

The Upper Green Bay Basin Integrated Management Plan

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A report by the
Wisconsin Department of Natural Resources in
cooperation with the Upper Green Bay Basin
Partnership Team & stakeholders



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January 12, 2001

To interested parties of the Upper Green Bay Basin:

On behalf of the Upper Green Bay Basin Partnership Team, the Upper Green Bay Basin Water Team Supervisor, and the Upper Green Bay Basin Land Team Supervisor, we are pleased to present the Upper Green Bay Basin Integrated Management Plan. We hope the objectives and recommendations contained in this document will provide direction for future work plan project preparation within the Wisconsin Department of Natural Resources, and will guide initiatives undertaken by the Partnership Team.

This was truly an integrated effort and has resulted in integrated objectives. Successful completion of these objectives can only be achieved through cooperation between programs within the Department of Natural Resources and with stakeholders outside the Department. We thank the members of the Partnership Team for valuable comment in the development of this plan.

Look for more information at the WDNR's Upper Green Bay website:
<http://www.dnr.state.wi.us/upgb/index.htm> .

Sincerely,

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Upper Right: Bedrock glade (rhyolite), Hagar Mountain State Natural Area, Oconto Co. June 6, 1986. E.J. Epstein.
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I. EXECUTIVE SUMMARY

The purpose for assembling this plan is threefold. We must satisfy the requirements of the Clean Water Act, Section 208 Areawide Water Quality Planning Program, administered by the United States Environmental Protection Agency and the State of Wisconsin. We must demonstrate that field level projects funded by the United States Fish and Wildlife Service are meeting their intended goals. And most importantly, we must translate our partnership team priorities and staff objectives for the basin into guidance for use in future work plan project development.

Stream and lakes tables for each watershed have been included in Appendix 4 to satisfy Environmental Protection Agency grant requirements. Non-point source watershed rankings for the Upper Green Bay Basin are included in Appendix 5. In Section II, Partnership Team and Basin Objectives, there is a list of the Partnership Team's top ten priorities. Section III, largely through the use of maps in Appendix 3, is a description of the resources in the Upper Green Bay Basin. Section IV, Basin Objectives, lists objectives specific to the Upper Green Bay Basin and the recommendations for these objectives (Appendix 1) will be used as a guide to direct project development for the next six years both within the Department and by our partners. They will be reviewed and updated as projects are completed and circumstances warrant. The process used to establish those priorities is described.

II. PARTNERSHIP TEAM AND BASIN PRIORITIES

The Upper Green Bay Basin Partnership Team is currently composed of twenty members. First convened in October of 1998 the Team has identified and prioritized the present and future threats to the natural resources of the basin. Facilitated sessions were conducted to complete this task and forty issues were listed. A voting process was undertaken to select the top ten. The top ten are listed below. The others are listed in Appendix 2.

TOP TEN PARTNERSHIP PRIORITIES

1. Shoreline Development
2. Non-Point Source Pollution and Resource Education (tied)
3. User Conflicts
4. Special Interests, Money and Politics
5. Habitat Loss and Fragmentation of Habitat
6. Retaining the Rural Character of the Northwoods
7. Impacts of Human Population Growth
8. Industrial and Municipal Discharges to Surface Waters
9. Inadequate Zoning and Zoning Enforcement
10. Lack of Comprehensive Land Use Planning and Mechanisms to Guide Implementation

Department personnel from both the Land and Water Divisions in the Upper Green Bay Basin were also asked to list their top ten resource threats or challenges. These were compiled to eliminate duplicates and used as input during the establishment of priorities by the partnership team. All of the Department's priorities were covered by the partnership generated list. Habitat protection and maintenance of biodiversity are the umbrella concepts under which all of the partnership priorities and basin objectives are classified.

Next both the Partnership Team and Department staff were asked to include their specific recommendations on the outline taken from the Statewide Fish and Wildlife Implementation Plan. These recommendations have been included in bold on that outline. Recommendations and portions of the outline that match Partnership Team priorities are identified by the parenthetical addition of the priority number. That outline is included in Appendix 1.

III. BASIN ECOLOGY

The Upper Green Bay Basin consists of 18 watersheds in northeastern Wisconsin, including all of Florence, Marinette and Oconto counties and a major portion of Forest County, and smaller regions of Brown, Langlade, Menominee, Outagamie, Shawano, and Vilas counties. The basin consists of all waters draining to Green Bay between the city of Green Bay and the Wisconsin-Michigan border. Major river systems include the Menominee, Oconto, and Peshtigo rivers in the north, and the Pensaukee, Suamico and Little Suamico rivers further to the south. The Upper Green Bay GMU, which is the focus of this report, is a subset of the larger Green Bay hydrologic basin and includes all or portions of 16 watersheds entirely or partially within the Upper Green Bay Basin. Those watersheds are presented in map form in Appendix 3.

The Upper Green Bay GMU shares several watersheds with the Headwaters Basin, including: the Lower Oconto River Watershed (GB03), the Lower North Branch of the Oconto River Watershed (GB05), the South Branch of the Oconto River Watershed (GB06), the Middle Peshtigo and Thunder Rivers Watershed (GB10), the Upper Peshtigo River Watershed (GB11), the Otter Creek and Rat River Watershed (GB12), the Pike River Watershed (GB14), the Pemebonwon and Middle Menominee Rivers Watershed (GB15), and most of the Popple River Watershed (GB17). For these shared watersheds, resource planning and implementation of those plans will be the responsibility of the adjacent basins.

Also included in this report is a map of the ground cover types within the basin. This map quite clearly shows the large extent of forested land in the northern portions of the basin. Agricultural uses are quite distinct in the southern portion of the basin. Marinette County is approximately 75% forested while Oconto County is about 60% forested. Public lands make up a very large percentage of the land base in the Upper Green Bay Basin. In addition to federal and county land, the state now owns the Governor Tommy G. Thompson Centennial State Park.



Figure 1 (left)

There are three main rivers within the basin, the Menominee River, the Peshtigo River and the Oconto River. Northern Oconto County contains a large concentration of lakes. Marinette County also has a large number of lakes, but is primarily noted for its miles of trout streams. Together there are 820 lakes in the basin covering almost 25,000 acres, and approximately 950 miles of trout streams, 650 miles of which are considered Class 1, or naturally reproducing trout streams.

The Upper Green Bay Basin includes portions of the Northeast Hills, Northeast Sands, Northeast Plans and Northern Lake Michigan Coastal ecological landscapes (See Figure 1). As Figure 1 shows, most of the Basin's outstanding and exceptional resource waters are located in the Northeast Sands and Northeast Hills areas. The Northeast Hills

has hilly topography with silt loam soils, and extensive northern hardwood forests with little development. The Northeast Plains is an area with gently rolling to flat topography with sandy soil, a mixture of agriculture, and mixed hardwood forests and wetlands. The Northeast Sands includes gently rolling topography with sandy soils, primarily oak and pine forests. The Northern Lake Michigan Coastal ecoregion includes land and water influenced by Lake Michigan, with gently rolling to flat topography with clay and loam soils. The area is dominated by agriculture to the south and mixed hardwood forest in the north.

IV. BASIN OBJECTIVES

Below is a list of Upper Green Bay Basin Objectives, a very general list designed to provide direction for Department and Partner Team projects over the next six years. For Department of Natural Resources work-planning, this overall Upper Green Bay Basin Integrated Management Plan will be the umbrella document encompassing more specific plans and will direct the more specific work planning process. Additional detail and direction can be found by referring to the recommendations outline (Appendix 1).

The Partnership Team may seek to undertake projects or activities directed at addressing their priorities. The recommendations outline contains those specific directions and recommendations necessary to provide guidance to the Team. The outline is serving a dual purpose, i.e. for the Department of Natural Resources, and the Upper Green Bay Basin Partnership Team. To do this the recommendations outline has been left intact for the Partnership Team, and condensed into general objectives for the Department.

While these general objectives are highlighted, the overall work of the Department must necessarily continue, e.g. fire control activities, processing Managed Forest Lands applications, fisheries treaty assessments, wastewater treatment plant inspections, water supply well inspections and evaluations, management of game and non-game species, etc. These “routine” work activities meet the majority of the Partnership Team priorities. For example, Partnership Team priority number 8, “Industrial and Municipal Discharges to Surface Waters”, is met by the ongoing commitment to regulate, inspect, and provide technical assistance to wastewater treatment facilities. Considering the role of the Department, it is difficult to specify projects or work directions which would satisfy Partnership Team priority number 4, “Special Interests, Money and Politics”.

Upper Green Bay Basin Objectives

- A. *Target the west shore of Green Bay as a high priority for habitat protection. Complete feasibility analysis and planning process for the Western Shore of Green Bay Coastal Zone Habitat Restoration Area. (Partner priorities nos. 1,2a, 5,7,10)*
- B. *Implement the fifty year acquisition/protection study recommendations identified as “Land Legacy projects” by and for the Upper Green Bay Basin. (Partner priorities nos. 1,5,6)*
- C. *Increase emphasis on Water Regulation and Zoning efforts. (Partner Priorities nos. 1,2b, 5,7,9)*
- D. *Increase participation on regional Land Use Team, develop expertise in “Smart Growth” program, and work more closely with municipalities to promote wise land use and zoning. (Partner priorities nos. 1,2,3,5,6,*

7,9,10)

- E. *Review, revise and implement a Comprehensive Upper Green Bay Basin Fisheries Management Plan. This plan will include the following component plans. (Partner priority no. 5)*
1. *A revised Oconto River Fisheries Management Plan. Use this plan to implement and direct fisheries activities on the Oconto River system. (Partner priority no. 5)*
 2. *A revised Menominee River Fisheries Management Plan. Use this plan to implement and direct fisheries activities on the Menominee River system. (Partner priority no. 5)*
 3. *Incorporate the Lake Michigan Comprehensive Fisheries Management Plan. (Partner priority no. 5)*
 4. *Develop and implement a Peshtigo River Fisheries Management Plan. (Partner Priority no. 5)*
- F. *Complete Master Planning process for Governor Tommy G. Thompson Centennial State Park. Implement master plan as resources become available. (Partner priorities nos. 2b,3,5,6)*
- G. *Increase emphasis on educational initiatives through routine activities and special projects, e.g. work with UW Extension, sportsmans groups, schools, the Citizens Natural Resource Academy, and other stakeholder groups. (Partner priority no. 2b)*
- H. *Continue to implement sound forestry practices on public and private lands to ensure a sustainable yield of forest products, a sound timber recovery, a variety of recreational opportunities, protection of waterways and optimum habitat for a variety of wildlife species.*

V. SUMMARY

The main goals of this effort are protection of ecosystem diversity, protection of critical habitats, and ensuring a sustainable resource base for the future. Direction for Department and Partnership Team initiatives and projects has been presented in the recommendations outline (Appendix 1) and the Basin Objectives section. Upper Green Bay Basin Partnership Team priorities and Department of Natural Resources guidance served as the sole basis for development of the basin specific objectives.

APPENDIX 1: UPPER GREEN BAY BASIN (UGBB) RECOMMENDATIONS

Recommendations that will be used to direct project development for the next six years both within the Department of Natural Resources Upper Green Bay Basin and by the Upper Green Bay Basin Partnership Team. Numbers in parenthesis correspond with one of the top ten resource concerns identified by the UGBB Partnership team in Section II of this plan. The recommendations in bold are considered high priority within the Upper Green Bay Basin.

MAKING PEOPLE OUR STRENGTH

PARTNERS AND THE PUBLIC

- A. Involve individuals, businesses, governments, tribes, agencies and organizations in managing natural resources and protecting human and wildlife health by sharing knowledge through aggressive pursuit of educational initiatives. These initiatives will target all age levels and sectors of the population and will stress ecosystem management and bio-diversity, informed decision-making. (2)
 1. Develop partnerships with individuals and organizations interested in fish, habitat and wildlife projects within the UGBB and move beyond advisory relationships to utilize the knowledge and resources of partner organizations to achieve mutually agreed upon goals.
 - Use partnerships with University of Wisconsin Extension, NRCS, and county LWCD's to evaluate stakeholder needs and facilitate achievement of goals.
 - Work with private landowners to develop cooperative agreements for stewardship on private lands. Riparian lands are the initial focus for these stewardship plans. Landowner objectives should be considered as plans and agreements are developed.
 - Develop partnerships with other organizations capable of enhancing our protection capabilities, e.g. The Nature Conservancy, Northeast Wisconsin Land Trust, Ducks Unlimited, PikeMasters, Walleyes Forever, the USFWS, US Forest Service, city and county park systems and other local units of government.
 - Emphasize coordination of planning among agencies, i.e. DNR, USFS, USFWS, and counties.
 - Work with towns, villages and counties to have them utilize their regulatory jurisdictions to promote sound land use planning, e.g. protect critical wetlands habitats. (1,2a, 5,6,7,9,10)
 - Identify what efforts are necessary and appropriate for other agencies, e.g. USFS, define their level of involvement in watershed planning.(all)
 2. Develop partnerships that enhance the protection and sustainable management of our forests.
 - Consume fire suppression agreements and training with all fire departments in organized protection areas.
 - Organize, and train, volunteer emergency fire wardens to assist with forest fire pre-suppression and suppression activities.
 - Establish and implement a basin consultant forester referral program consistent with Department policy.
 - Promote the use of a forest management plan, prepared by a professional forester, on all forested lands.
 - Develop and provide educational programs targeting non-industrial private woodland owners.
 3. Obtain the necessary knowledge and expertise to counter the influence of special interests, money, and politics that negatively affect our natural resources and wise natural resource decisions. (4)
 4. Continue and strengthen educational programs to address aquatic resource issues within the Upper Green Bay Basin. (2)

- Publish an Upper Green Bay Basin Fisheries Newsletter to highlight and inform the public about fisheries and other water resource issues. (2)
 - Work with Wildlife Education Program to develop Watchable Wildlife and Interpretive programs on Wildlife Areas in the Basin. (2)
 - Develop brochures for basin wildlife areas. (2)
 - Continue to provide fisheries presentations when possible and encourage partnering opportunities on field projects whenever possible. (2)
 - Continue strategies to educate the public concerning shoreline preservation and restoration. (2)
 - Continue to educate the public concerning exotics and ways to reduce the spread of exotics via human activities. (2)
 - Inform the public of habitat loss and the impacts of those losses upon fish and wildlife populations, water quality, flood control and the quality of life.(2)
 - Promote wise land use planning and address those concerns associated with urban sprawl. (10)
 - Encourage the use of, and provide education covering, applicable standards, best management practices, and certification programs.(2)
5. Work with and through the Upper Green Bay Basin Partnership Team to develop and initiate projects that address local concerns, implement projects on a local level, and monitor progress on those projects to ensure partnership team goals are being met. (all)
- Provide for continuous monitoring of accomplishments through progress reports for Department of Natural Resources and partnership team projects.

