ERW Cold I/1.4	Cold I/1.4	Cold I/1.4	FULLY-THR/1.4	M	U		B3 H P/C T	PSB, CL, BDAM	HAB, SED	BASER, CT/R, FS STK EVALC-'95	AB, FE, BC, LA	FH-1995	
2151600LC18	Creek 36-6 (Trib to Hay Creek)	LC18	2151600	30 10W 36 NW NW	Chippewa	ERW Cold I/1.0	Cold I/1.0	Cold I/1.0	FULLY-THR/1.0	M	U		B3 H P/C T	CL, OBS-N, BDAM	HAB, SED	BASER, CT/R, FS STK EVALC-'96	AB, BC, LA	FH-1996	
	7 Unnamed Streams						WWFF/20.3 WWSF/17.7 Cold/3 Cold I/14.1	WWFF/6 WWSF/17.7 Cold/ Cold I/20.3 Cold I/17.1	FULLY/16.5 PART/3 NOT/14.3 THR/27.3										

Last Updated on 12/06/2000

ID Code	Stream Name	Watershed Code	WBID Code	Town-Range-Section	County	Confined Use	Existing Use	Attainable Use	Supporting Use	Assessment	Trend	Integrity Indicator/Result	Data Level	Source	Impact	Monitoring Recd./Status/Dat	Management Recd./Status/Dat	Refs
2154000LC19	Alder Creek	LC19	2154000	28 06W 30 SE NE	Eau Claire, Chippewa		UNK/3	UNK/3	UNK/3	U	U		B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2154600LC19	Big Drywood Creek	LC19	2154800	29 07W 28 NE NE	Chippewa		UNK/16	UNK/16	UNK/16				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2153600LC19	Brown Creek	LC19	2153600	28 07W 23 NE NW	Chippewa		UNK/3	UNK/3	UNK/3				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2155000LC19	Chap Creek	LC19	2155000	29 06W 05 SW NE	Chippewa		UNK/3	UNK/3	UNK/3				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2153700LC19	Clear Creek	LC19	2153700	28 07W 23 NE NE	Chippewa		UNK/4	UNK/4	UNK/4				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2156300LC19	Coldwater Creek	LC19	2156300	29 05W 06 NE SE	Chippewa		UNK/3	UNK/3	UNK/3				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2154600LC19	Drywood Creek	LC19	2154600	29 07W 33 NE SW	Chippewa		UNK/4	UNK/4	UNK/4				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2154700LC19	Duloh Creek	LC19	2154700	29 07W 28 SW SE	Chippewa		UNK/4	UNK/4	UNK/4				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2152900LC19	Frederick Creek	LC19	2152900	28 08W 14 SE NE	Chippewa		UNK/2	UNK/2	UNK/2				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2157700LC19	Hay Creek	LC19	2157700	30 05W 04 NW NW	Chippewa		UNK/11	UNK/11	UNK/11				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R, CT/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2155900LC19	Hennon Creek	LC19	2155900	29 06W 32 SE NE	Chippewa		UNK/3	UNK/3	UNK/3				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2155200LC19	Iron Creek	LC19	2155200	29 07W 16 SW NW	Chippewa		UNK/2	UNK/2	UNK/2				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2156100LC19	Lotz Creek	LC19	2156100	29 06W 33 SE NE	Chippewa		UNK/4	UNK/4	UNK/4				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2155100LC19	Little Drywood creek	LC19	2155100	29 07W 28 NE NE	Chippewa		UNK/19	UNK/19	UNK/19				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R, CT/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2156900LC19	Oiler Creek	LC19	2156800	30 05W 04 NW SE	Chippewa, Taylor		UNK/19	UNK/19	UNK/19				B H P/C T	PSB, NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2153200LC19	Paint Creek	LC19	2153200	28 07W 07 NW SE	Chippewa		UNK/21	UNK/21	UNK/21				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R, CT/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2157800LC19	Pike Creek	LC19	2157800	30 05W 05 NW NW	Chippewa		UNK/5	UNK/5	UNK/5				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2153300LC19	South Fork Paint Creek	LC19	2153300	28 07W 16 NW SW	Chippewa, Eau Claire		UNK/6	UNK/6	UNK/6				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R, CT/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2154900LC19	Seth Creek	LC19	2154900	29 07W 14 NW SE	Chippewa		UNK/7	UNK/7	UNK/7				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R, CT/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2154200LC19	Sherman Creek	LC19	2154200	28 06W 29 NW SW	Chippewa		UNK/4	UNK/4	UNK/4				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R, CT/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2153500LC19	Silver Creek	LC19	2153500	28 07W 15 SW SE	Chippewa		UNK/3	UNK/3	UNK/3				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2156000LC19	Slaughterhouse Creek	LC19	2156000	28 06W 33 NW SW	Chippewa		UNK/1	UNK/1	UNK/1				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2153000LC19	Sillson Creek	LC19	2153000	28 08W 13 SW NW	Chippewa		UNK/3	UNK/3	UNK/3				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2156200LC19	Turner Creek	LC19	2156200	28 06W 03 NW NE	Chippewa		UNK/2	UNK/2	UNK/2				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2153800LC19	Wildcat Creek	LC19	2153800	28 07W 24 SE SE	Eau Claire, Chippewa		UNK/2	UNK/2	UNK/2				B H P/C T	NPS	SED, TURB, NUT, HAB	BASE/R	NPS, AB, FE, BS	CHIP. CO.- 1996
2154500LC19	Yellow River	LC19	2154500	29 07W 31 NE SE	Chippewa, Taylor		WWSF/64	WWSF/64	UNK/64				B H P/C T	SB, CE, BY, NPS, HM-DM, FL,	SED, TURB, NUT, HAB, MIG	BASE/R, FS-COMP, FS-	NPS, AB, FE, BS, PDR, DR, FS	CHIP. CO.- 1996
	10 Unnamed Streams						WWSF/64	WWSF/64	UNK/217									

Last Updated on 12/05/2000

By Wisconsin DNR

LC21

ID Code	Stream Name	Watershed Code	WB-ID Code	Town Range Section	County	Codified Use	Existing Use	Attainable Use	Supporting Use	Assessment	Trend	Integrity Indicator Result	Data Level	Source	Impact	Monitoring Recd./Status/Data Bank	Management Recd./Status/Data Bank	Refs
2182000LC21	Beaver Creek	LC21	2182000	32 05W 20 SW NW	Chippewa		UNK/3	UNK/3	UNK/3	U	U		B H P/C T			BASE/R		
2181600LC21	Buck Creek	LC21	2181600	31 06W 04 SE SW	Chippewa		UNK/4	UNK/4	UNK/4	U	U		B H P/C T			BASE/R		
2050000LC21	Chippewa River	LC21	2050000		Chippewa		WWSF/27	WWSF/27	FULLY/27 PART/27	M E	S		B H P/C T	HM,SB, EX-PL, HM-DM, CL, PSL, PSM	HAB, SED, MIG, COM, FLOW, HG	BASE/R, FL, FS-OTHER, FS-REGS EVAL, FS-STK EVAL	PLAN, PROT, AB, BFR, EXC, PDR, FS-PS, FS-REGS, FS-STK	FH-1988
2181200LC21	Clark Creek	LC21	2181200	31 06W 19 NE NE	Chippewa		UNK/3	UNK/3	UNK/3	U	U		B H P/C T			BASE/R		
2174900LC21	Cobban Creek	LC21	2174900	30 07W 11 NW NW	Chippewa		UNK/2	UNK/2	UNK/2	U	U		B H P/C T			BASE/R		
2174750LC21	Creek 17-13 (Trib to Chippewa River)	LC21	2174750	30 07W 17 NE SE	Chippewa	ERW Cold I/1.2	Cold I/1.2	Cold I/1.2	UNK/1.2	U	U					BASE/R, CT/R		
2174800LC21	Cushing Creek	LC21	2174800	30 07W 16 NW NE	Chippewa		UNK/1	UNK/1	UNK/1	U	U		B H P/C T			BASE/R		
2175900LC21	Firth Lake Creek	LC21	2175900	31 07W 16 SE SE	Chippewa		UNK/4	UNK/4	UNK/4	U	U		B H P/C T			BASE/R		
2181500LC21	Fisher River	LC21	2181500	31 06W 08 NW NW	Taylor, Chippewa		WWSF/33	WWSF/33	UNK/33	U	U		B H P/C T	PSB, BY, CL, SB		BASE/R	AB, FE	
2181100LC21	French Creek	LC21	2181100	31 06W 19 SW SW	Chippewa		UNK/6	UNK/6	UNK/6	U	U		B H P/C T			BASE/R		
2168700LC21	Jim Creek	LC21	2168700	29 08W 16 NE NW	Chippewa		UNK/9	UNK/9	UNK/9	U	U		B H P/C T	CL	TURB, SED, HAB	BASE/R	AB	
2181000LC21	Lehman Creek	LC21	2181000	31 07W 25 SW NW	Chippewa		UNK/2	UNK/2	UNK/2	U	U		B H P/C T			BASE/R		
2169000LC21	McCann Creek	LC21	2169000	30 08W 18 NE SE	Chippewa	QRW Cold I/13.2	Cold I/13.2	Cold I/13.2	FULLY-THR/13.2	E M	D		B4 H P/C T	CE, BDAM, PSB, BY, CUL, CL, EX-RC, OBS-M, OBS-N, NMM	SED, HAB, TURB, TEMP, COM, FLOW, MIG, MAC	BASE/R, CT, FL, FS-COMP/R, FS-HAB, FS-COMP/C-95	PLAN, PROT, IHI, AB, BC, EXC, RE, FS-PS, FS-REGS, LA, NPS,	FH-1996
2175000LC21	Minnie Creek	LC21	2175000	31 07W 35 SE SW	Chippewa		UNK/1	UNK/1	UNK/1	U	U		B H P/C T			BASE/R		
2175100LC21	No. Fk. Bob Creek	LC21	2175100	31 07W 35 NW NW	Chippewa		UNK/15	UNK/15	UNK/15	U	U		B H P/C T	NPS, PSB, CL	HAB, SED	BASE/R	AB, FE	
2168900LC21	O'Neill Creek	LC21	2168900	29 08W 16 SW NW	Chippewa		WWSF/17	WWSF/17	FULLY/17	E U	U		B H P/C T			BASE/R		
2175200LC21	So. Fk. Bob Creek	LC21	2175200	31 07W 35 NW NW	Chippewa		UNK/10	UNK/10	UNK/10	U	U		B H P/C T	SB, PSB, CL	HAB, SED	BASE/R	AB, FE	
2176300LC21	Spring Creek	LC21	2176300	31 07W 16 SW SE	Chippewa		UNK/7	UNK/7	UNK/7	E	U		B H P/C T	HM-DM	FLOW, TEMP, HAB	BASE/R, CT/R, FI	DR	FH-1972
	39 Unnamed Streams						WWSF/44 Cold I/13.2 UNK/100	WWSF/44 Cold I/13.2 UNK/100	FULLY/44 PART/ NOT/ THR/ 13.2 UNK/100									

Last Updated on 12/06/2000

By Wisconsin DNR

Upper Chippewa River Basin Water Quality Management Plan (1996)

WATERSHED NARRATIVES

HOW TO USE THE WATERSHED TABLES

The following information is included in the watershed tables.

Name of Stream: All named streams and some unnamed streams are listed. Stream names are those found on U.S. Geological Survey (USGS) quadrangle maps unless the Wisconsin Geographic Names Council established a different name. Unnamed streams are identified by location of the stream mouth as indicated by township, range, section and quarter-quarter section.

Length: Stream length is either the total length of the stream, or the starting and ending mile of the portion of the stream described based on data from the Fish Distribution Study conducted by the Bureau of Research (WDNR Research Report 126, 1984). The stream mile at the stream mouth is zero ("0") and increases as one moves upstream.

Existing Use: This column indicates the existing biological use supported by the stream as defined in NR 102(04)(3) under fish and aquatic life uses. A blank space indicates the existing use is unassessed. The following abbreviations for stream uses are used in the tables:

COLD; Cold Water Communities; includes surface waters capable of supporting a community of cold water fish and other aquatic life or serving as a spawning area for cold water fish species. This use includes, but is not restricted to, surface waters identified as trout waters in the publication (6-3600(80)) *Wisconsin Trout Streams*.

WWSF; Warm Water Sport Fish Communities; includes surface waters capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish.

WWFF; Warm Water Forage Fish Communities; includes surface waters capable of supporting an abundant diverse community of forage fish and other aquatic life.

LFF; Limited Forage Fish Communities; includes surface waters of limited capacity because of low flow, naturally poor water quality or poor habitat. These surface waters are capable of supporting only a limited community of forage fish and aquatic life.

LAL; Limited Aquatic Life; includes surface waters severely limited because of very low or intermittent flow and naturally poor water quality or poor habitat. These surface waters are capable of supporting only a limited community of aquatic life.

The table also includes the "class" of trout streams based on "Wisconsin Trout Streams" [DNR Publ. 6-3600(80)] and Outstanding/Exceptional Resource Waters, Wisconsin Administrative Code NR 102.10 and NR 102.11.

Class I streams are high-quality streams where populations are sustained by natural reproduction.

Class II streams have some natural reproduction but need stocking to maintain a desirable fishery.

Class III streams sustain no natural reproduction and require annual stocking of legal-size fish for sport fishing. The approximate length or portion of stream meeting each of the use classes is indicated.

Potential Use: This column indicates the biological use, and trout stream class, a stream or stream segment could achieve if it was well managed and pollution sources were controlled. In many cases potential use is the same as the existing use classification. In other streams potential use may be higher than the existing use. Abbreviations are the same as those used in the existing use columns. The sources of information are indicated by footnotes on each table. The classification for trout streams came from "Wisconsin Trout Streams" [DNR Publ. 6-3600(80)], Wisconsin Administrative Code NR 102.10 and NR 102.11 and the professional judgments of area Fish Managers. If the potential biological use is unknown, a blank space indicates the potential biological use is unassessed.

Supporting Potential Use: This column indicates whether a stream is threatened, or is fully, partially, or not meeting its potential biological use. An entry in any of the columns indicates the relationship between actual stream use and potential use. For example, if the entire length of a stream is listed under the "Fully" column, the stream has no problems which can be controlled. When a portion or all of a stream length is listed under another heading, the stream is affected or threatened by some manageable factor and the biological use of the stream can probably be improved. **In this plan, this column is used only if there is recent information on the stream, or if a fisheries manager or aquatic biologist familiar with the stream is able to make a determination based on best professional judgment. A blank space indicates that use support is unassessed.**

Assessment Category/Monitored or Evaluated: It is important to detail what information was used to derive a potential biological use designation and the degree to which a stream meets that potential use. If the potential use decision was based upon site-specific data, then "M," for monitored, is entered. If the decision is based on information other than site-specific data (citizen complaints, best professional judgment of a biologist or fish manager) then "E," for evaluated, is entered. "Evaluated" includes decisions based on data more than five years old.

Stream Classification (water quality standard designation): This column indicates the formal stream classification of a particular stream. All state waters are classified as one of the following:

Fish and Other Aquatic Life Use Waters: All surface waters are classified into one of the following fish and other aquatic life subcategories. Only the first three are considered suitable for the protection and propagation of a balanced fish and other aquatic life community. The last two are not capable of supporting a balanced community because of naturally limited habitat or water quality. These limited forage fishery and limited aquatic life waters are listed in NR104 if they receive a permitted point source discharge.

Cold Water Communities (COLD) are capable of supporting a community of cold water fish and other aquatic life. This classification includes all the streams referenced in the Wisconsin Trout Streams publication.

