
Forest County Land and Water Resource Management Plan

2012-2016



ACKNOWLEDGEMENTS

Forest County's Land and Water Resource Management Plan was developed with input from a group of concerned residents and staff with diverse backgrounds. Special thanks are extended to the following people:

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Approved by the Forest County Board on: November 16, 2011

Approved By the Land & Water Conservation Board on: December 6, 2011

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- A – Summary of the Headwaters State of the Basin Report – 2002
- B – Impaired Waters List – 303(d) Waters
- C – Outstanding and Exceptional Resource Waters
- D – Soil Erosion Control Plan Waiver from DATCP
- E – LWRM plan guidelines Appendix D2 letter to DNR Water Basin Leader
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PLAN SUMMARY

Chapter 1

Introduction

The Forest County Land and Water Resource Management (LWRM) plan was developed to assist the county in managing and protecting the land and water resources throughout Forest County.

The goals and objectives in this plan will help resolve local natural resource problems as identified by the Citizens Advisory Committee (CAC). These goals and objectives will also provide the basis for various private, local, state, and federal agencies to coordinate implementation of their programs of land and water management.

Public Participation

The Forest County Land and Water Conservation Committee (LWCC) directed the Land and Water Conservation Department (LWCD) to gather a diverse group of agencies, associations, and individuals to assist in the development of this land and water resource management plan. The Technical Advisory Committee (TAC) and the CAC were established to assist the LWCC and the LWCD to create this 2012-2016 Forest County LWRM Plan.

In January 2011, the Regional DNR Office was contacted, and the Water Basin Leader was officially invited to participate in the TAC (see the letter in Attachment A). A Technical Advisory Committee (TAC) of natural resource professionals was gathered on April 4th 2011, to review the Resource Assessment (Chapter 3), and to add additional perspective on the inventory and current trends. The CAC members belong to various groups throughout the county. On June 16, 2011 the CAC met for a nominal group process event to identify and prioritize issues for Work Plan development.

CAC Priority Issues for Work Plan Development (Highest priority listed first.)

21 points – Control Invasive Species

16 points – Promote forest consumption

16 points – Coordinate recycling among local governments

10 points – Protect riparian areas

9 points – Use various educational avenues

4 points – Mining Issues

4 points – Water recreation

No Points – More control of ATVs & sleds

Comments from both the TAC and CAC meetings were incorporated into various parts of the plan.

The Public Hearing was held at 6:00 p.m. on Tuesday, August 30, and the LWCC met directly after the public hearing. All of the changes discussed during the public hearing were approved by the LWCC.

Current Land Use Issues

Overall, there are no major or widespread water quality problems regarding Forest County surface waters. Pollution of surface waters is generally minimal because the county is relatively undeveloped and there is little municipal or industrial waste. The streams exhibit good water quality with the majority supporting cold water fish communities and warm sport fish communities. There are 5 lakes, 4 creeks and 8 rivers that have been designated as outstanding resource waters (ORW) in Forest County. There are 24 water bodies in Forest County that are designated as exceptional resource waters (ERW). Attachment C lists all ORW and ERW waters.

Generally, the main sources of pollution that degrade water quality in the county are related to overdevelopment of lakeshores, poor forestry practices, failing septic systems, construction site erosion, and non-metallic mining. There are also a few point sources of water discharge that may affect the water quality, but have not deteriorated the receiving waters according to each water body not appearing on the 303(d) Impaired Waters list from the DNR. Impaired waters in Forest County occur from mercury deposition, the source of which is coal fired power plant emissions outside of the county and automobile road run-off.

Performance Standards and Prohibitions Implementation Strategy

Agricultural Performance Standards

A voluntary educational approach will continue to be used to achieve erosion control standards in Forest County. One-on-one contacts with landowners and operators who request technical assistance is the most common method used to promote soil conservation in Forest County.

Non-Agricultural Standards

A voluntary educational approach will continue to be used to achieve erosion control standards in Forest County. One-on-one contacts with landowners and contractors are the most common method used to promote construction erosion control.

NR 151 Performance Standards and Prohibitions Fact Sheets are in Attachment J.

Major 2006-2011 Work Plan Accomplishments

Goal 1: Promote well planned development to minimize negative impacts on land and water resources.

- Completed comprehensive plans for 10 towns, 1 city, 2 tribal communities, and Forest County.

Goal 2: Slow the spread of invasive species.

- Transport laws for boaters and anglers have been put in place to prevent the introduction and control the spread of aquatic invasive species.
- An Aquatic Invasive Species (AIS) coordinator has been hired through a DNR grant to work with Forest, Langlade, and Lincoln counties.

Goal 3: Protect shoreland areas by minimizing impacts from land disturbing activities.

- Received a \$100,000 grant from DATCP and restored or protected 1,100 feet of shoreline.
- Developed a Land and Water Conservation website for distributing information on habitat restoration and shoreland/riparian protection.

Goal 4: Encourage increased enforcement and education of shoreland ordinances and regulations.

- Provided information online explaining shoreland zoning and agencies that regulate shorelands.

Goal 5: Protect forestlands from land degrading activities.

- Created and hired a recreational officer position to help reduce erosion and habitat degradation from unauthorized ATV/motorized vehicle use.

Goal 6: Reduce phosphorus loading to surface waters.

- Continue enforcement and inspections of septic systems.

Goal 7: Reduce erosion from construction sites.

- NRCS Specification 5, Construction Site Pollution Control, is used for all cost share projects.
- Created and filled a part-time zoning position to assist with answering landowner questions.

Goal 8: Reduce mining practice impacts on ground and surface waters.

- Monitored at least 18 non-metallic mine sites throughout Forest County.

- The Non-Metallic Mine Reclamation Ordinance assures that lands open to mining are reclaimed to near pre-mine conditions, or to some other pre-determined final use.

Priority Farm Strategy

Agricultural land management is usually the focus of Land and Water Resource Management plans, because bare soil erodes fast. Forest County's largest crop is timber. Cleared forestland, usually on slopes steeper than most productive farmland exists on, is the land based focus of this plan as shown in Work Plan goal 4: "Maintain a healthy and vigorous forest." Forest County's county forests are dual certified (FSC & SFI) as sustainably managed; therefore the Forestry Department will continue to review silvicultural procedures that occur on county forest lands.

A general approach to providing information to all farms will occur with Work Plan activities. As problems become apparent from specific farms, then individual attention will be given to that farm to bring them into compliance.

It is a state requirement that every county prepares a Soil Erosion Control Plan. In 1997 the Forest County Board approved a resolution asking the Department of Agriculture Trade and Consumer Protection (DATCP) to grant them a waiver from preparing this strategy plan. Forest County was granted a waiver from DATCP to release them from their obligation to develop a Soil Erosion Control Plan because Forest County has relatively small amounts of cropland, and the magnitude and extent of cropland erosion is small. See Attachment C for a copy of the waiver.

High Priority 2012-2016 Work Plan Activities

The Work Plan is organized with the most important goals first. Objectives are prioritized under each goal, and actions are listed by highest priority in the Work Plan too.

Goal 1: Slow the spread of non-native invasive species.

- Control aquatic non-native invasive species
- Control terrestrial non-native invasive species.

Goal 2: Maintain a healthy and vigorous forest.

- Encourage sustainable forestry practices on private and public lands.
- Reduce illegal garbage dumping on commercial, county, state, and federal forest lands.

Goal 3: Protect shoreland areas.

- Promote best management practices to restore and maintain riparian habitat.
- Protect shoreland stewardship.

Goal 4: Reduce phosphorus loading to surface waters.

- Reduce phosphorus from septic systems.
- Reduce phosphorus pollution from lawns.
- Control soil erosion.

Goal 5: Promote well planned development.

- Implement local and county comprehensive plans.

Goal 6: Reduce mining impacts on water resources.

- Maintain working knowledge of mining laws.
- Non-metallic mining administration.

Regulations

Forest County has reviewed local, state, and federal regulations relating to land and water resource management for implementing this plan. The regulations that cover land or water resources are briefly described in Chapter 7 of this plan.

Progress Tracking, Evaluation, & Coordination

The Forest County Land and Water Resource Management Plan is intended to be a working document. This plan will be reviewed annually by the Land and Water Conservation Committee to track progress in accomplishing the goals and actions of this plan. The methods that will track the progress of the Work Plan are described in Chapter 8. Coordination among many agencies will be necessary to effectively complete Work Plan actions.

Conclusion

The Forest County Land and Water Resource Management Plan provides a framework for local/state/federal conservation program implementation efforts. It is a working document that will utilize existing partnerships to achieve the goals and objectives identified within this plan. The availability of funding for staff and cost sharing will determine the progress in achieving the goals and objectives of this plan. Ultimately, implementation of this plan will protect and improve the valuable natural resources of Forest County as well as maintain the vision of preserving Forest County's abundant rural character.

PLAN DEVELOPMENT AND PUBLIC PARTICIPATION

Chapter 2

Introduction

Locally led natural resource management is an important concept in Wisconsin land and water conservation. State and federal agencies support the idea that local residents are best suited to identify and provide solutions for natural resource problems within a county. At the root of the county Land and Water Resource Management (LWRM) plan is the concept of cooperation among local residents and all natural resource agencies operating within the county. The Department of Agriculture, Trade, and Consumer Protection (DATPC) requires that each county Land and Water Conservation Department (LWCD) locally create a 5-year Land & Water Resource Management (LWRM) plan (Ch.92, WI Statutes) to coordinate LCD activities. The Forest County Land Conservation Committee (LCC) contracted with North Central Wisconsin Regional Planning Commission (NCWRPC) to assist with facilitating the LWRM planning process.

Chapter ATCP 50 implements Wisconsin's soil and water resource management program under Ch. 92, WI Stats. The Department of Agriculture, Trade and Consumer Protection administers the Soil and Water Resource Management Program (Ch. ATCP 50) in cooperation with county land conservation committees, the Land and Water Conservation Board, the Department of Natural Resources and other state and federal agencies. The program has the purposes specified under Sec. 92.14 (2), WI Statutes.

What is a LWRM Plan?

The process of the plan development is as important as the finished plan, so we will start by describing how the plan was created.

The process includes an assessment of resource conditions and needs within the county, as well as group decisions by local citizens and resource professionals on the best methods of addressing identified needs. Local, state, and federal water quality goals and conservation objectives are also considered in plan development. The Forest County Land and Water Conservation Committee of the County Board oversaw the whole plan development process. Local natural resource management professionals participated in a group meeting and reviewed how any new information should change the current Work Plan goals, objectives, and activities. A group of county residents with various backgrounds participated in a group meeting to review what the local professionals had to say, and then created and chose which goals to make the highest priority. Several reviews occurred along with a public hearing, and

then it was presented to the Land and Water Board in Madison for approving the way we created the plan according to their overall requirements.

The resulting LWRM plan serves as a long-term strategic plan for the Land and Water Conservation Department (LWCD), county residents, and partnering state and federal natural resource agencies. The plan directs conservation efforts within the county and assists in forming annual work plans for the LWCD and agencies. It is also used to support applications for conservation grant funds, including annual state grants for county staff and support costs.

At a minimum, a LWRM plan must describe:

- Water quality and soil erosion conditions throughout the county;
- Water quality objectives;
- Key water quality and soil erosion problem areas;
- Conservation practices needed to address water quality and erosion problems;
- A plan to identify priority farms and other sites within the county;
- Strategies to encourage voluntary implementation of conservation practices;
- State and local regulations that the county will use to implement the plan;
- Compliance procedures that apply if enforcement actions occur;
- Multi-year work plan for the LWCD to implement conservation practices and achieve compliance with state runoff management performance standards; and
- How the LWCD will measure and monitor progress on the work plan, provide information and education and coordinate its conservation program with state and federal agencies.

Plan Development with Public Participation

The focus of this plan's development process was to identify and prioritize land and water resource issues to develop a Work Plan that addresses those issues. The Work Plan coordinates agency efforts to conserve the land and water natural resources in the county.

A good start to any planning process is finding out what currently exists. NCWRPC staff collected land and water resource inventories from a variety of sources that were assembled during creation of the County's Comprehensive Plan.

In January 2011, the Regional DNR Office was contacted, and the Water Basin Leader was officially invited to participate in the TAC (see the letter in Attachment E).

A Technical Advisory Committee (TAC) of natural resource professionals was gathered on April 4, 2011, to review the Resource Assessment (Chapter 3), and to add additional perspective on the inventory and current trends. Those perspectives were incorporated into Chapter 3. TAC members also reviewed and revised the Work Plan according to what actions worked well. The CAC still needed to determine what issues are of highest priority. The TAC professionals are listed with their representation on the back of this plan's cover. A general TAC meeting summary is in Attachment G. Jim Klosiewski, DNR Rhinelander, and Tom Jerow, DNR Northern Region Water Leader, both provided comments via email and phone that were also incorporated.

A summary of the DNR Headwaters State of the Basin Report exists in Attachment A. The DNR basin report has not changed since 2002, and is not projected to change until collected data shows a need for a change, therefore this LWRM Plan anticipates covering an additional 10 year horizon (2012-2022) just as the DNR basin plan.

The TAC rearranged the goals to meet new priorities per below:

From:

- #1 Promote well planned development to minimize negative impacts on land and water resources.
- #2 Slow the spread of invasive species.
- #3 Protect shoreland areas by minimizing impacts from land disturbing activities.
- #4 Encourage increased enforcement and education of shoreland ordinances and regulations.
- #5 Protect forestlands from land degrading activities.
- #6 Reduce phosphorus loading to surface waters.
- #7 Reduce erosion from construction sites.
- #8 Reduce mining practice impacts on ground and surface waters.

To:

- #1 Slow the spread of invasive species.
- #2 Protect shoreland areas by minimizing impacts from land disturbing activities.
- #3 Encourage increased enforcement and education of shoreland ordinances and regulations.
- #4 Protect forestlands from land degrading activities.
- #5 Reduce phosphorus loading to surface waters.

- #6 Reduce erosion from construction sites.
- #7 Promote well planned development to minimize negative impacts on land and water resources.
- #8 Reduce mining practice impacts on ground and surface waters.

The Citizens Advisory Committee (CAC) was a diverse group of residents appointed by the Forest County Land and Water Conservation Committee (LWCC) to be the CAC for the plan. CAC members are listed with their representation on the back of this plan's cover. Their first task was to familiarize themselves with the data and professional assessments of the extensive land and water resources they experience every day. On June 16th, 2011, a University of Wisconsin–Extension (UWEX) staff member facilitated a nominal group process event for the CAC to identify and prioritize issues for Work Plan development. Each CAC member received 10 points to assign to groups of comments that they just created. The brainstormed ideas that made the following categories are listed in Attachment H. The categories listed below were created after the CAC meeting from the CAC grouped brainstormed ideas.

CAC Priority Issues for Work Plan Development (Highest priority listed first.)

21 points – Control Invasive Species

16 points – Promote forest consumption

16 points – Coordinate recycling among local governments

10 points – Protect riparian areas

9 points – Use various educational avenues

4 points – Mining issues

4 points – Water recreation

No points – More control of ATVs & sleds.

General CAC discussion occurred about forest management within Forest County. Forestry silviculture has the potential to affect land and water resources much more than any agricultural activities within the county.

The Land and Water Conservation Department updated the current Work Plan and NCWRPC revised the Resource Assessment chapter per the TAC and CAC comments and priorities.

The LWCC approved the draft plan with changes at their June meeting. Changes were made to the Work Plan for two reasons: 1) to relieve the Zoning staff from providing educational efforts and having the LWCD perform those activities instead; and 2) they reprioritized the goal "Maintain a healthy and vigorous forest" from #4 to become more prominent (#2) as the CAC desired.

The Public Hearing was held at 6:00 p.m. on Tuesday, August 30, and the LWCC met directly after the public hearing.

Several plan changes were made.