SUSTAINING ECOSYSTEMS

AQUATIC COMMUNITIES

1. Manage for a biologically diverse, balanced, and healthy ecosystem that meets fishable and swimmable standards and the Department's strategic objectives for bio-diversity.
2. Approach research, the direction of grant moneys and implementation of management options using ecosystem management and biodiversity concepts.
3. Place strong emphasis on implementing and evaluating the baseline monitoring strategy and other schemes in the UGBB and continue developing biodiversity criteria, habitat indices, and supporting databases for aquatic systems.
4. Identify and protect critical habitat in the UGBB through basin planning and monitoring processes in concert with local citizens and partners. (5)
5. Identify and investigate the causes of habitat loss or impairment and take corrective actions in the UGBB. (5)
6. Remove dams and improve the associated stream habitat where sport fisheries and aquatic diversity can be improved and the local communities are willing partners. Continue to support the study of fish passage technology at hydroelectric dams and implement those technologies where appropriate to reduce habitat fragmentation. (5)
7. Protect waters and shoreline habitat through aggressive educational initiatives and, as necessary, enforcement of state statutes and rules. Utilize enforcement mechanisms for habitat restoration. (1,2,9)
8. Identify opportunities to protect, enhance or restore threatened ecosystems through the Acquisition 2050 plan.
9. Identify and implement strategies to buffer the effects of non-point source pollution adjacent to critical habitat. (2)
10. Protect critical habitat by establishing an acquisition project designed to purchase, in fee, high quality wetland habitat within the Green Bay West Shore ecosystem modeled after the Habitat Restoration Area acquisition program. (1,5,7)
11. Document the biological use of all tributary streams along the western shore of Green Bay.
12. Increase land acquisition acreage goal for protection of scattered habitat areas. (5)
13. Increase acquisition of easements within environmental corridors.(5)
14. Increase acquisition of easements for future habitat restoration projects. (5)
15. Implement habitat restoration projects to re-connect disjointed portions of environmental corridors, and to replace individual cells of wetland and riparian habitat that has been lost.(5)
16. Protect valuable low order streams, and once natural streams which now serve as agricultural and roadside ditches. (2,5)
17. Assure proper implementation of our WPDES wastewater and stormwater permitting programs.(8)
18. Implement Total Maximum Daily Loads (TMDLs) where needed on impaired waters.(8)

1. COLD WATER STREAMS

- 1.1 Prevent any further loss of habitat including water quality or quantity in cold water streams through regulatory, watershed management (and land acquisition programs.) (5)
- 1.2 Restore naturally reproducing native fishes and the associated native cold water community in streams.
- 1.3 Inventory the biota of spring heads.
- 1.4 Support and further promote Forestry Best Management Practices for water quality.
 - Inventory and repair road and stream crossings.(5)
 - Inventory and repair culverts that impede fish movement.(5)
- 1.5 Improve salmonid habitat within streams in the UGBB.
 - Annually maintain trout habitat devices on previous improvement projects.
 - Keep high priority trout streams free of beaver dams consistent with the beaver control policy.
 - Locate, identify and prioritize degraded habitat areas on the basin's trout streams for future restoration activities.
 - Initiate projects to renovate spring ponds.
- 1.6 Protect groundwater and strengthen existing state statutes as necessary.
- 1.7 Continue to work with local units of government to further protect shorelands and control shoreline development. (1)
- 1.8 Increase acquisition boundaries on existing projects that protect high quality cold water streams. (1)
- 1.9 Establish additional acquisition goals to increase protection of unprotected cold water resources.
- 2.0 Promote and implement the state's Rivers Grants Program. (1,2,5,7)

2. WARM WATER RIVERS AND STREAMS

- 2.1 Evaluate and report the impact of harvest and regulations on sport fish in large river populations.
- 2.2 Identify critical habitat sites for stream bank protection or in-stream habitat restoration to enhance sport fisheries in the UGBB. (5)
 - Inventory and repair road and stream crossings.(5)
 - Inventory and repair culverts that impede fish movement.(5)
- 2.3 Implement the Northern Rivers Strategy (NOR).
- 2.4 Continue to work with local units of government to further protect shore lands and control shoreline development. (1)
- 2.5 Increase acquisition boundaries on existing projects that protect high quality warm water streams.
- 2.6 Establish additional acquisition goals to increase protection of unprotected warm water resources.
- 2.7 Promote and implement the state's Rivers Grants Program. (1,2,5,7)
- 2.8 Reduce habitat loss within and adjacent to intermittent and perennial streams, including low order streams, and pooled wetlands. (5)
 - Continue to conduct an inventory of existing riparian and non-riparian wetland resources within the western shore of Green Bay to identify currently functional habitat needing protection and to determine where habitat restoration should occur. (2,5)
- 2.9 Emphasize protection and restoration of native fish populations and their habitat. (1,4,5,7)
 - Develop and implement effective means of limiting the spread of exotic plants and animals within the Upper Green Bay Basin.
 - Restrict introduction of exotic sport fish to those waters currently occupied by native species.
 - Stock only genetically "identical" fish in Upper Green Bay Basin streams and rivers through the use of native river system specific broodstock to generate fish stocked in that same waterway.

3. LAKES

- 3.1 Identify and protect critical spawning, reproductive, and nursery habitat in lakes with major sport fisheries within the UGBB. (5)
- 3.2 Identify and protect critical habitat for endangered or threatened species within the UGBB. (5)
- 3.3 Develop criteria to identify and recommend protection of existing self-sustained fisheries.(Include the recommendations in basin plans.)
- 3.4 Continue to aggressively work private property owners, local units of government, and other lake organizations to further protect shore lands. (1, 5, 7, 9)
- 3.5 Implement the Wild Lakes program in the Upper Green Bay Basin.
- 3.6 Promote and implement the states Lakes Grant Program (including lake classification, protection, restoration and small grants). (1,2,3,5,9,10)
- 3.7 Identify areas which may be designated as sensitive areas to preserve critical and unique habitat from manipulation. (5)
- 3.8 Continue to promote the self help monitoring program in the Upper Green Bay Basin. (2)

4. GREAT LAKES

- 4.1 For Lake Michigan, in cooperation with other jurisdictions, develop lake-wide salmon stocking strategies that are ecologically sustainable and well accepted by the sport fishing public.
- 4.2 Develop and implement a mechanism for prohibiting the transportation of exotic organisms to and from Great Lakes waters. (5,7)
- 4.3 Restrict introduction of exotic sport fish to waters currently occupied. (4,5,7)
- 4.4 Take an “ecosystem” approach to management of Great Lakes waters by emphasizing habitat protection and restoration, and restoration of native species populations. (3,4,5,7)
- 4.5 Restore native river spawning populations of coregonids and salmonids (and other native forage species) and allow these species access to upstream habitat. (4,5,7)

5. WETLANDS

- 5.1 Implement “Reversing the Loss: A strategy for protecting and restoring wetlands in Wisconsin”. (1,4,5,6,7)
- 5.2 Identify and prioritize wetlands as critical habitat areas in need of protection, restoration, and enhancement (in the basin plans.) (1,4,5,6,7)
- 5.3 Protect wetland complexes through acquisition, incentives and other innovative strategies by federal, state, and local government and not-for-profit conservation organizations. (5, 7)
- 5.4 Restore degraded wetland complexes on public and private lands to recapture ecosystem function and value.(5,7)
- 5.5 Protect wetlands by enforcing zoning and permit regulations. (1,2,5)
- 5.6 Monitor and evaluate accomplishments to inventory, protect, and restore critical wetlands.(1,5,7)
- 5.7 Promote wetland protection and the implementation of these objectives by wetland property owners. (1,2b, 5,6)

TERRESTRIAL COMMUNITIES

- Use planning and management methods that address the connection between pollution problems on land, in water, and in air. (10)
- Promote better integration between programs within the Department of Natural Resources and with other agencies and stakeholders.
- Regulate and manage public and private shorelands and shallows in a consistent fashion to protect biodiversity and water quality.
- Promote sustainable practices on urban and rural land through technical assistance and incentives including the Farm Bill and other state and federal programs and grants.
- Protect land through acquisition, easements, and grants for acquisition and management. (6, 7, 9)
- Increase expertise in “Smart Growth” land use planning and become involved with the review process to assure natural resource protection. (10)

- Work with the Marinette and Oconto county foresters to maintain and develop early successional habitat types on the forests. Develop openings in forest units deficient in herbaceous types. Maintain the current level of openings and young aspen growth to benefit deer, grouse, woodcock and other forest game species.(5,6)
- Pursue opportunities to protect and enhance oak-pine barrens habitat on the Marinette County Forest. Prescribe burning in the Athelstane Barrens should be planned to maintain and enhance the barrens there. Restoration of the barrens type on the Dunbar Natural Area should be continued. (5,6)
- Implement measures to protect critical habitat corridors. (5,6)

1. WILDLIFE AREAS

- 1.1 Maintain flowages and water control structures on wildlife areas in the UGBB through prescribed burning, mowing, and other methods.
- 1.2 Increase acquisition boundaries on existing projects that protect high quality habitat, public hunting areas, and that prevent fragmentation of the landscape. (5)
- 1.3 Establish additional acquisition projects to increase the protection of habitat and to prevent landscape fragmentation. (5)
- 1.4 Maintain trails and parking lots at existing sites and develop additional parking on units of the West Shore Wildlife Area.

2. FORESTS

- 2.1 Monitor forest openings and walking trails on state lands on the Marinette and Oconto County Forest lands. Maintain these openings through mowing, herbicide use, prescribed burning, or other techniques. (6)
- 2.2 Establish and monitor timber harvest activities to achieve management goals on state lands within the UGBB. (6)
- 2.3 Address educational needs through a variety of methods, e.g. teach the teacher programs, logger education, training landowners in forestry basics, etc.(2)
- 2.4 Continue working with Oconto and Marinette counties to encourage oak regeneration for turkey habitat on county forests.(5,6)
- 2.5 Implement forestry techniques on wildlife areas to benefit forest game species where applicable. (5,6)
- 2.6 Implement the Division of Forestry Statewide Implementation Plan. (5,6)
- 2.7 Provide a sustainable even-flow of forest products based upon sound forestry practices.

3. GRASSLANDS

- 3.1 Maintain early successional habitats in grasslands and barrens habitat in the UGBB through prescribed burning, mowing, and herbicide use.
- 3.2 Enhance grasslands by planting native species to replace exotic grasses.
- 3.3 Establish and organized and coordinated approach including other agencies and stakeholders.

A. SPECIES OF SPECIAL CONCERN

1. FISH

- Protect native fish species and their habitat. Species that use wetlands, riparian zones, and littoral zones for spawning should receive special attention. Focus protection and restoration efforts on those habitat types and upon threatened and endangered species and their habitat.
 - To ensure that stocking provides a good return to the angler, implement the approved stocking guidelines in the UGBB by 2001. Ensure that stocking is biologically sound, cost effective, and maintains the genetic integrity of naturally reproducing populations.
 - By 2001, implement the monitoring strategy in the UGBB to provide adequate information on the status and trends in the fishery and impact of management actions.
 - Meet the desired management need of stocking 50% wild trout by 2002.
- 1.1 Implement the statewide Sturgeon Management Plan. Preserve and enhance existing naturally reproducing populations. Re-establish populations in waters within their original range consistent with their genetic origins.

- Continue to assess sturgeon population in the Menominee River.
 - Allow for sport harvest opportunities where a limited harvest can be sustained.
 - Install fish passage structures at hydroelectric dams on the Menominee River, where appropriate, to allow lake sturgeon and other target fish species access to other spawning, wintering, and foraging habitat. (5)
- 1.2 Collect information on northern pike in the UGBB.
- Identify, protect, and restore wetland habitat for spawning northern pike within the Western Shore of Green Bay coastal zone.
- 1.3 Collect and summarize spawning yellow perch in Green Bay to determine age, growth, maturity, timing of spawning, and tag them to determine movements and relative exploitation using nets, traps, and seines.
- 1.4 Enhance the yellow perch management strategy by continuing to examine and define factors limiting the population in Green Bay.
- Manage for a stable commercial fishery within the productive capacity of Green Bay.
- 1.5 Collect and maintain biological information on seeforellen brown trout brood stock from the Menominee and Kewaunee Rivers.
- 1.6 Contribute to the annual production of 2000 to 6000 Great Lakes strain spotted muskies and provide information to the public and cooperating musky clubs on the progress of reestablishing them in Green Bay.
- Develop criteria to better define self-sustaining populations by 2001, and identify and protect those populations through 2007.
 - Increase trophy fishing opportunities for muskies >45 inches and double the catch rate of trophy muskies by 2007.
- 1.7 Protect and sustain the rare silver pike population located in three northern Oconto County lakes.

2. WILDLIFE GAME SPECIES

- Conduct the surveys identified in the Surveys Report for the UGBB. These include surveys on ruffed grouse, woodcock, deer, fur-bearers, bear, waterfowl, amphibians, and non-game species
- 2.1 Bear
- Continue to gradually bring the bear population towards its goal through the use of liberal quotas when necessary.
 - Continue to communicate with the Michigan DNR and the Minnesota DNR to perfect our population model and our survey method, and to keep abreast of the new modeling and surveying technology and techniques available.
- 1.2. White-tailed deer
- Implement Deer Management for 2000 and Beyond project recommendations and aggressive harvest management strategies to lower the size of the deer population in most areas of the state.
 - Work with the City of Marinette on reducing the deer over-population problems within the city.
- 2.3 Turkey
- Expand and optimize spring and fall turkey hunting opportunities while maintaining high hunt quality and hunter satisfaction and strong safety record.
 - Implement habitat management practices to meet objectives outlined in the Wild Turkey Management Plan. Management practices to benefit turkeys include: prairie ecosystem establishment and management, oak savanna establishment and management, barrens management, oak-hickory ecotype management, hunter education, and population monitoring and population dynamics research.
 - Continue working with Oconto County to encourage oak regeneration for turkey habitat on county forests. (5,6)
 - Work with local sportsmen's clubs to develop food plots to enhance overwinter survival of turkeys. (5,6)
- 2.4 Ring-necked pheasant
- Expand pheasant hunting opportunities while improving hunt quality and hunter satisfaction.

- Implement habitat management practices to meet objectives outlined in the Pheasant Management Plan. Management practices for pheasants include: prairie ecosystem establishment and management, CRP expansion and implementation, wetlands preservation and restoration, and population monitoring and population dynamics research.
 - Continue to provide game farm pheasants for public hunting grounds, sports clubs, dog trialing clubs, dog training classes, and youth hunts.
- 2.5 Ruffed Grouse
- Maintain high hunter interest in ruffed grouse hunting in Wisconsin.
 - Implement habitat management practices to meet objectives outlined in the Ruffed Grouse Management Plan.
 - Work with foresters, planners, county personnel and USFWS personnel to ensure management for habitat goals (including consideration of age classes) through landowners and cooperation, including timber harvest remains a primary use (where feasible) of Wisconsin's forests.
 - Maintain high quality aspen habitat.
- 2.6 Waterfowl
- Continue to implement the objectives in the UMR&GLR Joint Venture including cooperation of "all bird objectives." Restore and enhance wetlands and upland cover important for ducks and other bird species. Work through partners to achieve the goals established in the Joint Venture.
 - Initiate species research to address critical information needs.
 - Continue our spring waterfowl breeding waterfowl survey and enhance the procedure when applicable.
 - Continue to protect wetlands through enforcement of zoning and permit regulations. (1,5)
- 2.7 Geese
- Continue to improve our Canada goose harvest management procedures to ensure we offer our hunters a simple system that meets the scientific and management needs.
 - Work with local governments and individuals to address the problems they are having with injurious Canada geese, e.g. the City of Marinette.
- 2.8 Other migratory game birds
- Continue to enhance habitats for other hunted species of migratory birds, monitor their populations and adjust harvest consistent with those populations.
 - Reduce habitat fragmentation on the landscape. (5)
- 2.9 Beaver and Other Fur-Bearer Management
- Continue the 3 year rotation of beaver population surveys in Zones A and B.
 - Develop population goals for Beaver Management Zones A, B, and C.
 - Begin to manage beaver as if they were considered valuable components of our forest ecosystems.
 - Continue the beaver harvest survey with focus on obtaining additional information about densities, harvest pressure, and pelt value trends.
 - Provide special attention to other fur-bearer management strategies and initiatives, specifically the timber wolf recovery program.
3. NON-GAME MAMMALS
- 3.1 Incorporate small mammal inventories into master planning inventories and other inventories on public lands.
- 3.2 Promote local education and programs related to the Timber Wolf Recovery Program. (2)
- 3.3 Work with the elk committee to identify appropriate locations for further elk releases.
4. NON-GAME BIRDS
- 4.1 Continue population monitoring and management efforts for colonial waterbirds (herons, gulls, terns, cormorants, egrets, piping plover).
- 4.2 Integrate shorebird management into management of wildlife impoundments, and develop other initiatives as opportunities present themselves in the Wisconsin Bird Initiative.
- 4.3 Continue population monitoring and productivity surveys for trumpeter swans.
- 4.4 Continue eagle and osprey population monitoring and productivity surveys.
- 4.5 Participate in studies to determine status of the northern goshawk; contribute data to the NHI database.
- 4.6 Participate in shorebird surveys and management along the west shore of Green Bay. Particular emphasis should be placed on Seagull Bar, Peshtigo Point and Longtail Point.