Warm Water Sport Fish Communities (WWSF) are capable of supporting a community of warm water sport fish or of serving as a spawning area for warm water sport fish.

Warm Water Forage Fish Communities (WWFF) are capable of supporting an abundant diverse community of forage fish and other aquatic life.

Limited Forage Fishery (LFF) communities capable of supporting only a limited community of forage fish and aquatic life.

Limited Aquatic Life (LAL) communities capable of supporting only a limited community of aquatic life.

Great Lake Communities consist of the waters of Lakes Michigan and Superior, including Green Bay and all arms and inlets, as well as tributaries to these waters which serve as a spawning area for anadromous fish species. These waters have their own category because of their unique characteristics. Also, they will receive special protection from the impacts of toxic substances under the new antidegradation rules.

Note: Any water which is not formally classified is assumed by the Federal Clean Water Act to meet the Clean Water Act goals of supporting a balanced warm-water fish and other aquatic life community and will appear in the table as DEF.

Outstanding Resource Waters (ORW) have the highest quality water and fisheries in the state and are therefore deserving of special protection. No discharge is allowed to these waters unless the quality of the wastewater discharged is equal to or better than background conditions. These streams are listed in NR 102.

Exceptional Resource Waters (ERW) have excellent water quality and valued fisheries but already receive discharges. In some cases, new discharges to exceptional waters may be allowed to correct an environmental or public health problem. These streams are listed in NR 102.

Use Problems, Source/Impact: This column indicates the probable sources of pollution in the stream and the types of water quality problems present (impact). Some streams shown as fully meeting potential use may still show up in this column as having a use problem. When this occurs it may mean there is a problem but it cannot be managed for some reason, or there is a potential threat to the use. These situations are explained in the narrative or in the references.

Following is a key to the abbreviations in the watershed tables:

Source (cause of problem)

BDAM - Beaver dam
CM - Cranberry marsh
DRDG - Dredging
GR.Pit - Gravel Pit Washing Operation
HM - Hydrologic modification
LF - Landfill
NPS - Unspecified nonpoint sources
 BY - Barnyard or exercise lot runoff
 CL - Cropland erosion
 CON - Construction site erosion
 PSB - Streambank pasturing
 RS - Roadside erosion
 SB - Streambank erosion
 PSB - Streambank pasturing
PSM - Point source, municipal treatment plant discharge
PSI - Point source, industrial discharge
SP - Spill

Impact (effect or impact of source on a stream)

BAC - Bacteriological contamination
DO - Dissolved oxygen
FAD - Fish advisory
FLOW - Stream flow fluctuations caused by unnatural conditions
HAB - Habitat (lack of cover, sedimentation, scouring, etc.)
MIG - Fish migration interference
NUT - Nutrient enrichment
SC - Sediment contamination
SED - Sedimentation
TURB - Turbidity

Narrative/Recommendations: This column indicates if there is a narrative or if there are monitoring or management recommendations relating to the stream. The column is marked with an "N" if there is a narrative. The column is marked with an "R" if there are recommendations.

References: The reference material used to complete the table for each stream is indicated by a number. A corresponding list of references is provided at the end of each watershed write-up.

HOLCOMBE FLOWAGE WATERSHED (UC01)

The Holcombe Flowage Watershed is the southwestern-most watershed in the Upper Chippewa River Basin. Approximately 70 percent of the watershed is wooded, with the remainder open woodland and agriculture. The watershed is divided into roughly equal parts between Rusk and Chippewa Counties, and contains the Holcombe Flowage in its eastern tip. The flowage is an impoundment formed by the Northern States Power Company dam on the Chippewa River near the town of Holcombe. Holcombe Flowage supports a very good sport fishery, although a fish consumption advisory exists for walleye due to mercury. Shore vegetation consists of upland woods and wetlands with heavy development around the entire perimeter of the flowage. The flowage is fed by the Chippewa, Flambeau and Jump rivers, and Main, Deertail, Cranberry, and Birch creeks.

Stream surveys from the 1960s provide the only data for most of the streams in the watershed. We have virtually no documentation describing nonpoint source threats to water quality of streams in the Holcombe Flowage Watershed.

RECOMMENDATIONS

1. Northwest and Western District Water Resources Management (WRM) should evaluate nonpoint source water pollution impacts on all named streams in this watershed, Birch, Cranberry, Mud, Tealey, Willow, Foster, Rick, Swift, Cedar, Potato, and McDermott creeks to allow for ranking as potential priority watershed project under Wisconsin's Nonpoint Source Water Pollution Abatement Program (Type B).
2. District WRM, together with the U.S. Geological Survey should identify the sources of sediment inputs into the Chippewa River, and document the extent and rate of sedimentation (Type B and C).

Chippewa River

The Chippewa River supports an excellent warm water sports fishery that is intricately linked to the Holcombe Flowage. Besides containing fish such as walleye, muskellunge, northern pike, bass, and rough fish species, the Chippewa River provides an important lake sturgeon spawning habitat (Bur. of Fisheries Management). We have little water quality information on this segment of the Chippewa River. Long-time residents observe, however, that the character of sections of the river bottom has changed from cobble to shifting sand over the past 20 years (Pratt, 1993). Despite the serious impact sedimentation can have on the river's biological health, the severity and extent of sand deposition in the Chippewa River is unknown.

The Chippewa River segment in this watershed is very significant for endangered resources. Rare dragonflies, two listed fish species, and several other Wisconsin Special Concern Species have been found here. Many populations of rare species have been declining in the Chippewa River (Bur. of Endangered Resources). It is thus important to identify water quality or habitat threats, and reduce any degradation of water quality in the Chippewa River.

Table 6. Holcombe Flowage (UC01) Streams

COUNTIES: Chippewa, Rusk SQUARE MILES:

WATERSHED NUMBER: UC01

NAME OF STREAM	LENGTH (MILES)	EXISTING USE/MILES	POTENTIAL USE/MILES	FULLY-PART- NOT-(MILES)	CLASS.	USE PROBLEMS SOURCE/ IMPACT	MILES EVALUATED/ MONITORED	NARR./ RECS.	REFERENCES
Chippewa River	19	WWSF ^c	same	X	DEF	SED	E	R/N	2,4
Birch Creek	4	WWFF	same		DEF		E	R	2
Cranberry Creek	5	WWFF	same		DEF		E	R	1
Mud Creek	13	WWFF	same		DEF		E	R	1
Tealey Creek	5	WWFF	same		DEF		E	R	1
Willow Creek	5	WWFF	same		DEF		E	R	1
Foster Creek	4	WWFF	same		DEF		E	R	1
Rice Creek	1	WWSF	same		DEF		E	R	2
Swift Creek	3	WWSF	same		DEF		E	R	2
Cedar Creek	7	WWFF	same		DEF		E	R	1
Potato Creek	8	WWSF	same		DEF		E	R	2
McDermott Creek	6					NPS,BY	E	R	3
Manitou Wetland	<1	LAL ^d	Same		LAL ^d				
Unnamed Streams	49								

^aA formal use classification (COLD, WWSF, WWFF) published by the department.^bTrout stream identified in the "blue" Wisconsin Trout Streams book (WDNR, 1980).^cA formal variance use classification published by the department and correctly listed in NR 104.^dA formal variance use classification published by the department and incorrectly or not listed in NR 104.^eRecent studies or the professional judgment of a fish manager or aquatic biologist familiar with the water indicates this is the biological use the stream is now meeting or has the potential to meet.

DEF - Waters not formally classified are assumed by default to meet the Federal Clean Water Act goals of supporting a balanced warm-water fish and other aquatic life community.

USE PROBLEMS

SED - Sedimentation

NPS - Unspecified nonpoint sources

BY - Barnyard or exercise lot runoff

Upper Chippewa River Basin Water Quality Management Plan (1996)

HOW TO USE THE LAKE TABLES

LAKE NAME: All named lakes 10 acres or larger and unnamed lakes 25 acres or larger for each watershed in the Upper Chippewa River Basin are listed on each watershed's lake table. Lake names are those found on U.S. Geological Survey (USGS) quadrangle maps unless the Wisconsin Geographic Names Council has established a different name. Some lakes are known locally by other names. Where available, those names have been listed along with the lake's official name. Lakes are identified by name unless multiple lakes with the same name occur in any county when township, range and section locators are added.

CO.: Counties are identified by number as alphabetically listed for Wisconsin's 72 counties. Counties in the Upper Chippewa River Basin are:

Ashland (02)	Bayfield (04)	Chippewa (09)	Iron (26)
Oneida (44)	Price (51)	Rusk (55)	Sawyer (58)
Taylor (61)	Vilas (64)	Washburn (66)	

RF. AREA: The surface area is the size of the lake, in acres, as listed in WDNR publication "Wisconsin Lakes".

MAX DEPTH: Maximum depths are those listed in "Wisconsin Lakes," WDNR.

LK. TYPE: Each lake type displays unique limnological characteristics based on physical and chemical properties. Production of plant and animal life generally varies with lake type. The identifying number used in the tables and the basic classifications and qualifying criteria are:

(1) Seepage lake; Landlocked. Water level maintained by groundwater

- table and basin seal. Intermittent outlet may be present.
- (2) Drainage lake: Natural lakes and impoundments the main water source of which is stream drainage. Has at least one inlet and one outlet.
 - (3) Drained lake: Natural lake the main water source of which is dependent on the water table and seepage from adjoining wetlands. Seldom has an inlet but will have an outlet of very little flow. Similar to the seepage lake except for the outlet.
 - (4) Spring lake: Seldom has an inlet, but always has an outlet of substantial flow. Water supply dependent upon groundwater rather than surface drainage.
 - (5) Impoundment: A drainage lake that has an impounding structure (dam) located on the outlet stream that contributes significant depth to the waterbody. Shallow impoundments commonly exhibit problems with sedimentation, turbidity, excess vegetation and algae, rough fish and water level fluctuations.

WBN: The unique seven digit number assigned for each lake, using the WDNR Master Waterbody File.

PUB. ACC.: The type of public access facility available as described in the WDNR "Wisconsin Lakes" publication:

BR = boat ramp T = walk-in trail R = roadside
W = wilderness NW = navigable water.

TSI: Trophic status index values were calculated for waters where sufficient water quality data was available. Wisconsin trophic state index equations were used to calculate these values (Lillie, et al. 1993).

EVAL: An X indicates lake was evaluated using TSI data more than five years old rather than being monitored recently.

LK. CLASS: The purpose of this analysis is to classify lakes according to their relative sensitivity to phosphorus loading and existing trophic condition. The screening identifies high quality lakes that should receive highest priority for nutrient control management. The analysis first separates lakes into two major categories; lakes that are sensitive to increased phosphorus loading (Class 1) and lakes less responsive to changes in phosphorus loading (Class 2). Lakes in each general classification are then subdivided into management groups based on data needs or existing water quality conditions.

Class 1:

- A = Existing water quality fair to excellent; potentially most sensitive to increased phosphorus loading
- B = Existing water quality poor to very poor; less sensitive to

- increased phosphorus loading than Group A
- C = Data inadequate or insufficient to assess trophic condition; classification monitoring recommended
- D = Stained, dystrophic lake, or aquatic plant-dominated lakes.
- Class 2:
- A = Existing water quality fair to excellent; may not be as sensitive to phosphorus loading as Class I lakes
- B = Existing water quality poor to very poor; low sensitivity to increased phosphorus loading
- C = Data inadequate or insufficient to assess trophic condition
- D = Stained, dystrophic lake, or aquatic plant-dominated lakes.

These classifications are used to establish management recommendations and priorities.

WINT. KILL: An indication of past history of winterkill based primarily on information from the Surface Water Inventory database.

FISH ADV.: Numerous lakes in Wisconsin contain fish with elevated levels of mercury. Fish consumption advisories are issued semi-annually for lakes with fish mercury levels of 0.5 ppm or greater. Generally, predator fish from soft water, poorly buffered, low pH lakes have the highest concentrations of mercury. An X in this column denotes that a fish consumption advisory exists for this lake.

The recommendations column for fish tissue mercury monitoring (Hg) denotes those waters recommended for fish sampling with a 1 through 5 priority rating dependent upon the degree of public access and the type of fishery.

ALK.: A measure of the amount of available carbonates and other materials that reflect the buffering capacity of the water.

ACID SENS: This column identifies lakes highly susceptible to acid deposition. Monitoring is recommended for lakes most susceptible and having inadequate water quality information.

- N = not sensitive.
- N = lakes with alkalinities of 3-5 mg/l as calcium carbonate (CaCO₃); moderate priority for monitoring
- Y = lakes most susceptible to acid deposition, recommend monitoring to confirm sensitivity status; high priority

RES. MGMT POTN: This column identifies lakes that have the potential to benefit from cooperative resource management efforts. Cooperative efforts may include Bureaus of Water Resources Management, Water Regulation and Zoning, Fisheries Management, Game Management, other WDNR staff, other state or federal agencies and local interest groups.

Management Groups:

- Group A - protection management recommended
- high value fishery and/or recreational use

- sensitive to phosphorus loading
- Group B
 - high potential for cooperative management efforts
 - high value fishery and/or recreational use
 - public access available
 - potential for water quality improvement
- Group C
 - current management appropriate
 - no further recommendations at this time
- Group D
 - additional fishery and/or water quality data needed to make management recommendations
 - high priority for data collection
- Group E
 - additional fishery and/or water quality data needed to make management recommendations
 - low priority for data collection
- Group F
 - lakes with limited fishery potential
 - evaluate cooperative management potential
- Group G
 - lakes with very limited or no fishery potential
 - low priority for water resources management/fisheries management efforts
 - manage for wildlife, aesthetics, etc.

ORW: In the basin, 31 lakes are classified as "Outstanding Resource Waters" as described in Administrative Code NR 102. These waters may be identified with an X. For those 15 lakes classified as "Exceptional Resource Waters" under NR 102, an "ERW" appears in this column. For more information on this classification see "How to Read the Watershed Tables" in the Surface Water Quality Report.

MONITORING: These columns identify existing or recommended monitoring:

- SH = Self-Help Lake Monitoring Volunteer
- TM = Long-Term Trend Monitoring Lake
- Hg = Fish tissue mercury monitoring
- AD = Acid deposition monitoring
- TS = Trophic status monitoring
- ILR = Lake District Feasibility Study conducted in 1970s
- IM = Inventory monitoring (update Surface Water Inventory)
- SENS = Aquatic plant "sensitive area" designation

The following letters in each column signify that monitoring is:

R = recommended X = completed C = current activity

COMMENTS: Additional information that was available for the lakes has been included in the comments column. Abbreviations were used to conserve space as follows:

LMO = Lake Management Organization exists for this lake
Mig Birds = Significant use/stop for waterfowl and migratory water birds
N = See the narrative section for this watershed/county for a more detailed description
NPS = Nonpoint source pollution impacts
Rec = High quality recreational experience for listed activities: (eg. Rec: S, F, CA)

S - Swimming	B - Boating	C - Canoeing
H - Hunting	W - Waterfowling	
F - Fishing	CA - Camping	

LAKES NARRATIVES BY WATERSHED

HOLCOMBE FLOWAGE WATERSHED (UC01)

The Holcombe Flowage watershed includes the Chippewa River drainage from below Soft Maple Creek down to the Holcombe Flowage dam. This area, which includes the southwestern portion of Rusk County and the northwestern corner of Chippewa County, contains an abundance of lakes, including 22 in Rusk County and 45 in Chippewa County.