- Work Plan Accomplishments numbers were revised to reflect the 5 years of accomplishments.
- Under Work Plan Goal 2's Objective C, Activity #5 was added: "Review and consolidate solid waste contracts countywide."
- Under Work Plan Goal 3, Objective D and one activity were added: "D. Reduce eutrophication." "1. Promote Title 3 applications among various service clubs."
- Under Work Plan Goal 3, Objective A, the number "900 feet" was added to quantify amount of shoreline restoration.
- Under Work Plan Goal 8, the existing activity about staying informed and ready to act on proposals was replaced with: "Create a countywide mining ordinance."

All of the changes discussed during the public hearing were approved by the LWCC.

On October 4th, 2011, the Land & Water Conservation Board (LWCB) in Madison "tabled approval" of the Forest County Land and Water Resource Management plan update (2012-2016). The LWCB required creation of measurable outcomes to each goal's action in the Work Plan portion of the plan.

What has changed?

1. The LWCB noted that several goals looked the same, so NCWRPC reviewed them, and combined some goals, and added all the actions under the new goal.
2. The *Measurement Tools for County Departments* column was added, and outcomes were added by NCWRPC and LWCD for each action, which makes goal progress easier to determine.

The LWCC slightly revised the Work Plan at their November 7, 2011, meeting, and then approved the resolution to forward this plan to the full county board for their approval later in November.

The Land & Water Conservation Board (LWCB) in Madison is scheduled to review this plan for final approval on December 6, 2011.

RESOURCE ASSESSMENT

Chapter 3

Forest County is named for its main land use that covers 92% of the county: forests. About 59% of the county is publicly owned land, including 348,644 acres in the Chequamegon-Nicolet National Forest. The topography of Forest County is of glacial origin, and is underlain by bedrock that makes up the southern extension of the Canadian Shield. Lakes and rivers cover about 3% of the county. Surface water is used mainly for recreation, wild ricing, fishing, wildlife, and residential development occurs along the shorelines. Agriculture exists on about 2% of the land throughout Forest County, mainly of forage crops, animal husbandry, and various other uses. The lakes and forests entice people to come "Up North" to buy a cabin or to build their retirement home. About 51% of housing in the county consists of vacation homes.

Location/Geography

Forest County is located in northeastern Wisconsin. Three urban communities exist: downtown Laona, downtown Wabeno, and the City of Crandon, which is the county seat. The county is bounded on the north by Upper Peninsula of Michigan and the Brule River, which forms the Wisconsin-Michigan Boundary; on the east by Florence and Marinette Counties; on the south by Oconto and Langlade Counties; and on the west by Oneida and Vilas Counties. See Map 1.

Previous Reports Summarized

Plans that were used to make this LWRM Plan are summarized below:

Forest County Land & Water Resource Management Plan 2006-2011
(<http://www.ncwrpc.org/counties/forest/lwrp.htm>.)

This Plan provides a framework for local/state/federal conservation program implementation efforts. Implementation of this plan will help protect and improve the valuable water and soil natural resources in Forest County. Some of the plan's recommendations include: promoting well planned development, slowing the spread of invasive species, reducing phosphorus loading to waters, protecting shorelands, and reducing erosion from construction sites. A copy is available in the Forest County Land Conservation Department.

Map 1 - Location

County Forest Comprehensive Land Use Plan 2006–2020

Contact the Forest County Forestry Department to access this plan.

This plan incorporates or references all county forest policies, pertinent county ordinances, planning documents, and the needs and actions to occur from 2006 to 2020.

Specific flora and fauna within the county forest are described in this plan. The purpose of the County Forest Law as stated in § 28.11, WI Stats., is generally to provide the basis for the planned development and management of the county forests for optimal production of forest products together with recreational opportunities, wildlife production, watershed protection and stabilization of stream flow, to assure maximum public benefits, and to compensate the counties for the public uses, benefits and privileges these lands provide; all in a manner which will provide a reasonable revenue to the towns in which such lands lie.

Forest County Comprehensive Plan 2011-2021

<http://www.ncwrpc.org/forest/forestcp.html>.

The comprehensive plan is a combination of nine chapters—Issues & Opportunities; Natural, Cultural, & Agricultural Resources; Housing; Transportation; Economic Development; Land Use; Utilities & Community Facilities; Intergovernmental Cooperation; and Implementation. Zoning and subdivision ordinances must be consistent with the comprehensive plan. An extensive inventory of natural and agricultural resources exists in this plan for use in the LWRMP.

Headwaters State of the Basin Report, 2002

http://dnr.wi.gov/org/gmu/upwis/imp/headwaters_i.pdf

The Headwaters Integrated Basin Plan comprises a six county area in the northeastern portion of Wisconsin including the counties of Forest, Florence, Lincoln, Langlade, Oneida and Vilas. The Headwaters Basin includes 42 watersheds from five basins. The five basins are the Green Bay, Lake Superior, Upper Chippewa, Wolf River and Upper Wisconsin. The basin plan provides a snapshot of the current condition of land and water resources in the basin and identifies priority resource issues and concerns. Attachment A contains the major resource issues, concerns, and recommendations identified in the plan as they relate to the Forest LWRM plan.

Wisconsin Land Legacy Report 2006-2056

A copy is available at WDNR Service Centers or online at:
http://dnr.wi.gov/Master_Planning/land_legacy.

This report is a comprehensive inventory of the special places that will be critical to meet future conservation and outdoor recreation needs for the next fifty years. Some of the questions asked to guide creation of this report were: Which lands and waters remain unprotected that will be critical for conserving our plants and animals and their habitats? What gaps exist now (and will likely emerge in the future) in providing abundant and satisfying outdoor recreation? How can we most effectively build upon the state's existing investment in protected lands to fill conservation and recreation gaps? What special places will our children and grandchildren wish we had protected?

The Land Legacy report recommends protection of these lands by using federal, state, and local funding opportunities; along with: possibly creating new kinds of incentives for landowners, working to craft comprehensive plans, or offering different types of technical assistance.

Each Forest County Legacy Area is summarized below with 5 stars representing the highest level for that category:

CN Chequamegon-Nicolet National Forest

Size Large
Protection Initiated Substantial
Protection Remaining Limited
Conservation Significance☆☆☆☆☆
Recreation Potential ☆☆☆☆☆

PE Peshtigo River

Size Large
Protection Initiated Substantial
Protection Remaining Moderate
Conservation Significance ☆☆☆☆
Recreation Potential ☆☆☆☆☆

LH Laona Hemlock Hardwoods

Size Small
Protection Initiated Limited
Protection Remaining Substantial
Conservation Significance ☆☆☆☆☆
Recreation Potential ☆☆☆

UP Upper Wolf River

Size Large
Protection Initiated Substantial
Protection Remaining Moderate
Conservation Significance☆☆☆☆☆
Recreation Potential ☆☆☆☆☆

Other Areas of Interest includes:

- North Otter Creek
- Elvoy and Brule Creeks

The Laona Hemlock Hardwoods (LH) are locally known as the Connor Forest. It is interesting to note that the Connor Forest (Laona Hemlock Hardwoods) has been managed longer than the Nicolet side of the Chequamegon-Nicolet National Forest.

NRCS Soil Survey for Forest County, 2004

http://soils.usda.gov/survey/online_surveys/wisconsin/

The Natural Resource Conservation Service (NRCS) is a federal agency that prepared the Forest County, Wisconsin Soil Survey. The survey contains predictions of soil behavior for selected land uses and also highlights the limitations and hazards inherent in the county's soil. A series of detailed maps identifying the location of soil types in Forest County accompanies the survey.

The *Geology & Soils* section of the LWRM Plan was based on this Soil Survey.

Map 2 – Existing Land Use

General Land-Use

As the county's name implies, the majority of Forest County is forest covered, and sparsely populated. Forest County has a total area of almost 670,000 acres; of that total: 92% is forested, 3.4% is water, 1.8% is agricultural use, and the remaining land area (about 3%) is recreational, residential, commercial, and industrial development as shown on Map 2.

The future land use demands for residential, commercial, and industrial uses total over 680 acres from 2010 to 2015 and an additional 1,120 acres by 2030. Agricultural land demand will remain stable over the entire period, so no additional land is projected.

The following is a brief description of the major land uses and their trends in Forest County.

Agriculture

The most productive agricultural areas may be found in the southern half of the county. These areas are mostly flat and therefore conducive to the use of large farm machinery and the efficient application of chemicals. Areas with high water tables, and steep slopes are less productive for row crop production, but many are suited well for forage and managed pasture. There are still many farms that can make use of small irregular shaped parcels if they are located in close proximity.

Table 1 provides census data regarding the total amount of farmland and the size of farms in the county and state. Between 1997 and 2007, the county added over 7,600 acres of farmland, while average farm size declined.

	Farmland (acres)			Average Farm Size (acres)		
	1997	2002	2007	1997	2002	2007
Forest County	26,150	33,630	33,805	236	205	195
State	14,900,205	15,741,552	15,190,804	227	204	194

Source: Census of Agriculture, 1997, 2002, & 2007

Farm-to-market roads, commodity storage and processing plants, and implement dealerships are probably the most significant farming infrastructure. Quality roads are absolutely necessary to the farmer for transporting the wholesale farm product to the appropriate market in a timely manner. Adequate land and electricity must be available to store and process the harvested crops. Tractors break down, and other implements need replacement parts. The number and type of farms in the county support several businesses in Forest and adjacent counties to service modern farm implements. Depending upon the type of farming, irrigation wells may also be

extremely important. Irrigation equipment is not a common sight in Forest County since most crops are forage crops that do not need irrigation.

A brief description of soils and their limitations for cropland and pasture is described at the end of this chapter under **Geology & Soils**.

Forestry

Forest County is characterized by well developed public and private forests with a mixture of hardwoods and conifer stands. In 2006 there were 564,100 acres of forestlands. By 2009, about 92% of the county (615,672 acres) was forestlands.

Under the Forest Crop Law (FCL) 4,544 acres are open to the public to hunt and fish in 2009. There are 101,585 acres, in 2009, enrolled in the Managed Forest Law (MFL) program that are open to the public for hunting, fishing, cross-country skiing, sightseeing, and hiking, and 26,726 acres that are closed to public access.

The Chequamegon-Nicolet National Forest contains 64% of the forestland in Forest County. Private landowners own 29% of the forestland, and the remaining 7% of the forestland is owned by Forest County, school districts, local municipalities, Board of Commissioners of Public Lands, and state forest.

Residential Development

Parts of the county have seen strong growth in the number of housing units constructed, with much of this growth in seasonal and recreational properties. Much of the highest value housing property is concentrated around Crandon in the Towns of Lincoln and Nashville. Forest County's year 2000 median age is higher than the state median.

Forest County is aging, but all the municipalities are not aging at the same rate. Three Forest County towns that added the most population in the 1990s (Lincoln, Nashville, and Wabeno) also have large Tribal populations. The Tribal populations are relatively young as shown with 20.6 (Potawatomi) & 26.0 (Mole Lake) median ages in 2000 (U.S. Census).

Housing will continue to be needed throughout the county as the population continues to increase. There will be an additional 290 people in the county by 2015. Based on projected population growth and the average persons per household of 2.6, it was determined that an additional 122 housing units will be needed for the new residents alone. This does not include demand for seasonal housing, which currently accounts for about 51 percent of the housing stock.

Commercial & Industrial Development

Commercial and industrial development in Forest County is a relatively small land use, and projected employment growth will not use much additional land. Between 1990 and 2009, the three fastest growing sectors were: Arts, entertainment, & recreation; Services; and Government. The expansion of the arts entertainment & recreation sector was due to the State of Wisconsin creating gaming compacts, which led the construction of two casinos in the early 1990s. The Northern Lights Casino and the Mole Lake Casino are two of the largest employers in Forest County.

Brownfields are usually defined as abandoned, idle, or under utilized industrial or commercial facilities where expansion or redevelopment is complicated by environmental contamination. There are 10 open-status sites in Forest County that have contaminated groundwater and/or soil. These sites are composed of 6 Leaking Underground Storage Tank (LUST) sites and 4 Environmental Repair (ERP) sites.

Map 3 – Water Resources

Surface Water

Forest County has 824 lakes covering 22,324 acres, and streams with a total length over 710 miles and a surface area of about 1,770 acres. The majority of these streams are classified as trout waters. Surface water is used mainly for recreation, and wildlife. Watersheds are shown on Map 3.

The Eastern Continental Divide directs the flow of surface water in Forest County into two major bodies of water – Green Bay and the Mississippi River. The vast majority of the surface water in Forest County flows to the east and southeast and eventually into Green Bay. Three major rivers – the Brule, the Pine, and the Popple – flow in that direction and are part of the Menominee River watershed. Both the Pine and Popple Rivers are designated as "wild" under the Wisconsin Wild River Act (Ch. 30.26 WI Stats.).

The Peshtigo River and its feeder streams encompass the largest watershed in the county. This river flows to the southeast and enters Green Bay in southeastern Marinette County. The Wolf River, whose headwaters originate at Pine Lake, flows southward into Lake Poygan in Winnebago County. Several small streams on the far western edge of the county flow to the west and are part of the Wisconsin River watershed.

The secondary drainage system in Forest County consists mainly of surface runoff and hillside seepage into basins and depressions caused by the last glacial period. Some of these areas have drainage outlets, but most of this system tends to be poorly developed, which is a natural state.

Surface water is an important resource to Forest County, however it is threatened by both point and non-point source pollution. Nonpoint source pollution, often the result of stormwater runoff and erosion, is pollution that cannot be traced to a single source, and can come from roadways, parking lots, farm fields and construction sites. The more of these impervious surfaces the greater the runoff that is carried into the waterways.

The Wisconsin State Legislature created the Wisconsin Nonpoint Source Water Pollution Abatement Program (NPS) in 1978 (§281.66, Wis. Stats.). The goal of the NPS Program is to improve and protect the water quality of streams, lakes, wetlands, and groundwater by reducing pollutants from agricultural and residential non-point sources. The WDNR and DATCP administer the program, which focuses on critical hydrologic units called priority watersheds. The program is implemented through priority watershed projects led by local units of government. Landowners, land renters, counties, cities, villages, towns, sewer districts, sanitary districts, lake districts, and regional planning commissions are eligible to participate.

Overall, there are no major or widespread water quality problems regarding Forest County surface waters that can be controlled within Forest County. Pollution of surface water generally occurs from mercury deposition, the source of which is coal fired power plant emissions and automobile road run-off. Pollution of surface water generally is minimal because the county is relatively undeveloped and there is little municipal or industrial waste. The streams exhibit good water quality with the majority supporting cold water fish communities and warm sport fish communities.

Basin & Watersheds

There are 13 watersheds contained completely or partially within Forest County as shown in Table 2. The Eastern Continental Divide directs flow of surface water in Forest County into two major bodies of water, Green Bay and the Mississippi River. The vast majority of the surface water flows east and southeast to Green Bay. The secondary drainage system in Forest County consists mainly of surface runoff and hillside seepage into basins and depressions. Some of these areas have drainage outlets.

A watershed ranking process (Table 1) was developed by DNR to rank watersheds based on the extent of nonpoint source pollution, the effect on water quality and the ability to manage the pollution sources. In some cases the data was not sufficient to produce a ranking.

Watershed	Overall Ranking	Stream Ranking	Lake Ranking	Groundwater Ranking
Brule River (GB18)	Low	Low	Low	Low
Deerskin River (UW46)	Medium	Low	High	Low
Eagle River (UW44)	Low	Not Ranked	High	Low
Lily River (WR19)	Not Ranked	Not Ranked	Not Ranked	Low
Lower North Branch of Oconto River (GB05)	Low	Low	Not Ranked	Low
Middle Peshtigo and Thunder Rivers (GB10)	Low	Low	Not Ranked	Low
Otter Creek and Rat River (GB12)	Low	Low	Not Ranked	Low
Pelican River (UW40)	Low	Not Ranked	Medium	Low
Pine River (GB16)	Medium	Low	Medium	Low
Pike River (GB 14)	Not Ranked	Low	Not Ranked	Not Ranked
Popple River (GB17)	Low	Low	Not Ranked	Low
Upper Peshtigo River (GB11)	Low	Low	Not Ranked	Low
Upper Wolf River & Post Lake (WR20)	Not Ranked	Not Ranked	Not Ranked	Low

Source: WDNR Rhinelander, 2011

The rankings are used by DNR as a basis to award nonpoint source pollution grants to local units of government for nonpoint source pollution planning and/or cost sharing of best management practices for agricultural and urban land use.