- 4.7 Assist BER and USFWS in management of piping plovers, Forster's terns and common terns.
 5. NON-GAME FISH
 - 5.1 Protect and manage non-game fish species, including forage fish, as integral components of our aquatic ecosystems.
 - 5.2 Inventory non-game fish species in waters of the Upper Green Bay Basin.
 - 5.3 Encourage and support research regarding inter-species relationships.
 - 5.2 As appropriate, implement ecosystem based management strategies to ensure populations of non-games fish species are maintained to promote biodiversity.
 6. HERPETILES
 - 6.1 Monitor population status of rare snake species, and other threatened and endangered species.
 7. AQUATIC INVERTEBRATES
 - 7.1 Implement the Hine's Emerald Dragonfly Recovery Plan; inventory potential habitat to locate additional populations.
 - 7.2 Consideration of all benthic aquatic invertebrates should be included in projects associated with ecosystem management.
 8. TERRESTRIAL INVERTEBRATES
 - 8.1 Determine the rarity status of Wisconsin's terrestrial snail species through inventory and assessment.
 - 8.2 Characterize the insect species composition in prairie habitat through cooperation with the multi-state prairie insect inventory.
 9. RARE PLANTS AND VEGETATIVE COMMUNITIES
 - 9.1 Identify, designate, and manage State Natural Areas.
 - 9.2 Locate and describe natural communities and rare plants present on and around state lands undergoing master planning.
 - 9.3 Protect and where practical, reestablish endangered resources and habitats and work to eradicate or control harmful non-native species.
 - 9.4 Assure the aquatic plant management NR107 code is implemented **in a** manner which will preserve a balance between a healthy native aquatic plant community and the desires of riparian permit applicants. (correctly.)
 - 9.5 Develop management plans that include and inter-disciplinary approach and public input.
- B. EXOTIC AND INVASIVE SPECIES (5,6)
1. Prevent, control where feasible, or contain priority non-native invasive plant and animal species. (5,6)
 - On a local level some of these species of concern would include purple loosestrife, leafy spurge, spotted knapweed, eurasian water milfoil, eurasian glossy buckthorn, white perch, spiny waterflea, round goby, etc. (5,6)
 2. Implement zebra mussel monitoring and containment strategies. (5,6)
 3. Implement the Aquatic Nuisance Species Plan (5,6)
 4. Control native species or their populations that have been determined to be detrimental. Identify the populations, establish a target level, and reduce them to that level. (5,6)
 5. Reduce purple loosestrife and glossy buckthorn on Natural Areas within the basin. (5,6)
 6. Monitor all Natural Areas for the presence of invasive species. (5,6)

C. FISH AND WILDLIFE HEALTH

1. Focus fish and wildlife health assessments on perturbed ecosystems where toxicants or pathogens are the factors most likely contributing to the unsustainable system.
2. Continue a strong program of disease monitoring, including surveillance of all significant species to detect changes in disease patterns and enhanced monitoring for emerging diseases such as TB and chronic wasting disease in deer.
3. Investigate & manage disease risks at the captive wildlife/free-ranging population interface.
4. Continue contaminant monitoring in identified geographic areas of concern (e.g., snapping turtle, mink and tree swallow projects).
5. Monitor contaminant levels in urban goose populations to facilitate harvest for consumption as a population management alternative.
6. Conduct forest health monitoring.
7. Conduct insect and disease surveys.
8. Support gypsy moth trapping, population monitoring and treatments to decrease damage to high quality timber areas.

D. ANIMAL DAMAGE

1. Continue to implement the Wildlife Damage and Nuisance and Abatement program.
2. Implement Deer 2000 program changes to program as they become available.
3. Add eligibility for damage to agriculture caused by elk, wolves, and cranes as it becomes necessary.
4. Provide wildlife damage control assistance to Oconto and Marinette Counties.
5. Implement the Hotspot Damage Shooting Permit Program in the Upper Green Bay Basin.

HEALTH AND SAFETY

A. Contaminant monitoring (2, 8)

1. Monitor contaminant levels in fish by implementing the baseline monitoring strategy for lakes and streams in the UGBB.
 - Develop a contaminant monitoring strategy for white perch in Green Bay.
2. Monitor contaminant levels in wildlife as directed through biennial guidance.
3. Implement Total Maximum Daily Loads (TMDL's) where needed on impaired waters.
4. Identify and control non-point source pollution/discharges. (2)

OUTDOOR RECREATION GOALS AND OBJECTIVES

A. Watchable fish, wildlife, and scenic natural habitat

1. Increase 3rd through 5th grade student and teacher understanding and appreciation of Wisconsin fish, wildlife, and other natural resources. (2)
 - Include educational opportunities for children before reaching the 3rd grade. (2)
 - Employ methods such as "teach the teacher" programs to further these educational efforts. (2)
2. Promote outdoor ethics, safety, and respect for nature in all types of recreation.
3. Anticipate, evaluate, and provide new recreational pursuits that are safe and compatible with healthy ecosystems. Reduce user conflicts through development and enforcement of local ordinances. (3)
 - Establish special use areas based upon the concept that resource use should be matched to the resource value.

4. Inspect and maintain designated use areas.
- B. Access to fish and to wildlife opportunities
1. Acquire, develop and maintain access for fishing boats. Emphasize partnerships with local units of government (where we construct the boat ramp and they agree to maintain it) and compliance with ADA accessibility requirements.
 2. Ensure that the hunting and angling public have equal access opportunity to the natural resource through enforcement and education.

APPENDIX 2 UPPER GREEN BAY BASIN PARTNERSHIP TEAM Additional Priorities

Remainder of the Upper Green Bay Basin Partnership Team Priorities from the Section II list. These priorities were identified as future threats to the natural resources of the basin but were not included in the top ten list.

- Lack of adequate DNR financing and the implication on natural resources
- Need for adequate public access to lakes
- Dumping on public property
- Wildlife management and public input
- Impacts of exotic species
- The “takings issue” and lack of understanding on the part of local government
- Loss of bio-diversity
- Need for continued acquisition of hydroelectric facility property along the Menominee River as they become available
- Anti-hunting campaigns
- Management of the Nicolet National Forest
- Wildlife and their negative impacts on urban areas and agricultural crops
- Sources of groundwater contamination
- The abundance of federal restrictions on logging
- Need to increase public bike and hiking trails
- Trend toward accepting any type of economic development (mining, cranberries) and the lack of guidelines for the type of desired development
- Preservation of abandoned railroad rights of way
- Private versus public ownership of land
- Local units of government passing laws not allowing certain forest management practices
- Lack of resource program integration (between agencies)
- Need for more enforcement personnel on DNR and county lands
- Use of northern public lands for work projects for people needing help
- Resource dollars not being spent wisely
- Need more DNR involvement in motorized trail development
- Air pollution
- Loss of private forest lands to non-forest use
- Loss of old growth forests
- Baiting and feeding of deer
- Lack of promotion of recycling and solid waste management
- Lack of state and federal resources applied at the Basin level

APPENDIX 3: Watershed Summaries

Descriptive summaries, by watershed, of physical and biological characteristics of the Upper Green Bay Basin. Watershed and basin maps depicting these characteristics follow the narrative.

1. **Suamico and Little Suamico River Watershed(GB01)**- The Suamico and Little Suamico Rivers originate in eastern Shawano County and flow easterly to Green Bay. Near Green Bay and inland for several miles, wetlands are especially prominent and are valuable spawning habitat for Green Bay sport fish species. The primary landuse in the watershed is agricultural with residential homes expanding out from the City of Green Bay. Nonpoint source pollution impacts the water quality in this watershed. Pulaski is the largest community in this watershed and their wastewater is piped to the City of Green Bay.
2. **Pensaukee River Watershed(GB02)**- The Pensaukee River Watershed originates in eastern Shawano County and flows east through Oconto to Green Bay. The watershed has been involved in the nonpoint priority watershed program to deal with nonpoint pollution problems. This watershed is also valuable spawning habitat for some Green Bay sport fish species. The primary landuse in the watershed is agricultural. Krakow is the largest community in this watershed.
3. **Lower Oconto River Watershed(GB03)**- The Lower Oconto River Watershed is located in central Oconto County with small portions extending into northern Shawano and eastern Menominee counties and drains into Green Bay. Three hydroelectric power dams operate on the Oconto River in this watershed. There is some agricultural activity along with a few small communities in this watershed. Suring, Gillett, Oconto Falls, and Oconto and are the largest communities in this watershed.
4. **Little River (GB04)**- The Little River Watershed is located mostly in Oconto County(213 square miles) and a small area(13 square miles) of Marinette County. The Little River is a major tributary to the Oconto River. Agricultural activities comprise the principle land use which has caused nonpoint pollution impacts to water quality. As a consequence the watershed had been designated as a priority watershed project area during the late 1980's and early 90's. The project period has expired with nonpoint pollution problems still existing in the watershed. Lena is the largest community in this watershed.
5. **Lower North Branch Oconto River(GB05)**- The Lower North Branch Oconto River Watershed lies in central Oconto County and small portions extend into Marinette, Menominee Counties along with overlapping into the Headwaters Basin(Forest and Langlade Counties).There are a number of inland lakes scattered throughout the basin and wetlands are abundant in the southeastern portion of the watershed. A large portion of the watershed is forested with some areas of agricultural lands found in the lower reaches of Peshtigo Brook. Wabeno and Lakewood are the largest communities in this basin.
6. **South Branch Oconto River(GB06)**- The South Branch Oconto River Watershed is situated in west-central Oconto County, extending in Menominee County and a small portion of Langlade County(Headwaters Basin). The majority of streams in this watershed are trout waters. Most of the inland lakes are located in the northern half and more scattered wetland areas are found in the southern half of the watershed.
7. **Lower Peshtigo River (GB07)**- The Lower Peshtigo River Watershed is located in southeastern Marinette County where the Peshtigo River drains into Green Bay. The watershed includes the City of Peshtigo and a portion of the City of Marinette. A portion of the watershed is forested with some scattered areas of agricultural use. Some intensive work has been taking place during 1999-2001 on Trout Creek and the Peshtigo Flowage under a lake management planning grant to the City of Peshtigo dealing with nonpoint source pollution. There are some large areas of wetlands scattered about the watershed.
8. **Little Peshtigo River (GB08)**- The Little Peshtigo River Watershed is located in southwestern Marinette County and extends into eastern Oconto County. The land use is largely agricultural with scattered areas of wetlands and small scattered forested areas. There are some water quality problems resulting from nonpoint source runoff into the lakes and streams. A lake restoration project on Bass Lake(Town of Beaver) was just completed by Marinette County in the year 2000 which was the culmination of a long series of projects to restore the lake from its hypereutrophic state. The lake was treated with alum following a great deal of work to reduce nutrient inputs. This watershed drains into the Peshtigo River. Coleman is the largest community in this watershed.

9. **Middle Inlet and Lake Noquebay(GB09)**- The Middle Inlet and Lake Noquebay watershed is located in central Marinette County. The watershed has some agricultural activity along with wetlands and forest areas. A lake management project has been dealing with nonpoint source pollution to the Middle Inlet and Lake Noquebay. Lake Noquebay is the largest inland lake in the Upper Green Bay Basin.
10. **Middle Peshtigo and Thunder Rivers(GB10)**- The Middle Peshtigo and Thunder Rivers Watershed is located in central Marinette and northeastern Oconto Counties. This watershed includes 34 miles of the Peshtigo River along with High Falls, Johnson Falls and Sandstone flowages formed by Wisconsin Public Service hydropower dams. The watershed has been involved with a priority watershed project due to a high groundwater ranking. The land use in the basin consists of mostly forested areas with some rural residential, recreational and a small amount of agriculture in the southeast portion of the watershed. Wetlands are scattered along the rivers and streams. There a number of small inland lakes located in the basin. Crivitz is the largest community in the watershed.
11. **Upper Peshtigo River(GB11)**-The Upper Peshtigo River Watershed originates in Forest County(Headwaters Basin) in which most of it is located. The watershed extends into Marinette County including Caldron Falls Flowage and a small portion of Oconto County. Wetlands are abundant in much of the watershed and the land use is largely forested, recreational land and some scattered agricultural lands. Crandon is the largest community in the watershed.
12. **Otter Creek and Rat River(GB12)**- This watershed originates in Forest County(Headwaters Basin) in which most of it is located. A small portion of the watershed extends into east-central Marinette County. The watershed streams are composed of mostly trout streams with a small number of warmwater streams. Wetlands are found throughout the watershed. The majority of the watershed is wooded and wild with a small amount of agricultural lands.
13. **Wausaukee and Lower Menominee Rivers(GB13)**- The Wausaukee and Lower Menominee River Watershed is in southeastern Marinette County. It includes 51 miles of the Menominee River which drains into Green Bay at the City of Marinette. There are three hydropower dams on the Menominee River and one on the Wausaukee River in Wausaukee. Wausaukee Village as well as the City of Marinette discharge directly to the Menominee River. The Menominee Paper Co., City of Menominee, Waupaca Foundry, Ansul Fire Protection, Kimberly Clark Paper and Specialty Chem Products all discharge to the Menominee River along the stretch in Marinette. The land use is a mixture of agricultural and forested areas along with residential. The Menominee River downstream of the second hydropower dam has been listed as one of the 43 Great Lakes Areas of Concern due mostly to arsenic contamination from past disposal practices of Ansul Company. There were other concerns in the area as well for which a plan was developed in 1996 to deal with the issues.
14. **Pike River(GB14)**- The Pike River is located in north central Marinette County with small areas extending into Florence and Forest Counties(Headwaters Basin). All streams in this watershed are cold water communities and 9 of 11 are listed as outstanding resource waters. The Pike River is designated as a state wild and scenic river system. Wetlands are abundant. The area is mostly forested with a small amount of agricultural land. The largest communities in the watershed are Goodman, Dunbar and Amberg.
15. **Pemebonwon and Middle Menominee Rivers (GB15)**- This watershed is located in notheastern Marinette County and extends into southeast Florence County(Headwaters Basin). The watershed area includes 53 miles of the Menominee River in which three hydropower dams are located as well as including the Pemebonwon River subwatershed. The largest communities in the watershed are Niagara and Aurora which discharge their wastewater to the Menominee River. The paper mill in Niagara and Champion International Paper Company in Michigan downstream of Niagara also discharge directly to the Menominee River. Wetlands are abundant throughout the watershed and much of the watershed is forested.
16. **Popple River (GB17)**- The Popple River Watershed is located mostly in Florence and Forest Counties(Headwaters Basin). A small corner extends into Marinette County which contains a few lakes. Therefore, most of the planning for this watershed is being done in the Headwaters Basin Plan.
17. **The Pine River(GB16) and Brule River(GB18)** Watersheds are located entirely in the new Headwaters Basin. Thereforeplanning for them will be done in the Headwaters Basin Plan.

APPENDIX 4 Streams and Lakes Tables

Stream tables of the Upper Green Bay Basin are included in Tables 1-16. Lake tables of the Upper Green Bay Basin are included in Tables 17-20. The narrative for how to use the stream and lake tables is included prior to each section of tables. The list of references used to complete the stream tables follows that section.

HOW TO USE THE STREAM TABLES

The following information is included in the watershed tables. Unknowns in the tables indicate that we have insufficient data to assess the given stream(s). In the future, we hope to provide data on these unassessed waterbodies.

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

Waterbody ID Code: All waterbodies require a waterbody I.D. in order to link them to other databases.