Most of this watershed lies in a terminal moraine area and is characterized by irregular, hilly topography, and features numerous pothole lakes and swamps. Several lakes have physical characteristics that make them sensitive to increases in nutrient loading. These lakes generally have relatively small watersheds, are deep enough to stratify and have relatively low flushing rates. Most of the larger natural lakes have good water quality and measures should be taken to protect water quality.

Table 29 lists water quality and management conditions and recommendations, which includes five lakes that winterkill and have marginal fishery and water quality recreational values and thus should be managed primarily for wildlife and/or aesthetic values. Five lakes lack adequate public access facilities and thus should be relatively low in priority for water quality assessment monitoring and other intensive lake management activities. Monitoring for fish tissue contamination by mercury was conducted on seven lakes in this watershed and one lake is under a fish consumption advisory. Participation in the Self-Help Monitoring Program is an ongoing activity on five lakes and one of the volunteers has requested involvement at the "TSI" level of monitoring. Four lakes were designated outstanding resource waters under NR102 and should be managed with water quality protection as a high priority. Water quality in one cluster of lakes is threatened by riparian and residential development and forestry activities. These lakes require special attention and are thus recommended for a priority lakes "cluster" project.

RECOMMENDATIONS

1. Water Resources Management should consider Fireside Lake watershed, and Round, Axehandle, Bradley, Pine, and Spence lake watersheds as a high priority for selection as a lake cluster priority lakes project under the Wisconsin Nonpoint Source Water Pollution Abatement Program, the cluster would include Sand, Henneman, Long, Chain, McCann and Island lakes (Type B).
2. WRM should encourage lake communities to pursue lake management planning grants for water quality assessment studies on Axehandle, Boot, Bradley, Cadotte, Calkins, North Calkins, Dumke, Fireside Lakes, Goose, Henneman, Hodge, Holcombe Flowage, Horseshoe, Knickerbocker, Lake Four, Larrabee, Little Plummer, Logger, Long, Meadows, Picnic, Pine, Plummer, Potato, Pulaski, Riley, Roedecker, Ruby, Rusk, Salisbury, Sand, Spence, East & West Triple, Turk, Two Island, Unnamed (T32N R07W S30-1), Wesley, Willow Creek Flowage #1, and Worden lakes (Type B).

3. WRM should conduct water quality assessment monitoring including trophic status on Boot, Bradley, Cadotte, Calkins, North Calkins, Fireside Lakes, Goose, Henneman, Hodge, Horseshoe Lake (T32N R9W S25), Lake Four, Larrabee, Little Plummer, Logger, Long, Meadows, Picnic, Pine, Potato, Pulaski, Riley, Roedecker, Ruby, Rusk, Salisbury, Sand, Spence, East & West Triple, Turk, Two Island, Unnamed (T32N R07W S30-1), Wesley, Willow Creek Flowage #1, and Worden lakes, which lack up-to-date information.
4. WRM and Fisheries Management should conduct an aquatic ecosystem assessment to evaluate resource potential on Axehandle, Dumke, Horseshoe, Knickerbocker, and Plummer lakes (Type B)
5. WRM and Fisheries Management should conduct sampling for fish tissue contamination by mercury on Boot, Dumke, Pulaski, and Rusk Lakes (Type B).
6. WRM should encourage participation in the Self-Help Monitoring Program on Bear, Dark (T32N R08W S19), Dumke, Fireside Lakes, Foster, Goose, Granger, Harwood #2, Henneman, Hodge, Horseshoe (T32N R9W S25), Knickerbocker, Lake Four, Little Plummer, Meadows, Pine, Potato, Pulaski, Rusk, Sand, Spence, Star, East & West Triple, Turk, Two Island, and Unnamed (T32N R07W S30-1) lakes, with priority given to lakes that have an association and an interested and willing volunteer (Type B).
7. District WRM should conduct aquatic plant management "sensitive area" designation surveys on Boot, Chain, Clear, Fireside Lakes, Island, McCann, Potato, Pulaski and Sand lakes (Type B).
8. WRM should conduct Surface Water Inventory monitoring to update this important database on Axehandle, Bear, Boot, Bradley, Brush, Cadotte, Chain, Clear, Dark (T32N R08W S19), Dumke, Fireside, Foster, Goose, Granger, Harwood #2, Henneman, Hodge, Hogskin, Horseshoe, Hungry, Island, Jacks, Knickerbocker, Lake Four, Larrabee, Leo Joerg, Little Plummer, Logger, Marsh, McCann, Meadows, Picnic, Pine, Plummer, Potato Creek Flowage, Potato, Pulaski, Riley, Roedecker, Round, Ruby, Rusk, Salisbury, Sand, Spence, Star, Sugar, East & West Triple, Turk, Two Island, Unnamed (T32N R07W S30-1), Wesley, Whiplash, Willow Creek Flowage #1, and Worden lakes (Type B).
9. WRM should conduct monitoring to assess the impact of acid deposition on Round Lake (Type B).
10. WRM should continue to assist the Island Chain of Lakes Protection and Rehabilitation District with protection of these high quality waters.
11. District WRM and the Rusk and Chippewa County Zoning Offices should be encouraged to pursue a sanitary survey to answer the shoreline septic concerns on the Island Chain of Lakes (Types B,C).

12. WRM should encourage the development of lake management organizations on Boot and Potato lakes and Fireside Lakes (Type B).
13. WRM should assist the Potato Lake community with an application for a lake management planning grant to assess current lake water conditions and watershed status (Type B).
14. WRM should conduct water quality monitoring to verify the water quality modeling results for Bradley and Henneman lakes (Type B).
15. WDNR should use the Henneman and Bradley Lakes Watershed Study to evaluate using the Stewardship Program to purchase water quality easements and sensitive areas within watersheds of high quality, phosphorus-sensitive lakes (Type B).
16. WRM and Water Regulation and Zoning should continue to work with the Chippewa County Zoning Department to improve the implementation of shoreland zoning (Type B).
17. WRM, Fisheries Management and Northern States Power should develop and conduct an EPA Clean Lakes Phase I Diagnostic and Feasibility Study Project for the Holcombe Flowage (Type B).
18. WRM should continue to work with the Holcombe Flowage Improvement Association, Inc. to control purple loosestrife (Type B).
19. WRM and Fisheries Management should conduct additional sampling of game fish species for mercury in Holcombe Flowage to monitor trends (Type B).
20. The Bureau of Forestry and the Chippewa County Forest and Parks Department should review all timber harvest within the Horseshoe Lake and Knickerbocker Lake watersheds to insure best management practices are implemented to protect water quality (Types B and C).
21. WRM, Water Regulation and Zoning, the Long Lake Protection and Rehabilitation District, and the Chippewa County Zoning Department should develop a cooperative agreement to ensure the effective implementation of shoreland zoning on Long Lake (Types B and C).
22. The Chippewa County Zoning Department should correct all shoreland zoning violations for Long Lake identified in the Chippewa County Lakes Shoreland Zoning Study 1988 (Type C).
23. WRM should assist the Long Lake Protection and Rehabilitation District in updating the Long Lake Water Quality Management Plan (Type B).

24. WRM, Water Regulation and Zoning, and the Rusk and Chippewa County Zoning Departments should develop a cooperative agreement to insure the effective implementation of shoreland zoning on Sand Lake (Types B and C).
25. WRM, University of Wisconsin-Extension and the Wisconsin Association of Lakes should assist the residents of Sand Lake in developing an citizens lake management organization to assist in protecting Sand Lake (Type C).
26. The Round Lake management organization should consider adopting a boating use ordinance that would either limit time of use or designate the entire lake "slow-no wake" (Type C).

Boot Lake

A resident on this lake recently volunteered for the Self-Help Monitoring Program. Sparse information indicates Boot Lake has good water quality.

Fireside Lakes

Recent contacts from lake residents raises the concern for a possible decline in water quality. This 302-acre lake comprising of Mud and Rice lakes, has an intermittent connection with the Chippewa River. During high runoff the river backs up into the lakes, leading to potential nutrient loading. Fireside Lake has an excellent fishery but the potential problems from vegetation and algae growths leads to a high priority ranking for trophic assessment monitoring.

Island Chain of Lakes

This chain of lakes includes 468-acre Chain Lake, 95-acre Clear Lake, 133-acre McCann Lake and 526-acre Island Lake. The aggressive lakeshore community has a long history of lake management activities. An official lake management district was formed in 1977 and a feasibility study was completed in 1980. These lakes were found to be high quality water resources with trophic assessments in the mesotrophic range. A Lake Management Planning Grant Study in 1991 included trophic assessment monitoring and an attempt to document the persistently rumored leakage of septic tank effluent to the lakes. The study revealed the continued high quality of this chain of lakes but the bacteriological testing was inconclusive in revealing any serious septic effluent leakage.

Potato Lake

We have a lack of water quality information for this important, 534-acre lake. File information indicates that portions of the lake have abundant vegetation and algae blooms have been noted. This lake would benefit from the formation of a lake management organization and the implementation of a lake management planning grant study to assess water quality conditions.

Axehandle Lake

Current self-help monitoring data indicates that Axehandle Lake has good water quality based on secchi depth information collected during the summers of 1990 through 1992. Lake physical data and watershed size indicate this lake will be sensitive to increases or decreases in phosphorus loading from the watershed.

Bradley Lake and Henneman Lake

A eutrophication modeling assessment (Voss 1989) was conducted for these two lakes. The lakes were chosen because they were thought to have good water quality, are sensitive to increases in nutrient loading and have watersheds and riparian shorelands which have the potential to be developed. Both lakes are seepage lakes which are managed as two-story fisheries. The modeling assessment evaluated the potential water quality impacts of various residential development scenarios in the watersheds. The study concluded that if the remaining undeveloped shorelands are converted to residential development under current land use restrictions it is likely that both lakes would experience significant water quality degradation.

Currently no residential development exists on Bradley Lake but a significant portion of the shoreline is in private ownership and could be developed. Henneman Lake currently has six seasonal riparian dwellings with the remainder of the shoreline undeveloped. These lakes are representative of a large group of smaller lakes that have remained relatively undeveloped. As development pressures increase it is likely that shorelands will be developed.

Lakes similar to Bradley and Henneman Lakes should also be considered sensitive to increased nutrient loading. These lakes are characterized as smaller deep lakes with small watersheds and relatively low flushing rates. The undeveloped watersheds tend to retain nutrients and preclude their transport to the lake. The conversion of these watersheds to low density residential development will significantly increase nutrient runoff unless proper land use controls are implemented at the time of development. Research conducted in Maine (Dennis 1986) found that runoff from residential development on large wooded lots (1.1 dwellings/acre) contained 5 to 10 times as much phosphorus as runoff from adjacent undeveloped watersheds. This research was conducted in a area of Maine with soil types similar to those in northern Chippewa County.

Dumke Lake

A water quality assessment in 1988 and 1989 indicated this lake is eutrophic and experiences occasional winterkill conditions. The assessment included predicting mercury concentrations in fish tissue based on lake alkalinity and calcium concentrations. This analysis predicted that fish tissue for a 17-inch walleye would be above the .5 ug/l mercury fish tissue standard. The entire shoreline is owned by the State of Wisconsin.

Holcombe Flowage

Holcombe Flowage is a 3,890-acre impoundment on the Chippewa River in northeastern Chippewa County. The impoundment was created in 1950 when Northern States Power completed construction of a 34,000 kilowatt hydroelectric generating facility. The impoundment provides an important recreation resource of regional significance.

Water Resources Management, Fisheries Management and Northern States Power (NSP) currently have several issues and concerns associated with Holcombe Flowage. Water Resources Management and NSP conducted a water quality assessment in 1989. Water quality data for chlorophyll *a*, total phosphorus and secchi depth indicated that the portion of Holcombe Flowage influenced by the Jump River had poorer water quality than the remainder of the impoundment. The monitoring site in the Jump River portion of the impoundment was compared with 11 additional monitoring sites within all the impoundments from Holcombe Flowage downstream. The Jump River site in Holcombe Flowage ranked eleventh for chlorophyll *a* and secchi depth and twelfth for total phosphorus. An infestation of purple loosestrife is presently invading the shorelines and wetlands associated with Holcombe Flowage. Northern States Power is currently evaluating low dissolved oxygen problems in back water embayments. NSP changed its winter operating procedures in the early 1980s to facilitate surging high dissolved oxygen water into the backwater embayments weekly. The current concern is that the high dissolved oxygen water remains near the surface and does not mix throughout water column. This problem may result in severe dissolved oxygen depletion during late winter drawdown when many of the embayments are hydraulically cut off from the main basin. Several of the backwater embayments experience heavy growths of aquatic plants. The decomposition of the plants is likely contributing to the winter dissolved oxygen problems. Holcombe Flowage currently has a fish tissue consumption advisory for mercury in walleye.

Other issues of concern for Holcombe Flowage include the Federal Energy Regulatory Commission relicensing of the Holcombe dam and the discharge from the Flambeau Mining Co. Copper Mine. Northern States Power will begin the relicensing process in 1995 as the current license expires in 2000. Water Resources Management collected sediment samples in 1992 to establish background metals concentrations. These results will help assess if the Flambeau Mining Co. Copper Mine discharge has any impact on Holcombe Flowage. The environmental impact statement for the mine stated that effluent limits in the Wisconsin Pollutant Discharge Elimination System (WPDES) permit are designed to prevent the adverse accumulation of metals in aquatic organisms.

Horseshoe Lake T32N R8W S33

A water quality assessment was completed for Horseshoe Lake in 1988 and 1989. Summer trophic state index values for chlorophyll *a*, total phosphorus and secchi depth were 54, 67 and 48 respectively. These values indicate the lake has fair water quality and is eutrophic. Late winter dissolved oxygen monitoring indicated severe oxygen depletion typical of winterkill conditions. The lake also has a fish consumption advisory for mercury in walleyes larger than 15 inches. The entire shoreline of this lake is in the Chippewa County Forest.

Knickerbocker Lake

A water quality assessment conducted in 1988 and 1989 indicated the lake has poor water quality and is eutrophic. Late winter dissolved oxygen monitoring found severe oxygen depletion and near winterkill conditions. The entire shoreline of this lake is in the Chippewa County Forest.

Long Lake

Long Lake is the largest natural lake and one of the highest quality lakes in Chippewa County. Water quality is still perceived as good but water quality data collected by the department in the Long-Term Trends Monitoring Program indicates water quality is declining. Pre-1980 dissolved oxygen data indicates only 3-4 percent of the lake bottom became anoxic during the summer. Current data indicates complete anoxia in the hypolimnion by late August.

A comprehensive lake management plan was prepared for the Long Lake Protection and Rehabilitation District by Water Resources Management. This plan developed several recommendations which would protect water quality. Several of the recommendations identified effective implementation of shoreland zoning as a critical management activity to minimize increases in nutrient loading to the lake.

A 1988 shoreland zoning evaluation study conducted in Chippewa County, which included Long Lake, was conducted by the Chippewa County Zoning Department and Water Resources Management. The study evaluated if shoreland zoning requirements were being effectively implemented for lakes within the county. The study found that shoreland zoning was not being effectively implemented. The study found that for 70 percent of the activities requiring shoreland zoning permits, the riparian owners either did not obtain a permit or did not adhere to permit requirements.

It is critical that effective lake protection management activities be implemented in the Long Lake watershed. Without effective lake protection activities water quality will continue to decline in Long Lake.

Plummer Lake

A 1989 water quality assessment indicated water quality to be fair. Plummer Lake has moderate nutrient and algal levels. Late winter oxygen concentrations indicated significant depletion and the lake experiences occasional winterkills.