Impaired Waters – 303(d) Waters

The DNR maintains a list of surface waters that do not meet specific water quality standards outlined by section 303(d) of the Clean Water Act. The DNR is required to update the list every two years. A current list of impaired waters exists on the DNR website under: 303(d) List of Impaired Waters.

In 2010 there were 10 waterbodies in Forest County on the 303(d) list. All ten of these waterbodies are listed due to fish consumption advisories for mercury contamination, and are a low priority for clean-up.

A list of 303(d) waters are in Attachment B.

Outstanding/Exceptional Resource Waters

Wisconsin has designated many of the state's highest quality waters as Outstanding Resource Waters (ORWs) or Exceptional Resource Waters (ERWs). Waters designated as ORW or ERW are surface waters which provide outstanding recreational opportunities, support valuable fisheries and wildlife habitat, have good water quality, and are not significantly impacted by human activities. ORW and ERW status identifies waters that the State of Wisconsin has determined warrant additional protection from the effects of pollution. These designations are intended to meet federal Clean Water Act obligations requiring Wisconsin to adopt an "antidegradation" policy that is designed to prevent any lowering of water quality – especially in those waters having significant ecological or cultural value.

ORWs typically do not have any point sources discharging pollutants directly to the water (for instance, no industrial sources or municipal sewage treatment plants), though they may receive runoff from nonpoint sources. New discharges may be permitted only if their effluent quality is equal to or better than the background water quality of that waterway at all times—no increases of pollutant levels are allowed.

ERWs are more likely designated if a waterbody has existing point sources at the time of designation. Like ORWs, dischargers to ERW waters are required to maintain background water quality levels.

Outstanding Resource Waters in Forest County include 5 lakes, 4 creeks, and 8 rivers. Exceptional Resource Waters in Forest County include 19 creeks, and 5 rivers.

Designation as an ORW or ERW has implications for permitting, in order to protect the quality of the waterway.

- Point source discharges must meet background water quality, except in specific cases on ERW.
- A general or individual permit is required for various waterway alteration activities.
- Increased environmental review is required for high capacity wells near ORW/ERW.

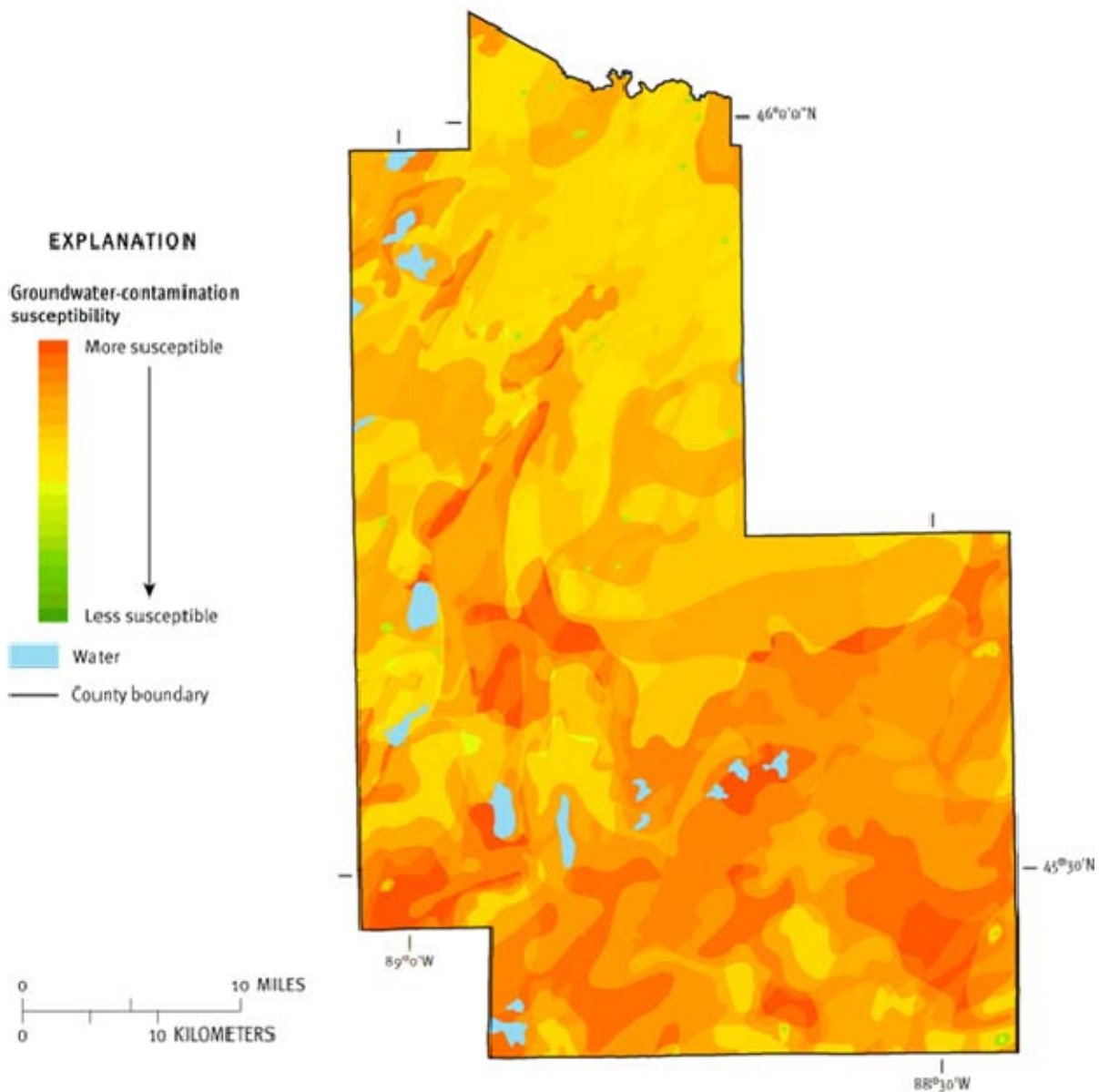
A list of ORWs & ERWs are in Attachment C and shown on Map 3.

Groundwater

Groundwater resources supply most of the water needs in Forest County. It is readily available in quantities necessary to meet domestic agricultural, municipal and industrial needs. The depth to groundwater below the surface depends on the general topography, elevation above the permanent streams level, and the lithology of the underlying bedrock and glacial deposits. Large yields of ground water are available where the thickness of the saturated drift is at least 50 feet. The glacial drift produces well yields ranging from 5 to 1,000 gallons per minute. Yields of at least 500 gallons per minute are common. Most high-capacity wells are 30 to 300 feet deep. Precambrian crystalline rock underlying the county is not considered a significant source of water. The availability of water from the bedrock is difficult to predict and is probably less than 5 gallons per minute. The glacial drift aquifer above the bedrock is the best source of ground water.

The areas that have sandy soils and shallow depth to groundwater are more susceptible to groundwater contamination. Contamination of groundwater reserves can result from such sources as percolation of water through improperly placed or maintained landfill sites, private waste disposal located near the water table, leaks from sewer pipes, and seepage from mining operations into the aquifer. Runoff from livestock yards, urban areas, and improper application of agricultural pesticide or fertilizers can also add organic and chemical contaminants in locations where the water table is necessary to ensure adequate amounts of suitable water to domestic, agricultural, and industrial users.

Forest County – Groundwater-Contamination Susceptibility Analysis



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

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

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

Groundwater quality summary:

- 100% of 43 private well samples collected in Forest County from 1990-2006 met the health-based drinking water limit for nitrate-nitrogen.
- A 2002 study estimated that 18% of private drinking water wells in the region of Wisconsin that includes Forest County contained a detectable level of an herbicide or herbicide metabolite. Pesticides occur in groundwater more commonly in agricultural regions, but can occur anywhere pesticides are stored or applied.

Potential sources of groundwater contamination summary:

- There are no atrazine prohibition areas in Forest County.
- There are 10 open-status sites in Forest County that have contaminated groundwater and/or soil. These sites are composed of 6 Leaking Underground Storage Tank (LUST) sites and 4 Environmental Repair (ERP) sites.
- There are no concentrated animal feeding operations in Forest County.
- There are no licensed landfills in Forest County.
- No closed landfills are leaking.
- There are no Superfund sites in Forest County.

Geology & Soils

Forest County is located entirely in the Northern Highlands physiographic region, which was glaciated during the Pleistocene Age by the Langelde Lobe. Most of the soils formed under forest vegetation, which results in a light-colored soil that has a relatively low content of organic matter. This soil layer is typically 35 inches deep throughout the county, with glacial till underlying the soil.

The parent material of the soils in Forest County are mainly glacial till or glacial mudflow sediment, glacial outwash, and lacustrine deposits, which in places are covered by a thin layer of silty or loamy windblown material. Some of the soils formed in more recent deposits of organic material or alluvium. Glacial till ranges from 30 to 300 feet in depth throughout the county, and most high-capacity wells are found in these depths.

The Langlade Lobe was the latest advance of glacial ice that moved over most of Forest County from northeast to southwest. Drumlins left behind by the Langlade Lobe are cored with sand and gravel that have been overlain by glacial mudflow sediment. Another feature left by the Langlade Lobe is the Laona moraine, which is just north of Laona. This moraine is composed mostly of hummocky sand, gravel, and mudflow sediments. Throughout the county are areas of pitted and hummocky sand and gravel deposits.

Forest County is underlain by middle Precambrian igneous (granite) & metamorphic (gneiss and quartzite) bedrock that makes up the southern extension of the Canadian Shield. The bedrock surface is irregular throughout the county and slopes generally to the east and southeast. When this granite, gneiss and quartzite bedrock weathers, sandy soils are the result.

Limitations for cropland and pasture

The soils in Forest County have potential for increased production of crops. Food production could be increased by extending the latest crop production technology to all cropland in the county. Some acreage currently being used as woodland could be used for crop production. However, climatic conditions and market availability make this unlikely.

Water erosion is generally a hazard in areas where the slope is more than about 2 percent. Much of the acreage in Forest County is susceptible to water erosion, but most of this acreage has a protective cover of vegetation. Erosion is a concern in areas where erodible soils are used for row crops.

Soil blowing is a hazard on many of the soils in Forest County, especially the sandy soils. Windbreaks help to prevent the damage to soils and crops caused by soil blowing, and they also conserve soil moisture. Small grain crops can be planted as a cover, and green manure crops and a system of conservation tillage can be used to maintain surface cover, maintain the content of organic matter, and reduce the hazard of soil blowing.

Soil drainage is a major management concern in some of the crop and pasture areas in the county. If the organic soils are drained, then they oxidize, subside, and are subject to soil blowing when the pore spaces fill with air.

Crops grown in most areas of poorly drained and very poorly drained soils are subject to frost damage because of the low position of these soils on the landscape. The number of frost-free days per season is lower in these areas than on adjacent uplands because of cold air drainage to the lowlands.

Soil Erosion from Cropland

The Northern Wisconsin Cropland Study (1999) identified 5 percent of non-federal rural county land as cropland, 3 percent as surface waters, 90 percent as forest, and 2 percent as residential, commercial or industrial land.

In 1999 a transect survey was conducted in Forest County to evaluate soil erosion. The survey calculated the "T", or the allowable soil loss, of the soils. Cropland Transect Survey data indicates that 28% of the fields have a "T" of three, 65% have a "T" of four, and 7% have a "T" of five. The approximate average "T" is 3.8 per acre. The report also indicates that 46% of the cropland are on slopes of 0-2%, 27% are on slopes of 3-4%, 23% are on slopes of 5-7%, 2% are on slopes of 8-10% and 2% are on slopes greater than 10%. The report indicates present crop rotations are also erosion limiting by nature. The majority of the cropland is in forage production, which reduces the likelihood of erosion. The following is the breakdown of rotations: 78% forage production, 7% small grains, 7% idle conservation cover and 8% row crops/specialty crops.

It is a state requirement that every county prepares a Soil Erosion Control Plan. In 1997 the Forest County Board approved a resolution asking the Department of Agriculture Trade and Consumer Protection (DATCP) to grant them a waiver from preparing this plan. Forest County was granted a waiver from DATCP to release them from their obligation to develop a Soil Erosion Control Plan because Forest County has relatively small amounts of cropland, and the magnitude and extent of cropland erosion is small. See the waiver in Attachment D.

A voluntary educational approach will continue to be used to achieve erosion control standards in Forest County. One-on-one contacts with landowners and operators who request technical assistance is the most common method used to promote soil conservation in Forest County.

Conservation plans, which plan individual crop fields to the tolerable soil loss rate or "T", are prepared for participants in the Farmland Preservation Program. Participation is through voluntary 10-25 year individual agreements due to no exclusive agricultural zoning in Forest County. The County Land Conservation Department manages agreements for cropland within mapped areas identified in the 1982 Forest County Farmland Preservation Plan.

PERFORMANCE STANDARDS AND PROHIBITIONS

Chapter 4

Performance Standards and Prohibitions

The County land and water resource management plans are the local mechanism to implement performance standards and prohibitions (NR 151 – summary in Attachment F). Through Wisconsin Act 27, the Wisconsin Legislature amended state statutes to allow county land & water conservation committees to develop implementation strategies for addressing local water quality priorities related to controlling erosion, sedimentation, and nonpoint source water pollution.

The Technical Advisory Committee recommended that the Performance Standards continue to be implemented on a voluntary basis, and that a memorandum of understanding shall be created so that enforcement is handled by the DNR.

Agricultural Performance Standards

Agricultural land management is usually the focus of Land and Water Resource Management plans, because bare soil erodes fast. Forest County's largest crop is timber. Cleared forestland, usually on slopes steeper than most productive farmland exists on, is the land based focus of this plan as shown in Work Plan goal 4: "Maintain a healthy and vigorous forest." Forest County's county forests are dual certified (FSC & SFI) as sustainably managed; therefore the Forestry Department will continue to review silvicultural procedures that occur on county forest lands.

For the **priority farm strategy**, a general approach to providing information to all farms will occur with Work Plan activities. As problems become apparent from specific farms, then individual attention will be given to that farm to bring them into compliance.

Cost-share program funding to minimize nonpoint source pollution

The program is designed to conserve Wisconsin's soil and water resources, reduce soil erosion, prevent nonpoint source pollution and enhance water quality. The LWCD offers a cost-share program for county landowners through ATCP 50 grant funding. The primary emphasis of the program is to restore native vegetation to shoreland property in order to reestablish riparian buffer areas. Forest County shoreland zoning also has an element within the ordinance to not mow vegetation within particular shoreland buffer areas.

Healthy buffer zones reduce nonpoint source pollution and impede soil erosion.

Animal waste is generally not a pollution concern due to the relatively low number of livestock operations. However, the county does help monitor farms and offers cost-share funding to individuals to help bring problem farms into compliance.

Non-Agricultural Performance Standards

A voluntary educational approach will continue to be used to achieve erosion control standards in Forest County. One-on-one contacts with landowners and contractors are the most common method used to promote construction erosion control.

Land Disturbance Activities Subject to Stormwater Management and Erosion Control

All activities directly related to the planting, growing and harvesting of agricultural crops are not considered land disturbance activities under this section. Land disturbance activities to the shoreland zone are regulated by the Forest County Zoning and Shoreland Protection Ordinance. Forest County also requires new businesses to address erosion control and stormwater management through Administrative Review permits and Conditional Use permits.

Standards for Stormwater Management and Erosion Control

Stormwater runoff, soil erosion, siltation, or sedimentation from all land disturbing and development activities shall meet standards in NR 151 and 216 and COMM 60 and 20-21, Wis. Adm. Code and/or shall be controlled in accordance with Technical Guidelines as developed by the U.S. Department of Agriculture, Natural Resources Conservation Service, or the Wisconsin Department of Natural Resources.