Length: Stream length is either the total length of the stream, or the starting and ending mile of the portion of the stream described based on the Master Waterbody System, developed from the Fish Distribution Study conducted by the Bureau of Research (DNR, 1984, Research Report No. 126). The stream mile at the stream mouth is zero ("0") and increases as one moves upstream.

Existing Use: This column indicates the existing biological use that the stream or stream segment currently supports. This is not a designation or classification; it is based on the current condition of the surface water and the biological community living in that surface water. Information in this column is not designed for, and should not be used for, regulatory purposes. If the existing use is unknown, it is left blank. The biological use categories are defined in NR102(04)(3) under fish and aquatic life uses, which are the same categories used to describe the stream's codified use. The following abbreviations for stream uses are used in the tables:

COLD; Cold Water Community; includes surface waters capable of supporting a community of cold water fish and other aquatic life or serving as a spawning area for cold water fish species. The approximate length or portion of stream meeting each of the use classes is indicated. The table also includes the "class" of trout streams based on *Wisconsin Trout Streams* [DNR Publ. 6-3600(80)].

Class I streams are high-quality streams where populations are sustained by natural reproduction.

Class II streams have some natural reproduction but need stocking to maintain a desirable fishery.

Class III streams sustain no natural reproduction, or trout only seasonally, and require annual stocking of legal-size fish for sport fishing. The approximate length or portion of stream meeting each of the use classes is indicated.

WWSF; Warm Water Sport Fish Communities; includes surface waters capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish.

WWFF; Warm Water Forage Fish Communities; includes surface waters capable of supporting an abundant diverse community of forage fish and other aquatic life.

LFF; Limited Forage Fishery (intermediate surface waters); includes surface waters of limited capacity because of low flow, naturally poor water quality or poor habitat. These surface waters are capable of supporting only a limited community of forage fish and aquatic life.

LAL; Limited Aquatic Life (marginal surface waters); includes surface waters severely limited because of very low or intermittent flow and naturally poor water quality or poor habitat. These surface waters are capable of supporting only a limited community of aquatic life.

FAL; Fish and Aquatic Life; All streams not otherwise classified are assumed to meet the Federal Clean Water Act goals of supporting recreation and aquatic life uses and are required to meet these standards.

Potential Use: This column indicates the biological use, and trout stream class, a stream or stream segment could achieve if it was well managed and pollution sources were controlled. Beaver dams, hydroelectric dams, low gradient streams, and naturally occurring low flows are generally not problems that can be controlled. In many cases potential use is the same as the existing use classification. In other streams potential use may be higher than the existing use. Abbreviations are the same as those used in the existing use columns. The sources of information are indicated by footnotes on each table. The classification for trout streams came from *Wisconsin Trout Streams* [DNR Publ. 6-3600(80)], Wisconsin Administrative Codes NR 102.10 and NR 102.11, and the professional judgments of area Fish Managers. If the potential biological use is unknown, a blank space indicates the potential biological use is unassessed.

Supporting Potential Use: This column indicates whether a stream is threatened, or is fully, partially, or not meeting its potential biological use. An entry in this column indicates the relationship between actual stream use and potential use. To determine if a waterbody or segment supports a potential use, one or more of the following is used: chemical, physical, or biological information, or direct observation and professional judgment. When biological data contrary to chemical or physical data exists, the biological data overrides the other data.

“FULLY” = Fully Supporting

A stream or stream segment’s existing biological use is the same as its potential biological use (E=P). This includes stream or stream segments that are not affected and stream or stream segments that have culturally irreversible impacts.

“FULLY-THR” = Fully Supporting/Threatened

A stream or stream segment’s existing biological use is the same as its potential biological use (E=P), but there is a clear and imminent “threat” to the existing use remaining at its current level of biological productivity and ecological health.

“PART” = Partially Supporting

A stream or stream segment’s existing biological use is the same as its potential biological use, except that implementation of management practices could enhance the overall ecological health of the biological community. Management practices in this category include modification of hydro-regimes to reduce the impact of dam operations on the biological community. Thus E=P, but the potential use assessment is below the stream or stream segment’s maximum biological potential and this “less than optimal” condition is reversible.

“NOT” = Not Supporting

When a stream or stream segment’s existing biological use is less than its potential biological use by a factor of 1 or more of the following codified use classifications:

Cold (includes Cold I, II, III in one group)
WWSF
WWFF
LFF
LAL

Thus, E<P, with problems considered reversible by implementation of management actions.

Miles Assessed—Monitored, Evaluated, or Unassessed: To substantiate the Use Support of “FULLY”, “PART”, “NOT”, or “THREATENED”, the terms monitored, evaluated, or unassessed are defined as the following:

Monitored: A stream has been “monitored” for the purposes of Wisconsin water quality management plans and/or Wisconsin’s Water Quality Assessment Report to Congress [305(b)] if:

Site specific data have been collected on that stream or stream segment in the past 5 years;

The data are adequate to develop a best professional judgement about the existing and

potential biological use of that stream or stream segment;

The data should be adequate to judge the difference between the “existing” versus “potential” biological use for that stream or stream segment.

Evaluated: A stream has been “evaluated” if information other than site-specific data are adequate to determine a Potential Biological Use and to determine if the stream is currently meeting that level of biological use. Sources of evaluated information include:

Site specific data that are more than 5 years old;

Information on file provided by the public or others;

Best professional judgment of a WDNR biologist or WDNR fish manager.

Unassessed: A stream that has been unassessed.

Codified Use: This is the waterbody’s classification that is formally and legally recognized by NR102 and 104, Wis. Adm. Code. This column shows the classification that will be used to determine water quality criteria and effluent limits. A stream can obtain a codified use by applying formal stream classification procedures. This column also indicates if the stream is classified as an outstanding resource water (ORW) or an exceptional resource water (ERW) in NR 102.10 and NR 102.11.

Streams classified as Outstanding Resource Waters (ORW) or Exceptional Resource Waters (ERW) in NR 102.10 and NR 102.11 are:

Outstanding Resource Waters have the highest value as a resource, excellent water quality and high quality fisheries. They currently do not receive wastewater discharges and point source discharges will not be allowed in the future unless the quality of such a discharge meets or exceeds the quality in the receiving water. This classification includes national and state wild and scenic rivers and the highest quality Class I trout streams in the state.

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

Use Problems, Source/Impact: This column indicates the probable sources of pollution in the stream and the types of water quality problems present (impact). Some streams shown as fully meeting potential use may still show up in this column as having a use problem. When this occurs it may mean there is a problem but it cannot be managed for some reason, or there is a potential threat to the use. These situations are explained in the narrative or in the references.

Following is a key to the abbreviations in the watershed tables:

Source (cause of problem)

BDAM - Beaver dam
 HDAM - Hydroelectric dam
 DRDG - Dredging
 HM - Hydrologic modification
 IRR - Irrigation
 LF - Landfill
 MM - Metallic mining
 NMM - Non-metallic mining
 NPS - Unspecified nonpoint sources
 BY - Barnyard or exercise lot runoff
 CL - Cropland erosion
 CON - Construction site erosion
 PSB - Streambank pasturing
 PWL - Woodlot pasturing
 RS - Roadside erosion

SB - Streambank erosion
 URB - Urban storm water runoff
 WD - Wind erosion
 PSM - Point source, municipal treatment plant discharge
 PSI - Point source, industrial discharge
 SS - Storm sewer
 WFL - Waterfowl

Impact (effect or impact of source on a stream)

BAC - Bacteriological contamination
 CL - Chlorine toxicity
 DO - Dissolved oxygen
 FCA - Fish consumption advisory
 FLOW - Stream flow fluctuations caused by unnatural conditions
 HAB - Habitat (lack of cover, sedimentation, scouring, etc.)
 HM - Heavy metal toxicity
 MIG - Fish migration interference
 NH³ - Ammonia toxicity
 NUT - Nutrient enrichment
 ORG - Organic chemical toxicity or bioaccumulation
 PCB - PCB bioaccumulation
 PST - Pesticide/herbicide toxicity
 SC - Sediment contamination
 SED - Sedimentation
 TEMP - Temperature (fluctuations or extreme high or low)
 TOX - General toxicity problems
 TURB - Turbidity

Trend: This column is based upon best professional judgment, or by comparing data from past plans to find out whether a waterbody has improved over previous assessments, or declined. The stream may be improving (I), stable (S), declining (D), or unknown (U).

Comments: This column indicates if there is a narrative ("N") or if there are monitoring or management recommendations ("R") relating to the stream.

Data Level: This column indicates the level of data used to make decisions on a particular stream segment.

References: The reference material used to complete the table for each stream is indicated by a number. A corresponding list of references is provided at the end of the watershed tables.

Table 1. Stream table for the Suamico and Little Suamico Rivers Watershed (GB01), including Brown, Oconto, Shawano, and Outagamie Counties. This watershed is 139 square miles in area, includes 8 streams, and 75 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Suamico River	410900	16	WWSF WWFF	12 4	WWSF WWFF	12 4	WWSF FAL	FULLY	Monitored	NPS		U		2-3	20, 62, 63, 64,60,61
Haller Creek	411000	4	COLD CLASS III	4	COLD CLASS III	4	COLD CLASS III	PART	Evaluate d	NPS, WFL	NUT	U		2-3	51
North Branch Suamico River	411400	5	WWFF	5	WWSF	5	WWFF	FULLY	Evaluate d	NPS		U		2-3	61
Potter Creek	411500	6	WWSF	6	WWSF	6	FAL	FULLY	Monitored	NPS		U		2-3	57,60
West Branch Suamico River	411600	8	WWSF	8	WWSF	8	FAL	FULLY	Monitored	NPS	NUT	U		2-3	57,60,61
South Branch Suamico River	411700	9	WWSF	9	WWSF	9	FAL	FULLY	Monitored	NPS	NUT	U		2-3	57,60,61
Little Suamico River	411800	22	WWSF	22	WWSF	22	WWSF	FULLY	Monitored	NPS, PSM	NUT	U		2-3	65,66, 67, 68, 63,64,57 60,61
Tibbett Creek	412300	5	WWSF	5	WWSF	5	WWSF	FULLY	Monitored	NPS, PSM		U		2-3	61

Table 2. Stream table for the Pensaukee River Watershed (GB02), including Oconto and Shawano Counties. This watershed is 160 square miles in area, includes 5 streams, and 83 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Kirchner Creek	412600	5	WWSF	5	WWSF	5		FULLY	Monitored	CL,PSB,B Y	NUT,H AB.MA C	U		2-3	56,59
Pensaukee River	412900	47	WWSF	47	WWSF	47	WWSF	FULLY	Monitored	NPS, PSB, CL,HM,B Y,PSI	DO, SED HAB,N UT TEMP, MAC	U	PW	2-3	69,70,56,59 61
Brookside Creek	413200	5	WWSF	5	WWSF	5		FULLY	Monitored	HM,CL,B Y, NPS	NUT,H AB	U		2-3	56,59,61
Spring Creek	413500	6	WWSF	6	WWSF	6		FULLY	Monitored	CL,BY,H M,NPS,B DAM	HAB,N UT	U		2-3	56,59
North Branch Pensaukee River	414000	20	WWSF	20	WWSF	20		FULLY	Monitored	CL,BY,H M,NPS,B DAM	DO,NU T,HAB, TEMP	U		2-3	56,59,61

Table 3. Stream table for the Lower Oconto River Watershed (GB03), including Oconto, Shawano, and Menominee Counties. This watershed is 196 square miles in area, includes 10 streams, and 96 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Oconto River	440200	56	WWSF CLASS III	33 23	WWSF CLASS III	33 23	WWSF CLASS III	FULLY FULLY	Monitore d	HDAM, PSB, PSI, PSM	FLOW, DO, NUT, MIG	U		U	71,20, 72, 73, 74,75, 76, 77, 78, 79, 80, 81, 82, 83
Splinter Creek	448300	5	COLD CLASS I	5 5	COLD CLASS I	5 5	COLD CLASS I ERW	FULLY	Evaluate d	BDAM, F	SED, NUT	U		U	83
Brehmer Creek	448800	3	COLD CLASS I	.8	COLD CLASS I	.8	COLD CLASS I ERW	UNKNOW N	Evaluate d	NPS, PSB		U		U	83
Coopman Creek	449000	5	COLD CLASS I	5	COLD CLASS I	5	COLD CLASS I ERW	UNKNOW N	Evaluate d	NPS, PSB		U		U	83
Dump Creek	449100	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I ERW	UNKNOW N	Evaluate d	LF, BDAM	FLOW, TEMP, SED, HAB	U		U	83
Christie Brook	450000	6	WWSF	6	CLASS II	6	WWSF	PART	Monitore d	PSI, NPS		U		2-3	83
Newton Creek	450200	1	WWFF	1	WWFF	1	WWFF	FULLY	Evaluate d	NPS		U		U	83
Klatt Creek	452500	4	COLD CLASS III	4	COLD	4	COLD CLASS III	FULLY	Evaluate d	NPS, CL	SED	U		U	83
Linzy Creek	453500	9	COLD CLASS III	9 9	COLD CLASS III	9 9	COLD CLASS III	FULLY	Evaluate d	NPS		U		U	83
Jackson Creek	454100	5	UNK												

Table 4. Stream table for the Little River Watershed (GB04), including Oconto and Marinette Counties. This watershed is 210 square miles in area, includes 6 streams, and 77 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Little River	441300	15	WWSF ^e	15	COLD CLASS II	5	WWSF	PART	Monitored	NPS		U		U	84, 85, 61
North Branch Little River	442800	14	WWSF ^e	14	COLD CLASS II	4	WWSF	PART	Monitored	NPS		U		U	
Kelly Brook	443800	27	WWSF ^e COLD ^e CLASS I ^e		WWSF		WWSF COLD CLASS I	PART	Monitored	NPS		U		U	84, 87, 86, 61
Daly Creek	444500	10	WWFF ^e COLD ^e CLASS I ^e		WWFF COLD CLASS I		WWFF COLD CLASS I	FULLY	Evaluated	NPS		U		U	86
Jones Creek	495400	5	WWFF ^e	5	WWFF	5	WWF FAL	FULLY	Evaluated	NPS					38
Thomas Slough	497600	6	WWFF ^e	6	WWFF	6	WWFF	FULLY	Monitored			U		U	61

Table 5. Stream table for the Lower North Branch Oconto River Watershed (GB05), including Oconto, Marinette, Menominee, Forest, and Langlade Counties. This watershed is 389 square miles in area, includes 33 streams, and 238 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Peshigo Brook	454600	27	WWFF	27	WWSF	10	WWFF	PART	Evaluated	NPS		U		U	
Bagley Creek	454800	6	WWFF	6	WWFF	6	WWFF	FULLY	Evaluated			U		U	
Deer Creek	455000	1	WWFF	1	WWFF	1	WWFF	FULLY	Evaluated			U		U	
Shay Creek	456750	3	WWFF	3	WWFF	3	WWFF	FULLY	Evaluated			U		U	
North Branch Peshigo Brook	456800	4	WWFF	4	WWSF	1	WWFF	FULLY	Evaluated			U		U	
West Branch Peshigo Brook	457500	7	WWFF	7	WWFF	7	WWFF	FULLY	Evaluated			U		U	
North Branch Oconto River	457800	67	COLD CLASS I CLASS II CLASS III	23 5.5 14.9	COLD CLASS I CLASS II CLASS III	23 5.5 14.9	COLD CLASS I CLASS II CLASS III ERW	FULLY	Evaluated			U		U	
Weso Creek	458500	9	WWFF	9	WWSF	9	WWFF		Evaluated			U		U	
North Branch Weso Creek	459050	<1	UNK									U		U	
Founder Creek	459500	1	UNK									U		U	
Waupee Creek	459600	13	COLD CLASS I CLASS II CLASS III	5 1 6	COLD CLASS I CLASS II CLASS III	5 1 6	COLD CLASS I CLASS II CLASS III ERW	FULLY	Evaluated	BDAM	FLOW, MIG, TEMP, HAB	U		U	
Hines Creek	459700	5	COLD CLASS I	5 5	COLD CLASS I	5 5	COLD CLASS I ERW	FULLY	Evaluated	BDAM	FLOW, MIG, TEMP, HAB	U		U	
Green Lake Outlet	459800	1													
Little Waupee Creek	460100	6	COLD CLASS I	6 6	COLD CLASS I	6 6		FULLY	Evaluated	BDAM	FLOW, MIG, TEMP,HAB	U		U	