Sand Lake

Sand Lake is included as one of 50 lakes in the department's Long-Term Trends Monitoring Program. Extensive water quality data has been collected from Sand Lake since 1986. The Long-Term Trends Monitoring data indicates that water quality is good and the lake has a diverse high quality aquatic plant population. Physical data for Sand Lake indicate that the lake is sensitive to increases in nutrient loading. Water quality is threatened by existing and future development in the Sand Lake watershed. The lake currently experiences late summer anoxia in the hypolimnion which is indicative of increasing eutrophication.

Round Lake

Round Lake has been monitored since 1986 as one of 50 lakes in WDNR's Long-Term Trend Monitoring Program. Water quality data is collected annually and aquatic plant surveys were conducted in 1988, 1991 and 1994.

Currently the lake has good water clarity and low phosphorus levels, though seasonal monitoring reveals short periods when phosphorus levels significantly increase. For example, during the summer of 1993 the phosphorus levels increased until in August the lake experienced a blue green algal bloom.

With a maximum depth of 18 feet, this shallow lake experiences resuspension of sediments from boat traffic and wind. The Bureau of Research has conducted several studies on Round Lake sediments, finding the majority of sediment in the lake is loosely consolidated with a low specific gravity and high--more than 50 percent--organic content. This sediment resettles slowly after agitation by wind or boat traffic and can release phosphorus to the surface water.

As part of a boating-impact survey conducted on Round Lake during the summer of 1994, water samples and Secchi disk readings were taken before and after high use boating weekends. The most significant change occurred during Memorial Day weekend: total phosphorus went from 23 micrograms per liter (ug/l) on Friday to 66 ug/l on Sunday. Secchi disk depth readings decreased from 2.3 meters on Friday to 1.5 meters on Sunday.

Aquatic plant survey data also raised concerns about effects of motorcraft on Round Lake. The lake supports 37 rooted aquatic plant species including four listed as rare and of special concern by the Bureau of Endangered Resources: waterthread pondweed, Robbin's spikerush, purple bladderwort and small purple bladderwort. These four plants share a characteristic of very fine submersed stems that are particularly susceptible to being cut by propellers. A number of plants in the lake are indicators of good water quality but are sensitive to disturbance and increased turbidity.

The plant surveys also revealed a dramatic change in the Round Lake plant community from 1988 and 1991. Various-leaved water milfoil went from no presence in the 1988 survey to occurring at 48 percent of the sampling sites in 1991. This plant can be locally aggressive and spreads effectively from cuttings. The appearance and spread in Round Lake coincided with a period of heavier recreational boating use.

Increased recreational usage and boating activity are likely to occur on this lake as a result of a new full-service boat landing, completed in 1995, and a new county park with beach frontage that is currently under construction on the northern shoreline. In response to the threat increased usage may pose to the lake, the Round Lake Protection and Rehabilitation District and Town of Sampson adopted a slow, no-wake zone that parallels the 10-foot depth contour along the western and southern shorelines. This protected zone encompasses the majority of the fragile plant beds and some of the most easily resuspended sediments.

As trend monitoring continues on Round Lake, an evaluation can be made about the effectiveness of this protection. It is possible that the whole lake may eventually need to

be designated as slow, no-wake or limited to trolling motors and non-motorized watercraft.

NAMED LAKES >= 10 ACRES UPPER CHIPPEWA BASIN (Unnamed Lakes >= 25 acres)
Holcombe Flowage Watershed (UC01)

LAKE NAME (T-R-S)	CO.	MAX		LK.	WBN	PUB.		LK.	WINT. KILL 1=YES	FISH ADV.	ALK.	ACID SENS	RES. MGMT POTN	ORW	Monitoring						COMMENTS
		SURF.	DEPTH			ACC.	TSI								SHTM	Hg	AD	TS	ILR	IM	
AXEHANDLE L.	9	84	73		2092500	Y	40	X	1A	2			A					R		R	
BEAR LAKE	55	29	12	1	1833800		47	X	2A	1	10	N	E					R		R	
BOOT LAKE	55	87	44	1	1836700	BR			1C	2	14	N	D					R		R	
BRADLEY LAKE	9	11	38		2346000	Y			1A	2	9	N	A					R		R	
BRUSH LAKE T33N R08W S30	55	17	39	1	1837400				1C	2	7	N	E					R		R	
CADOTTE LAKE	9	14	44		1838400				1C	1	4	N	D					R		R	
CALKINS LAKE	9	43	20		2361100				1C	2	8	N	D					R		R	
CALKINS LAKE, NORTH	9	14	17		1869000				1C	2	5	N	D					R		R	
CHAIN LAKE	9,55	468	74	2	2350500	NW	44		1A	2	60	N	A	X	C	X		X	R	R	LMO
CHICK LAKE T32N R9W S3	9	10	8		1840600					1	10	N	G								
CLEAR LAKE	55	95	74	2	2350600	BR	42		1A	2	88	N	A	X	C	X		X	R	R	LMO
DARK LAKE T32N R9W S10	9	13	62		2092700	Y		X	1A	2			A		R			R		R	
DARK LAKE T32N R8W S19	9	21	65		2361800	Y		X	1C	2	14	N	D		R			R		R	
DUMKE LAKE	9	11	16		1846100	Y	58	X	1B	1	12	N	D		R			X,R		X,R	
FIRESIDE LAKES (RICE & MUD)	55	302	30	2	2349500	BR			1C	2	52	N	D		R	X		R		R	
FOSTER LAKE	9	28	21		2346100				1C	2	62	N	C		R						
GOOSE LAKE	55	20	52	1	2353500	T			1C	2	43	N	D		R			R		R	
GRANGER LAKE	9	10	31		2361000			X	1C	2	10	N	C		R						
HARWOOD LAKE NO. 2	9	14	9		1852900			X	2C	1	6	N			R						
HENNEMAN LAKE	9	64	60		2362500	Y		X	1A	2	11	N	A		R			R		R	
HODGE LAKE (L.HARRIET)	9	19	28		1853700			X	1C	2	5	N	D		R			R		R	
HOGSKIN LAKE T33N R09W S33-13	55	16	8	1	1853900				2D	1	11	N	G					R		R	
HOLCOMBE FLOWAGE	9	3890	61		2184900	Y	63	X		2	X	50	N	A		C		X			
HORESHOE LAKE T32N R8W S33	9	24	23		1854300	Y	54	X	1A	2	7	N	A		R			X,R		X,R	
HUNGRY LAKE	55	20	20	1	1855300				1C	1	9	N	E								
ISLAND LAKE	55	526	54	2	2350200	BR	45		1A	2	65	N	A	X	C	X		X	R	R	LMO
JACKS LAKE	9	14	58		1855700			X	1C	2	11	N									
KNICKERBOCKER LAKE	9	14	24		1868300	Y	62	X	1B	1	17	N	B		R			X,R		X,R	
LAKE FOUR	55	21	49	1	2356200	W			1C	2	32	N	D		R			R		R	
LARRABEE LAKE	9	50	31		2352000			X	1C	2	8	N						R		R	
LEO JOERG LAKE	9	12	16		1860100			X	1C	2	7	N									
LITTLE PLUMMER LAKE	9	10	25		2348800	Y		X	1C	2	50	N	C		R			R		R	
LOGGER LAKE	9	19	19		1862700				1C	1	6	N						R		R	
LONG LAKE T32N R8W S8	9	1062	101		2351400	Y		X	1A	2	42	N	A		C	C					
MARSH LAKE	55	43	4	1	2349200				2D	1	18	N	G							R	
MOCANN LAKE	55	133	38	2	2350400	BR	46		1A	2	68	N	A	X	C	X		X	R	R	LMO
MEADOWS LAKE	9	10	20		2345500			X	1C	2	54	N			R			R		R	
PICNIC LAKE	9	25	48		2347000			X	1C	2	5	N						R		R	
PINE LAKE	9	262	115		2092900		32	X	1A	2			A		R			X,R		X,R	
PLUMMER LAKE	9	41	28		2348700	Y	55	X	1A	1	91	N	A					X,R		X,R	

Holcombe Flowage Watershed (UC01)

LAKE NAME (T-R-S)	CO.	SURF. AREA	MAX DEPTH (FT.)	LK. TYPE	WBN	PUB. ACC.	TSI	EVAL	LK. CLASS	WINT. KILL 1=YES 2=NO	FISH ADV.	ALK.	ACID SENS	RES. MGMT POTN	ORW	Monitoring						SENS	COMMENTS
																SHTM	Hg	AD	TS	ILR	IM		
ROUND LAKE	55	105	5	1	1878200	BR			2D	1		4	N	G									
RUBY LAKE	9	17	65		1878500			X	1C	2		4	N	E									
RUSK LAKE	55	12	71	1	1878800	BR			1C	2		15	N	D		R	5						
SALISBURY LAKE	9	76	10		1879700			X	2C	1		11	N	E									
SAND LAKE	9,55	262	100	1	2353600	BR	45	X	1A	2		54	N	A		R	X						R
SPENCE LAKE	9	13	57		2346400			X	1C	2		5	N	D		R							
STAR LAKE T33N R09W S33	55	13	21	1	1883500				1C	2		9	N	E		R							
SUGAR LAKE	55	34	20	1	2356000		65	X	1B	1		14	N	E									
TRIPLE LAKE, EAST	9	18	18		1846400				1C	2		5	N	D		R							
TRIPLE LAKE, WEST	9	15	21		2044700				1C	2		5	N	D		R							
TURK LAKE	9	17	18		1886800				1C	1		14	N	E		R							
TWO ISLAND LAKE	9	29	18		1887500	Y		X	1C	2		5	N	D		R							
UNNAMED T32N R7W S30-1	9	35	4		2348500				2C	1		34	N	E									
WESLEY LAKE	9	44	10		2046700	Y			2C	1		4	N	E									
WHIPLASH LAKE	55	12	19	1	2045900				1C	1		10	N	G									
WILLOW CREEK FLOWAGE # 1	9	21	7		2345000	Y			2C	1		37	N	C									
WORDEN LAKE	9	17	6		2047200				2C	1		11	N	E									

Appendix Figure 2.2

WATER QUALITY STANDARDS FOR EACH CLASS OF WATER

CATEGORY	STANDARD
<i>Outstanding Resource Waters</i> • National wild and scenic rivers • State wild and scenic rivers	Waters may not be lowered in quality, except as provided in ch. NR 207 (Water Quality Antidegradation).
<i>Exceptional Resource Waters</i> • Class I trout waters listed in WI Trout Streams publication 6-3600 • Other Class I trout waters	Waters may not be lowered in quality, except as provided in ch. NR 207 (Water Quality Antidegradation).
<i>Great Lakes System</i>	Waters identified are to be protected from the impacts of persistent, bioaccumulating toxic substances by avoiding or limiting practicable increases in these substances.
<i>Fish and Aquatic Life Waters</i> • Cold water communities • Warm water sport fish communities • Warm water forage fish communities • Limited forage fish communities • Limited aquatic life	Except for natural conditions, all waters in this category shall meet the following criteria: • Dissolved oxygen content no less than 5 mg/L at any time. • There shall be no temperature changes that may adversely affect aquatic life. • pH shall be within the range of 6.0 to 9.0. • Unauthorized concentrations of substances are not permitted that alone or in combination with other materials present are toxic to fish or other aquatic life. • Temperature and dissolved oxygen for cold waters may not be altered from natural background temperature and dissolved oxygen levels to an extent that trout populations are affected.

Appendix 3

Chippewa County Stewardship Fund Policy and Procedures for Program Administration

**CHIPPEWA COUNTY
STEWARDSHIP FUND
POLICY AND PROCEDURES FOR
PROGRAM ADMINISTRATION**

Chippewa County Land Conservation Committee
December 7, 1999

**CHIPPEWA COUNTY STEWARDSHIP FUND
POLICY AND PROCEDURES FOR
PROGRAM ADMINISTRATION**

Table of Contents

INTENT AND PURPOSE	1
1.0 Introduction.....	1
1.1 Purpose.....	1
ADMINISTRATION	2
2.0 Administrative Authority and Responsibility	2
SOURCE AND MANAGEMENT OF FUNDS	2
3.1 Fiscal Management and Accounting.....	2
3.2 Use of Funds and Eligible Expenses.....	3
3.3 Solicitation of Contributions to Stewardship Fund.....	3
3.4 Gifts of Financial Instruments, Capital Assets, or Personal Property.....	3
USE OF FUND TO ACCEPT GIFTS OF LAND OR INTEREST IN LAND	4
4.0 Gifts of Land or Interests in Land.....	4
4.1 Procedures for Evaluating Land Donation Offers	4
4.2 Criteria for Evaluating Offers of Land.....	4
4.3 Offers of Conservation Easement or Interests in Property	5
4.4 Procedures for Evaluating Offers of Conservation Easement	5
4.5 Custodial Responsibility for Conservation Easements	5
4.6 Criteria for Fee Title Acquisition.....	5
USE OF FUND BY COUNTY AS LOCAL MATCH TO ACQUIRE OUTSIDE GRANTS.....	6
5.0 Authority for County to Use Stewardship Fund to Secure Outside Grants	6
5.1 Use of Stewardship Funds for Outside Appraisals	6
USE OF FUND BY COUNTY TO DISTRIBUTE LOCAL MATCHING GRANTS	6
6.0 Local County Stewardship Grant Awards	6
6.1 Public Notice and Solicitation of Projects	6

6.2	Time Cycle for Evaluating and Selecting Projects	7
6.3	Criteria for Evaluating and Selecting Projects.....	7
6.4	Matching Grant Requirements and Eligible Expenses	7
6.5	Use of Other Public Grant Sources	7
6.6	Project Limitations.....	8
6.7	Excluded Organizations	8
6.8	Project Tracking, Audits, Compliance, and Enforcement	8
	PROGRAM ACCOUNTABILITY	8
7.0	Program Evaluation, Reporting, and Accountability	8
	PUBLIC INFORMATION AND OUTREACH.....	9
8.0	Information and Education; Responsible Parties.....	9
8.1	Information and Education Program; Content.....	9

CHIPPEWA COUNTY STEWARDSHIP FUND
POLICY AND PROCEDURES FOR
PROGRAM ADMINISTRATION

INTENT AND PURPOSE

1.0 •Introduction

In Wisconsin, counties have been given the authority and responsibility to plan and to administer local land use and resource conservation programs.

In recent years, Chippewa County has experienced a steady rate of growth.

As part of this growth, there has been widespread development of residential and commercial properties in unincorporated areas. This growth trend is expected to accelerate in response to expansion of the regional highway network, and ongoing efforts by Chippewa County to encourage tourism and economic development.

The Congress and State legislature have recently reduced Federal and State allocations which have been applied to implement resource conservation and pollution control programs in the County. It is anticipated that in the future, public agencies will distribute grants to the County, based upon the County's capacity to generate local matching funds.

Chippewa County has relied heavily on outside funding sources to develop and implement its local land use and resource conservation programs. Given current development trends and associated pressures on land resources, there is an inherent need to maintain and possibly expand the County's resource conservation efforts. This accelerated need comes at a time when traditional revenue sources are being reduced or eliminated.

To address this issue, it is in the County's interest to develop a fiscal strategy and alternative funding source, which will be used by the County to leverage local funds to meet local land use and conservation needs.

1.1 •Purpose

Establish a County Stewardship Fund to assist landowners, municipalities, local units of government, and non-profit organizations to meet land conservation and resource management objectives in Chippewa County.

This fund may be used to:

1. Purchase land through fee title for future community needs. This may include acquisitions for public parks and open spaces; access corridors to lakes or rivers; recreational trail corridors; County or School Forests; or other environmental or land conservation related uses.