2006-2011 WORK PLAN ACCOMPLISHMENTS

Chapter 5

This chapter is a summary of how each of the Work Plan goals was accomplished. Actions for each goal are described. Knowing what has occurred helps to determine which actions to continue with when creating the next 5-year Work Plan.

Goal 1: Promote well planned development to minimize negative impacts on land and water resources.

Completed Comprehensive Plans for 10 towns, 1 city, 2 tribal communities, and Forest County. Continue to provide planning assistance to implement those plans.

Goal 2: Slow the spread of invasive species.

Transport laws for boaters and anglers have been put in place to prevent the introduction and control the spread of aquatic invasive species.

Co-hired an Aquatic Invasive Species (AIS) Coordinator through a DNR grant to work with Forest, Oneida, and Lincoln counties. Also added a recreational officer in the Sheriff's Department, and a part-time zoning position to assist with slowing aquatic and terrestrial invasive species.

Provided educational brochures on aquatic and terrestrial invasive species to 14 lake associations, two county departments (LWCD & Zoning), and various boat landings throughout the county, and the Crandon Library.

Printed and distributed over 10,000 AIS identification placemats to over 20 local restaurants.

Distributed key chains, and brochures about AIS at 2 main festivals in Crandon, and the county fair.

Goal 3: Protect shoreland areas by minimizing impacts from land disturbing activities.

Received a \$100,000 grant from DATCP for 1,100 feet of shoreline restoration and protection.

Developed a Land and Water Conservation website with information about habitat restoration and shoreland/riparian protection.

Distributed educational materials through 14 lake associations, the AIS Coordinator, the zoning office, and the land and water conservation department.

Goal 4: Encourage increased enforcement and education of shoreland ordinances and regulations.

Provided information online explaining shoreland zoning and agencies that regulate shorelands.

Hired a recreational officer through the Sheriff's Department.

Goal 5: Protect forestlands from land degrading activities.

Created and hired a recreational officer position to help reduce erosion and habitat degradation from unauthorized ATV/motorized vehicle use.

Encouraged sustainable forestry practices on private lands by speaking in 3 workshops annually.

Continued enforcement of illegal garbage dumping on public lands, and provided information on proper trash disposal to seasonal property owners via brochures distributed by the Towns.

Goal 6: Reduce phosphorus loading to surface waters.

Continued enforcement and inspections of septic systems.

Informed shoreland owners about the harmful effects of phosphorus lawn fertilizers near riparian zones via spring and fall newsletter articles in the lakes association newsletter. The zoning office also provides brochures to residents who ask about developing in riparian areas.

Goal 7: Reduce erosion from construction sites.

NRCS Specification 5, Construction Site Pollution Control, is used for all cost share projects.

Created a part-time zoning position to assist with answering landowner questions.

Goal 8: Reduce mining practice impacts on ground and surface waters.

Monitored at least 18 non-metallic mine sites throughout Forest County.

The Non-Metallic Mine Reclamation Ordinance assures that lands open to mining are reclaimed to near pre-mine conditions, or to some other pre-determined final use.

2012-2016 WORK PLAN

Chapter 6

Based upon the resource concerns identified by the CAC, the resource information available, and the TAC, the Work Plan was updated from the 2006-2011 plan. Goals, objectives, and actions in the Work Plan are listed in priority order. This 2012-2016 Work Plan will focus LWCD activities on an annual basis with regular reviews by the LWCC.

The LWCD along with agency partners will implement the action items listed in the Work Plan as staff and funding become available.

The LWCD has available staff to complete most of the Work Plan activities.

The estimated costs listed in the *Estimated Annual LWCD Staff Hours/Cost* column are annual hours projected to be used by staff to complete the objectives. Costs listed are based upon salary and fringe benefits of LWCD staff in 2011 dollars. Information strategy implementation production costs for Work Plan activities are coming from other departments and therefore are not listed.

The *Measurement Tools for County Departments* column provides targeted actions that represent measurable outcomes to each goal. LWCD staff will use these actions to determine progress on each Work Plan activity on an annual basis.

General administrative activities, including grant, financial, personnel management, and information and education activities listed in Chapter 9 are not included in the LWCD staff hours. We anticipate using 1,820 hours (one FTE) to perform these activities at an estimated cost of \$62,600 annually based upon salary and fringe benefits in 2011 dollars.

Goal 1: Slow the spread of non-native invasive species.

(Anticipated Outcome – To protect native ecosystems.)

Objective (Highest priority listed first)	Activities (Highest priority listed first)	Responsible Agencies (Lead agency in bold)	Estimated Annual LWCD Staff Hours/Cost	Measurement Tools For County Departments
A. Control aquatic, non-native, invasive species.				
	1. Seek second DNR grant to cost share a part-time aquatic invasive species position to coordinate county activities.	LWCD, Forestry	252 hours \$5,900	Apply for and implement DNR 1 grant of \$50,000 annually.
	2. Work with FCAL to coordinate and monitor invasive control & education activities.	AIS Coordinator, LWCD, Zoning, UWEX	120 hours \$3,000	Attend 12 meetings of FCAL per year. Create and maintain county database. Make 2 presentations. Attend at least 6 local lake association meetings annually.
B. Control terrestrial, non-native, invasive species.				
	1. Distribute educational materials for terrestrial invasive species to the general public by posting online.	LWCD, Forest County Lakes Association, AIS Coordinator	184 hours \$4,300	Provide information on LWCD website update as needed to keep site current. Distribute 500 pieces of educational materials to 10 public places annually.
	2. Encourage National Forest to manage forest to curtail spread of invasive species.	Forestry, County Board		Send 3 attendees annually to Conservation Congress Meetings.
	3. Continue participation with Wild Rivers Invasive Species Coalition (WRISC) across Forest, Florence, and Marinette Counties.	LWCD, Forestry, AIS Coordinator, DNR, UWEX, Zoning	40 hours \$1,000	Attend minimum of 6 meetings of WRISC. Distribute materials to USFS, lake associations, 3 bait shops, Forest County Area Chamber, and local county libraries.
	4. Use non-invasive species soil stabilizing seed stock.	Highway, LWCD Zoning, Forestry, UWEX	8 hours \$200	Meet with Highway Commissioner twice annually.

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Forest County Land and Water Resource Management Plan – Work Plan 2012-2016

	5. Encourage farmers to plant food plots with non-invasive forage plants.	NRCS, LWCD, UWEX	8 hours \$200	Create fact sheet with names of non-invasive forage plants and place on LWCD website. Provide info. in UWEX newsletter.
	6. Seek grants or other funding sources to offer cost sharing on shoreline restoration practices.	LWCD, Zoning NRCS, UWEX, DNR	20 hours \$400	Seek at least one DNR grant of \$20,000 annually. Continue providing letters of support as requested.

Goal 2: Maintain a healthy and vigorous forest.

(Anticipated Outcome – Promote forest consumption through proper silvicultural activities and various recreational pursuits.)

Objective (Highest priority listed first)	Activities (Highest priority listed first)	Responsible Agencies (Lead agency in bold)	Estimated Annual LWCD Staff Hours/Cost	Measurement Tools For County Departments
A. Encourage sustainable forestry practices on private and public lands.				
	1. Have Forest Service coordinate their Forest Management plan with all county and local plans to manage the forest for multiple uses and harvest the resource to the greatest extent possible.	County Board, Forestry		Invite representatives of Forest Service to attend one county board meeting annually. Have county and local plans available to the public in office and online.
	2. Support forestry groups such as Wisconsin Productivity Council, Trees for Tomorrow, Wisconsin Woodland Owners, Forestry Industry Safety Training Alliance (FISTA), and Wisconsin County Forests Association.	DNR, Forestry, LWCD	8 hours \$200	Attend 4 Wisconsin County Forestry Association meetings annually. Attend an additional 4 meetings forestry related annually.
	3. Provide private woodland owners with information about BMPs through existing FISTA workshops.	DNR, USFS, Forestry, LWCD, NRCS, UWEX	8 hours \$200	Provide BMP updates to loggers annually who bid on timber sales.
	4. Provide input on USFS forestry management plan implementation.	Forestry		Attend annual meetings with the USFS.

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Forest County Land and Water Resource Management Plan – Work Plan 2012-2016

B. Reduce erosion and habitat degradation from unauthorized ATV use.				
	1. Continue ATV Trail Ambassador program training & Ride Smart program.	Forestry , Sherriff, ATV Clubs		Attend a minimum of 6 meetings annually of local ATV clubs. Distribute 10,000 Forest County ATV Maps annually. Distribute 500 Nicolet State Trail maps and Wolf River State Trail maps annually. Update maps annually.
C. Reduce illegal garbage dumping on commercial, county, state, and federal forest lands.				
	1. Establish at least 5 common garbage drop off sites for weekend visitor trash throughout the county.	Zoning , Towns		Coordinate 5 garbage drop-off sites throughout County.
	2. Educate the public with brochures, radio ads, newspaper, and Internet postings.	UWEX , Forestry, DNR, USFS, Zoning		Provide fact sheet of places of drop off sites in County.
	3. Encourage enforcement at the town and county level.	Sheriff , Forestry, DNR, USFS		Continue enforcement in 13 towns and City of Crandon.
	4. Promote existing clean up days using volunteer organizations.	Forestry, DNR, USFS, Private Land Owners		Advertise in 2 newspapers of spring and fall clean up days.
	5. Review and consolidate solid waste contracts countywide.	Zoning		Monitor and review one contract annually.
D. Encourage landowners and land management agencies to properly construct and maintain roads.				
	1. Work with towns and industry to design proper road and culvert design to prevent erosion.	Highway, DNR, USFS, Towns, LWCD, UWEX, FISTA	8 hours \$200	Highway to host annual training workshop for towns. LWCD to meet with Highway Committee annually.

Goal 3: Protect shoreland areas.

(Anticipated Outcome – Minimize water quality degradation from land disturbing activities.)

Objective (Highest priority listed first)	Activities (Highest priority listed first)	Responsible Agencies (Lead agency in bold)	Estimated Annual LWCD Staff Hours/Cost	Measurement Tools For County Departments
A. Promote best management practices to restore and maintain riparian habitat.				
	1. Seek second DNR grant to cost share a part-time aquatic invasive species position to coordinate county activities.	LWCD , Forestry	(Already accounted under Goal 1, A, 1.)	Apply for and implement DNR 1 grant of \$50,000 annually.
	2. Develop a habitat restoration web page for riparian property owners to use.	LWCD , NRCS, UWEX, DNR, Forest County Lakes Assoc.	16 hours \$400	Habitat restoration webpage accessible on county and FCAL websites.
	3. Provide sources of information for riparian property owners at the library.	LWCD , NRCS, UWEX	8 hours \$200	Refresh brochure racks and reservable CD-ROM at 3 libraries in County.
	4. Hold educational workshop to teach contractors, real estate agents, and riparian owners about natural shoreline restoration practices.	LWCD , NRCS, UWEX, DNR, Forest County Lakes Assoc.	184 hours \$4,300	Annual workshop attended by 5 contractors, 3 real estate agents, and 5 lake association boards.
B. Promote shoreland stewardship.				
	1. Distribute AIS placemats to restaurants, and provide brochures at festivals and libraries.	AIS Coordinator , LWCD, Zoning, Lake Associations	40 hours \$1,000	Distribute 10,000 AIS placemats to 20 local restaurants/bars. Present information at 3 festivals, and within all 3 county libraries.
	2. Furnish educational handout explaining shoreland zoning, and post it online.	Zoning , LWCD, NCWRPC, UWEX	8 hours \$200	Educational handout available in office and online.
	3. Provide a contact list to landowners of agencies that regulate shorelands and wetlands, and post it online.	Zoning , LWCD, DNR, Towns, UWEX	8 hours \$200	Contact list available to landowners in office and online.

(Continued on next page.)

Forest County Land and Water Resource Management Plan – Work Plan 2012-2016

C. Protect critical habitats and reduce development pressures on small, more sensitive water bodies.				
	1. Assist lake associations with applying for DNR lake grants.	LWCD, DNR	8 hours \$200	Encourage all lake associations to apply for lake grants, and offer letters of support as requested.
D. Reduce eutrophication.				
	1. Promote Title 3 applications among various service clubs.	USFS-RAC		Talk with 3 clubs annually.

Goal 4: Reduce phosphorus loading to surface waters.

(Anticipated Outcome – Maintain or improve existing water quality.)

Objective (Highest priority listed first)	Activities (Highest priority listed first)	Responsible Agencies (Lead agency in bold)	Estimated Annual LWCD Staff Hours/Cost	Measurement Tools For County Departments
A. Reduce phosphorus from septic systems.				
	1. Educate landowners through mailings and newspaper articles on septic system maintenance according to state law.	Zoning, UWEX, LWCD,	15 hours \$330	Provide fact sheet, place on county website, distribute to 15 public places
	2. Continue enforcement and inspections at the county level according state law.	Zoning, LWCD	8 hours \$168	Provide 1,200 inspections annually.
	3. Encourage local technical college to train more sanitary inspectors.	Zoning, LWCD, UWEX	2 hours \$42	Contact the college annually to support more training.
B. Reduce phosphorus pollution from lawns.				
	1. Set up information displays at local stores selling lawn fertilizer.	LWCD, UWEX	92 hours \$2,150	Create and install 3 displays annually.
	2. Encourage retailers to sell "no phosphorus" fertilizers.	LWCD, UWEX	92 hours \$2,150	Meet with 3 store managers annually.
	3. Educate landowners via press releases or news stories that phosphorus fertilizer is not allowed in shoreland areas.	LWCD, UWEX	92 hours \$2,150	2 press releases annually, 1 info sheet on county website, make available to lake associations online and in LCS office

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Forest County Land and Water Resource Management Plan – Work Plan 2012-2016

C. Control soil erosion.				
	1. Educate landowners on proper erosion control by distributing educational information when possible.	NRCS, LWCD	92 hours \$2,150	Hold annual spring workshop for homeowners. Post publications on County and FCAL websites, and make publications available in each local library.
	2. Hold educational workshop to teach contractors, real estate agents, and riparian owners about natural shoreline restoration practices.	LWCD, NRCS, UWEX, DNR, Forest County Lakes Assoc.	(Already accounted under Goal 3, A, 4.)	Annual workshop attended by 5 contractors, 3 real estate agents, and 5 lake association boards.
	3. Support adequate zoning staff levels.	County Board		Provide proper amount of staff in Zoning office as determined by County Board.
	4. Promote construction site erosion control on all riparian sites.	LWCD, Zoning	92 hours \$2,150	Provide BMP brochure to every riparian site applicant.

Goal 5: Promote well planned development.

(Anticipated Outcome – Implement the Comprehensive Plan to minimize negative impacts on land and water resources.)

Objective (Highest priority listed first)	Activities (Highest priority listed first)	Responsible Agencies (Lead agency in bold)	Estimated Annual LWCD Staff Hours/Cost	Measurement Tools For County Departments
A. Implement local and county comprehensive plans.				
	1. Provide necessary technical information to local units of government for planning efforts.	LWCD, Zoning, NCWRPC	184 hours \$4,300	Review and revise county zoning ordinance. Provide zoning assistance to 4 towns.

Goal 6: Reduce mining impacts on water resources.

(Anticipated Outcome – Ready to act on mining proposals.)

Objective (Highest priority listed first)	Activities (Highest priority listed first)	Responsible Agencies (Lead agency in bold)	Estimated Annual LWCD Staff Hours/Cost	Measurement Tools For County Departments
A. Maintain working knowledge of mining laws.				
	1. Create a countywide mining ordinance.	Zoning, LWCC		Create and adopt ordinance as mining techniques apply and according to law.
B. Non-metallic mining administration.				
	1. Administer non-metallic mining ordinance.	LWCD, LWCC	300 hours \$6,300	Annually review and administer 18 non-metallic mine permits.