Table 5. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Baldwin Creek	460400	2	COLD CLASS I	2 2	COLD CLASS I	2 2	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	FLOW, MIG, TEMP, HAB	U		U	
Macauley Creek	460500	5	COLD CLASS I	5 5	COLD CLASS I	5 5	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	FLOW, MIG, TEMP, HAB	U		U	
Bonita Creek	462700	1	COLD CLASS I	1 1	COLD CLASS I	1 1	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	FLOW, MIG, TEMP, HAB	U		U	
Town Creek	463000	2	COLD CLASS I	2 2	COLD CLASS I	2 2	COLD CLASS I	UNK	Evaluate d	BDAM	FLOW, MIG, TEMP, HAB	U		U	
McCaslin Brook	463600	26	COLD CLASS I CLASS II	8 6	COLD CLASS I CLASS II	8 6	COLD CLASS I CLASS II ERW	FULLY	Monitore d	BDAM	FLOW, MIG, TEMP, HAB	U		2	
Mosquito Creek	465300	4	COLD CLASS I	4 4	COLD CLASS I	4 4	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	FLOW, MIG, TEMP, HAB	U		U	
Wapato Creek	465700	2	COLD	2	COLD	2	COLD	UNK	Evaluate d			U		U	
Archibald Creek	467400	2	COLD CLASS I	2 2	COLD CLASS I	2 2	COLD CLASS I ERW	FULLY				U		U	
Sasacat Creek	468500	2	UNK									U		U	
Snow Falls Creek	469000	4	COLD CLASS I	4 4	COLD CLASS I	4 4	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	FLOW, MIG, TEMP, HAB	U		U	
Battle Creek	472200	3	COLD CLASS I	3 3	COLD CLASS I	3 3	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	FLOW, MIG, TEMP, HAB	U		U	
Fenske Creek	472800	3	COLD CLASS I CLASS II	1 1.6	COLD CLASS I CLASS II	1 1.6	COLD CLASS I CLASS II ERW	FULLY	Evaluate d		FLOW, MIG, TEMP, HAB	U		U	

Table 5. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Knowles Creek	473400	6	COLD CLASS I	6 6	COLD CLASS I	6 6	COLD CLASS I ERW	FULLY	Evaluate d		FLOW, MIG, TEMP, HAB	U		U	
Pickrel Creek	474100	2	WWFF/ F	2			WWFF FAL	FULLY	Evaluate d			U		U	
Shawano Creek	475200	4	COLD CLASS II	4	COLD CLASS II	4	COLD CLASS II	FULLY	Evaluate d	BDAM	FLOW, HAB, SED, TEMP	U		U	2
Torpee Creek	476100	8	COLD CLASS II	8	COLD CLASS II	8	COLD CLASS II	FULLY	Evaluate d	BDAM	SED, FLOW, HAB	U		U	5, 7, 8, 51
Indian Creek	477800	6	COLD CLASS I	6	COLD CLASS I	6	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	SED, HAB	U		U	7, 51
Richardson Creek	479400	2	WWFF		WWFF		WWFF FAL	FULLY	Evaluate d	BDAM	FLOW, HAB, TEM P, MIG	U		U	50
Round Creek	480000	3	COLD CLASS II	3	COLD CLASS II	3	COLD CLASS II			BDAM	FLOW, HAB, TEMP, MIG	U		U	51

Table 6. Stream table for the South Branch Oconto River Watershed (GB06), including Oconto, Menominee, and Langlade Counties. This watershed is 219 square miles in area, includes 17 streams, and 147 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
South Branch Oconto River	480900	55	COLD CLASS I CLASS II	55 20 3	COLD CLASS I CLASS II	55 20 3	COLD CLASS I CLASS II ERW	FULLY	Monitored	NPS		U		3	
Pecore Creek	481000	17	COLD CLASS II	17 17	COLD CLASS II	17 17	COLD CLASS II	PART	Evaluate d			U		U	
Hayes Creek	481100	7	COLD CLASS III	7 7	COLD CLASS III	7 7	COLD CLASS III	PART	Evaluate d	NPS, CL, BY		U		U	
Wiscobee Creek	481600	3	COLD CLASS I	.5	COLD CLASS I	.5	COLD CLASS I ERW	FULLY	Evaluate d			U		U	
First South Branch Oconto River	484700	23	COLD CLASS I CLASS II	9.5 2.5	COLD CLASS I CLASS II	9.5 2.5	COLD CLASS I CLASS II ORW	FULLY	Monitored	BDAM	FLOW, MIG, HAB, TEMP	U		U	
Temple Creek	485100	2	COLD	2	COLD	2	COLD	PART	Evaluate d	BDAM	FLOW, MIG, HAB, TEMP	U		U	
Pat Creek	485400	<1	COLD CLASS I	<1 <1	COLD CLASS I	<1 <1	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	FLOW, MIG, HAB, TEMP	U		U	
Winslow Creek	486100	<1	COLD	<1	COLD	<1	COLD	PART	Evaluate d	BDAM	FLOW, MIG, HAB, TEMP	U		U	
2 nd South Branch Oconto River	488500	12	COLD CLASS I	12 12	COLD CLASS I	12 12	COLD CLASS I ORW	FULLY	Evaluate d	BDAM	FLOW, MIG, HAB, TEMP	U		U	
Shadow Creek	488800	2	COLD CLASS I	2 2	COLD CLASS I	2 2	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	FLOW, MIG, HAB, TEMP	U		U	

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Deadman Creek	489000	3	COLD CLASS II	3 3	COLD CLASS II	3 3	COLD CLASS II	PART	Evaluate d	BDAM	FLOW, MIG, HAB, TEMP	U		U	
Boulder Creek	491500	2	UNK		UNK										
Hills Pond Creek	492400	6	COLD CLASS I	6 6	COLD CLASS I	6 6	COLD CLASS I ORW	FULLY	Evaluate d	BDAM	FLOW, MIG, HAB, TEMP	U		U	
Dalton Creek	493700	4	COLD CLASS I WWFF	3.3 .7	COLD CLASS I WWFF	3.3 .7	ERW FAL		Evaluate d	BDAM	FLOW, MIG, HAB, TEMP	U		U	45, 51
Rose Lake Creek	493800	3	COLD CLASS I CLASS III	2.2 .8	COLD CLASS I CLASS III	2.2 .8	ERW FAL		Evaluate d	BDAM	FLOW, MIG, HAB, TEMP	U		U	46
Jones Creek	495400	3	COLD CLASS I	3 3	COLD CLASS I	3 3	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	FLOW, MIG, HAB, TEMP	U		U	
Mary Creek	495800	3	COLD FORAGE	3	COLD FORAGE	3	COLD	FULLY	Evaluate d	BDAM	FLOW, MIG, HAB, TEMP	U		U	

Table 7. Stream table for the South Branch Oconto River Watershed (GB07), including Marinette County. This watershed is 195 square miles in area, includes 8 streams, and 93 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Peshigo River	515500	38	WWSF		WWSF		WWSF	FULLY	Monitored	HDAM	MIG, FLOW, TEMP	U		U	19,20, 21, 53, 55
Trout Creek	515900	6	WWFF	6	WWFF	6	WWFF	FULLY	Monitored	HAB	SED, PLANT GROWTH	U	PW	2-3	55
Sucker Brook	516000	9	UNK				DEF		Evaluated	HM	FLOW	U		U	55
Bundy Creek	516100	12	WWFF	12	WWFF	12	WWFF	FULLY	Evaluated	HAB	SED	U		U	55
Mud Brook	516900	7	UNK				DEF		Evaluated	NPS, CL	HAB, SED	U		U	55
Gravelly Brook	517100	7	WWFF	7	WWSF	7	WWFF	FULLY	Evaluated	HAB	SED	U		U	55
Left Foot Creek	524500	8	COLD CLASS II WWSF	2.5 5.5	COLD CLASS II WWSF	2.5 5.5	COLD CLASS II WWSF	FULLY	Evaluated			U		U	55
Little River	583200	6	WWSF	6	WWSF	6	WWSF	FULLY	Evaluated	HAB	SED	U		U	55

Table 8. Stream table for the Little Peshtigo River Watershed (GB08), including Marinette and Oconto Counties. This watershed is 158 square miles in area, includes 15 streams, and 100 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Little Peshtigo River	517400	19	WWSF	19	WWSF	19	WWSF	PART	Monitored	NPS		U		2	54
Jones Creek	518000	2	COLD CLASS II	2	COLD CLASS II	2	COLD CLASS II	PART	Evaluated	BDAM	FLOW, MIG, HAB	U		U	33, 34, 38, 3, 54
School Creek	518100	2	COLD CLASS II	2	COLD CLASS II	2	COLD CLASS II	PART	Evaluated	BDAM	FLOW, MIG, HAB	U		U	54
Messenger Creek	518400	8	COLD CLASS I CLASS II	3 2.7	COLD CLASS I CLASS II	3 2.7	COLD CLASS II CLASS III	FULLY	Evaluated	BDAM	FLOW, MIG, HAB	U		U	54
Spring Creek	518800	4	COLD		COLD		COLD	PART	Evaluated	BDAM	FLOW, MIG, HAB	U		U	54
McDonald Creek	519900	9	COLD CLASS I	7.5	COLD CLASS I	7.5	COLD	PART	Evaluated	BDAM	FLOW, MIG, HAB	U		U	54
Beaver Creek	520100	4	COLD CLASS III	4	COLD CLASS III	4	COLD CLASS III	FULLY	Evaluated	BDAM	FLOW, MIG, HAB	U		U	54
North Branch Beaver Creek	520400	11	COLD CLASS I CLASS II	6.3 2.4	COLD CLASS I CLASS II	6.3 2.4	COLD CLASS I CLASS II ERW	FULLY	Evaluated	BDAM	FLOW, MIG, HAB	U		U	54
Walker Creek	520700	3	COLD CLASS I		COLD CLASS I		CLASS I	FULLY	Evaluated	PSI	NUT	U		U	54
South Branch Beaver Creek	521000	18	COLD CLASS I CLASS II	3.5 5	COLD CLASS I CLASS II	3.5 5	COLD CLASS I CLASS II ERW	FULLY	Evaluated	BDAM, PSB, PWL, SB	HAB, MIG, TURB, SED	U		U	54, 37
Bass Creek	521300	1	COLD CLASS II	1	COLD CLASS II	1	COLD CLASS II	PART	Evaluated	BDAM, PSB, PWL, SB	HAB, MIG, TURB, SED	U		U	
Iron Springs Creek	521700	5	COLD CLASS I	5	COLD CLASS I	5	COLD CLASS I ERW	FULLY	Evaluated	BDAM, PSB, PWL, SB	HAB, MIG, TURB, SED	U		U	54

Table 8. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Murphy Creek	522100	10	COLD CLASS I CLASS II	4.2 1.3	COLD CLASS I CLASS II	4.2 1.3	COLD CLASS I CLASS II ERW	FULLY	Evaluate d	BDAM, PSB, PWL, SB	HAB, MIG, TURB, SED	U		U	54
House Creek	522500	<1	WWFF	<1	WWFF	<1	WWFF	FULLY	Evaluate d	BDAM, PSB, PWL, SB	HAB, MIG, TURB, SED	U		U	
Whisky Creek	523600	9	COLD CLASS II	9	COLD CLASS II	9	COLD CLASS II	FULLY	Evaluate d	BDAM, PSB, PWL, SB	HAB, MIG, TURB, SED	U		U	54

Table 9. Stream table for the Middle Inlet and Lake Noquebay Watershed (GB09), including Marinette County. This watershed is 156 square miles in area, includes 15 streams, and 94 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References	
			Use	Miles	Use	Miles				Source	Impact					
The Outlet	525500	6	WWSF	6	WWSF	6	WWSF	FULLY	Evaluated							
Middle Inlet	526000	22	COLD CLASS I CLASS II	133	COLD CLASS I CLASS II	133	COLD CLASS I CLASS II ORW	FULLY	Evaluated	BDAM	HAB, MIG	U	PW	U		
Upper Middle Inlet	526100	15	COLD CLASS I CLASS II	103	COLD CLASS I CLASS II	103	COLD CLASS I CLASS II ORW	FULLY	Evaluated	BDAM, PSB	HAB, MIG, NUT, BAC, SED	U	PW	U		
Finnegan Creek	526200	2	WWFF	2	WWFF	2	WWFF	FULLY	Evaluated	BDAM	HAB, MIG	U		U		
Roosevelt Creek	526400	<1	COLD CLASS I	<1	COLD CLASS I	<1	COLD CLASS I ERW	FULLY	Evaluated	BDAM	HAB, MIG	U		U		
Perch Creek	526600	2	COLD	2	COLD	2	COLD	PART	Evaluated	BDAM	HAB, MIG	U		U		
Plumadore Creek	527000	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I ERW	FULLY	Evaluated	BDAM	HAB, MIG	U		U		
Pine Creek	527800	1	COLD CLASS I	1	COLD CLASS I	1	COLD CLASS I ERW	FULLY	Evaluated	BDAM	HAB, MIG	U		U		
Meadow Brook	528100	7	COLD CLASS I	7	COLD CLASS I	7	COLD CLASS I ERW	FULLY	Evaluated	BDAM	HAB, MIG	U		U		

Table 9. Continued

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Elbow Creek	528450	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I ERW	PART	Evaluate d	BDAM	HAB, MIG	U		U	
Springer Creek	528700	1	WWFF	1	WWFF	1	WWFF	FULLY	Evaluate d	BDAM	HAB, MIG	U		U	
Lower Middle Inlet	529100	10	COLD CLASS I	10	COLD CLASS I	10	COLD CLASS I ERW	PART	Evaluate d	BDAM	HAB, MIG	U	PW	U	
Smith Creek	529200	10	COLD CLASS I	10	COLD CLASS I	10	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	HAB, MIG	U	PW	U	
Upper Inlet	530100	10	WWSF	10	WWSF	10	WWSF	FULLY	Evaluate d			U		U	
Peterman Brook	525400	3	COLD CLASS II	.6-2.4	UNK		COLD CLASS II	PART	Evaluate d			U		U	

Table 10. Stream table for the Middle Peshtigo and Thunder Rivers (GB10), including Marinette and Oconto Counties. This watershed is 194 square miles in area, includes 23 streams, and 147 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supportin g Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Mile s				Source	Impact				
Peshtigo River	515500	34	WWSF COLD CLASS II	29 5	WWSF COLD CLASS II	29 5	WWSF COLD CLASS II	PART	Monitore d			U	PW	2	58
Medicine Brook	531600	9	COLD CLASS I	9	COLD CLASS I	9	COLD CLASS I ORW	FULLY	Monitore d	BDAM	HAB, MIG	U	PW	2	58
Joy Creek	531900	2	WWSF	2	WWSF	2	WWSF	FULLY	Evaluate d			U		U	
Thunder River	533400	8	COLD CLASS II	8	COLD CLASS II	8	COLD CLASS II	PART	Monitore d			U	PW	2	58
Thunder Lake Outlet	533500	1	COLD CLASS III	1	COLD CLASS III	1	COLD CLASS III	FULLY	Evaluate d	BDAM	HAB, MIG	U	PW	2	58
Thunder Lake Inlet	533700	5	COLD CLASS II	5	COLD CLASS II	5	COLD CLASS II	FULLY	Evaluate d			U	PW	U	
Handsaw Creek	534500	8	COLD CLASS I CLASS II	2.3 5.7	COLD CLASS I CLASS II	2.3 5.7	COLD CLASS I CLASS II ERW	FULLY	Evaluate d	BDAM	HAB, MIG	U	PW	U	58
North Fork Thunder River	533600	15	COLD CLASS I	15	COLD CLASS I	15	COLD CLASS I ORW	FULLY	Monitore d	BDAM	HAB, MIG	U	PW	2	58
Frieda Creek	535700	1	COLD CLASS II	1	COLD CLASS II	1	COLD CLASS II	FULLY	Evaluate d			U	PW	U	58
Mountain Creek	535900	<1	COLD CLASS II	<1	COLD CLASS II	<1	COLD CLASS II	FULLY	Evaluate d			U	PW	U	58
East Thunder Creek	537300	7	COLD CLASS I	7	COLD CLASS I	7	COLD CLASS I ORW	FULLY	Evaluate d	BDAM	HAB, MIG	U	PW	U	58
Smith Creek	537700	1	COLD CLASS I	1	COLD CLASS I	1	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U	PW	U	58