2. Purchase development rights or conservation easements in order to achieve land use policy objectives, as specified in an approved Town or County land use plan. This may include purchase of easements to preserve prime farmland, woodlots, environmental corridors, shorelands, wetlands, municipal well recharge areas, or planned open space.
3. Purchase land or easements in support of local fish and wildlife habitat development and improvement projects.

To expand the utility and cost of efficiency of this concept, the County Stewardship Program will be administered to:

1. Encourage tax-exempt community contributions from corporate interests, local conservation organizations, community service organizations, estates, and private individuals.
2. Acquire matching grants available from public agencies or private non-profit foundations.
3. Distribute matching grants to local municipalities, land trusts, and nonprofit organizations which meet grant criteria established by Chippewa County.

ADMINISTRATION

2.0 •Administrative Authority and Responsibility

The Land Conservation Committee shall administer, in the name of the County, the Chippewa County Stewardship Fund.

To administer the Chippewa County Stewardship Program, it is the intent of the Chippewa County Board to authorize the Land Conservation Committee to exercise statutory authority assigned to the Committee in WI Stats. 92.07.

SOURCE AND MANAGEMENT OF FUNDS

3.1 •Fiscal Management and Accounting

The County Stewardship Fund will be established as a nonlapsing special revenue fund with partial proceeds available from the County Sales Tax and other funding sources including public grants, private contributions, service or development fees, and other sources of revenue deemed appropriate by the County.

The Stewardship Fund will be managed by the Land Conservation Department, working with the County Auditor's Office. The account will be managed and audited following standardized accounting procedures adopted and employed by the County.

The Land Conservation Committee will evaluate ongoing project needs and will request an annual allocation from the sales tax fund as part of the annual County budget process. If funds are available, the Finance Committee and the County Board will make annual appropriations to the fund following a schedule of appropriation adopted through the enabling Resolution #76-98, as adopted by the County Board on 11/03/98.

3.2 •Use of Funds and Eligible Expenses

Funds from the account may be used for expenses related to the Stewardship Program as follows:

1. Matching grants for land or easement acquisition as allocated to eligible individuals, municipalities, or organizations.
1. Capital costs of land acquisitions incurred through direct purchase by the County including appraisals, surveys, and legal fees.
2. Capital costs of conservation easement acquisitions incurred through direct purchase by the County, or through donation, including appraisals, surveys, and legal fees.
3. Limited custodial maintenance costs associated with property and easement management.

3.3 •Solicitation of Contributions to Stewardship Fund

The Land Conservation Committee will solicit contributions to the County Stewardship Fund from individuals, businesses, corporations, public agencies, and non-profit organizations.

3.4 •Gifts of Financial Instruments, Capital Assets, or Personal Property

The Land Conservation Committee will evaluate all offers of contribution made by individuals, businesses, corporations, local units of government, or non-profit organizations.

When offered, financial gifts, including cash, stock, or other financial instruments, will be accepted and formally acknowledged. Proceeds from monetary gifts will be deposited directly in the special revenue Stewardship Fund account.

When offered, gifts of personal property will be evaluated for acceptance on a case by case basis. In circumstances where a capital asset, other than land or a financial instrument, is offered and accepted, the asset will be immediately sold and the proceeds will be placed in the County Stewardship Fund.

USE OF FUND TO ACCEPT GIFTS OF LAND OR INTEREST IN LAND

4.0 •Gifts of Land or Interests in Land

Offers of land will be evaluated in the interest of acquiring the property outright, obtaining future purchase options on the property, or acquiring rights or interests in property.

4.1 •Procedures for Evaluating Land Donation Offers

When approached with a gift of land, the Committee will implement the following procedure:

1. Prepare a draft letter of intent to be considered and executed by the contributor. The letter of intent will be nonbinding and will document the contributor's interest in negotiating an agreement of land transfer.
2. Conduct or commission a general title search to verify ownership.
3. Conduct or commission an environmental site assessment to document the history of land use and the potential risk of environmental contamination.
4. Estimate the value or commission an appraisal of the property.

If the parties agree that an appraisal is needed to determine the value, the County may incur the initial expense of the appraisal from funds provided by the Stewardship Fund, with the condition that the landowner will repay the cost of the appraisal to the County if the transfer of land is not completed. In the event the landowner chooses to incur the appraisal expense, and the transfer is completed, reimbursement for the appraisal may be provided to the landowner through the Stewardship Fund.

5. Evaluate and negotiate the terms of the offer. Take action to accept the offer, accept the offer with conditions, or decline the offer.
6. Prepare a formal letter of response. The letter of response will inform the contributor of the Committee's extent of interest and basis of decision.

4.2 •Criteria for Evaluating Offers of Land

In circumstances where the Land Conservation Committee is approached with a gift of land, the Committee will evaluate and accept or deny the offer after considering the following criteria:

1. Conditions placed on the donation by the individual or group making the donation.

2. Consistency with local land use goals, as defined in an approved Town land use plan.
3. Consistency with local environmental or land use objectives, as defined in a County-wide land use or environmental plan, as approved by Chippewa County.
4. Assessed or appraised fair market value.
5. Extent and condition of capital improvements.
6. Resource condition and environmental value.
7. The capacity of the Land Conservation Committee to conduct ongoing custodial responsibilities or to convey such responsibilities to a registered land trust, government agency, municipality, or private party.
8. Commitment by the County Forest & Parks Committee and County Board to designate and manage the property as a component of the County Forest and Parks System.

Explanatory Note: (4/17/19)

Chippewa County Land and Water Resource Management Plan – 2019-2023

Resolution #33-09, (10/13/09), was adopted to restructure and consolidate several committees of Chippewa County government. As part of this consolidation, the County Forest & Parks Committee was eliminated and the County Facilities and Parks Committee and the County Land Conservation & Forest Management Committee were created.

9. Options for resale with agreement to assign proceeds toward other property acquisition or maintenance of other inventory property.

4.3 •Offers of Conservation Easement or Interests in Property

In circumstances where rights in a property are offered, the Land Conservation Committee will evaluate the advantages and disadvantages of the easement acquisition, and may exercise its authority to negotiate and execute conservation easements on behalf of the County.

4.4 •Procedures for Evaluating Offers of Conservation Easement

When approached with an offer of a conservation easement, the Land Conservation Committee will follow the same procedures as those specified for an outright land donation or fee title purchase.

4.5 •Custodial Responsibility for Conservation Easements

In circumstances where the County secures a conservation easement through the County Stewardship Program, the County will:

1. Assume custodial responsibility of the conservation easement.

2. Actively seek a land trust or public agency to jointly enter the easement agreement in the interest of sharing custodial responsibility.
3. Systematically monitor compliance with provisions of the easement.
4. Assure compliance through an escalating sequence of enforcement action.

4.6 •Criteria for Fee Title Acquisition

In circumstances where a property is offered for sale and funds are requested through the County Stewardship Fund, the Land Conservation Committee will evaluate the advantages and disadvantages of the fee titled acquisition after considering the following criteria:

1. The parcels proximity to designated “acquisition area” as defined and mapped in a public land use, resource management, or recreational plan (i.e. County Forest 10 Year Plan, public recreational plan, or Town open space plan).
2. The approximate value of the property in relation to the sale price.
3. The availability of outside funds secured for the acquisition from other public agencies or units of government.
4. Commitment by the County Forest and Parks Committee and County Board to designate and manage the property as a component of the County Forest and Parks System.

USE OF FUND BY COUNTY AS LOCAL MATCH TO ACQUIRE OUTSIDE GRANTS

5.0 •Authority for County to Use Stewardship Fund to Secure Outside Grants

The Land Conservation Committee shall have the authority to apply the funds from the County Stewardship Fund as local match for State and Federal grants which may be available to acquire land or conservation easements.

5.1 •Use of Stewardship Funds for Outside Appraisals

In the circumstance where the Land Conservation Committee solicits grant funding from an outside agency and the contributing agency requires an independent appraisal as a condition of property acquisition, the County will incur the front-end costs of the appraisal.

In circumstances where acquisition funding is secured and the property is acquired, the County will seek reimbursement for the appraisal, if available from the outside agency.

USE OF FUND BY COUNTY TO DISTRIBUTE LOCAL MATCHING GRANTS

6.0 •Local County Stewardship Grant Awards

The Land Conservation Committee shall reserve and apply a portion of the Stewardship Fund to establish and administer a County Stewardship Fund matching grant program.

6.1 •Public Notice and Solicitation of Projects

The Land Conservation Committee shall actively solicit project proposals through an annual Stewardship Fund grant process.

The Land Conservation Committee shall, on an annual basis, establish objectives and set priorities for funding allocations. These annual objectives will be considered in addition to general standing criteria used to evaluate and fund project proposals.

Explanatory Note: (4/17/19)

Chippewa County Land and Water Resource Management Plan – 2019-2023

To illustrate this concept, the Land Conservation & Forest Management Committee took action on 1/30/19 to adopt annual criteria for evaluating and selecting projects submitted to the Chippewa County Stewardship Fund local match program in 2019.

These annual grant criteria were adopted to augment standing criteria established in Sec. 6.3 of the Chippewa County Stewardship Fund Policy and Procedures for Program Administration, in order to clarify current objectives for 2019 project proposals.

In adopting the 2019 annual criteria, the Committee further clarified that:

- 1. If the applicant is applying for a Chippewa County Stewardship grant to match with the State Knowles-Nelson Stewardship Grant, projects must provide permanent public access for nature-based outdoor activities identified in Chapter NR 52 of Wisconsin Administrative Code, including "hunting, fishing, trapping, hiking, and cross country skiing", and*
- 2. No project shall receive no more than \$50,000 without County Board approval.*

The Land Conservation Committee shall develop minimum content requirements and a standardized format to solicit grant proposals.

6.2 •Time Cycle for Evaluating and Selecting Projects

The Land Conservation Committee shall publish a Class II Notice before April 1 of each calendar year to inform eligible parties of grant opportunities and to solicit project land proposals.

Application for County Stewardship project funds will be compiled and systematically evaluated before October 1 of each calendar year.

6.3 •Criteria for Evaluating and Selecting Projects

All project requests submitted through the Stewardship grant process will be evaluated based upon the following criteria:

1. Annual grant criteria formally adopted by the Committee.
2. Commitment by grant applicant to carry out perpetual responsibilities of custodial management.
3. Cost efficiency of the grant request recognizing:
 - a. The proportion of funding provided by outside groups.
 - b. The total cost per acre as determined in a land appraisal conducted by a State licensed certified appraiser or fair market value as determined by the County.
4. Total cost of project in relation to funds available.

6.4 •Matching Grant Requirements and Eligible Expenses

To be eligible for project funds, the applicant must provide a 50% local match. Local expenses which may be counted toward the local 50% match are as follows:

1. Property appraisals.
2. Survey costs.
3. Recording fees.
4. Donations toward an endowment for custodial management.
5. Other expenses as included in the annual grant criteria formally adopted by the Committee.

6.5 •Use of Other Public Grant Sources

In circumstances where other public grant sources are applied in a project proposal, State and Federal grant funds will not be recognized toward the local match.

6.6 •Project Limitations

To be eligible for funding, projects must be located in an unincorporated area of Chippewa County. No project shall receive more than \$100,000 from the County Stewardship Fund without County Board approval.

6.7 •Excluded Organizations

The following entities will not be considered eligible for consideration under the local Stewardship Grant Program:

- State of Federal agencies.
- Organizations not covered under Internal Revenue Code Section 501(c)(3).
- Religious organizations or fraternal organizations.
- Any organization which discriminates on any basis.

6.8 •Project Tracking, Audits, Compliance, and Enforcement

The Land Conservation Committee shall require that a land use agreement be developed as a condition of any grant allocation. The land use agreement will clearly specify land use and development restrictions which will be applied in the interest of land conservation.

To verify compliance with terms of the agreement, the Land Conservation Committee shall conduct an annual project review before October 1 of each year for each project funded under the program. Results of all annual project reviews will be documented in an annual project compliance report.

The Land Conservation Committee will maintain the authority to require that the land use agreement be recorded with the property deed to limit future use and development of the property.

The Land Conservation Committee shall maintain the authority to review and inspect the financial records of any grant recipient through a formal financial audit.

If, as a result of the annual project review or financial audit, the Land Conservation Committee determines that the land is not being managed in accordance with the land use agreement, the Committee shall take measures to seek compliance.

In circumstances where measures are not adopted and compliance reached, the Land Conservation Committee shall enforce provisions of the agreement through citation authority, court action, or other mechanisms.

PROGRAM ACCOUNTABILITY

7.0 •Program Evaluation, Reporting, and Accountability

The Land Conservation Committee shall evaluate the County Stewardship Program on an annual basis. The program evaluation shall assess the success of the program based upon the following criteria:

1. Level of program participation as measured by the number of donators and amount of donations.
2. Level of program participation as measured by the number of grant applicants.

3. The number, size, and location of parcels conserved through the Stewardship Fund.

PUBLIC INFORMATION AND OUTREACH

8.0 •Information and Education; Responsible Parties

The Land Conservation Committee shall develop a public information and education component of the County Stewardship Program. In developing the public information and education component of the program, the Land Conservation Committee shall seek the assistance of the UWEX Agriculture and Extension Committee and public agency advisors, as defined in WI Stats. Chapter 92.

8.1 •Information and Education Program; Content

The information and education component shall, at a minimum, inform the public of the intent of the program, explain opportunities for making contributions to the Stewardship Fund, and the procedure for applying for grants through the Stewardship Program.

Appendix 4

Addendum to the Chippewa County Operational Agreement Between DNR & Chippewa County Land Conservation Department for the Administration and Implementation of Agricultural Nonpoint Pollution Performance Standards and Prohibitions Under NR151 and NR243, April 16, 2004

Appendix 4

ADDENDUM TO THE CHIPPEWA COUNTY OPERATIONAL AGREEMENT BETWEEN DNR & CHIPPEWA COUNTY LAND CONSERVATION DEPARTMENT FOR THE ADMINISTRATION AND IMPLEMENTATION OF AGRICULTURAL NONPOINT POLLUTION PERFORMANCE STANDARDS AND PROHIBITIONS UNDER NR151 AND NR243

Table of Contents

<u>Section</u>	<u>Page Number</u>
<u>Memorandum of Understanding</u>	
Purpose	2
I. Component 1: Plan the Implementation Approach	4
II. Component 2: Define Level of Agencies' Commitment to NR151 Workload	6
III. Component 3: Conduct Information and Education Activities	6
IV. Component 4a: Determine Current Compliance through Records Inventory Component 4b: Determine Compliance through On-Site Evaluation	8 10
V. Component 5: Prepare Report and Notify Landowners of Compliance Status	12
VI. Component 6a: Secure Funding and Technical Assistance Component 6b: Issue NR151 Notice	14 16
VII. Component 7: Administer Funding and Technical Assistance/Reevaluate Parcel	17
VIII. Component 8: Enforcement	19
IX. Component 9. Ongoing Compliance Monitoring	21
X. Component 10: Annual Reporting	22

Appendix A. Working with Landowners to Implement Agricultural Performance Standards and Prohibitions Under NR 151

Overview and Flow Chart

Letter Type A
Letter Type B
Letter Type C
Letter Type D
Letter Type E

Purpose

This memorandum of understanding is an addendum to a multi-agency operational agreement that exist between the Chippewa County Land Conservation Committee, WI Department of Natural Resources, WI Department of Agriculture, Trade and Consumer Protection, Chippewa County Extension and USDA Natural Resources Conservation Service (date).