REGULATIONS

Chapter 7

Regulation Types

Forest County has relied on the following state regulations for the protection of natural resources:

- Department of Natural Resources – Chapter 30, Wisconsin Statutes – Navigable Waters
- Department of Natural Resources – Wisconsin Pollution Discharge Elimination System Permits
- Department of Natural Resources – Performance Standards - Administrative Code NR 151
- Department of Natural Resources – NR216 Stormwater Discharge Permits and Construction Site Erosion Control
- Department of Natural Resources – Chapter 29.601, Wisconsin Statutes – Noxious Substances

Forest County constantly updates the following local regulations as new information becomes available:

- Forest County Zoning Code
- Forest County Subdivision Code

Enforcement Process

A landowner that is out of compliance with state performance standards and prohibitions and refuses technical and financial assistance from the Forest County Land Conservation Department will be notified by mail that they are subject to enforcement actions. They will receive a multi-agency communication from the Land Conservation Department and Department of Natural Resources. A copy of the enforcement letter will be sent to the Department of Agriculture, Trade and Consumer Protection. Landowners who are in violation of the Forest County Zoning or Subdivision Code will be referred to the Forest County Corporation Counsel. Landowners who are in violation of the soil erosion control standards will be referred to the Department of Natural Resources in Rhinelander.

MONITORING AND EVALUATION

Chapter 8

Introduction

This chapter addresses both water quality monitoring and briefly summarizes the plan for progress and evaluating the effectiveness of the Land and Water Resource Management Plan.

The Forest County LWRM plan is intended to be a working document that will be reviewed annually by the LWCC and LWCD to track progress in accomplishing the goals and actions of the Work Plan. Monitoring and evaluation of specific resource issues can be accomplished in many different ways. Some of the methods to track the progress of the LWRM plan are:

1. Performance Standards and Prohibitions Monitoring and Evaluation

GIS technology will be used as a tool to track and monitor landowner compliance with the performance standards and prohibitions. In addition, all data regarding landowner compliance with the performance standards and prohibitions will be kept in hard copy format in the landowner file.

2. Water Quality Monitoring

Citizen volunteers are monitoring lakes through the Citizen Lake Monitoring program. There are 22 lakes monitored for clarity. Fifteen lakes are monitored for chemistry (phosphorus and chlorophyll). Eight lakes are monitored for Eurasian Watermilfoil. Five lakes are monitored for Curly leaf pondweed. Other lakes are monitored for specific invasive species too. Forest County supports this monitoring program and will continue to encourage lake associations and lake property owners to voluntarily participate in this program. Continued monitoring efforts will maintain the lake inventory of aquatic invasive species that is shared with the DNR and UW Extension Lakes Program.

3. Phosphorus Loading

Nutrient loading can adversely affect water quality by promoting excessive plant growth. In order to reduce nutrient loading by animal waste, all newly installed barnyard systems will be evaluated to ensure compliance with the Waste Water Treatment Strip Standard, which requires phosphorus reduction. The Wastewater Treatment Strip and BARNY spreadsheet will be used to determine compliance with the standard.

4. Nutrient Management

In cooperation with DATCP, Forest County will monitor and measure nutrient management progress by tracking Nutrient Management Plan Checklists with the acres and planner and performing periodic plan review to monitor compliance with soil test levels.

5. Annual Reporting/Spotchecks

As required, Forest County will report to DATCP and DNR on progress towards implementation of the performance standards and prohibitions as well as other soil and water resource activities. In addition, DATCP and NRCS conduct annual engineering and conservation planning spotchecks to ensure compliance with all applicable technical standards.

All the methods can relate to each other in that phosphorus loading will be noticed when monitoring water quality. If there is phosphorus loading, then the Nutrient management can be looked at and improved on. If self help monitoring and evaluation is not working, then more volunteers will be necessary to increase water quality testing. Nutrient management will be accomplished by monitoring steps 1 thru 5.

INFORMATION AND EDUCATION STRATEGY

Chapter 9

Information and education strategies are an integral part of this plan and Forest County's conservation programs. Educational opportunities for youth and property owners raise their awareness of land and water resource protection and enhancement.

Upon hiring the AIS Coordinator with two other counties came a slew of educational resources that did not exist before. Educational brochures about aquatic and terrestrial invasive species were redesigned. AIS identification placemats were printed for local restaurants. Key chains were created and distributed at local fairs within the county.

Many of the objectives in the Work Plan emphasize information and educational strategies like posting information on the Internet, creating new brochures, holding workshops, continuing the speaking contest, and using existing brochures. Many information and education activities are outlined within the Work Plan. As plan implementation proceeds and as Work Plan delineated groups meet to determine how best to solve a resource concerns, then the LWCD will further define how to create additional information and education strategies.

COORDINATION

Chapter 10

Coordination

The LWCD staff seeks input from and works closely with a diverse group of agencies, associations, and organizations involved in resource management and protection in Forest County. These agencies and groups include: United States Department of Agriculture – Farm Service Agency (FSA), Natural Resource Conservation Service (NRCS), and United States Forest Service (USFS); Wisconsin Department of Agriculture, Trade, & Consumer Protection (DATCP); Wisconsin Department of Natural Resources (DNR) staff such as Water Resources Management Specialists, Fisheries Biologists, Water Regulations and Zoning Specialists, Water Program Management staff, Watershed Management Staff, & Forestry staff; Army Corp of Engineers, University of Wisconsin – Extension; Forest County Forestry, Zoning, Highway, & Sheriff departments; Forest Industry Safety and Training Alliance, Inc. (FISTA); Forest County Lakes Associations; Forest County ATV Clubs; & Forest County Land & Water Conservation Department.

Each agency, organization, association, and individual has its individual resource issues, programs, and plans; but cooperatively we can work together for the greater good of Forest County's land and water resources. Plans from other agencies that relate to this plan were reviewed and documented in Chapter 3 Resource Assessment – Previous Reports Summarized.

GLOSSARY

Chapter 11

303(d) Waters – Also called **List of Impaired Waters**. This list identifies waters that are not meeting water quality standards, including both water quality criteria for specific substances or the designated uses. It is used as the basis for development of Total Maximum Daily Loads (TMDLs) under the provisions of section 303(d)(1)(C) of the Clean Water Act, U.S. Environmental Protection Agency (EPA). EPA requires that the DNR update its list every 2 years.

Aquatic Invasive Species Coordinator (AIS Coordinator) – An educational outreach position to combat aquatic invasive species.

Animal Waste Management Program – This regulatory program, administered by the DNR via NR 243, seeks to identify and correct animal waste-related water quality problems.

ATCP 50 – The chapter of Wisconsin's Administrative Code that implements the Land and Water Resource Management Program as described in Chapter 92 of the State Statutes. It identifies those conservation practices that may be used to meet performance standards.

Best Management Practices (BMPs) – The most effective conservation practice or combination of conservation practices for reducing nonpoint source pollution to acceptable levels.

Chapter 92 – Portion of Wisconsin Statutes outlining the soil and water conservation, agricultural shoreland management, and animal waste management laws and policies of the State.

Conservation Plan – A record of decisions and intentions made by land users regarding the conservation of the soil, water and related natural resources of a particular unit of land.

Conservation Reserve Enhancement Program – An add-on to the CRP program, which expands and builds on CRP's success in certain areas of the state.

Conservation Reserve Program (CRP) – A provision of the federal Farm Bill that takes eligible cropland out of production and puts it into grass or tree cover for 10-15 years.

Cooperator – A landowner or operator who is working with, or has signed a cooperative agreement with, a county LWCC.

County Conservationist – County Land Conservation Department head, responsible for implementing programs assigned to the LWCD and for supervising LWCD staff.

Critical Sites – Those sites that are significant sources of nonpoint source pollution upon which best management practices shall be implemented as described in s. 281.65(4)(g) 8.am., WI Stats.

Department of Administration (DOA) – The state agency responsible for establishing the comprehensive planning grant program

Department of Commerce (COMM) – The state agency responsible for establishing statewide standards for erosion control at building sites for the construction of public buildings and places of employment.

Department of Agriculture, Trade and Consumer Protection (DATCP) – The state agency responsible for establishing statewide soil and water conservation policies and administering the state’s soil and water conservation programs. The DATCP administers state cost-sharing funds for a variety of LWCC operations, including support for staff, materials and conservation practices. Referred to in the LWRM plan guidelines as the “department”.

Department of Natural Resources (DNR) – The state agency responsible for managing state owned lands and protecting public waters. DNR also administers programs to regulate, guide and assist LWCCs, LWCDs and individual land users in managing land, water, fish and wildlife. The DNR administers state cost-sharing funds for priority watershed project, Targeted Runoff Management (TRM) grants, and Urban Nonpoint Source Construction and Planning grants.

District Conservationist (DC) – NRCS employee responsible for administering federal conservation programs at the local level.

Environmental Protection Agency (EPA) – The agency of the federal government responsible for carrying out the nation’s pollution control laws. It provides technical and financial assistance to reduce and control air, water and land pollution.

Environmental Quality Incentives Program (EQIP) – Federal program to provide technical and cost-sharing assistance to landowners for conservation practices that provide water quality protection.

Farm Service Agency (FSA) – USDA agency that administers agricultural assistance programs including price supports, production controls and conservation cost-sharing.

Farmland Preservation Program (FPP) – A DATCP land-use program under Chapter 91, Wisconsin Statutes, that helps preserve farmland through local

planning and zoning, promotes soil and water conservation and provides tax relief to participating landowners.

Forest County Association of Lakes (FCAL) – The purpose of the FCAL, Inc. is to facilitate education, research, and sharing to protect Forest County inland water bodies. This term is used in the Work Plan.

Forest Industry Safety and Training Alliance Inc. (FISTA) – This group creates training opportunities for loggers. This term is used in the Work Plan.

Forestry – Forest County Forestry and Parks Department. This term is used in the Work Plan.

Geographic Information System (GIS) – A computerized system of maps and layers of data about land including soils, land cover, topography, field boundaries, roads and streams. Such geographically based data layers improve the ability to analyze complex data for decision making.

Impaired Waters List Same as the 303(d) list.

Land and Water Conservation Board (LWCB) – Composed of 3 local elected officials, 4 appointed by the Governor (1 shall be a resident of a city with a population of 50,000 or more, 1 shall represent a governmental unit involved in river management, 1 shall be a farmer and 1 shall be a member of a charitable corporation, charitable association or charitable trust) and leaders from DNR, DATCP, and DOA. The LWCB oversees the approval of county land and water management plans (s.92.04, stats.).

Land and Water Resource Management Plan (LWRM plan) – A locally developed and implemented multi-year strategic plan with an emphasis on partnerships and program integration. The plan includes a resource assessment, identifies the applicable performance standards and related control of pollution from nonpoint sources, identifies a multi-year description of planned activities, establishes a progress tracking system, and describes an approach for coordinating information and implementation programs with other local, state and federal agencies, communities and organization (s. ATCP 50.12).

Land and Water Conservation Committee (LWCC) – The unit of county government empowered, by Chapter 92 of the Wisconsin Statutes, to conserve and protect the county's soil, water and related natural resources. Referred to in the LWRM guidelines as the "committee."

Land and Water Conservation Department (LWCD) – The department of county government responsible for administering the conservation programs and policies of the LWCC.

List of Impaired Waters – Also called **303(d) Waters**. This list identifies waters that are not meeting water quality standards, including both water quality criteria for specific substances or the designated uses. It is used as the basis for development of Total Maximum Daily Loads (TMDLs) under the provisions of section 303(d)(1)(C) of the Clean Water Act, U.S. Environmental Protection Agency (EPA) EPA requires that the DNR update its list every 2 years.

May – The term “may” in the guidelines represents suggested components in a LWRM plan.

Natural Resources Conservation Service (NRCS) – Part of USDA, NRCS provides soil survey, conservation planning and technical assistance to local land users.

Nonpoint Source Pollution (NPS) – Pollution from many small or diffuse urban and rural sources. Livestock waste finding its way into a stream and causing water pollution is an example of non-point source pollution.

Nonpoint Source Pollution Abatement Program – A DNR water quality program under Chapters 120 and s. 281, Wisconsin Statutes, that provides technical assistance and cost-sharing to landowners to develop and maintain management practices to prevent or reduce nonpoint source water pollution in designated watersheds.

NR 151 – DNR’s administrative code that establishes runoff pollution performance standards for non-agricultural facilities and transportation facilities and performance standards and prohibitions for agricultural facilities and practices designed to meet water quality standards.

Nutrient Management Plan – The Nutrient Management Plan means any of the following: (a) A plan required under s. ATCP 50.04 (3) or 50.62 (5) (f). (b) A farm nutrient plan prepared or approved, for a landowner, by a qualified nutrient management planner.

ORW/ERW – DNR classifies streams as outstanding resource waters (ORW) and exceptional resource waters (ERW) as listed in NR 102.10 and NR102.11. ORW waters have excellent water quality and high-quality fisheries and do not receive wastewater discharges. ERW waters have excellent water quality and valued fisheries but may already receive wastewater discharges.

Priority Farms – Farms identified by the county for having excessive runoff from soil erosion and/or manure resulting in existing or potential water quality problems.

Shall – The term “shall” in the guideline represents components of a LWRM plan that are required in law and rule.

Soil and Water Resource Management Program (SWRM) – DATCP program that provides counties with funds to hire and support Land Conservation Department staff and to assist land users in implementing DATCP conservation programs (ATCP 50).

Soil Loss Tolerance (“T”) – Erosion rate in tons per acre per year of soil field could lose and still maintain productivity.

Soil Survey – NRCS conducts the National Cooperative Soil Survey and publishes soil survey reports. Soils data is designed to evaluate the potential of the soil and management needed for maximum food and fiber production.

United States Department of Agriculture (USDA) – Branch of federal government with responsibilities in the areas of food production, inspection, and storage. Agencies with resource conservation programs and responsibilities, such as FSA, NRCS, and Forest Service and others are agencies of the USDA.

United States Forest Service Resource Advisory Committee (USFS-RAC) – The Chequamegon-Nicolet National Forest (CNNF) Resource Advisory Committee consists of residents within Forest County that work with the federal government to implement projects within the forest plan. Towns and non-profit organizations may apply to the RAC to pay for projects on land outside of the national forest that benefit the national forest. Projects are paid with Title II funds that exist under the reauthorized Secure Rural Schools and Community Self-Determination Act (Public Law 110-343), which are made available to the RACs by counties receiving federal funds based on the percentage of land in federal ownership, timber receipt payments and per capita income.

University of Wisconsin-Extension (UWEX) – The outreach of the University of Wisconsin system responsible for formal and informal educational programs throughout the state.

Watershed – The geographic area that drains to a particular river, stream or water body providing its water supply.

Wetlands Reserve Program (WRP) – A provision of the federal Farm Bill that compensates landowners for voluntarily restoring and protecting wetlands on their property.

Wildlife Habitat Incentives Program (WHIP) – Federal program to help improve wildlife habitat on private lands.

Work Plan – A 5-year plan of federal/state/local agency activities based upon Citizens Advisory Committee developed goals and objectives.

Zoning – Forest County Planning & Zoning Department. This term is used in the Work Plan.

ATTACHMENT A

Summary of the Headwaters State of the Basin Report – 2002

Summary of the Headwaters State of the Basin Report – 2002

This attachment contains major resource issues concerns and recommendations identified in the Headwaters Basin plan that relate to the LWRM plan. The major resource issues listed below are addressed with specific Work Plan actions.

Fisheries

- Education – Promote education/information about area waters, fish species and survey results to the general public.
- Volunteer water quality monitoring – Expand efforts in self help monitoring. This includes: adding more lakes, expanding the type of monitoring being done, promote public understanding of lake ecology.
- Exotics – Provide awareness to the public concerning exotics and participate in long-term solutions to prevent their spread.
- Shoreline Development – Increase public awareness, increase enforcement of water regulations and zoning, work with lake associations, governmental entities or others to promote shoreline preservation and restoration.
- Bioaccumulation of contaminants (mercury) – Continue to monitor fish from lakes for mercury and provide information to the public.
- Implement Baseline monitoring strategy – Collect information on lakes and streams to establish baseline conditions.
- Identify critical habitat – Identify and protect critical fish habitat through stream surveys, Sensitive Area Designations or the Northern Rivers Strategy.
- Stream Habitat Restoration/Streambank Protection – Identify sites suitable for stream habitat restoration or streambank protection.