Table 10. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
West Thunder Creek	538100	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U	PW	U	58
South Fork Thunder River	538400	5	COLD CLASS I	5	COLD CLASS I	5	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U	PW	U	
Forbes Creek	539200	5	COLD CLASS I	5	COLD CLASS I	5	COLD CLASS I	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U	PW	U	
Hay Creek	539400	6	COLD CLASS I	6	COLD CLASS I		COLD CLASS I	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U	PW	U	58
Woods Lake Outlet	540700	2	WWFF	2	WWFF	2	WWFF	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U	PW	U	
Eagle River	541500	21	COLD CLASS I	21	COLD CLASS I	21	COLD CLASS I ORW	FULLY	Monitore d	BDAM	HAB, MIG, FLOW	U	PW	2	58
Little Spring Creek	541600	2	COLD CLASS II	2	COLD CLASS II	2	COLD CLASS II	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U	PW	U	58
Murbou Creek	541800	1	COLD		COLD		COLD	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U	PW	U	58
Homestead Creek	543600	3	COLD CLASS II	3	COLD CLASS II	3	COLD CLASS II	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U	PW	U	58
Campbell Creek	543700	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U	PW	U	58
Little Eagle Creek	544500	6	COLD CLASS I	6	COLD CLASS I	6	COLD CLASS I ORW	FULLY	Monitore d	BDAM	HAB, MIG, FLOW	U	PW	2	58

Table 11. Stream table for the Upper Peshtigo River (GB11), including Marinette and Forest Counties. This watershed is 338 square miles in area, includes 36 streams, and 239 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Peshtigo River	515500	65	COLD CLASS II	65	COLD CLASS II	65	COLD CLASS II	PART	Evaluate d			U		U	21,44
McFearson Creek		3	UNK				COLD		Evaluate d			U		U	
Babson Pond Creek	546700	1	COLD CLASS II	1	COLD CLASS II	1	COLD CLASS II	FULLY	Evaluate d			U		U	
Brandywine Creek	547000	2	COLD CLASS II	2	COLD CLASS II	2	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U		U	
Camp Five Creek	558300	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I ERW	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U		U	
Swamp Creek	558400	3	COLD CLASS II	3	COLD CLASS II	3	COLD CLASS II	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U		U	
Swede John Creek	558800	4	COLD CLASS I	4	COLD CLASS I	4	COLD CLASS I ORW	FULLY	Evaluate d	BDAM	HAB, MIG, FLOW	U		U	
Camp Nine Creek	559800	3	COLD CLASS I	3	COLD CLASS I	3	COLD CLASS I ORW	FULLY	Evaluate d			U		U	
Halley Creek	560200	6	COLD CLASS II WWFF	1.5 1.5 4.5	COLD CLASS II WWFF	1.5 1.5 4.5	COLD CLASS II FAL	FULLY	Evaluate d	BDAM, SB	FLOW, HAB, TEMP, SED	U		U	1, 6, 51
Michigan Creek	561100	4	COLD CLASS II	4	COLD CLASS II	4	COLD CLASS II FAL	FULLY	Evaluate d	BDAM	FLOW, HABR	U		U	30,35
Armstrong Creek	561200	18	COLD CLASS I CLASS II CLASS III	7 6 5	COLD CLASS I CLASS II CLASS III	7 6 5	COLD CLASS I CLASS II CLASS III ERW	FULLY FULLY FULLY	Evaluate d			U		U	42, 52

Table 11. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Camp B Creek	562000	4	COLD CLASS I CLASS II	2.4 1.6	COLD CLASS I CLASS II	2.4 1.6	COLD CLASS I CLASS II	FULLY FULLY	Evaluated			U		U	43
West Branch Armstrong Creek	564500	6	COLD CLASS II	6	COLD CLASS II	6	COLD CLASS II ERW	FULLY	Evaluated			U		U	
Rock Creek	566300	3	COLD CLASS II CLASS III	2 1	COLD CLASS II CLASS III	2 1	COLD CLASS II CLASS III	FULLY FULLY FULLY	Evaluated	BDAM	FLOW, TEMP	U		U	4
Coldwater Creek	567800	1	COLD CLASS I	1	COLD CLASS I	1	COLD CLASS I FAL	FULLY	Evaluated			U		U	10
Piledriver Creek	567900	3	WWFF		WWFF		WWFF FAL	FULLY	Evaluated			U		U	
Catwillow Creek	568500	5	COLD CLASS II	5	COLD CLASS II	5	COLD CLASS II	PART	Evaluated	BDAM	HAB, FLOW	U		U	11, 51
Haymeadow Creek	569400	5	COLD CLASS II	5	COLD CLASS II	5	FAL	FULLY	Evaluated	BDAM	HAB	U		U	12
Whiting Creek	569700	4	COLD CLASS II	4	COLD CLASS II	4	COLD CLASS II	NOT	Evaluated	BDAM, SB	HAB, FLOW, SED	U		U	14
Bills Creek	570000	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS II ERW	PART	Evaluated	BDAM, SB	HAB, FLOW, SED	U		U	15
Gruman Creek	570300	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I ERW	FULLY	Evaluated			U		U	51,88
Camp Eight Creek	570400	9	COLD CLASS I	9	COLD CLASS I	9	COLD CLASS I ERW	PART	Evaluated	BDAM	FLOW, SED, HAB, TEMP	U		U	16
Sixty-two Creek		4	WWFF	4	WWFF	4	WWFF FAL	FULLY	Evaluated	BDAM	TEMP, FLOW, HAB	U		U	16
Flanners Creek	570700	1	WWFF	1	WWFF	1		FULLY	Evaluated			U		U	16

Table 11. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Bob Creek	570800	1	WWFF	1	WWFF	1	WWFF FAL	FULLY	Evaluated	BDAM	TEMP, FLOW, HAB	U		U	16
Kersten Creek	571200	4	COLD CLASS II	4	COLD CLASS II	4	COLD CLASS II ORW	FULLY	Evaluated	BDAM	TEMP, FLOW, HAB	U		U	17, 51
Otter Creek	571600	16	COLD CLASS II	16	COLD CLASS II	16	COLD CLASS II ERW	PART	Evaluated	BDAM		U		U	24, 31, 52
Johnson Creek	572000	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS II ERW	FULLY	Evaluated	BDAM	FLOW, TEMP	U		U	32, 48, 51
Marsh #10 Creek		3	COLD CLASS II WWFF	1.9 1.1	COLD CLASS II WWFF	1.9 1.1	COLD CLASS II WWFF	FULLY	Evaluated	BDAM	FLOW, TEMP, HAB	U		U	18,51
North Branch Peshtigo River	574900	20	COLD CLASS II	20	COLD CLASS II	20	COLD CLASS II ERW	FULLY	Evaluated	BDAM	FLOW, TEMP	U		U	18, 39, 52
Middle Branch Peshtigo River	578500	13	COLD CLASS II CLASS III	7.8 7.8 5.2	COLD CLASS II CLASS III	7.8 7.8 5.2	COLD CLASS II CLASS III ERW	FULLY FULLY	Evaluated			U		U	47, 52
Raymond Creek	578600	3	COLD CLASS III	3	CLASS II ^e	3	COLD CLASS II FAL	NOT	Evaluated	BDAM	FLOW, HAB	U		U	13
South Branch Peshtigo River	579500	8	WWFF	6	WWFF	6	WWFF FAL	FULLY	Evaluated	PSM		U		U	44,50
Peterson Creek	580600	1	COLD CLASS II	1	COLD CLASS II	1	COLD CLASS II	FULLY	Evaluated	SB, BDAM	FLOW, HAB, SED	U		U	9, 51
Drake Creek	580800	4	COLD CLASS II	4	COLD CLASS II	4	COLD CLASS II	FULLY	Evaluated	SB	SED	U		U	49, 51
West Branch Peshtigo River	582000	6	COLD CLASS I CLASS II CLASS III	1.5 1.5 3	COLD CLASS I CLASS II CLASS III	1.5 1.5 3	COLD CLASS I CLASS II CLASS III FAL	FULLY FULLY FULLY	Evaluated	BDAM	FLOW, HAB, MIG	U		U	14

Table 12. Stream table for the Otter Creek and Rat River Watershed (GB12), including Forest, Oconto, and Marinette Counties. This watershed is 142 square miles in area, includes 22 streams, and 110 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Otter Creek	547200	24	COLD CLASS I, II	24	COLD CLASS I, II	24	COLD CLASS I, II ERW	FULLY	Evaluated			U		U	
Spring Creek	547300	2	COLD	2	COLD	2	COLD	PART	Evaluated			U		U	
Spruce Creek	547600	<1	COLD CLASS II	<1	COLD CLASS II	<1	COLD CLASS II	FULLY	Evaluated			U		U	
Deer Creek	548400	4	UNK		UNK										
Pemma Creek	548800	2	COLD CLASS II	2	COLD CLASS II	2	COLD CLASS II	PART	Evaluated	BDAM	TEMP, SED	U		U	6, 51
Rat River	550600	36	COLD CLASS III WWFF	15.4 20.6	COLD CLASS III WWFF	15.4 20.6	COLD CLASS III WWFF FAL	FULLY FULLY	Unassessed	PSM		U		U	36, 50
Newman Creek	550700	3													
Colburn Creek	551300	2	COLD CLASS II	2	COLD CLASS II	2	COLD CLASS II	FULLY	Evaluated	BDAM	TEMP, FLOW	U		U	23, 51
Kufner Creek	551400	4	COLD CLASS II	4	COLD CLASS II	4	COLD CLASS II	FULLY	Evaluated	BDAM	TEMP, FLOW	U		U	23, 51
Mexico Creek	551500	1	COLD CLASS II	1	COLD CLASS II	1	COLD CLASS II	FULLY	Evaluated	BDAM	TEMP, FLOW	U		U	23, 51
Johnson Creek	551600	1	COLD CLASS I	1	COLD CLASS I	1	COLD CLASS I ERW	FULLY	Evaluated						51
Bear Creek	551900	1	UNK		UNK										
Shabodock Creek	552200	5	COLD CLASS II	5	COLD CLASS II	5	COLD CLASS II	FULLY	Evaluated	BDAM	TEMP, SED	U		U	25, 28, 51
Stoney Creek	553300	4	COLD CLASS I	4	COLD CLASS I	4	COLD CLASS I ERW	NOT	Evaluated	BDAM	TEMP, HAB, SED	U		U	29, 51

Table 12. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Spencer Creek	553400	6	COLD CLASS I	6	COLD CLASS I	6	COLD CLASS I ERW	FULLY	Evaluated	BDAM	TEMP, SED	U		U	26, 51
Swan Creek		1	COLD CLASS II	1	COLD CLASS II	1	COLD CLASS II	FULLY	Evaluated			U		U	51
Kokots Creek	554100	1	WWFF	1	COLD CLASS II	1	FAL	NOT	Evaluated			U		U	22, 51
Camp Twenty Creek	554400	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I	FULLY	Evaluated			U		U	51
Swanson Creek	554500	3	COLD CLASS II	3	COLD CLASS II	3	COLD CLASS II	FULLY	Evaluated	PSM		U		U	51
Birch Creek	555300	<1	UNK		UNK							U		U	
Honey Creek	555800	5	COLD CLASS II	5	COLD CLASS II	5	COLD CLASS II	FULLY	Evaluated			U		U	51
Indian River	557900	1	UNK	1	UNK										

Table 13. Stream table for the Wausaukee and Lower Menominee Rivers Watershed (GB13), including Marinette County. This watershed is 187 square miles in area, includes 10 streams, and 133 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Menominee River	609000	51	WWSF	51	WWSF	51	WWSF	FULLY	Monitored	PSI, MM, HDAM	FAD, MIG, SC	U		U	88, 89
Twin Creek	609900	8	COLD		COLD		COLD		Evaluated	PSI, MM	FAD, SC	U		U	
McCall Creek	611200	3	WWFF	3	WWFF	3		FULLY	Evaluated			U		U	
Wausaukee River	611400	31	COLD CLASS I CLASS II	20 5	COLD CLASS I CLASS II	20 5	COLD CLASS I CLASS II	FULLY	Evaluated	BDAM, FOR,	HAB, FLOW, MIG, NPS	U		U	
Little Wausaukee Creek	611500	9	COLD CLASS I	9	COLD CLASS I	9	COLD CLASS I ORW	FULLY	Evaluated	BDAM	HAB, MIG, FLOW	U		U	
Coldwater Brook	612300	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I ORW	FULLY	Evaluated	BDAM	HAB, MIG, FLOW	U		U	
Huebler Creek	612700	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I ORW	FULLY	Evaluated	BDAM, FOR	MIG, HAB, FLOW, NPS	U		U	
Wolf Creek	613900	11	WWSF	11	WWSF	11	WWSF	FULLY	Evaluated	FOR	NPS	U		U	
Holmes Creek	615400	12	COLD CLASS I CLASS II	9 2	COLD CLASS I CLASS II	9 2	COLD CLASS I CLASS II ORW	FULLY	Evaluated	BDAM, FOR	MIG, HAB, FLOW, NPS	U		U	
Cedarville Creek	615500	4	COLD CLASS I	4	COLD CLASS I	4	COLD CLASS I ORW	FULLY	Evaluated	BDAM, FOR	MIG, HAB	U		U	

Table 14. Stream table for the Pike River Watershed (GB14), including Marinette, Florence, and Forest Counties. This watershed is 285 square miles in area, includes 29 streams, and 200 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Pike River	615700	16	COLD CLASS II	16	COLD CLASS II	16	COLD CLASS II Wild & Scenic	FULLY	Evaluate d	F, NPS		U		U	
Slough Creek	615900	4	CWFF		CWFF		COLD	FULLY	Evaluate d	F, NPS		U		U	
KC Creek		5	COLD CLASS I CLASS II	4 8	COLD CLASS I CLASS II	4 8	COLD CLASS I CLASS II ORW	FULLY FULLY	Evaluate d	F, NPS		U		U	
North Branch Pike River	616300	33	COLD CLASS I	33	COLD CLASS I	33	COLD CLASS I ORW Wild & Scenic	FULLY	Evaluate d	F, NPS, BDAM	HAB, MIG, FLOW	U		U	
Beecher Creek	616800	5	COLD		COLD		COLD ORW	FULLY	Evaluate d			U		U	
Town Corner Creek	617800	2	COLD		COLD		COLD ORW	FULLY	Evaluate d			U		U	
Whiskey Creek	618200	6	COLD CLASS II	6	COLD CLASS II	6	COLD CLASS II ORW	FULLY	Evaluate d	BDAM	HAB, MIG	U		U	
Cole Creek	619600	5	COLD CLASS I	5	COLD CLASS I	5	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	MIG, HAB, FLOW	U		U	
KC Creek		11	COLD CLASS I	11	COLD CLASS I	11	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	MIG, HAB, FLOW	U		U	
Beaver Branch	621400	4	COLD		COLD		COLD ORW		Evaluate d	BDAM, F, NPS	MIG, HAB	U		U	
Spur Creek	621800	2	COLD		COLD		COLD ORW		Evaluate d	BDAM, F, NPS	MIG, HAB	U		U	