This MOU has been developed by the Chippewa County Land Conservation Committee (LCC) and the Wisconsin Department of Natural Resources (DNR) to clarify their respective roles and responsibilities as needed to:

- Implement and enforce agricultural nonpoint pollution performance standards and prohibitions established in ch. NR 151, Wis. Adm. Code.
- Implement ch. NR 243, Wis. Adm. Code as it applies to the permitting of livestock operations and the investigation of livestock facility complaints.
- Systematically phase out the Duncan Creek Priority Watershed Project, initiated and implemented under ch. NR 120, Wis. Adm. Code.

This agreement defines the commitment of each party to conduct administrative tasks that have been defined by Wisconsin conservation agencies as standardized components of a program delivery system. The standardized components are in a guidance document titled Implementation Strategy for NR 151 Agricultural Performance Standards and Prohibitions¹ (hereafter referred to as the State-wide Implementation Strategy).

Specifically, this agreement clarifies how the DNR and the County will:

- Incorporate the State-wide Implementation Strategy into routine agency operations.
- Systematically evaluate and define the level of agency commitment to the NR 151 and NR 243 workload using a county-sponsored annual needs assessment and interagency work planning process.
- Conduct information and education activities.
- Systematically select and evaluate parcels to determine compliance with standards and prohibitions.
- Prepare compliance reports and notify landowners of compliance status.
- Provide technical assistance and cost-sharing funding as needed to allow landowners to meet performance standards and prohibitions.
- Issue notice letters under NR 151.09 and NR 151.095 as appropriate.
- Monitor compliance.
- Conduct enforcement activities.
- Develop annual reports.

¹ This document was prepared jointly by WI Dept. of Natural Resources, WI Dept. of Agriculture, Trade, and Consumer Protection, the WI Land and Water Conservation Association, and the WI Association of Land Conservation Employees (April, 2002). It has been approved by the Wisconsin Land and Water Conservation Board as Appendix E to the Land and Water Resources Management Plan Guidelines. The document can be found at <http://dnr.wi.gov/org/water/wm/nps/rules/NR151strategy.htm>.

I. Component 1: Plan the Implementation Approach

A. The parties agree:

1. The State-wide Implementation Strategy provides a structural framework that can be used to discuss and plan how the parties will cooperate to implement the agricultural performance standards and prohibitions.
2. This memorandum of understanding and the County Land and Water Plan can be used as the means to document procedures for implementing NR 151.
3. Guidance prepared by DNR and incorporated as an appendix to this agreement (*Working with Landowners to Implement Agricultural Performance Standards & Prohibitions Under NR 151*), is useful for making formal correspondence with landowners concerning compliance issues.
4. The agricultural performance standards and prohibitions are designed to achieve water quality standards by limiting nonpoint source water pollution.
5. NR 151.004 contains a process for developing targeted performance standards where implementation of statewide performance standards and prohibitions may not be sufficient to meet water quality standards.
6. Sections NR151.09, NR 151.095, ATCP 50.04 and ATCP 50.08 require agricultural landowners and operators to meet agricultural nonpoint performance standards and manure management prohibitions. These requirements are contingent upon sufficient cost sharing for existing facilities and practices.

B. Chippewa County will:

1. Use this memorandum of understanding to coordinate implementation of agricultural performance standards and prohibitions.
2. Implement select portions of the administrative rules and components of the State-wide Implementation Strategy, as defined in this agreement.
3. Revise the County Land and Water Resource Management Plan by August 1, 2004, and include a comprehensive strategy to ensure compliance with the performance standards and prohibitions required by NR151.
4. Focus NR 151 implementation activities on new and expanding cropland practices and livestock facilities.
5. Cooperate with DNR to identify priority areas where the county may apply for funding under the Targeted Runoff Management Program to alleviate violations of performance standards and prohibitions that result in significant pollutant loadings or impacts to waters of the State.

A. As a basis for this agreement, the parties agree:

1. State statutes and associated administrative rules establish the requirement that agricultural performance standards and prohibitions, established in NR151, must be implemented. (ss. 92.07, 92.10, 92.105, 92.14 and 281.16, Wis. Stats., chs. NR 151 and ATPCP 50, Wis. Adm. Code.)
2. The responsibility and authority to administer and implement the agricultural performance standards and prohibitions has been delegated through State statutes and administrative rules to DNR, DATCP, and local municipalities, including the County Land Conservation Committees.
3. DNR is the state agency responsible for administering NR 243, and for implementing NR 151.09, and NR 151.095. Notes in NR 151.09(2) and NR 151.095(2) state the DNR's intent to rely on County Land Conservation Committees to fully implement performance standards and prohibitions, and to develop intergovernmental agreements to guide implementation.
4. DATCP is the lead state agency responsible for administering staffing grants under ATPCP 50.26 for base level conservation, priority watershed activities and performance standards & prohibitions compliance.
5. DNR has authority, but limited funding, to support staff under Targeted Runoff Management grants.
6. The Chippewa County Land Conservation Committee employs qualified staff with the necessary contracting, planning, and engineering expertise needed to implement the NR151 standards.
7. Implementation of agricultural nonpoint standards and prohibitions is contingent upon the availability of trained technical staff and public cost share. Without funding and staff support for contracting and technical assistance, few, if any, contracts will be executed, or conservation practices constructed to implement performance standards and prohibitions.
8. Chippewa County and the DNR share common goals and objectives toward water resources management and nonpoint source pollution control.
9. Chippewa County and DNR have an existing operational agreement that encourages interagency cooperation to pursue common resource management objectives.
10. To optimize use of available State and County staff and program funding, it is in the mutual interest of the County and DNR to clarify program responsibilities and to make commitments necessary to implement State law and administrative rules.
11. This agreement will be reviewed annually. Either party may cancel its agreement with 90 days written notice.

6. Cooperate with DNR in identifying the need for targeted performance standards.

C. DNR will:

1. Use this memorandum of understanding to coordinate implementation of agricultural performance standards and prohibitions.
2. Implement select portions of the administrative rules and components of the State-wide Implementation Strategy, as defined in this agreement.
3. Assign an agency representative to actively participate in the County Land and Water Resource Management planning process and provide input into the development of the County strategy to implement agricultural nonpoint performance standards and prohibitions.
4. Target its efforts, including education, evaluation, issuing notification letters under NR 151.09 and NR 15.095, and enforcement, toward:
 - a. Areas draining to Outstanding and Exceptional Resource Waters. In doing so, the Department's efforts will be directed toward *achieving* compliance for new and expanding cropland practices and livestock facilities and at *maintaining* compliance for all existing and new practices and facilities.
 - b. Areas draining to waters on the federal list of impaired water bodies (303d list), waters not meeting water quality standards or designated uses and source water protection areas. In doing so, the Department's efforts will be directed toward *achieving and maintaining* compliance for all existing and new practices and facilities.
5. Work jointly with Chippewa County to set mutual priorities for implementing agricultural performance standards and prohibitions.
6. Provide Chippewa County with guidance needed to fulfill its agreed-upon roles and responsibilities to implement portions of NR 151.
7. Conduct high priority implementation activities as needed to supplement county roles and responsibilities agreed upon in this agreement.
8. Discuss with DATCP ways in which the staffing funds from state agencies may be adjusted to categorize local county land conservation department efforts, and provide grant incentives, based upon the scope of implementation responsibilities assumed.
9. Pursue mechanisms to provide some level of county staff funding for implementing Targeted Runoff Management projects.
10. When appropriate, identify the need for targeted performance standards.

II. Component 2: Define Level of Agencies' Commitment to NR151 Workload

A. The parties agree:

1. There must be a mutual understanding of each agency's responsibilities and level of commitment in carrying out implementation of agricultural performance standards and prohibitions, including implementation and enforcement activities identified under NR151.09 and NR151.095.
2. The extent of each agency's commitment is dependent upon the availability of public funds and agency priorities and, therefore, may be expected to change through time.

B. Chippewa County will:

1. Sponsor an annual interagency work planning session, following procedures in the interagency operational agreement. Through this process, the County will formally solicit, document, and record the level of agency and county commitment towards carrying out the NR151 workload, under Components 3-10 of this agreement.

Note: Through this process, the County will seek to determine the number of full-time staff positions, (FTE), assigned by each agency (County, State, and Federal), the technical qualifications of each staff position assigned, activities to be conducted by the assigned position, and the financial resources to be committed.

C. DNR will:

1. Assign an agency representative and actively participate in the County LCC's annual interagency work planning session.
2. Use this work planning process, in conjunction with the DNR work planning process, to make staff commitments toward implementation of NR 151 workload for the upcoming year.
3. Identify site specific projects determined by the agency to be priorities, for onsite farm evaluations, cost-share funding, issuing notification letters under NR 151.09 and NR 151.095, and enforcement action when appropriate.

III. Component 3: Conduct Information and Education Activities

A. The parties agree:

1. That a structured information and educational program is a critical component of an agricultural nonpoint pollution control program.
2. An effective program will:
 - a. Educate landowners about the Wisconsin agricultural performance standards and prohibitions, applicable conservation practices, and cost-share grant opportunities.
 - b. Promote implementation of conservation practices necessary to meet performance standards and prohibitions.

- c. Inform landowners about procedures and agency roles to be used statewide and locally for ensuring compliance with the performance standards and prohibitions.
- d. Establish expectations for compliance and consequences for non-compliance.
- e. Define target audiences, educational messages for each target audience, methods and activities to deliver the educational message to each target audience, anticipated unit costs for each activity, a proposed regional or statewide budget and a proposed implementation schedule.

B. Chippewa County will:

- 1. Provide structured input into the development of a state-wide and regional information and education program to be designed by DNR to support and augment NR151 implementation efforts.
- 2. Before August 1, 2004, using funding allocated through the Duncan Creek Priority Watershed Project, develop a local information and education plan to support NR 151 implementation as outlined in this agreement.
- 3. Within the limits of State funding allocated, implement information and education activities as scheduled through the County's LCC's annual work plan and financed through the County budget process.

C. DNR will:

- 1. Develop a statewide information and education program, activity schedule and budget to support state and county efforts to implement NR 151.
- 2. Work with University of Wisconsin-Extension and DATCP to identify and develop information and education materials and activities needed on a statewide basis, and to make the materials accessible to Chippewa County for use and dissemination.
- 3. Provide input into the planning of the Chippewa County information and education program.
- 4. *Participate in work planning for the Lower Chippewa Basin educator to assure that time is allocated to information and education activities (planning, materials development, dissemination) needed to implement NR 151 in Chippewa County. Before January 1, 2005, develop a structured work plan for a regional information and education project.*
- 5. Assist Chippewa County and the basin educator, where possible, with implementation of the I&E program.

IV. Component 4a: Determine Current Compliance through Records Inventory

A. The parties agree:

1. Many crop and livestock producers in Chippewa County, working independently or through public agencies, have adopted conservation practices as part of routine operations.
2. Since 1990, a significant public investment has been made (through the WI Nonpoint Source Water Pollution Abatement Program, the WI Soil and Water Resource Management Program, and the Chippewa County Land Conservation Program) to assist owners of croplands and livestock facilities to install best management practices to control agricultural nonpoint source pollution.
3. As a result of this conservation work, there are many croplands and livestock facilities that fully or partially comply with the agricultural performance standards and prohibitions.
4. Sections NR151.09(3)(b) and NR 151.095(4)(b) require existing cropland practices and livestock facilities that achieve compliance with performance standards and prohibitions to remain in compliance regardless of public cost share.
5. Sections NR 151.09(3)(d) and NR 151.095(4)(d) require new cropland practices and livestock facilities to comply with performance standards and prohibitions regardless of cost share.
6. To establish a baseline for program implementation, it is in the public's interest that documentation be made of the location of cropland practices and livestock facilities that were in compliance as of October 1, 2002, and to inform the landowners, in writing, of the compliance determination and the requirements to maintain compliance.
7. To date, there has been no effort to conduct a systematic review of public records to document the location of cropland practices and livestock facilities that were in existence as of the effective date of the rule, or to determine their compliance status.
8. Without an effort to review public records and determine compliance, cropland owners and livestock operators will not be aware of their current compliance status or their obligations to meet or maintain the agricultural nonpoint performance standards and prohibitions, either with or without cost share.
9. State cost-share agreements, subject to contractual obligations of active operation and maintenance plans on or after October 1, 2002, can be used to document the extent of current compliance achieved through previous public investments.
10. Chippewa County will use the tax parcel as the basic geographic unit for evaluating and reporting compliance. Where a tax parcel contains more than one livestock facility or cropland practice, the evaluation and reporting system will contain information to distinguish between facilities and practices based on whether they are new, existing, in compliance and out of compliance.

B. Chippewa County will:

1. Before July 1, 2004, use State-funded priority watershed staff to compile a list of current State cost-share agreements, subject to contractual obligations of an active operation and maintenance plan in effect on or after October 1, 2002.
2. Before July 1, 2005 use State funded priority watershed staff to review these state cost share agreements and associated records to determine:
 - a. The status of contract completion, including: the installation of conservation practices; required operation and maintenance periods; the implementation of associated operation and maintenance plans.
 - b. The date of the last site visit conducted to verify or confirm compliance with terms of existing conservation contracts.
3. From the records review, make a preliminary determination as to the location of cropland practices and livestock facilities that were clearly in compliance with all performance standards and prohibitions applicable to the parcel.
4. From the records review, identify the location of parcels and operations that have records that are inconclusive and warrant an on-site evaluation to determine compliance under Component 4b.

Note: The County will evaluate whole tax parcels, as maintained on the Chippewa County Real Property Tax Listing, to determine the extent of compliance with each agricultural nonpoint performance standard and prohibition which may apply to that parcel.

5. Document results of the compliance determination on standardized evaluation forms and compliance status report formats developed by the County.

C. DNR will:

1. Review Chippewa County records evaluation forms and compliance status report forms for consistency with status determination and notification requirements under NR 151.09 and NR 151.095.
2. Provide information to Chippewa County from the DNR CAOS database as it pertains to any Duncan Creek Priority Watershed and targeted runoff management project cost-share contracts.
3. With regard to large scale livestock operations permitted under chapter NR 243:
 - a. Compile records of existing WPDES permits for Concentrated Animal Feeding Operations (CAFO) and evaluate these records to determine compliance with NR 151 agricultural performance standards and prohibitions. (Note: As of March 31, 2004 DNR has issued WPDES permits to Jenio-Turkey Store and Five Star Dairy)
 - b. When coverage applies, incorporate into WPDES permits standards that equal or exceed the requirements of NR151. (Note: The WPDES permit does not cover cropped fields where manure is not applied)

- c. Follow the compliance strategy and provide the County with copies of inspection check sheets and inspection letters sent to the facility. (Note: This strategy calls for two inspections every five years.)
- d. Provide the County with copies of portions of the WPDES permit application that describe a facility's manure storage, animal yards, and locations.
- e. Provide the County with copies of the manure management plan and its amendments that describe field locations, restrictions, manure application rates, and verification that fields meet "T".

Note: The manure management prohibitions are contained in the permit, nutrient management through the manure management plan requires meeting N&P recommendation of UW Ext., meeting "T" is shown by 590 farm plan or some other approved equivalent, clean water diversions are met with the "zero" discharge up to the 25 year storm. Manure storage is met with requirement of NRCS standard and review of plans before construction and required monitoring by operator.