Aquatic Habitat Protection

- Staffing – Work with Region and Bureau staff to secure additional positions and funding for aquatic habitat efforts.
- Shoreline Protection and Restoration – Restore and protect shoreline vegetative buffer zones, continue to research and document the impacts of shoreline development and provide assistance to counties on water classification systems and shoreland zoning issues.
- Wetlands – Evaluate wetlands in need of protection, restoration or enhancement.

Watershed, Wastewater and Stormwater

- Stormwater and Construction Site Erosion – Priority issue that needs to be addressed but has no staff.
- WPDES Permit Issuance – Ensure permits are issued in a timely manner.
- Total maximum daily loads - Continue to develop TMDL modeling and monitoring program on impaired waters.

- Nonpoint source priority watershed program – Pursue funding through the Targeted Runoff Management Program for protection projects and data collection.
- Nonmetallic mining – In cooperation with County government, monitor the effects of nonmetallic mining on water resources and document water quality improvements as a result of reclamation.
- Education – Provide educational information to the general public on watershed, wastewater and stormwater issues.

Drinking Water Groundwater

- Wellhead Protection – Encourage the development of Wellhead Protection Plans.
- Groundwater Contamination – Educate the general public and well drillers on practices that minimize the potential for groundwater contamination.

Forestry

- Lack of knowledge by individuals using forests – Work with partners to encourage private landowners to work with professional foresters on forest management issues. Provide forestry information and education to the general public regarding silvicultural practices.
- Lack of Forest Management Planning on non-industrial private forests – Work with private landowners to develop integrated resource management plans for their property.
- Conflicting demands on public owned forestlands – Identify and address conflicting demands on public land.

ATTACHMENT B

Forest County Impaired Waters [303(d)] List

Forest County Impaired Waters [303(d)]

Waterbody Name	Pollutant	Impairment	Priority
Arbutus Lake	Mercury	Contaminated Fish Tissue	Low
Deep Hole Lake	Mercury	Contaminated Fish Tissue	Low
Julia Lake	Mercury	Contaminated Fish Tissue	Low
Kentuck Lake	Mercury	Contaminated Fish Tissue	Low
Little Rice Lake	Mercury	Contaminated Fish Tissue	Medium
Little Sand Lake	Mercury	Contaminated Fish Tissue	Low
Van Zile Lake	Mercury	Contaminated Fish Tissue	Low

Source: WDNR website accessed January 2011.

ATTACHMENT C

Forest County Outstanding and Exceptional Resource Waters

FOREST COUNTY

<u>Waterbody Name</u>	<u>Portion Within ORW/ERW Classification</u>	<u>Status</u>
Brule Creek	All	ORW
Brule River	Florence Co line up to Brule Lake	ORW
Butternut Lake	All	ORW
Elvoy Creek	All	ORW
Franklin Lake	All	ORW
Jones Creek	All	ORW
Little Rice Lake	All	ORW
Lucerne Lake (Stone)	All	ORW
Metonga Lake	All	ORW
Otter Creek (North Otter Creek)	All	ORW
Peshtigo River	All	ORW
Pine River	All	ORW
Popple River	All	ORW
S Branch Pine River	All	ORW
S Branch Popple River	All	ORW
Unnamed headwater branch to Popple River	All	ORW
Wolf River	From the outlet of Pine Lake to the Oneida county line	ORW
Armstrong Creek	All	ERW
Bills Creek	All	ERW
Camp 20 Creek	All	ERW
Camp 8 Creek	All	ERW
Gliske Creek	All	ERW
Gruman Creek	All	ERW
Huff Creek	County line upstream to USFS Rd 2454	ERW
Indian Creek (S24 T34N R15E)	All	ERW
Johnson Creek	All	ERW
Knowles Creek	All	ERW
Lilypad Creek	USFS Rd 2169 to Lilypad Lake	ERW
Little Popple River	USFS Rd 2166 to Popple River	ERW
McDonald Creek	S Br Pine River to USFS Rd 2177	ERW
Middle Branch Peshtigo River	All	ERW
N Branch Oconto River	All	ERW
N Branch Peshtigo River	All	ERW
N Branch Popple River	All	ERW
Ninemile Creek	Headwaters to upper Ninemile Lake	ERW
Rock Creek	All	ERW
Rocky Siding Creek	All	ERW
Spencer Creek	All	ERW
Stoney Creek	All	ERW
W Branch Armstrong Creek	All	ERW
Wilson Creek	All	ERW

ATTACHMENT D

Soil Erosion Control Plan Waiver from DATCP



State of Wisconsin
Tommy G. Thompson, Governor



Department of Agriculture, Trade and Consumer Protection

Ben Brancel, Secretary

December 29, 1998

Nancy Hollands
639 W Kemp St
Rhineland, WI 54501-3879

Dear Nancy:

On December 22, 1998, the Department of Agriculture, Trade and Consumer Protection, after consulting with the Land and Water conservation Board, granted waivers releasing Forest, Oneida, Vilas, and Florence Counties from the obligation to develop a soil erosion control plans. I am enclosing a copy of the waiver.

This waiver releases the counties from the obligation to prepare cropland soil erosion control plans, but would not release them from other (recently expanded) obligations under s. 92.10, Stats. Until recently, counties were only required to prepare soil erosion control plans containing the items 1 - 5. listed under s. 92.10(6)(a), Stats. The enactment of 1997 Wis. Act 27, added items related to nonpoint source pollution. This amendment converted the "soil erosion control plans" to "land and water resource management plans." Currently, these plans must:

1. Specify maximum acceptable rates of soil erosion (predates Act 27).
2. Identify the parcels and locations of the parcels where soil erosion standards are not being met (predates Act 27).
3. Identify land use changes or management practices which would bring each area of land into compliance with standards adopted by the land conservation committee (predates Act 27).
4. Specify procedures to be used to assist landowners and land users in controlling soil erosion (predates Act 27).
5. Establish priorities for controlling soil erosion (predates Act 27).
6. Identify causes, other than soil erosion, of nonpoint source water pollution (new in Act 27).
7. Describe all proposed county activities related to nonpoint source water pollution (new in Act 27).

In fall 1997, the county boards in Forest, Oneida, Vilas, and Florence Counties approved resolutions asking the department to grant them waivers. The resolutions found that cropland soil erosion was not a high priority problem in those counties. The department granted these waivers based on these county board resolutions, and based on the fact that these counties have relatively small amounts of cropland, the magnitude and extent of cropland erosion is small, and soil survey information is not available in these counties.

If you have any questions, feel free to contact me at (608) 224-4605.

Sincerely,

Sue Porter
Land and Water Resources Bureau

c: Forest Co. LCC Chair,
Erhard Huettl,
RR 1 Box 805,
Wabeno, WI 54566

Oneida Co. LCC Chair,
Tony Lorbetske,
4330 Camp Four Rd.,
Rhineland, WI 54501

Vilas Co. LCC Chair,
Joseph Wisniewski,
4080 Deerskin Rd.,
Pelps, WI 54554

Florence Co. LCC Chair,
Sherry Schomer,
RT1 Box 307B,
Niagara, WI 54151

STATE OF WISCONSIN
DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION
2811 Agriculture Drive, P.O. Box 8911
Madison, WI 53708-8911

IN THE MATTER OF COUNTY SOIL)	DATCP DOCKET NO. 98-G- 12
EROSION CONTROL PLANS FOR)	LWCB DOCKET NO. 98-32-21-000-W
FOREST, ONEIDA AND VILAS COUNTIES)	WAIVER

The State of Wisconsin Department of Agriculture, Trade and Consumer Protection ("department"), having consulted the State of Wisconsin Land and Water Conservation Board ("LWCB"), makes the following findings and conclusions and enters the following order under s. ATCP 50.12(2)(b), Wis. Adm. Code:

FINDINGS

(1) Under s. 92.10, Stats., and s. ATCP 50.12(1), Wis. Adm. Code, counties are required to prepare county soil erosion control plans for department approval by January 1, 1999. A county must comply with this requirement in order to continue receiving soil and water resource management grants from the department. The department must review and approve county plans in consultation with the LWCB.

(2) Under s. ATCP 50.12(1)(b), Wis. Adm. Code, the department may waive the filing of a county soil erosion control plan if the department, after consulting the LWCB, finds that cropland soil erosion is not a high priority problem in that county. The department's finding may be based on a county board finding that cropland soil erosion is not a high priority problem, or on other information which the department considers relevant.

(3) The County Boards of Forest, Oneida and Vilas Counties have adopted resolutions, finding that cropland soil erosion is not a high priority problem in those counties (see resolutions attached).

(4) The Northern Wisconsin Cropland Survey, dated February 1995, surveyed cropland in Forest, Oneida and Vilas Counties, and found no acreage exceeding the tolerable soil loss level.

(5) Based on findings (3) and (4), it does not appear that cropland soil erosion is a high priority problem in Forest, Oneida and Vilas Counties. Those counties are not priority soil erosion control counties under s. 92.10(3), Stats.

(6) There is no compelling need for Forest, Oneida and Vilas Counties to prepare a soil erosion control plan under s. 92.10(6)(a)1. to 5., Stats., or s. ATCP 50.12, Wis. Adm. Code. However, those counties should comply with ss. 92.10(6)6. and 7., which are newly created by 1997 Wis. Act 27.

(7) The LWCB reviewed this matter at its meeting on December 1, 1998, and endorsed the department's proposed findings, conclusions and order as contained in this document.

CONCLUSIONS

(1) Under s. ATCP 50.12(1)(b), the department may waive the filing of county soil erosion control plans by Forest, Oneida and Vilas Counties.

(2) Based on the findings above, the department should issue a waiver that exempts Forest, Oneida and Vilas Counties from filing cropland soil erosion control plans under s. 92.10(6)(a)1. to 5., Stats., and s. ATCP 50.12, but does not exempt them from their other responsibilities under s. 92.10(6), Stats.

ORDER

NOW, THEREFORE, IT IS ORDERED, pursuant to s. ATCP 50.10(1)(b), Wis. Adm. Code, that:

(1) The department waives the filing of cropland soil erosion control plans under s. 92.10(6)(a)1. to 5., Stats., and s. ATCP 50.12, Wis. Adm. Code, by Forest, Oneida and Vilas Counties.

(2) The waiver under sub. (1) does not exempt the counties from the requirements under s. 92.10(6)(a)6. or 7. Nor does it exempt them from any other requirements which have been imposed or may be imposed under ch. 92, Stats., or ch. ATCP 50, Wis. Adm. Code.

Dated this 22 day of Dec, 1998

STATE OF WISCONSIN
DEPARTMENT OF AGRICULTURE,
TRADE AND CONSUMER PROTECTION

By Ben Brancel
Ben Brancel, Secretary

ATTACHMENT E

LWRM plan guidelines [Appendix D2] letter to DNR Water Basin Leader



North Central
Wisconsin
RPC

Fred Heider <fheider@ncwrpc.org>

Oneida Co. & Forest Co LWRM Plan request for assistance.

1 message

Fred Heider <fheider@ncwrpc.org>

Thu, Jan 27, 2011 at 2:52 PM

To: Tom Jerow <thomas.jerow@wisconsin.gov>

Cc: Nancy Hollands <nhollands@co.oneida.wi.us>, Cindy Gretzinger <cindy.gretzinger@ces.uwex.edu>

Tom Jerow:

I invite you to serve on two Technical Advisory Committees for two counties that are revising their Land and Water Resource Management (LWRM) plans. Both Forest and Oneida counties are initiating work on the 2012-2016 updates to their 2006-2011 Land and Water Resource Management Plans that are developed under the requirements of Chapter 92.10 WI State Statutes and ATCP 50.12(2)(c)(d). These requirements and the accompanying guidance stress the importance of coordinating with DNR to identify water resource priorities and issues.

Both LWRM plans will be complete by August 2011, for a final adoption in October 2011. We would like your participation or feedback to prepare background materials for the Citizens Advisory Committee, and to possibly create Work Plan goals, objectives, & actions. This letter is a request for your assistance at two to four Technical Advisory Committee meetings total. Email and phone communication may replace some of the meetings.

At the first Technical Advisory Committee meeting we would like to meet with you (or a member of your staff) to discuss the items listed below from the following basins: Upper Wisconsin River, Wolf River, and Upper Green Bay. All three of us (NCWRPC, Oneida Co. LWCD, & Forest Co. LCD) have a copy of the Headwater Basin's most recent integrated management plan – Headwaters Basin Integrated Management Plan December, 2002 PUBL WT 662 2002, but that may have been replaced by three basin plans covering the Wisconsin River, Wolf River, and Upper Green Bay basins.

- County-specific assessment information and any monitoring data;
- A sublist of 303d waters, ORW/ERW waters, and watershed waters' general conditions;
- A list of the various basin's non-point source priorities. This includes the NPS ranking table of watersheds and subwatersheds as well as those individual waterbodies listed in rivers and lakes tables that have NPS concerns that may help us better target our work efforts and obtain funding for that work; and
- A list of the other Headwaters basin priority issues identified by DNR and/or its basin partnership group.

Please contact me by the middle of February, so I may provide a possible meeting schedule with you, and coordinate both county Technical Advisory Committees to first meet in February.

Thank you for your time,

Fred

--

Fred Heider, AICP

North Central Wisconsin Regional Planning Commission (NCWRPC)

210 McClellan Street, Suite 210

Wausau, WI 54403

715-849-5510 x310

fheider@ncwrpc.org

www.ncwrpc.org

ATTACHMENT F

Public Hearing Notice

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN THAT THE Forest County Land and Water Conservation Committee will hold a public hearing on Tuesday, August 30, 2011, at 6:00 P.M. at the Forest Courthouse in the County Board Room on the following:

Provisions of the Wisconsin Open Meeting Law will govern.

Forest County Land and Water Resource Management Plan

In accordance with Wisconsin Act 27, Chapter 92 of the Wisconsin Statutes was amended, requiring counties to develop land and water resource management plans.

Copies of the foregoing documents are available for public inspection during normal business hours at the Forest County Land Water Conservation Department, Forest County Courthouse, 200 East Madison Street, Crandon, WI 54520.

Anyone having interest may attend and be heard. Interested parties who are unable to attend may send written comments to the undersigned.

Please note: If you have special needs or require special accommodations, please call 715-478-7796 or write: Forest County Land and Water Conservation Department, 200 East Madison Street, Crandon, WI 54520.

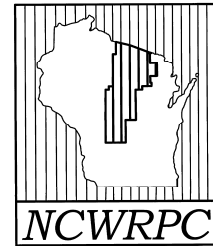
**Cindy Gretzinger
Forest County Conservationist**

ATTACHMENT G

Technical Advisory Committee Meeting Priority Issue Details

NORTH CENTRAL WISCONSIN REGIONAL PLANNING COMMISSION

210 McClellan Street, Suite 210, Wausau, Wisconsin 54403
Telephone: (715) 849-5510 Fax: (715) 849-5110
Web Page: www.ncwrpc.org Email: staff@ncwrpc.org



SERVING ADAMS, FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, ONEIDA, PORTAGE, VILAS AND WOOD COUNTIES

Forest County LWRM Plan, Technical Advisory Committee Notes

April 4, 2011 1:30pm – 3:00pm

Attendees: Cindy Gretzinger, Forest County Land Conservationist; Dave Zilkowski, Forest County Forestry Department Director; Dan Peters, County Forestry and County Conservationist assistant; Pam LaBine, Forest County Zoning Administrator; Michael Stinebrink, NRCS; Stacy Dehne, DATCP; Steve Nelson, Forest County UWEX; Susan Hunter, FSA; and Fred Heider, NCWRPC.