Table 14. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
MacIntire Creek	622900	6	COLD CLASS I	6	COLD CLASS I	6	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	MIG, HAB, FLOW	U		U	
Sidney Creek	623000	8	COLD CLASS I	8	COLD CLASS I	8	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	MIG, HAB	U		U	
Shinns Creek	623300	3	COLD CLASS I	3	COLD CLASS I	3	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	MIG, HAB	U		U	
Camp D Creek	623500	3	COLD CLASS I	3	COLD CLASS I	3	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	MIG, HAB	U		U	
Springdale Brook	623600	3	COLD CLASS I	3	COLD CLASS I	3	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, FOR, NPS	MIG, HAB	U		U	
South Branch Pike River	623900	26	COLD CLASS I CLASS II CLASS III	4.1 12.6 7.1	COLD CLASS I CLASS II CLASS III	4.1 12.6 7.1	COLD CLASS I CLASS II CLASS III ORW	FULLY	Evaluate d	BDAM	HAB, MIG	U		U	
Little South Branch Pike River	624000	16	COLD CLASS I CLASS II	11 2.5	COLD CLASS I CLASS II	11 2.5	COLD CLASS I CLASS II ORW	FULLY	Evaluate d	BDAM, F, NPS	MIG, FLOW, HAB	U		U	
Rosey Creek	624700	5	COLD CLASS II	5	COLD CLASS II	5	COLD CLASS II	FULLY	Evaluate d	BDAM, F, NPS	MIG, HAB	U		U	
Lehman Lake Outlet	625000	<1	UNK		UNK										
Phillips Creek	628300	3	COLD CLASS I	3	COLD CLASS I	3	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	MIG, HAB	U		U	

Table 14. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Little Harvey Creek	629800	4	COLD CLASS I	4	COLD CLASS I	4	COLD CLASS I ORW	FULLY	Evaluate d	BDAM	HAB, MIG	U		U	
Harvey Creek	630900	7	COLD CLASS I	7	COLD CLASS I	7	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	HAB, MIG	U		U	
Camp F Creek	631000	4	COLD CLASS I	4	COLD CLASS I	4	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	HAB, MIG	U		U	
Avery Creek	631700	4	COLD CLASS II	4	COLD CLASS II	4	COLD CLASS II ORW	FULLY	Evaluate d	BDAM, F, NPS	HAB, MIG	U		U	
North Branch Harvey Creek	632200	3	COLD CLASS I	3	COLD CLASS I	3	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	MIG, HAB	U		U	
South Branch Harvey Creek	632300	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	MIG, HAB	U		U	
Trout Creek	632400	1	COLD CLASS I				COLD CLASS I ORW			BDAM	MIG, HAB	U		U	
Chemical Creek	632900	8	COLD CLASS I	3.5			COLD CLASS I ORW	FULLY	Evaluate d	BDAM, F, NPS	MIG, HAB	U		U	

Table 15. Stream table for the Pemebonwon and Middle Menominee Rivers Watershed (GB15), including Marinette and Florence Counties. This watershed is 291 square miles in area, includes 30 streams, and 236 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Menominee River	609000	53	WWSF	53	WWSF	53	WWSF	43 FULLY 10 PART	Monitored	PSI	TASTE	U		U	
Squaw Creek	634000	7	COLD CLASS III	3			COLD CLASS III ERW	FULLY	Evaluated	BDAM, F, NPS	HAB, MIG	U		U	
Coldwater Brook	634100	5	COLD	5	COLD	5	COLD ORW	FULLY	Evaluated	BDAM, F, NPS	HAB, MIG	U		U	
Menominee River West Channel	634700	1	UNK												
Miscauno Brook	634800	7	COLD	7	COLD	7	COLD ORW	FULLY	Evaluated	BDAM, F, NPS	HAB, MIG	U		U	
North Branch Miscauno Brook	635200	3	UNK		COLD					BDAM, F, NPS	HAB, MIG	U		U	
South Branch Miscauno Brook	635600	5	COLD	5	COLD	5	COLD ORW	FULLY	Evaluated	BDAM, F, NPS	HAB, MIG	U		U	
McAllister Creek	635700	4	WWFF	4	WWFF	4		FULLY	Evaluated	BDAM, F, NPS	HAB, MIG	U		U	
Mullaney Creek	636100	3	COLD CLASS I	3	COLD CLASS I	3	COLD CLASS I	FULLY	Evaluated	BDAM, F, NPS	HAB, MIG	U		U	
Pemebonwon River	636300	6	COLD CLASS III	6	COLD CLASS III	6	COLD CLASS III	FULLY	Evaluated	BDAM, F, NPS	HAB, MIG	U		U	
Silver Creek	636400	5	COLD	5	COLD	5	COLD ORW	FULLY	Evaluated	BDAM, F, NPS	HAB, MIG	U		U	
North Branch Pemebonwon River	637500	30	COLD CLASS II CLASS III	20 10	COLD CLASS II CLASS III	20 10	COLD CLASS II CLASS III	FULLY	Monitored	BDAM, F		I		2-3	
Long Creek	637600	2	WWFF		WWFF		WWFF	FULLY	Evaluated	F, NPS		U		U	
Echo Creek	637900	1	WWFF		WWFF		WWFF	FULLY	Evaluated	BDAM, F		U		U	

Table 15. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Otter Creek	638100	4	COLD CLASS I CLASS II	3 1	COLD CLASS I CLASS II	3 1	COLD CLASS I CLASS II ERW	FULLY	Evaluated	BDAM, F		U		U	
Sullivan Creek	638800	5	COLD CLASS I	5	COLD CLASS I	5	COLD CLASS I ERW	FULLY	Evaluated	BDAM, F		U		U	
Spikehorn Creek	640000	10	COLD	10	COLD	10	COLD ORW	FULLY	Evaluated	BDAM, F		U		U	
Brown Spur Creek	640600	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS I ERW	FULLY	Evaluated	BDAM, F		U		U	
Crossett Creek	642000	6	COLD	6	COLD	6	COLD	UNK	Evaluated	BDAM, F		U		U	
South Branch Pemebonwon River	642900	33	COLD	33	COLD	33	COLD ORW	FULLY	Evaluated	BDAM,F		U		U	
Little Silver Creek	643000	3	COLD	3	COLD	3	COLD ORW	FULLY	Evaluated	BDAM, F		U		U	
Rock Cut Creek	643100	3	COLD CLASS I	3	COLD CLASS I	3	COLD CLASS I ERW	FULLY	Monitored	BDAM, F		U		U	
Pickrel Creek	643500	3	WWSF	3	WWSF	3	WWSF	FULLY	Evaluated	BDAM,F		U		U	
Coates Creek	645300	3	COLD CLASS I	3	COLD CLASS I	3	COLD CLASS I ERW	FULLY	Evaluated	BDAM, F		U		U	
Bear Creek	646700	2	COLD CLASS I	2	COLD CLASS I	2	COLD CLASS II	FULLY	Evaluated	BDAM, F, NPS	MIG, HAB	U		U	
Anderson Spur Creek	647600	2	COLD CLASS I CLASS II	1 1	COLD CLASS I CLASS II	1 1	COLD CLASS I CLASS II ERW	FULLY	Evaluated	BDAM, F, NPS	MIG, HAB	U		U	

Table 15. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Lindstrom Creek	647900	1	UNK		UNK			FULLY	Evaluated			U		U	
Little Popple River	648000	20	COLD	20	COLD	20	COLD ERW	FULLY	Evaluated	BDAM, F, PSB, NPS,	HAB, MIG, NUT, SED, BAC	U		U	
South Branch Little Popple River	648600	5	COLD	5	COLD	5	COLD ORW	FULLY	Evaluated	BDAM, F, PSB, NPS	HAB, MIG, NUT, SED, BAC	U		U	
Sand Lake Branch	649800	2	COLD	2	COLD	2	COLD ORW	FULLY	Evaluated	BDAM, F, NPS	MIG, HAB	U		U	

Table 16. Stream table for the Popple River Watershed (GB17), including Marinette, Forest, and Florence Counties. This watershed is 231 square miles in area, includes 21 streams, and 174 miles in total stream length.

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Popple River	652900	47	COLD	47	COLD	47	COLD ORW Wild & Scenic	FULLY	Evaluate d			U		U	
Woods Creek	653300	17	COLD	17	COLD	17	COLD ORW	FULLY	Evaluate d			U		U	
Patten Creek	653600	1	COLD	1	COLD	1	COLD ORW	FULLY	Evaluate d			U		U	
Haley Creek	654300	2	COLD	2	COLD	2	COLD ORW	FULLY	Evaluate d			U		U	
Haymarsh Creek	655400	3	COLD	3	COLD	3	COLD ORW	FULLY	Evaluate d			U		U	
Cody Creek	655500	4	COLD	4	COLD	4	COLD ORW	FULLY	Evaluate d			U		U	
La Montagne Creek		10	COLD	10	COLD	10	COLD ORW	FULLY	Evaluate d			U		U	
Lund Creek	657000	3	COLD	3	COLD	3	COLD ORW	FULLY	Evaluate d			U		U	
Hendricks Creek	657400	9	COLD	9	COLD	9	COLD ORW	FULLY	Evaluate d			U		U	
Mud Creek	658500	4	UNK		UNK										
Rock Creek	659300	5	COLD	5	COLD	5	COLD ORW	FULLY	Evaluate d	BDAM	TEMP, SED	U		U	27, 51
South Branch Popple River	660500	11	COLD	11	COLD	11	COLD ORW	FULLY	Evaluate d			U		U	
Simpson Creek	660600	11	COLD ^{a,c}	11	COLD	11	COLD ORW	FULLY	Evaluate d			U		U	
Hanson Creek	661100	4	COLD CLASS II	4	COLD CLASS II	4	COLD	FULLY	Evaluate d			U		U	

Table 16. *Continued*

Stream Name	WBIC	Length (miles)	Existing		Potential		Codified Use	Supporting Potential Use	Miles Assessed	Use Problems		Trend	Comments	Data Level	References
			Use	Miles	Use	Miles				Source	Impact				
Simpson Creek South Channel	663400	2													
Morgan Creek	666200	6	COLD	6	COLD	6	COLD ORW	FULLY	Evaluate d			U		U	
Riley Creek	667500	5	COLD	5	COLD	5	COLD ORW	FULLY	Evaluate d			U		U	
Martin Creek	669000	1	COLD	1	COLD	1	COLD ORW	FULLY	Evaluate d			U		U	
Little Popple River	669200	14	COLD CLASS I CLASS III	5 9	COLD CLASS I CLASS III	5 9	COLD CLASS I CLASS III ERW	FULLY FULLY	Monitore d	BDAM	TEMP, SED	U		U	41, 51
Rat Creek	670500	3	UNK		UNK										
North Branch Popple River	671400	12	COLD CLASS II ^b	12	COLD CLASS II	12	COLD CLASS II ERW	FULLY	Monitore d			U		U	40, 51, 52

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HOW TO USE THE LAKE TABLES

LAKE NAME: All named and unnamed lakes in the basin greater than 25 acres are listed on county lake tables. Lake names are those found on U.S. Geological Survey (USGS) quadrangle maps unless the Wisconsin Geographic Names Council has established a different name. Some lakes are known locally by other names. Where available, those names have been listed along with the lake's official name.

LOCATION (T-R-S): Lakes are identified by township, range, and section.

WATERSHED NUMBER: The watersheds are identified for each lake listed using the DNR Master Waterbody File in conjunction with USGS seven minute topographic maps. The watersheds are listed for cross-reference with other sections of this plan.

SURFACE AREA: The surface area is the size of the lake, in acres, as listed on the DNR Master Waterbody File.

MAXIMUM DEPTH: Maximum depths given in feet are those listed in **Wisconsin Lakes**, [Publ-FM-800 91] published by DNR.

LAKE TYPE: Each lake type displays unique limnological characteristics based on physical and chemical properties. Production of plant and animal life generally varies in accordance with lake type. Basic classifications and qualifying criteria are:

Drainage lake (DG): Impoundments and natural lakes whose main water source is from stream drainage. Has at least one inlet and one outlet. Generally, drainage lakes have large watersheds.

Drained lake (DR): Natural lake whose main water source is dependent on the groundwater table and seepage from adjoining wetlands. Seldom has an inlet but will have an outlet of very little flow (similar to the seepage lake except for the outlet).

Seepage lake (SE): Landlocked. Water level maintained by groundwater table and basin seal. Intermittent outlet may be present, if at all.

Spring lake (SP): Seldom has an inlet, but always has an outlet of substantial flow. Water supply dependant upon groundwater rather than surface drainage.

The abbreviation "imp" following any lake name denotes that an impounding structure (dam) is located on that lake. Shallow impoundments commonly exhibit problems with sedimentation, turbidity, excess vegetation and algae, rough fish, and water level fluctuations.

HISTORY OF WINTERKILL: Because many small, shallow lakes experience oxygen depletion, they are vulnerable to "winterkill" of existing fish populations. This column has been marked "yes" if there have been any known incidents of winterkill.

ACCESS:

- BR = Boat ramp
- BF = Barrier free boat ramp
- P = Barrier free pier
- T = Walk-in trail
- R = Roadside
- W = Wilderness
- BW = Barrier free wilderness access
- NW = Navigable water access to lake
- X = Some type of access available, but not specified

FISH MERCURY: Numerous lakes in Wisconsin contain fish with elevated levels of mercury. Fish consumption advisories are issued semi-annually for lakes with fish tissue mercury levels of 0.5 parts per million or greater. Generally, predator fish from soft water, poorly buffered, low pH lakes have the highest concentrations of mercury.

Groups: R Fish mercury monitoring is recommended

- X Multiple fish populations have been tested for mercury and a fish consumption advisory DOES NOT exist.
- XX Multiple fish populations have been tested for mercury content and a fish consumption advisory DOES EXIST due to mercury contamination.

MAC (Macrophytes): This column identifies the status of macrophytes or aquatic plants in the lake. Specifically, it indicates if the lake experiences Eurasian water milfoil and/or purple loosestrife, two invasive non-native species of plants that can impair the lake's aesthetic, ecological, and recreational values.

EM = indicates that Eurasian water milfoil is present in the lake and may be a problem

EM-W = lake part of research project to study the effectiveness of Eurasian water milfoil weevil in reducing and/or eradicating this plant from the lake.

PL = indicates that purple loosestrife is present in the lake and may be a problem.

MONITORING: The following letters in each column signify that monitoring is:

R = recommended X = completed C = currently underway

LMO (Lake Management Organization): Indicates whether or not a lake management organization (LMO) exists for the lake.

Y = LMO does exist

ASSC = Lake management association exists

DIST = Lake management district exists

R = Recommends that a LMO be developed.

TROPHIC STATUS INDEX (TSI) CLASS: Lakes can be divided into three categories based on trophic state: **oligotrophic**, **mesotrophic** and **eutrophic**. These categories are a general indicator of nutrient levels and observed water clarity in a lake.

Oligotrophic lakes are generally clear, cold and free of weeds or large blooms of algae. Because they are low in nutrients, oligotrophic lakes generally do not support large fish populations. However, they often have an efficient food chain with a very desirable fishery of large predator fish.

Eutrophic lakes are high in nutrients. They are likely to be either weedy or experience algae blooms, and sometimes both. They often support large fish populations, but are also susceptible to oxygen depletion. Small, shallow lakes are especially vulnerable to "winterkill" which can reduce the number and types of fish.

Mesotrophic lakes are in an intermediate stage between oligotrophic and eutrophic. The bottoms of these lakes are often devoid of oxygen in late summer months, limiting cold water fish and resulting in phosphorus cycling from sediments.