Component 4b: Determine Compliance through On-Site Evaluation

A. The parties agree:

1. On-site evaluations are often necessary to document current resource conditions and current management practices, as a basis for determining compliance.
2. The accuracy of on-site evaluations will be enhanced if formal evaluation procedures and protocol are established, and standardized evaluation forms are adopted.
3. Greater consistency in conducting on-site evaluations can be achieved if a structured training program is established to educate staff about the standards, evaluation procedures, and requirements for program documentation.
4. The protocol and process for responding to public animal waste complaints, registered under NR243, has been previously established and is routinely administered through the cooperation of the DNR and the ECC (DNR/DATCP MOU, 1987).
5. New or expanding livestock facilities subject to regulations under NR 243 or the Chippewa County Manure Storage Ordinance should be evaluated for compliance with performance standards and prohibitions. The evaluation should be conducted prior to issuance of the state or county permits.

B. Chippewa County will:

1. Conduct on-site evaluations for whole tax parcels, as maintained on the Chippewa County Real Property Tax Listing, to determine the extent of compliance with each agricultural nonpoint performance standard and prohibition which may apply to that parcel.
2. Before December 31, 2005, as part of the Duncan Creek Priority Watershed close-out schedule, conduct on-site evaluations to complete a baseline inventory of compliance for all cost-share agreement holders.

3. Beginning June 1, 2004, within the limits of staff funding allocated by the State, systematically conduct onsite compliance evaluations for livestock facilities and cropping practices that meet any of the following criteria:
 - a. Apply for State cost-share funds, administered by Chippewa County
 - b. Request on-site evaluations through the Chippewa County Voluntary Farm Evaluation and Certification Program
 - c. Seek permits issued through the Chippewa County Animal Waste Storage Ordinance.
 - d. Are subject to a public complaint, submitted to the County or DNR .
4. Beginning June 1, 2004, ((date) NR243 M.O.U. protocol) systematically respond to public complaints, which allege that there is violation of state agricultural nonpoint performance standards and prohibitions, or which allege that there is an agricultural nonpoint discharge that may have an impact on waters of the state.
5. Within limits of State funding, attempt to conduct and document a minimum of 10-15 on-site livestock evaluations per year, and a minimum of 30-300 onsite cropland tax parcel evaluations per year.
6. Consult with DNR concerning non-routine evaluations, including evaluations of livestock facilities that are expanding and require DNR WPDES or county permits.

C. DNR will:

1. As part of the County LCC's annual work planning process have the opportunity to provide:
 - a. The location of livestock facilities and cropland parcels where, if standards are not implemented, there is a high potential for nonpoint discharge which may result in a significant impact to waters of the state.
 - b. Correspondence to the County requesting that an onsite evaluation be conducted, and a report be generated, to determine and to document the extent of current compliance.
2. Provide a structured training framework and training opportunities to educate DNR and County staff about the agricultural performance standards and prohibitions, procedures for making compliance determinations, and policy aspects of program administration.
3. Assist in developing and administering training about the use of management practices to achieve and maintain compliance with performance standards and prohibitions.
4. Assist in the identification of environmental models, site review checklists, and other assessment tools used to evaluate compliance. Assist in providing training.
5. Develop and provide standardized example evaluation forms and a companion electronic form/software application.

6. Provide assistance to the county in making status determinations for high priority or potentially controversial situations, such as those that may require notification (See Attachment A, Letter Types C and D), lead to enforcement actions or may potentially be handled by the DNR under NR 243.
7. Establish and implement a quality assurance program to establish and maintain a predefined standard of administrative performance.
8. Beginning June 1, 2004, (using 1987 NR243 M.O.U. protocol) systematically respond to public complaints registered under NR243, which allege that there is violation of state agricultural nonpoint performance standards and prohibitions, or which allege that there is an agricultural nonpoint discharge that may have an impact on waters of the state.
9. Consult with Chippewa County concerning non-routine evaluations, including evaluations of livestock facilities that are expanding and require DNR WPDES or county permits.

V. Component 5: Prepare Report and Notify Landowners of Compliance Status

A. The parties agree:

1. To be valid, the results of a record review and/or on-site compliance evaluation must be documented and be based upon confirmed facts.
2. A standardized report format will allow for the systematic collection and reporting of evaluation results and will provide consistency through time.
3. A local process, independent of a formal administrative appeal under chapter 227, Wis. Stats., can be used to provide for a structured review of any local decision pertaining to an initial finding of compliance or other decision involving the interpretation of NR 151 or ATP 50.
4. Farm evaluation forms, compliance status reports and associated correspondence are public records that should be retained by a custodial agency.
5. The compliance status report is a document that can be used to inform the landowner about the compliance status of his/her operation, seek confirmation of information used to determine current compliance, and, if necessary, resolve disagreements regarding compliance status.
6. The information included in a compliance status report provides important baseline information needed to determine and to secure and allocate funding and technical assistance to address on-farm conservation needs.
7. A geographic data base and record keeping system is necessary to provide ready access to compliance reports completed over time.

Note: The record-keeping system is the basis for a detailed accounting of the compliance history for each parcel evaluated. Information required for each tax parcel includes: location; receiving water; status (new; existing; in compliance; not in compliance) for each performance standard and prohibition applicable to the parcel; cost-share requirements; cost-share availability; notification history; compliance deadline; best management practice application & certification history; compliance history.

8. Mapping can be used to show the cumulative location of cropland parcels and livestock facilities that have been evaluated, and the associated compliance status of these lands and facilities.

B. Chippewa County will:

1. Establish a local process to provide for reconsideration of local administrative decisions regarding findings of compliance as established in a compliance report. The LCC will be the administrative body that reconsiders decisions made by County staff in implementing NR 151.
2. Prepare a compliance status report to document the results of each record review and on-site evaluation conducted for a livestock facility or cropping practice. The compliance status report will include the following information:
 - a. Parcel status (new versus existing)
 - b. The current compliance status of individual tax parcels with reference to each of the performance standards and prohibitions.
 - c. 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.
 - d. Status of eligibility (costs eligible) for public cost sharing.
 - e. Grant funding sources and technical assistance available from Federal, State, and local sources, and third party service providers.
 - f. An explanation of conditions that apply if public cost share funds are used.
 - g. Signature lines indicating landowner agreement or disagreement with report findings.
 - h. The purpose of the report, the implications for achieving and maintaining compliance.
 - i. Process and procedures to discuss evaluation results with county and or state.
 - j. If appropriate, a copy of performance standards and prohibitions and technical design standards.
3. Provide a copy of the compliance status report and review it with each landowner to explain the content of the report and procedures available to contest the findings or request a reevaluation. In doing so, the County will use the administrative process outlined in the flowchart included in Appendix A. This includes preparing, signing and delivering to landowners Letter Types A and B from Appendix A.
4. In circumstances where the facts and findings of the compliance status report are not agreed to by the landowner, gather additional information and/or provide the landowner with written procedures and a timeframe to pursue reconsideration of local decisions.
5. In circumstances where livestock facilities or cropping practices are not in compliance, assess the relative pollution threat associated with the noncompliance and make a determination regarding the allocation of staff and financial resources under Section 6 of this agreement.
6. Keep and maintain public records, as the custodial authority, following requirements of the Wisconsin Open Records Law.

7. Develop and maintain a geographically-based recordkeeping system and database to record the location where farm evaluations have been conducted and where compliance status reports have been issued. At a minimum, the database will contain the following information:
 - a. Location of parcel(s) evaluated as included in the compliance status report, recorded by Town, Range, Section and ¼ ¼ section.
 - b. Watershed where parcel is located
 - c. Owner of land at time of notification.
 - d. Date of compliance report.
 - e. Date compliance report mailed to landowner.
 - f. End date for landowner request of status report appeal or reconsideration.
 - g. Date of request for reconsideration of compliance report (if submitted).
 - h. Date letter mailed to landowner.
8. Upon completion of the process, record the compliance status of each livestock facility and cropping practice on the Chippewa County Track Index. The public documents to be formally recorded will be restricted to the following:
 - a. Public cost-share and stipulation agreements.
 - b. Letters of compliance issued to document that all standards and prohibitions specified under NR151 are met (Status Letter B).
 - c. Letters of compliance issued to document that select standards and prohibitions specified on a cost-share or stipulation agreement are met (Status Letter E).
9. Develop and maintain a GIS web-based index map showing:
 - a. The location of all tax parcels where compliance reports have been issued.
 - b. The locations where letters (Letter Type A, B) have been sent.
 - c. The date of the last revision.
 - d. The compliance status of the parcel.
10. Upon completion of the administrative process, issue and record a letter of compliance for each livestock facility and cropping practice, referenced to the appropriate tax parcel through the Chippewa County Track Index.

C. DNR will:

1. Co-sign Letter Types A and B in cases where it concurs with the County's findings.
2. Provide support to Chippewa County in explaining compliance determinations that DNR assisted in developing.

VIa. Component 6A: Secure Funding and Technical Assistance

A. The parties agree:

1. Previous commitments for cost-share funding have been made through cost-share agreements signed under the Duncan Creek Priority Watershed Project.

2. Section 281.16(3), Wis. Stats., and sections NR151.09(3)(c), and NR151.095(4)(d) prohibit the State or municipalities from requiring that “existing” practices and facilities, which were not in compliance with the agricultural performance standards and prohibitions on the effective date of the rule, to come into compliance through State regulation or local ordinance unless public cost share funds are provided for eligible costs.
3. NR151.09(3) and NR151.095(4) identify compliance requirements for owners and operators of cropland practices and livestock facilities based on whether the practices and facilities determined to be “existing” or “new”, and whether cost sharing is required and made available to the landowner or operator.
4. NR151 defines cost share availability requirements for funding administered by DNR under 281.65, Stats. ATCP 50 defines cost-share availability from any other source. These requirements must be clearly understood to ensure that proper determinations of cost-share availability, are made by DNR and County staff.
5. Cost-share funds to pursue compliance are now available from a combination of public and private non-profit grant sources, including: the Duncan Creek Priority Watershed Project, the DATCP Soil and Water Management Program (SWRM), the DNR Targeted Runoff Management Program (TRM), USDA cost-share and land set-aside programs and nonprofit organizations.
6. Developing cost-share funding proposals and grant contracts from single or multiple grant sources, requires significant knowledge of multiple grant programs, administrative rules, and contracting requirements.

B. Chippewa County will:

1. In circumstances where a cost share contract in the Duncan Creek Priority Watershed has not been fully implemented and where nonpoint performance standards and prohibitions are currently met, offer the producer the option of pursuing the contract, as previously agreed to, or the option of amending the contract to remove conservation practices which are not necessary to achieve compliance. The County will remove practices only if consistent with the priority watershed plan.

Note: The option for removing contracted procedures will not be extended to “critical sites”, previously identified by DNR as necessary to meet watershed plan pollution reduction goals.

2. Through its fiscal policy and grants management strategy, reserve a portion of state cost-share funds available through the DATCP Land and Water grants program for applicants that participate in the Chippewa County Voluntary Farm Evaluation and Certification Program. These funds will be allocated where:
 - a. Croplands or livestock facilities that have not met the agricultural nonpoint standards and prohibitions since their effective dates; or

- b. Agricultural nonpoint standards are now met and where additional conservation practices will achieve significant public water quality benefits, including circumstances where:
 - i. the pollutant source has no applicable standard, or where
 - ii. the existing nonpoint standards are not adequate to meet the State water quality standards or management objective for the water body.

- 3. Through its fiscal policy and grants management strategy, reserve a portion of state cost-share funding through the DATCP Land and Water grants program for cropland practices and livestock facilities that choose to not voluntarily come into compliance with standards and prohibitions, as determined through an evaluation conducted in response to a public complaint or a request submitted by DNR.
- 4. Within the limits of State staffing grants, apply for additional cost-share funds available through the DNR TRM grant program to provide offers of cost-share to achieve compliance with NR 151.
- 5. Convey to the responsible USDA agencies (NRCS and FSA) the County's preference to prioritize and allocate a portion of Federal cost share funds to applicants that participate in the Chippewa County Voluntary Farm Evaluation Program that do not, as yet, fully meet the State's agricultural nonpoint performance standards and prohibitions.
- 6. Within the limits of State staffing grants, pursue new sources of local, state and federal funds for applicants that participate in the Chippewa County Voluntary Farm Evaluation Program if required to implement performance standards and prohibitions.
- 7. Evaluate the availability of County staff to implement NR151.09 and NR151.095, and allocate effort based upon the availability of State staffing grants and/or direct reimbursement provided by DNR and/or DATCP for the purpose of implementing agricultural performance standards and prohibitions.
- 8. Evaluate and allocate County staff toward implementation of NR151.09 and NR151.095, based upon the availability of State staffing grants and/or direct reimbursement provided by DNR and/or DATCP for the explicit purpose of implementing agricultural performance standards and prohibitions through NR151.09 and NR151.095.
- 9. Within the limits of State staffing grants, make staffing commitments necessary to support the installation of conservation practices.

C. DNR will:

- 1. Assist Chippewa County in determining what constitutes an adequate offer of cost sharing under s. 281.65, Stats and chapters NR 153 and NR 154.
- 2. Establish procedures with DATCP to confirm availability of cost-share funding from sources other than s. 281.65.

VIIb. Component 6B: Option to Issue Non-Voluntary NR151 Notice of Cost-Share

A. Parties Agree:

1. In nearly all circumstances, landowners will be willing and able to implement conservation practices on a voluntary basis as necessary to comply with performance standards and prohibitions. In some instances, a landowner may not be willing to do so.
2. Chapter NR 151.09 and NR 151.095 set forth notification requirements that must be met before DNR can initiate enforcement action under Ch. 281, Stats., for non-compliance with performance standards and prohibitions. This includes provision of a notification to the landowner at the time that cost sharing is made available, or in cases when cost share is not required, when the compliance achievement period starts.
3. Notification requirements and cost-share availability requirements vary depending upon the legal authority that is used to enforce the standards and the source of funding. These requirements are documented in Appendix A.
4. Developing and issuing notices of cost sharing under the non-voluntary NR151 option is a joint responsibility of Chippewa County and DNR.

B. Chippewa County will:

1. Within limits of State staffing grants, and with input from DNR regional staff, prepare draft landowner notifications under NR 151.09 (5-6) and NR 151.095 (6-7) using DNR templates (See Letter Types C and D, Appendix A).

Note: This includes situations where an existing cost share contract in the Duncan Creek Priority Watershed has not been implemented to meet nonpoint performance standards and prohibitions and where DNR and County staff determine the site is a high priority for issuing the notice.

2. Provide draft notices to DNR regional staff for completion and DNR signature.

C. DNR will:

1. Sign and issue notices (Appendix A, Letter Types C & D) to landowners under NR 151.09 and NR 151.095.

VII. Component 7. Administer Funding and Technical Assistance/Re-evaluate Parcel

A. The parties agree:

1. If public cost share funds are offered to install conservation practices, through either the voluntary or non-voluntary option, a cost share agreement must be developed and public funds must be accounted for.

2. Cost-share agreements have historically been developed by professional staff who have a working knowledge of administrative rules, contracting procedures, agronomy and agricultural engineering.
3. A "farm conservation planning process" has historically been used to:
 - a. Compile physical information which describes the production potential and limitations of agricultural land.
 - b. Document current management practices which are being used to manage the crop and livestock production.
 - c. Inform and educate landowners of conservation practices which are available to meet conservation objectives.
 - d. Document the location and scheduled implementation of conservation practices as a basis for cost share contract development.
4. A site evaluation and engineering process has historically been used to:
 - a. Inventory and evaluate sources of agricultural runoff and nonpoint pollution.
 - b. Identify management options and best management practices to control runoff.
 - c. Prepare cost estimates of the available management options as a basis for decision making and contracting.
 - d. Survey and design the selected management system.
 - e. Layout and supervise the construction of the runoff system.
 - f. Through post construction inspections, verify that the runoff system was constructed according to the design.
5. The successful completion of the conservation planning, contracting, and engineering process requires a broad range of skills and services in the fields of agronomy, engineering, and public administration.
6. The DNR, DATCP, and County have, through the Wisconsin Nonpoint Source Water Pollution Abatement Program and the Soil and Water Management Program, recruited, supported, and maintained a technical delivery staff with proven expertise in administering a nonpoint pollution abatement program for the purpose of meeting agricultural performance standards and prohibitions.