Each member of the TAC had a copy of the 2006-2011 Work Plan. We then discussed if the goals still fit today, or what should be changed based upon 5 years of working through this plan, and the potential changes to nature since 2006.

Just to start discussion Heider asked: ***Why aren't all rivers and lakes outstanding resource waters (ORWs) or exceptional resource waters (ERWs)?*** An email follow up from Tom Jerow, DNR Northern Region Water Leader, stated that with this designation comes tighter regulations on business and industry. The last time DNR added (2006) streams to these classifications, it was quite controversial. DNR now has a process for updating trout water (ERW's) when survey data supports a change. Adding additional warmwater streams and lakes requires that DNR have supporting data and information. However, Tom Jerow does not foresee any major changes in these classifications in the near future.

Ideas just started rolling...

Extensive review of the 2006-2011 Work Plan occurred as a starting point for the 2012-2016 Work Plan.

Created local snowmobile trail ordinance for greater local control.

Forestry Department and Tribal Security are working together to address illegal ATV use on county forest lands.

NR 115 – 3 listening sessions coming up.

Biomass. Forest harvesting contract requests have not come into the Forestry Department about using the whole tree, branches and marketable timber, because of any biomass plants yet. The Domtar paper plant in Rothschild is planning on scaling up their biomass plant to produce renewable electricity for We Energies customers.

Stinebrink will provide a list of priorities that a citizens group decided for Natural Resource Conservation Service activities.

Here is the emailed list:

High priority practices: Nutrient Management, Prescribed Grazing, Residue Management (No-Till), Conservation Crop Rotation, Herbaceous Weed Control, and Streambank and Shoreline Protection.

(Over)

Medium priority practices: Cover Crop, Grade Stabilization Structure, Irrigation Water Management, Stream Crossing, Stream Habitat Improvement & Management, Grassed Waterway, Diversion, Lined Waterway or Outlet, Water and Sediment Control Basin, Critical Area Planting, Conservation Cover, Contour Farming, Contour Strip Cropping, Contour Buffer Strips, Well Decommissioning, Tree/Shrub Establishment, Wetland Wildlife Habitat Management, Pest Management, Windbreak/Shelterbelt Establishment, Windbreak/Shelterbelt Renovation, Fence and Access Control.

Low priority practices: All other eligible practices, as identified by the State Conservationist, with input from the State Technical Committee.

The Technical Advisory Committee reviewed the existing 2006-2011 Work Plan, and re-arranged the existing goals into their desired priority for the 2012-2016 Work Plan. Those changes are shown below:

From:

- #1 Promote well planned development to minimize negative impacts on land and water resources.
- #2 Slow the spread of invasive species.
- #3 Protect shoreland areas by minimizing impacts from land disturbing activities.
- #4 Encourage increased enforcement and education of shoreland ordinances and regulations.
- #5 Protect forestlands from land degrading activities.
- #6 Reduce phosphorus loading to surface waters.
- #7 Reduce erosion from construction sites.
- #8 Reduce mining practice impacts on ground and surface waters.

To:

- #1 Slow the spread of invasive species.
- #2 Protect shoreland areas by minimizing impacts from land disturbing activities.
- #3 Encourage increased enforcement and education of shoreland ordinances and regulations.
- #4 Protect forestlands from land degrading activities.
- #5 Reduce phosphorus loading to surface waters.
- #6 Promote well planned development to minimize negative impacts on land and water resources.
- #7 Promote well planned development to minimize negative impacts on land and water resources.
- #8 Reduce mining practice impacts on ground and surface waters.

ATTACHMENT H

Citizens Advisory Committee Meeting Priority Issue Details

**Forest County
Citizens Advisory Committee Meeting
Priority Issues**

Bullet point items below were created by committee members. Summary titles were created after the event by NCWRPC staff.

21 points – Control Invasive Species

- Terrestrial Invasives: Garlic Mustard, Japanese Knotweed, etc;
- Control invasive species in all Forest County lakes;
- Eurasian milfoil – boat cleaning;
- Control invasive species;
- Require Aquatic Invasive Species management at each lake;
- Encourage native plant growth;
- Curtail invasive species;
- Curtail chemical use for lake weeds.

16 points – Promote forest consumption

- Mandate USFS to manage our national forest. Echo Goal 5 p.29 [Goal 5: Protect forestlands from land degrading activities];
- Encourage urban youth forestry education [in big cities];
- Support forestry groups;

16 points – Coordinate recycling among local governments

- Coordinate county-wide recycling;
- Garbage dumping;
- Recycle of electronics;
- Encourage more uniformity with recycling and garbage handling county-wide;

10 points – Protect riparian areas

- Protect lake shorelines;
- Lakes classification system – There is a lot of information here. All lakes cannot be appropriately managed using only one model. Goal 3, Objective C, #1 - Support the development and adoption of a lakes classification system.
- Protect shorelands;
- Protect shorelines.

9 points – Use various educational avenues

- Educate public about lake bed management;
- Educate people – "Did you know" articles;
- Information for riparian property owners at library – This info needs to go also to local lake associations, and their newsletters (also FCAL). Case in point: 30-foot no mow area along lakeshores. There will be resistance to this [Goal 3, Objective A, #3 & 4];
- Distribute existing educational materials through lake associations, the zoning department, and land conservation department [Goal 3, Objective B, #1.

4 points – Mining Issues

- Control surface mining impacts;
- Mining – with the current price of minerals this is probably not a dead issue.

4 points – Water recreation

- Recreation on lakes;
- Improve public access to small lakes and streams;
- Promote recreational canoe opportunities on sections of rivers;
- Beaver control for certain streams.

No points – More control of ATVs & sleds.

ATTACHMENT J

NR 151 Performance Standards and Prohibitions Fact Sheets



Wisconsin's Runoff Management Rules

NON-AGRICULTURAL PERFORMANCE STANDARDS FOR CONSTRUCTION EROSION CONTROL AND STORM WATER MANAGEMENT

NR 151 Subchapter III

NR 151 became effective Oct. 1, 2002 as part of a package of Department Natural Resources and Department of Agriculture, Trade and Consumer Protection rules that address runoff pollution (also known as nonpoint source pollution), the major cause of polluted waters in Wisconsin and the United States.

Complete versions of the Runoff Management rules can be obtained by visiting the DNR Runoff Management Program Web page <http://dnr.wi.gov/org/water/wm/nps/> or by contacting:

**Wisconsin DNR
Runoff Management/ WT 2
Attn.: Carol Holden
P.O. Box 7921
Madison, WI 53707
(608)266-0140**

NR 151 includes agricultural performance standards and prohibitions, non-agricultural performance standards, transportation performance standards, implementation and enforcement provisions, and a process to develop and disseminate non-agricultural technical standards.

This fact sheet focuses on the non-agricultural performance standards outlined in Subchapter III, the procedures to implement the standards, and the non-agricultural technical standards process.

The non-agricultural performance standards in NR 151 encompass the construction and post-construction phases of new development and redevelopment areas, as well as certain requirements for developed urban areas. The standards are intended to protect water quality by minimizing the amount of sediment and other nonpoint source pollutants that enter waterways.

The standard for **construction sites** requires implementation of an erosion and sediment control plan using Best Management Practices (BMPs) that, by design, reduce to the **maximum extent practicable (MEP)** 80 percent of the sediment load on an average annual basis. No one will be required to exceed 80 percent reduction and some exceptions to meeting this requirement are allowed, provided a proper justification is presented.

Sediment and erosion control practices contained in the 1993 *Wisconsin Construction Site Best Management Practice Handbook* will be accepted as meeting the performance standard until new or revised technical standards replace them. The erosion and sediment control plan also needs to address: minimization of tracking; sewer inlet protection; minimizing sediment discharge from de-watering; and proper use and storage of chemicals, cement

and other compounds. Sediment control practices must be installed before runoff enters waters of the state.

This performance standard applies to sites where land-disturbing construction activity affects one or more acres. This threshold is consistent with federal Environmental Protection Agency Phase 2 Storm Water Regulations.

The landowner (or other person performing services to meet the performance standard through a contract or agreement) is responsible for meeting this standard. The standard is implemented and enforced through storm water construction permits issued by the DNR through NR 216. It is expected that the Department of Commerce will require

implementation and enforcement of these performance standards for projects permitted or approved under their authority.

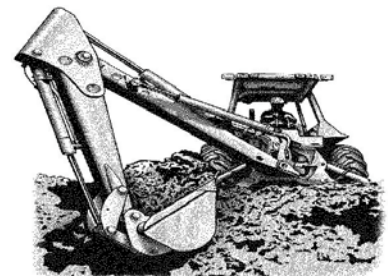
The **post-construction site** performance standards set a minimum level of control of runoff pollution from construction sites after construction is completed and final stabilization has occurred. They apply to sites subject to the construction site erosion control standard, with some specific exceptions.

A written storm water management plan must be developed and implemented for each site and must incorporate the performance standards.

Total Suspended Solids Control. This standard requires BMPs to control to the Maximum Extent Practicable (MEP) 80 percent of the total suspended solids that would normally run off the site, based on an average annual rainfall. For redevelopment and for in-fill development under 5 acres, the reduction goal is 40 percent.

Peak Discharge Rate. This standard requires that BMPs be used to maintain or reduce the peak runoff discharge rate of the 2 year-24 hour design storm, to the MEP. The pre-development land use is assumed to be in good hydrologic condition. Redevelopment sites and in-fill development of less than 5 acres are exempt.

Infiltration. This performance standard requires that, to the MEP, a portion of the runoff volume be infiltrated. The amount to be infiltrated is different for residential and non-residential (commercial,

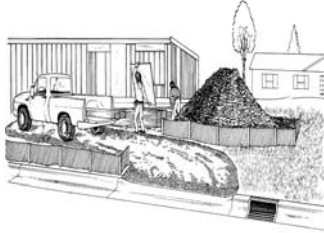


NR 151 Non-Agricultural Performance Standards

industrial, institutional) land uses.

Residential – 90 percent of pre-development infiltration volume or 25 percent of the 2 year-24 hour design storm. No more than 1 percent of the project site is required (cap).

Non-residential – 60 percent of pre-



development infiltration volume or 10 percent of the 2 year-24 hour design storm. No more than 2 percent of the project site is required (cap).

To protect groundwater, this standard identifies areas where infiltration is discouraged: areas associated with Tier 1 industries; storage and loading areas of Tier 2 industries; fueling and maintenance areas; areas near karst features; areas in close proximity to wells; areas with inadequate separation distance to groundwater or bedrock; areas where the soils are contaminated and areas where the soils are too coarse.

For practical reasons, the standard further identifies areas where infiltration is not required, such as areas where the infiltration rate is less than 0.6 inches per hour; areas with less than 5,000 square feet of parking lot or roads in commercial and industrial development; redevelopment areas; in-fill areas less than 5 acres; and certain roads.

Protective Areas. This standard identifies where, to the MEP, a permanent vegetative buffer area must be maintained around lakes, streams, and wetlands to filter pollutants and protect against erosion. Buffer sizes vary according to the type and classification of the waterbody: 75 feet for outstanding and exceptional resource waters and wetlands of special natural resource interest; 50 feet for streams, lakes, and most wetlands; and 10-30 feet for less susceptible wetlands; 10 feet for concentrated flow channels draining more than 130 acres. Some limited exemptions apply.

Fueling and Maintenance Areas.

This standard requires, to the MEP, that petroleum product runoff from fueling and vehicle maintenance areas must be controlled to remove all visible sheen in the runoff.

The practices identified in the storm water management plan must be installed during or immediately after construction. (The practices may be located off-site, but the runoff must be treated to meet the performance standards before it enters the waters of the state.) This standard will be implemented through storm water construction permits issued by the DNR under NR 216. It is expected that the Department of Commerce will require implementation and enforcement of these performance standards for appropriate projects regulated under its authority.



Information and Education. This performance standard applies to **developed urban areas** — incorporated cities, villages, towns, and counties with a population density of 1,000 or more people per square mile. By March 10, 2008, local governments will be responsible for implementing a storm water management plan that includes public education, leaf and grass management where appropriate, application of nutrients on municipally owned property in accordance with a nutrient application schedule, and detection and elimination of illicit discharges. Public education programs need to address proper management of leaves, grass clippings, lawn and garden fertilizers and pesticides, pet

wastes, oil and other chemicals to reduce polluted runoff.

Permitted Municipalities. By March 10, 2008, municipalities subject to a municipal storm water permit under NR 216 must reduce total suspended solids by 20 percent. By March 10, 2013, these permitted municipalities will be required to reduce total suspended solids by 40 percent. Meeting this stricter performance standard may require the use of high efficiency sweepers, which are more effective at picking up smaller pollutants than brush sweepers. In highly polluted areas such as heavy industrial or commercial areas, structural treatment practices may be necessary to control pollutants.

Municipalities covered under a storm water permit issued under Subchapter I of NR 216 are required to meet the developed urban area performance standards as a permit requirement. If a municipality is not regulated under Subchapter I of NR 216, it will *not* receive a permit. However, these municipalities will still be expected to meet the information and education performance standard, enforceable under Section 281.98 of Wisconsin Statutes.

Non-municipal Property Fertilizer.

Owners of properties that apply fertilizer to more than 5 acres of pervious surface (e.g. lawns or turf) must apply nutrients in accordance with a nutrient management schedule. This requirement needs to be met by March 10, 2008.

The **technical standard development process** for formulating and disseminating technical standards to support non-agricultural and transportation performance standards is described in Subchapter V of NR 151. The process includes the roles and responsibilities of agencies requesting or revising technical standards; the procedures to develop technical standards, including the DNR's responsibility to determine effectiveness; and the process for making the technical standards available. The DNR will maintain a list of acceptable technical standards.





Wisconsin's Runoff Management Rules

AGRICULTURAL PERFORMANCE STANDARDS AND PROHIBITIONS

NR 151 Subchapter II

NR 151 became effective Oct. 1, 2002 as part of a package of Department Natural Resources and Department of Agriculture, Trade and Consumer Protection rules that address runoff pollution (also known as nonpoint source pollution), the major cause of polluted waters in Wisconsin and the United States.

Complete versions of the Runoff Management rules can be obtained by visiting the DNR Runoff Management Program Web page <http://dnr.wi.gov/org/water/wm/nps/> or by contacting:

**Wisconsin DNR
Runoff Management/ WT 2
Attn.: Carol Holden
P.O. Box 7921
Madison, WI 53707
(608)266-0140**

NR 151 contains the runoff pollution performance standards and prohibitions, implementation and enforcement provisions, and a process to develop and disseminate non-agricultural technical standards. This fact sheet focuses on NR 151 Subchapter II, the agricultural performance standards and prohibitions, and the procedures to implement those standards. Conservation practices to implement the agricultural performance standards are contained in ATCP 50, a rule promulgated by the Department of Agriculture, Trade and Consumer Protection (DATCP).

The NR 151 agricultural performance standards and prohibitions are intended to protect water quality by minimizing the amount of soil erosion, nutrients from manure and croplands,

and other nonpoint source pollutants that enter waterways. Subchapter II addresses a wide range of situations.

The DNR may also promulgate additional targeted performance standards in the future if it is shown that the basic performance standards are insufficient to meet state water quality standards.

Compliance with the performance standards and prohibitions is not required for existing facilities and practices unless cost sharing is offered. At least 70 percent of the costs that qualify for cost sharing must be made available to an operation in order to require that a facility correct performance standard violations. The funds may be provided by state, local, or any other sources. The cost-share rate must be increased up to 90 percent in cases of economic hardship. Cost sharing is not required for new facilities and practices or for practices needed for a livestock operation regulated by a Wisconsin Pollutant Discharge Elimination System Permit (WPDES).

The status of cropping practices or livestock operations — whether they are new or existing — is based on cropping practices or livestock on the land, rather than on ownership. An existing cropping practice or livestock operation is one that is operating as of October 1, 2002 (the effective date of the rule) rather than the date the statute was effective. Determinations of whether or not a facility is in compliance with the performance standards may be made by the DNR or by the local unit of government (e.g., a county land conservation department).