B. The County will:

1. Within the limits of state staffing grants, establish and administer a budget and accounting system to receive and disperse state funds administered by the County on behalf of the State.
2. Within the limits of state staffing grants, employ or contract professional staff for the purpose of developing and administering cost share contracts on behalf of state and federal agencies.

When administering state or local cost-share agreements, the agreement will stipulate (or will be accompanied by a separate stipulation agreement) that the affected cropland practices and livestock facilities will maintain or be brought into compliance with applicable performance standards and prohibitions, as enumerated in the compliance status report. These cost-share documents will be recorded.

The status of each cost-share agreement will be maintained as part of the geographic database and record keeping system described in Section V.B.6.

3. Within the limits of state staffing grants, employ or contract a certified agronomist or conservation planner, for the purpose of providing conservation planning services to landowners, or for the purpose of reviewing the adequacy of conservation plans prepared by private service providers or federal agency staff.
4. Within the limits of state staff grants, employ or contract a licensed engineer, for the purpose of providing engineering design services, assuring construction oversight and evaluating and certifying installation of conservation practices to meet the agricultural performance standards and prohibitions, or for the purpose of reviewing the adequacy of engineering designs, and evaluating and certifying installation of conservation practices through review of "as-built" surveys provided by third party service providers (private sector or USDA conservation delivery system).
5. In circumstances where conservation planning or engineering services are provided to the landowner as a reimbursable expense under the DNR TRM Program or USDA cost share programs account for conservation planning and engineering expenses and bill the landowner at a standardized hourly rate upon completion of the contracted practice.
6. Upon completion of best management practices implemented through the cost share agreement, conduct an onsite evaluation of the operation to document compliance with the agricultural nonpoint performance standards and prohibitions.
7. Provide to DNR a draft letter of satisfaction to be issued to the landowner (See Letter Type E, Appendix A). Record this compliance following procedures in Section IV and V of this agreement.
8. Within the limits of state staffing grants, conduct ongoing compliance monitoring through Operation and Management (O&M Plan) support.

C. The DNR will:

1. Provide direct reimbursement to the County for engineering services performed to design and install best management practices through the TRM grant program.
2. With DATCP, seek to secure sources of funding to reimburse the County for its administrative and technical services.
3. Within the limits of available funding, conduct program reviews to verify that cost share funding and conservation services have been administered in accordance with appropriate state administrative rules.
4. Sign and mail satisfaction letters to landowners.

VIII. Component 8: Enforcement

A. The parties agree:

1. DNR and Chippewa County will use voluntary means, to the extent practical, to achieve compliance with performance standards and prohibitions, but may use enforcement when necessary to meet requirements of ch. 281, Stats., and NR151.
2. Each party has independent authority to enforce standards and reserves the right to exercise that authority without permission of the other.
3. To be effective, the public and affected landowners must perceive enforcement as a necessary option, pursued jointly by the parties, after voluntary measures to achieve compliance have failed.
4. Chippewa County has authority to enforce the performance standards and prohibitions under s. 281.16, Stats., but has chosen not to do so at this time.
5. DNR has authority to enforce performance standards and prohibitions through a number of statutory options. These include, but are not limited to:
 - a. Referral by DNR to the Wisconsin Department of Justice to seek relief under s. 281.98, Wis. Stats.,
 - b. Use of enforcement procedures under NR 243 and s. 283.89, Stats., to obtain compliance with performance standards and prohibitions or to resolve a water quality problem,
 - c. Use of other state laws, including citation authority under s. 29.601, Wis. Stats.
6. To be effective, enforcement procedures must be well coordinated between DNR and Chippewa County, and must be supported by both parties.
7. NR 151.09 and NR 151.095 establish the procedures that must be followed as pre-requisites to enforcement when DNR funds are used or when DNR pursues enforcement under s. 281.98, Wis. Stats.
8. The start of formal enforcement procedures are recognized to begin with the issuance of a Notice of Violation. Grounds for issuing a Notice of Violation letter is non-compliance by the landowner or operator with the notice issued under NR 151.09(5), NR 151.09(6), NR 151.095(6), or NR 151.095(7) and Component 6 of this agreement.

B. Chippewa County Will:

1. Support DNR's lead role in enforcement.
2. Identify cases where landowners do not follow the requirements of their noncompliance notices and provide this information to the DNR.
3. Participate in DNR enforcement conferences.

4. Provide background information to DNR needed for WPDES permits or to develop referral packages to the Wisconsin Department of Justice.
5. Provide testimony, documents or other technical support for enforcement cases.
6. In circumstances where the County has issued permits or is pursuing legal actions under other authority, ensure that appropriate information concerning those permits or enforcement activity is transmitted to DNR.

C. DNR will:

1. Take the lead role in initiating enforcement action, including issuing notices of violation.
2. Ensure that appropriate information concerning enforcement activity by the Department is transmitted to the County.
3. Schedule and conduct enforcement conferences if appropriate.
4. If a point source discharge exists, issue a WPDES permit or take enforcement action under NR 243 and ch. 283, Stats., if consistent with regional and statewide permitting priorities.
5. Determine compliance with permits if consistent with regional and statewide compliance activities.
6. Prepare referral packages to Attorney General's Office if non-compliance continues and referral is approved by the DNR Secretary's Office.

IX. Component 9. Ongoing Compliance Monitoring

A. The parties agree:

1. NR151.09(3)(b) and NR151.095(4)(b) require that existing cropland practices and livestock facilities, which are in compliance on or after October 1, 2002, remain in compliance without the offer of cost share.
2. Ongoing agricultural operations are dynamic in nature and continually change in response to market forces, changes in technology, and changes in land ownership.
3. Periodic evaluations are of direct value to current owners and operators, as they make routine business decisions which affect their agricultural operation, including those related to capital investments, land rental, and land sales.
4. Routine compliance monitoring is of direct value to the general public as a way to verify that compliance is maintained..

B. Chippewa County will:

1. For those operations that have received a letter indicating compliance (Appendix A, Letter Type A, B or E), implement a system of routine compliance monitoring. The extent of monitoring will be directly proportional to the amount of State funding allocated specifically to support this effort.
2. Under the monitoring system:
 - a. Conduct an annual reporting and self-certification program for operations that have an active State cost share contract subject to a 10 year Operation and Maintenance Plan.
 - b. Conduct an annual educational mailing in association with the annual property tax billing for operations that are in compliance, but no longer subject to provisions of an active operation and maintenance plan.
3. Assume a lead role in responding to public complaints following protocol for compliant response, procedures for site evaluation, and determinations as established in Sections 4 and 5 of this agreement.

X. Component 10: Annual Reporting

A. The parties agree:

1. Annual reports can be used track progress toward implementing the NR151 agricultural nonpoint performance standards and prohibitions.
2. The information contained in an annual report must be systematically collected and be readily available from the County's record-keeping system.
3. DNR will work with DATCP to collect information which can be compiled into an annual State-wide report to document the status of program implementation.
4. To assure that the appropriate information is gathered, the State agencies must define, in advance, what information each agency intends to request in order to monitor the status of program implementation, and the extent to which the standards have been applied

B. Chippewa County will:

1. By April 15 of each year, summarize and report to DNR information that summarizes the general compliance status of livestock facilities and cropland in the County. Information will be conveyed on reporting forms provided by DNR.

Note: Starting in 2005, NR 151 performance standards/prohibitions reporting form will be combined with LWRM reporting form.

2. The report will be augmented by a map that will show the cumulative location of cropland parcels and livestock operations which have been evaluated, and the associated compliance status of these lands and operations.

C. DNR will:

1. Develop an annual reporting form by which Counties will report the extent of confirmed compliance and the remaining workload to complete site evaluations to determine compliance.

Note: Information in the annual report is anticipated to include the following, summarized by county, watershed and performance standard/prohibition: total number of fields and facilities (estimate); portion of total that has been assessed (estimate); number of fields and facilities assessed (actual); number of assessed fields and facilities that are in compliance (actual); portion of assessed fields and facilities that are in compliance (actual).

2. Provide the form electronically to the County at least 2 months prior to the deadline for conveyance to DNR
3. Compile the County data from the report into a state-wide report to be presented to the Land and Water Conservation Board, DNR Board, Agricultural Board, Wisconsin Legislature, and other interested parties.

Note: DNR intends to develop this report jointly with DATCP.

Signatures

Dan Masterpole, County Conservationist
Chippewa County Land Conservation Department

date

Chair
Chippewa County Land Conservation Committee

date

John Paddock, Lower Chippewa Basin Leader
Wisconsin Department of Natural Resources

date

Russ Rasmussen, Runoff Management Section Chief
Wisconsin Department of Natural Resources

date

Appendix 5

Amendment to Chippewa County Operational Agreement Between DNR, Chippewa County Land Conservation Department, and Chippewa County Zoning Department for Stormwater Plan Review and Associated Engineering Services in Chippewa County.

LCD 2/20/02

**AMENDMENT TO CHIPPEWA COUNTY OPERATIONAL AGREEMENT
BETWEEN DNR, CHIPPEWA COUNTY LAND CONSERVATION DEPARTMENT,
AND CHIPPEWA COUNTY ZONING DEPARTMENT
FOR STORMWATER PLAN REVIEW AND ASSOCIATED ENGINEERING SERVICES
IN CHIPPEWA COUNTY**

This is an amendment to the current operational agreement which has developed between the Chippewa County Land Conservation Committee and cooperating State and Federal resource conservation agencies.

The amendment has been drafted to clarify the responsibilities and commitment of the Chippewa County Land Conservation Department (LCD), the Chippewa County Zoning Department (ZD), and the Wisconsin Department of Natural Resources (DNR), as necessary to implement the requirements for designed construction site erosion control in Chippewa County.

The Department of Natural Resources and Chippewa County propose to enter into this agreement to establish a cooperative approach for review of designed erosion control and stormwater management plans for construction site erosion control. In addition, these services can be extended to other areas of DNR authority that specifically require the development and review of erosion control and stormwater management plans.

The following findings have led the Department of Natural Resources and Chippewa County to develop this agreement.

The DNR and the County acknowledge:

1. DNR is the lead agency for the administration and implementation of Administrative Rule NR216, as it relates to stormwater management and construction site erosion control.
2. The Chippewa County Zoning Department is the lead agency for receiving and approving land division proposals, administering the grading provisions of the County Shoreland Zoning Ordinance, and administering the Construction Site Erosion Control provisions of the Uniform Dwelling Code for one and two unit residential developments.
3. State Administrative Rule NR216 now requires developers to obtain stormwater discharge permits. This requirement has created a significant State agency workload associated with stormwater plan review. Anticipated changes in Federal and State requirements for erosion control and stormwater management permitting will add to the existing workload for plan review under NR216.
4. The Chippewa County LCD employs qualified staff with engineering expertise, which could be applied to assist in NR216 activities.
5. Chippewa County and the DNR Lower Chippewa River Basin Team share common goals and objectives as they pertain to the management of resources in Chippewa County

6. The Department of Natural Resources and Chippewa County have an existing operational agreement that encourages interagency cooperation to pursue common resource management objectives.
7. To optimize use of available staff and program funding, it is in the mutual interest of Chippewa County and DNR to clarify stormwater management and construction site erosion control responsibilities, and to make commitments to assist in its implementation through this amendment to the Chippewa County Operational Agreement.

The DNR and the County agree:

1. DNR and Chippewa County will share notice of any planned land disturbing activities that fall under the authority of the Department's NR216 requirements. These notices would include potential land disturbing activities associated with proposed subdivision plats and other related development proposals.
2. Preliminary plat proposals and successive Certified Survey Maps received by the Chippewa County Zoning Department will be copied and forwarded through certified mail to DNR for review and comment.
3. DNR will evaluate the preliminary plat and make a determination of the department's jurisdiction. DNR will inform the Chippewa County ZD and LCD of each jurisdictional decision. In circumstances where the State jurisdiction applies, DNR will provide copies of required plans to the Chippewa County LCD.

Upon notice of a project, the LCD will immediately determine whether the County has available engineering staff capable to conduct the review. If it is determined that the County can not conduct the review, the County LCD will inform the DNR in writing within 48 hours.

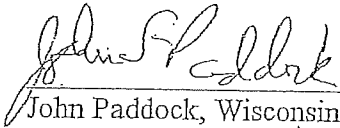
4. Chippewa County LCD agrees to provide engineering level assistance for reviews of erosion control and stormwater management plans developed in the DNR NR216 program or requirements for River Regulation Permits.

The LCD will review the plans using both State standards and specifications for stormwater management, erosion control, and water quality; and County standards and specifications. State BMP specifications are contained in NR104, NR103, NR102, NR216, NR151, the Wisconsin Construction Site Handbook, and Volume 1 and 2 of the Wisconsin Stormwater Manual. County standards and specifications are contained in documents titled County Stormwater Standards (dated Oct 25, 2001).

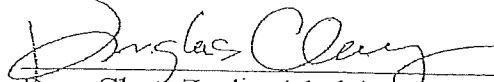
5. Chippewa County LCD will draft a Plan Review Report and forward this report to DNR and the County Zoning Department within 30 days of receipt of plans. The County *Plan Review (Report)* will address: 1. adequacy of the plans to describe the Stormwater proposal, and 2. adequacy of the proposed stormwater measures to meet the State and County standards and specifications.

6. DNR and Chippewa County LCD will cooperatively utilize site visits and inspections to help determine compliance with permitting requirements for erosion control and stormwater management practices. Site visits may be conducted during the following phases of the project: plan review, inspection of construction progress, and inspection of erosion control activities.
7. The Chippewa County LCD will develop a *Final Review of Construction (Report)* after completion of construction and final site reviews. This report will: 1. review adequacy of construction documentation provided by the landowner's engineer, and 2. document and verify installation of required practices and facilities. A copy of this report will be forwarded to the DNR and County Zoning Department.
8. The Chippewa County LCD will delegate responsibility for plan review, site visits, and construction inspection to qualified engineering staff, funded through County levy, and through a State grant allocated through the Duncan Creek Clean Water Project. Chippewa County and DNR will explore alternative grant funding sources as they become available.
9. Any party may terminate this amendment by giving 30 days prior written notice to the other parties.

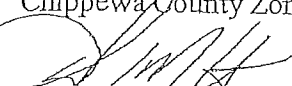
Signatures


John Paddock, Wisconsin DNR

3/6/02
date


Doug Clary, Zoning Administrator
Chippewa County Zoning Department

3/4/02
date


Dan Mastepole, County Conservationist
Chippewa County Land Conservation Department

2/21/02
date

Appendix 6

Format for Annual Interagency Soil & Water Conservation Work Plan

**RECOMMENDED FORMAT TO DEVELOP AND IMPLEMENT ANNUAL INTERAGENCY
SOIL & WATER CONSERVATION WORK PLAN
(With Example of 2019 Program)**

Target Audience	Purpose	Educational Message	Delivery Mechanism	Lead & Support Agencies	Date	Method for Evaluation
General Public						
Rural Landowners						
Agricultural Producers						
Youth						
Elected Officials						