PERFORMANCE STANDARDS

Sheet, rill, and wind erosion.

All cropped fields must meet the tolerable soil erosion rate ("T") for those fields. Soil loss will be estimated according to the Revised Universal

Soil Loss Equation II (RUSLE II), or an appropriate wind loss equation, as referenced in ATCP 50.

Manure storage facilities.

All new, substantially altered or abandoned manure storage facilities must be constructed, maintained or abandoned in accordance with accepted standards. For protection against manure overflow from storms, facilities are required to maintain one foot of freeboard or adequate freeboard storage to contain the 25-year, 24-hour storm, whichever is greater. Existing facilities that are



failing or leaking and pose an imminent threat to public health, fish, and aquatic life or that violate groundwater standards must be upgraded, replaced or properly abandoned.

Clean water diversions.

Runoff from fields and buildings must be diverted away from contacting feedlots, manure storage areas, and barnyards located within 300 feet of a stream, 1,000 feet of a lake, areas susceptible to groundwater contamination or areas up-gradient of private wells.

Nutrient management.

Parties responsible for applying nutrients to agricultural fields must do so in accordance with a nutrient management plan. This performance standard became effective in 2005 for certain high priority waters and will become effective in 2008 for all other areas.

Cost Sharing for Implementation of the Performance Standards and Prohibitions	
1-249 Animal Units In Base Herd	Cost sharing is required for the base operation, along with any expansion up to a total size of 300 AU
250-999 Animal Units In Base Herd	Cost sharing is required for the base operation. Cost sharing for expansion up to 20 percent of the base herd size is eligible but not required
1,000 or more Animal Units In Base Herd	Cost sharing is not required, and the base operation as well as any expansion is ineligible for cost sharing.

MANURE MANAGEMENT PROHIBITIONS

No livestock operation, regardless of size, can have any of the following:

- ◆ Manure storage facility overflows.
- ◆ Unconfined manure piles within 300 feet of a stream or 1,000 feet of a lake or areas susceptible to groundwater contamination.
- ◆ Direct runoff from a feedlot or stored manure into state waters.
- ◆ Unlimited access by livestock to state waters where the high concentration of animals could prevent maintenance of adequate sod or self-sustaining vegetative cover. The prohibition does not apply to properly designed, installed, and maintained livestock/farm equipment crossings.

If the DNR or governmental unit determines that a livestock facility (e.g., manure storage facility, runoff control system) at an existing livestock operation is not in compliance with the performance standards or prohibitions, the base operation, including additional expansion, may be eligible for cost sharing as specified in the table above.

A new cropping practice or livestock operation is one that either was not in existence as of the effective date of this rule or results from a significant change that brings the cropland or livestock facility out of compliance

with the performance standards or prohibitions. New operations are not eligible for cost sharing to bring their facilities into compliance with the rule requirements.

NR 151.09 includes a step-wise implementation and enforcement process for cropland performance standards and NR 151.095 contains a process for livestock performance standards and prohibitions. Key steps include:

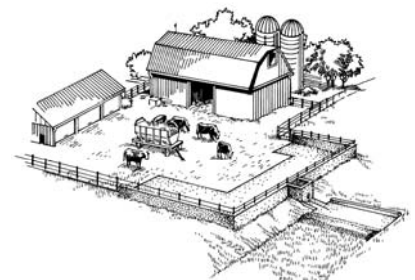
- determining the status (existing/new) of cropland practices based on conservation practices and cropping history, and the status of livestock facilities;
- determining whether cost sharing is available based on code criteria; providing landowners with formal notices of cost-share determination;
- setting the compliance period and extensions to compliance periods and monitoring whether compliance is achieved; and
- collaborating on whether to grant variance requests from landowners.

The DNR with input from county organizations developed a strategy to allow for administration of these implementation processes by county land conservation departments. (see the Implementation Strategy on the web at <http://dnr.wi.gov/org/water/wm/nps/ag/standards/>) DNR implementation of performance

standards and prohibitions is intended to be limited to those areas where local units of government do not implement or enforce the performance standards and prohibitions. The DNR will be targeting its implementation efforts at high priority water quality areas, such as Outstanding and Exceptional Resource Waters, waters on the federal list of impaired waterbodies, and source water protection areas.

NR 243 also contains language outlining the DNR’s efforts to implement performance standards and prohibitions for animal feeding operations, including those with more than 1,000 animal units.

Local governmental units enacting livestock operation ordinances that go beyond the performance standards in proposed NR 151 must obtain approval from the DNR or DATCP.





Wisconsin's Runoff Management Rules

NR 151 Subchapter IV Transportation Facilities Performance Standards

NR 151 Subchapter IV is part of 8 Department of Natural Resources rules that address runoff pollution (also known as nonpoint source pollution), the major cause of polluted waters in Wisconsin and the United States

Complete versions of the Runoff Management rules can be obtained by visiting the DNR Runoff Management Program Web page (<http://www.dnr.state.wi.us/org/water/wm/nps/index.htm>) or by contacting:

**Wisconsin DNR
Runoff Management/
WT 2
Attn.: Carol Holden
P.O. Box 7921
Madison, WI 53707
(608)266-0140**

Subchapter IV of NR 151 contains the performance standards for major transportation facilities that cause or may cause polluted runoff. Transportation facilities covered by this subchapter of NR 151 include roads, public mass transit systems, highways, public airports, railroads, public trails, and other public transportation works.

The transportation facility performance standards focus on transportation sites during and after construction, as well as to some in developed urban areas. These standards apply to projects administered by the Department of Transportation (DOT), as well as non-DOT-administered projects.

The **transportation facility construction site erosion control** performance standard applies to sites on which land-disturbing construction activity affects 5 or more acres of land. This threshold will be lowered to 1 acre by March 10, 2003. The lower threshold is consistent with the timing and applicability of new U.S. Environmental Protection Agency Phase 2 Storm Water Regulations.

The standard requires implementation of an erosion and sediment control plan using practices that, by design, minimize contaminated runoff entering state waters. The goal is to reduce the average annual sediment load carried in runoff by 80 percent. Some exceptions to meeting the 80-percent control are allowed,

provided a reasonable justification is presented.

Sediment and erosion control practices for transportation facilities are contained in DNR and DOT specifications and manuals. Specific control measures include: minimization of tracking; proper use and storage of chemicals, cement and other compounds; minimizing sediment discharge from de-watering; sediment clean up; and sewer inlet protection. Sediment control practices may be located on or off-site but before runoff enters state waters or a separate storm sewer system connecting to waters of the state.

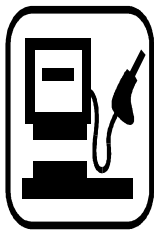
The goal of the **post-construction** performance standard is to set a minimum control level for polluted runoff from transportation facility sites that were subject to the construction performance standard. The standard requires implementation of a storm water management plan using Best Management Practices (BMPs) that minimize pollutants in runoff, maintain or lower runoff rates, provide for infiltration, create and



NR 151 Transportation Facilities Performance Standards

maintain buffer areas, and control 80 percent of the total suspended solids that would normally run off the site. Implementation of the post-construction performance standard is delayed for 2 years after the rule is promulgated to allow time for advance planning for implementation. Properly designed and maintained vegetated swales meet requirements of this performance standard. Additional treatment may be needed for runoff that enters outstanding and exceptional resource waters and federally listed waters that are degraded from nonpoint pollution sources.

The infiltration standard will vary according to soil conditions. Certain types of runoff that could contaminate groundwater are exempt from infiltration. A permanent vegetative buffer area must be maintained in newly developed sites around lakes, streams, and wetlands to filter pollutants and protect against erosion. Buffer sizes vary according to type and classification of the waterbody. Also, petroleum



product runoff from fueling and vehicle maintenance areas must be controlled to remove all visible sheen in the runoff.

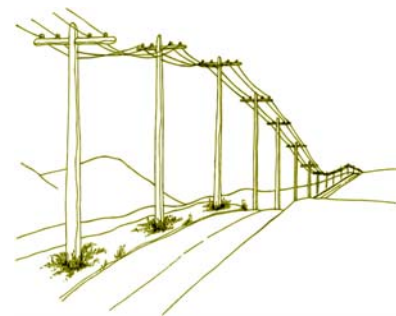
The practices identified in the management plan must be installed during or immediately after construction. The practices may be located off site but must be installed **before** entering state waters.

The **developed urban area** performance standard is applicable *only* to highways that are under the jurisdiction of the DOT that are regulated under an NR 216 municipal storm water discharge permit. (Local roads within an NR 216 municipality not under DOT jurisdiction are covered by the developed urban area performance standards in NR 151.13.) The standard is intended to promote and encourage coordination between the DOT and the NR 216-permitted municipalities to control runoff pollution from urbanized areas.

The performance standard requires DOT to implement a storm water management plan that attains a reduction in total suspended solids from transportation facilities of 20

percent by March 10, 2008, and 40 percent by March 10, 2013. DOT will also be responsible for informing and educating their appropriate staff and contractors about proper use and management of nutrients, pesticides, salt and other de-icing materials, and vehicle maintenance activities to prevent polluted runoff to state waters.

DOT transportation activities covered under Section 30.12(4) of Wisconsin Statutes follow the consultation and conflict resolution process specified in agreements between the DNR and DOT. (Non-DOT transportation activities would be regulated by the DNR through either a storm water permit issued under NR 216 or by Section 281.98 of Wisconsin Statutes.)



Two (2) additional fact sheets covering other provisions of NR 151 (Subchapter II — Agricultural Performance Standards Prohibitions and Subchapter III — Non-Agricultural Performance Standards and Prohibitions) are also available from the Department of Natural Resources.

The Wisconsin Department of Natural Resources provides equal opportunity in its employment programs, services, and functions

under an Affirmative Action Plan. If you have any questions, please write to the Equal Opportunity Office, U.S. Department of the Interior, Washington, D.C., 20240.

This publication is available in alternative format (large print, Braille, audio tape, etc.) upon request. Please call (608)264.6127 for more information



ATTACHMENT K

Conservation Practices and Cost-Share Rates

SECTION 2

**2.2 COST-SHARE PRACTICE/FUNDING SOURCE TABLE
AND
GUIDANCE FOR COMPLETING NR151 CODES**

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

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

COST-SHARE PRACTICE/FUNDING SOURCE TABLE			
PRACTICE or ACTIVITY	ATCP 50 Reference	Funding Source	Units of Measurement
Land taken out of agricultural production (list on cost-share contract the practice to be installed or the eligible existing practice)	50.08(3)	Bonding	Acres
Riparian land taken out of agricultural production (list on cost-share contract the practice to be installed or the eligible existing practice)	50.08(4), 50.42(1)	Bonding	Acres
Manure storage systems	50.62	Bonding	Number installed (#)
Manure storage closure	50.63	Bonding	#
Barnyard runoff control systems (specify components)	50.64	Bonding	#
Access road or cattle crossing	50.65	Bonding	Linear Ft.
Animal trails and walkways	50.66	Bonding	Linear Ft.
Contour farming	50.67	GPR	Acres
Cover and green manure crop	50.68	GPR	Acres
Critical area stabilization	50.69	Bonding	#
Diversions	50.70	Bonding	Linear Ft.
Field windbreaks	50.71	Bonding	Linear Ft.
Filter strips	50.72	Bonding	Acres
Grade stabilization structures	50.73	Bonding	#
Heavy use area protection	50.74	Bonding	Acres
Livestock fencing	50.75	Bonding	Linear Ft.
Livestock watering facilities	50.76	Bonding	#
Milking center waste control systems	50.77	Bonding	#
Nutrient management	50.78	GPR	Acres

COST-SHARE PRACTICE/FUNDING SOURCE TABLE

PRACTICE or ACTIVITY	ATCP 50 Reference	Funding Source	Units of Measurement
Pesticide management	50.79	GPR	#
Prescribed grazing	50.80		
a. management plan	50.80(1)	GPR	#
b. fencing (not permanent)	50.80(2)	GPR	Linear Ft.
c. fencing (permanent)	50.80(3)	Bonding	Linear Ft.
d. establish permanent pasture (seeding)	50.80(4)	Bonding	Acres
Relocating or abandoning animal feeding operations	50.81	Bonding	#
Residue management	50.82	GPR	Acres
Riparian buffers	50.83		
a. installation (including land out of production)		Bonding	Acres
b. maintenance		GPR	Acres
Roofs	50.84	Bonding	#
Roof runoff systems	50.85	Bonding	#
Sediment basins	50.86	Bonding	#
Sinkhole treatment	50.87	Bonding	#
Streambank and shoreline protection	50.88	Bonding	Linear Ft.
Strip-cropping	50.89	GPR	Acres
Subsurface drains	50.90	Bonding	#
Terrace systems	50.91	Bonding	Linear Ft.
Underground outlet	50.92	Bonding	#
Waste transfer systems	50.93	Bonding	#
Wastewater treatment strips	50.94	Bonding	Linear Ft.
Water and sediment control basins	50.95	Bonding	#
Waterway systems	50.96	Bonding	Acres
Well decommissioning	50.97	Bonding	#
Wetland restoration	50.98	Bonding	Acres
Engineering services provided in connection with a completed cost-share practice for which bond revenue may be used (also refer to 50.40(7)).	50.34(4)	Bonding	
Other cost-effective practices with DATCP's written approval	50.40(3)(a)	GPR ¹	

¹Note: Counties may request that the department seek bond counsel permission to use bond funds for practices not listed above.

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

The following lists the appropriate NR 151 Code for each of the performance standards and prohibitions, and provides guidance in using these codes to complete the column on the DATCP reimbursement form related to compliance with the performance standards.

As you fill out the request form, please use your professional judgment to identify which NR 151 code most accurately identifies the NR 151 compliance related purpose for the installation of a conservation practice, if applicable. Not all practices are installed for the purpose of performance standard compliance. See below for examples on characterizing specific practices.

<u>NR 151 Code</u>	<u>Related Compliance Standard</u>
02	Control soil erosion (sheet, rill and wind) to meet tolerable soil loss (T) calculated by RUSLE 2.
05	Construct, maintain and close manure storage facilities to prevent manure overflows and leaks.
06	Divert clean water from feedlots, manure storage areas and barnyard areas within a water quality management area.
07	Apply manure and fertilizer in conformance with a nutrient management plan to control nutrient runoff into water of the state.
08	No overflow from manure storage facilities.
08	No unconfined manure stacks within the Water Quality Management Area.
08	No direct runoff from feedlots and manure storage facilities.
08	No unlimited access of livestock to waters of the state that prevents maintenance of adequate sod or self-sustaining cover.

Commonly Asked Questions about Characterizing Specific Practices

Critical area stabilization –This practice may be installed as an independent practice to control erosion (in which case, use NR 151 code 02) or it may be installed as a supporting practice. When installed as a supporting practice, use the same NR 151 code assigned for the main practice.

Heavy use area protection –This practice is typically installed as a supporting practice to address a livestock-related issue. Use the NR 151 code selected for the main practice.

Riparian buffers – If installation is necessary to address overgrazing that prevents maintenance of adequate sod or self-sustaining cover, use NR 151 code 08. If this practice is installed for purposes other than performance standard compliance, use the default code of “00” that indicates no compliance was achieved.

Streambank and shoreline protection –If installation is necessary to address overgrazing that prevents maintenance of adequate sod or self-sustaining cover, use NR 151 code 08. If this practice is installed for purposes other than performance standard compliance, use the default code of “00” that indicates no compliance was achieved.

Waterway systems – If installation of this practice is necessary to meet a nutrient management plan, use NR 151 code 07. Otherwise use the default code of “00” to indicate that the installation did not achieve compliance with performance standards.

Well decommissioning – If this practice is necessary to resolve direct runoff to waters of the state as a result of manure storage issues, use NR 151 code 08. Otherwise use the default code of “00” to indicate that the installation did not achieve compliance with performance standards.

If you have other questions related to specific practices, please contact [Kris Modaff](#), 608-224-4611; or [Dilip Patel](#), 608-224-4610.