Lakes with a TSI less than or equal to 39 are generally considered oligotrophic, those with a TSI ranging from 40 to 49 are considered mesotrophic, and those with a TSI greater than 49 are considered eutrophic.

A natural "aging" process occurs in all lakes causing them to progress from oligotrophic to eutrophic. In many places people have accelerated this process by allowing nutrients from agriculture, lawn fertilizers, streets, septic systems, and urban storm drainage to enter lakes. All of these activities have affected lakes in the Upper Green Bay basin.

LAKE PLAN OR PROT: This column refers to whether the lake has been the recipient of a lakes planning or lakes protection grant in the past and if either of these grants are recommended for the lake.

PLAN = Lake has received Lakes Management Program Planning Grant in the past

PROT = Lake has received a Lakes Management Program Protection Grant in the past

PLAN-R = A Lakes Management Planning Grant is recommended

PROT-R = A Lakes Management Protection Grant is recommended

PHOSPHORUS SENSITIVITY (P SENS): The purpose of this analysis is to classify lakes according to their relative sensitivity to phosphorus loading and existing trophic condition. The screening identifies high quality lakes that should receive highest priority for nutrient control management. The analysis first separates lakes into two major categories; lakes that are sensitive to increased phosphorus loading (Class I) and lakes less responsive to changes in phosphorus loading (Class II). Lakes in each general classification are then subdivided into management groups based on data needs or existing water quality conditions.

Class I: A= existing water quality fair to excellent ($TSI \leq 54$); potentially most sensitive to increased phosphorus loading
 B= existing water quality poor to very poor ($TSI > 54$); less sensitive to increased phosphorus loading than Group A
 Ins= data inadequate or insufficient to assess trophic condition; classification monitoring recommended
 D= stained, dystrophic lake, or aquatic plant-dominated lakes.

Class II: A= existing water quality fair to excellent ($TSI \leq 54$); may not be as sensitive to phosphorus loading as Class I lakes
 B= existing water quality poor to very poor ($TSI > 54$); low sensitivity to increased phosphorus loading
 Ins= data inadequate or insufficient to assess trophic condition
 D= stained, dystrophic lake, or aquatic plant-dominated lakes.

These classification groups are used to establish appropriate management recommendations and priorities.

COMMENTS: Additional information that was available for the lakes has been included in the comments column. Abbreviations were used to conserve space as follows:

LMO = Lake Management Organization exists for this lake (as of December, 1991)

FCA = Fish Consumption Advisory currently in effect (as of April 1992)

Mig Birds = Significant use/stop for waterfowl and migratory water birds

N = See the narrative section for this county for a more detailed description

NPS = Nonpoint source pollution impacts

Rec = High quality recreational experience for listed activities: (eg. Rec: S, F, CA)

S - Swimming

B - Boating

C - Canoeing

H - Hunting

W - Waterfowling

F - Fishing

CA - Camping

WR - Wild Rice Waters listed in NR19.09 (Wis. Adm. Code)

Table 17. Lake table for Marinette County, Wisconsin.

MARINETTE COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtsd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	H G	MA C	LM O	TSI	Plan or Prot	P SENS	Comments
				Max	Mean											
Angle Lake T33N R18E Sec 11	498200	GB10	2.0	8		SE		W								
Bagley Flowage T31N R22E Sec 27	516800	GB07	281	20	7	DG	N	BR		X					Class II Ins	
Barnes Lake T36N R19E Sec 11	584000	GB14	27	19		SE	N		R						Class I Ins	
Bass Lake T31N R20E Sec 30	521400	GB08	36	50		DG	Y		C				Eutrophic	Prot	Class I B	Nut
Beecher Lake T36N R20E Sec.28	617000	GB14	18	45		DG	N	T	R			Assoc		Plan		
Big Newton Lake T33N R19E Sec 3	498800	GB10	68	40	16	SE	N	BR	C			Assoc	Mesotroph ic		Class I A	
Big Quinnesec Falls Flowage (Imp) T38N R20E Sec 7	647500	GB15	127	45	27	DG	N	NW							Class II Ins	
Borth Lake T32N R18E Sec 9	498900	GB10	10	31		SE		W								
Bottle Lake T32N R18E Sec 8	534000	GB10	6	12		DG		R								
Caldron Falls Reservoir (Imp) T33N R18E Sec 10	545400	GB11	1018	40	15	DG	N	BR		XX					Class II Ins	
Campbell Lake T35N R17E Sec 30	543800	GB10	4	6		SP		T								
Cedar Lake T32N R17E Sec 12	612000	GB10	20	5		SE		NW								
Chalk Hill Flowage T35N R22E Sec 7	634500	GB15	866	30	10	DG	N	BR		X					Class II Ins	
Clark Lake (Mud) T36NR17E Sec.3	633600	GB14	35	9		SP	UNK	T							Class II Ins	
Coleman Lake T36N R18E Sec 8	632800	GB14	246	67	23	DG	N					Y			Class I Ins	
Deer Lake T34N R19E Sec 29	500000	GB10	13	34		SE			R							
Eagle Lake T32N R18E Sec	500200	GB10	56	30		SE	N	T	C			Y	Oligotroph ic		Class I A	

MARINETTE COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtsd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	H G	MA C	LM O	TSI	Plan or Prot	P SENS	Comments
				Max	Mean											
15																
Elbow Lake T34N R19E Sec 27	528500	GB10	62	60		DG	N						Mesotroph ic		Class I A	
Frieda Lake T33N R18E Sec 20	535800	GB10	65	33		SP	N								Class I Ins	
Frying Pan Lake T32N R18E Sec 6	538700	GB10	28	47		SE	N	W							Class I Ins	
Geise Lake (Mud) T31N R19E Sec 30	500500	GB10	25	8		SE	UNK								Class II Ins	
Gilas Lake T31 N R19E Sec 18	523300	GB10	135	88	23	SE	N		R	XX		Y			Class I Ins	
Glen Lake T35N R19E Sec 14	627200	GB14	50	24		DG	N	BR							Class I Ins	
Grand Rapids Flowage (Imp) T34N R23E Sec 32	610700	GB13	259	21	6	DG	N	BR		XX	EM				Class II Ins	
Grass Lake T32 N R18E Sec 23	421400	GB10	77	4		SE	UNK								Class II Ins	
Grass Lake T34 N R20E Sec 13	614800	GB13	43	19		DG	UNK								Class I Ins	
Harwell Lake T34N R18E Sec 36	500800	GB10	15	25		SE										
Hazel Lake T32N R18E Sec 8	500900	GB10	3	12		SE	R									
Headquarters Lake T36N R20E S11	635500	GB15	41	7		SE	UNK								Class II Ins	
Heart Lake T34N R18E Sec 25	501000	GB10	4	6		SE										
High Falls Reservoir T33N R18E Sec 36	540600	GB10	1498	54	12	DG	N	BR		XX	EM				Class II Ins	
Hilbert Lake (Orwig) T37N R17E Sec 6	501200	GB17	289	32	9	SE	N	BR	C	X		Assc	Oligo- Mesotroph ic		Class II A	
Homestead Lake T35N R17E Sec 36	543900	GB10	4	14		SP										
Huber Lake (Deer)	535500	GB10	29	8		DR	UNK								Class II	

MARINETTE COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtsd ID	Surfac e Area	Depth		Lake Type	Winterkil I	Access	SH	H G	MA C	LM O	TSI	Plan or Prot	P SENS	Comments
				Max	Mean											
T33N R18E Sec 17															Ins	
Huigen Lake T33N R18E Sec 15	534700	GB10	12	8		DG										
Island Lake T34N R20E Sec 13	614900	GB13	81	42		DG	N		C				Eutrophic		Class I B	
Johnson Falls Flowage (Imp) T33N R19E Sec 32	533300	GB10	158	37	9	DG	N	BR		X					Class II Ins	
Jones Lake T30N R20E Sec 19	518200	GB10	39	7		DR	UNK	W							Class II Ins	
Joy Lake T33N R19E Sec 32	532900	GB10	11	16		DG										
Julia Lake T33N R21E Sec 25	530400	GB09	47	20		DG	N		R						Class I Ins	
Kahles Pond T33N R19E Sec 6	501600	GB10	1	3		SE										
Kiss Lake T33N R19E Sec 31	533100	GB10	40	22		SP	N								Class I Ins	
La Fave Lake (La Faye) T37N R17E Sec 5	502000	GB17	50	38		SE	N		R						Class I Ins	
Left Foot Lake T32N R20E Sec 33	524700	GB07	79	65		DG	N	BR	R	X					Class I Ins	
Lindquist Lake T36N R19E Sec 1	643800	GB15	70	58		DG	N	BR	R						Class I Ins	
Little Nelligan Lake T31N R19E Sec 17	523100	GB10	26	37		SP	N	NW							Class I Ins	
Little Newton Lake T33N R19E Sec 4	502300	GB10	60	53		SE	N	NW	C	X		Assoc			Class I Ins	
Little Perch Lake T32N R18E Sec 11	502400	GB10	14	26		SE			R				Mesotroph ic			
Little Quinnesec Falls Flowage (Imp) T38N R20E Sec 10	647300	GB15	349	40		DG	N	BR		X					Class I Ins	

MARINETTE COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtsd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	H G	MA C	LM O	TSI	Plan or Prot	P SENS	Comments
				Max	Mean											
Little Spring Lake T34N R18E Sec 36	541700	GB10	3	6		SP										
Long Lake T34N R20E Sec 22	587800	GB13	57	6		SE	UNK	BR	R						Class II Ins	
Lost Lake T34N R20E Sec 23	587900	GB10	40	18		SE	N	BR		X		Assoc			Class I Ins	
Lost Lake T34N R19E Sec.31	502600	GB10	19	20		SE			R				Mesotroph ic		Class I A	
Lundgren Lake T36N R20E Sec 6	588200	GB15	29	62		SE	N	BR							Class I Ins	
Marl Lake T32N R20E Sec 30	502700	GB10	5	3		SE										
Mary Lake T33N R21E Sec 25	530500	GB09	167	20	9	DG	N	BR	C		EM	Assoc	Mesotroph ic		Class II A	
McCaslin Lake T34N R17E Sec 33	537900	GB10	74	9		DG	UNK	DG	R			Dist	Meso to Eutrophic		Class II B	
Mirror Lake T32N R18E Sec 8	502900	GB10	5	10		SE										
Montana Lake T30N R20E Sec 30	518300	GB08	135	28	15	DG	N	BR			EM		Eutrophic		Class II B	Nut.,NPS
Moon Lake T36N R18E Sec 4	633100	GB14	97	25		SP	N	SP				Y	Mesotroph ic		Class I Ins	
Morgan Lake T34N R20E Sec 8	589300	GB13	83	22		SE	N		R			Assoc			Class I Ins	
Mountain Lake T33N R18E Sec 30	536000	GB10	26	26		SP	N					Y			Class I Ins	
Murbou Lake T34N R18E Sec 25	541900	GB10	19	7		SP										
Nelligan Lake T31N R19E Sec 16	523000	GB10	32	36		DG	N	R							Class I Ins	
Noquebay Lake T32N R21E Sec 8	525900	GB09	2409	51	10	DG	N	BF, P	C	XX		Dist Y	Mesotroph ic	Prot. Plan	Class I A	FCA, WR

Table 17. *Continued*

MARINETTE COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtsd ID	Surfac e Area	Depth		Lake Type	Winterkil I	Access	SH	H G	MA C	LM O	TSI	Plan or Prot	P SENS	Comment s
				Max	Mean											
North Pond T37N R18E Sec 20	622800	GB14	70	7		DG	N								Class II Ins	
Old Veteran Lake T33N R18E Sec 12	503200	GB10	10	18		SE										
Oneonta Lake (Hilbert, North) T37N R17E Sec 6	503300	GB17	66	24		SE	N	R	C	R		Assc			Class I Ins	
Perch Lake T34N R20E Sec 34	526700	GB13	27	15		SP	UNK								Class I Ins	
Peshigo Flowage T30N R23E Sec 18	515800	GB07	232	15	6	DG	N	BF		XX	EM PL		Plan	Class II Ins	FCA	
Porcupine Lake T36N R17E Sec 33	503600	GB14	48	8		SE	UNK	W							Class II Ins	
Railroad Pond T37N R18E Sec 29	622600	GB14	34	8		DG	N								Class II Ins	
Rector Lake T34N R19E Sec 3	591100	GB13	47	14		SE	UNK								Class II Ins	
Rollins Lake T32N R18E Sec 8	504000	GB10	5	27		SE										
Sandstone Flowage T32N R19E Sec 24	531300	GB10	153	35	10	DG	N	NW		X					Class II Ins	
Scott Flowage, Lower T30N R23E Sec 1	609200	GB13	60	20		DG	N			XX					Class I Ins	FCA
Scott Flowage Upper T31N R23E Sec 32	609400	GB13	586	17	7	DG	N	BR							Class II Ins	
Shannon Lake T37N R21E Sec 3	639500	GB15	47	37		SE	N								Class I Ins	
Spies Lake T34N R20E Sec 30	526900	GB09	27	5		DG	UNK								Class II Ins	
Spring Lake T34N R18E Sec 13	613300	GB10	13	11		SE										
Squaw Lake T33N R18E Sec 34	535100	GB10	36	11		DG	UNK								Class II Ins	

MARINETTE COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtsd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	H G	MA C	LM O	TSI	Plan or Prot	P SENS	Comment s
				Max	Mean											
Star Lake T33N R19E Sec 15	504700	GB10	5	3		SE										
Taylor Lake T35N R18E Sec 19	544300	GB10	5	9		SP										
The Spring T32N R18E Sec 9	534400	GB10	6	23		SE										
Thunder Lake T32N R18E Sec 15	533600	GB10	135	62	31	DG	N	BR	C		EM	Assc	Oligotroph ic- Mesotroph ic		Class I A	
Timms Lake T37N R21E Sec 17	639800	GB15	30	37		SE	N	BR							Class I Ins	
Town Corner Lake T36N R19E Sec 36	617900	GB14	175	9	1	SP	Y	BR	C				Mesotroph ic		Class II Ins	
White Rapids Flowage (WI-150) T35N R22E Sec 19	634300	GB15	447	30	12	DG	N	BR		XX	EM				Class II Ins	
Wiggins Lake T36N R20E Sec 9	617300	GB15	40	26		DR	N	BR							Class I Ins	
Woempner Lake T36N R19E Sec 11	608600	GB15	25	8		SE	UNK								Class II Ins	
Wolf Lake T34N R21E Sec 10	614200	GB13	73	51		DG	N	BR							Class I Ins	
Wonder Lake T32N R18E Sec 6	515300	GB10	8	28		SE										
Woods Lake T33N R18E Sec 23	540900	GB10	46	27		DR	N		R						Class I Ins	

Table 18. Lake table for Menominee County, Wisconsin.

MENOMINEE COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtsd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	H G	MA C	LM O	TSI	Plan or Prot	P SENS	Comment s
				Max	Mean											
Fredenber Lake T30N R16E Sec 26	420800	GB06	61	19		SE	UNK								Class I Ins	
Long Lake (Spirit) T28N R16E Sec 14	423800	GB06	25	3		SE	UNK								Class II Ins	
Moshawquit Lake T28N R16E Sec 24	454200	GB06	264	30	9	DG	UNK					Y	Mesotroph ic		Class I Ins	
St Joseph Lake T29N R16E Sec 2	483100	GB06	42	14		SP	UNK								Class II Ins	
Founder Lake	459300	GB06														
Legend Lake System	339800	GB03	1304									Assc		Plan		

Table 19. Lake table for Oconto County, Wisconsin.

OCONTO COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtshd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	HG	MAC	LMO	TSI	Plan or Prot	P SENS	Comments
				Max	Mean											
Anderson Lake T30N R17E Sec 3	458700	GB05	182	40	23	DG	No	BR							Class I Ins	
Archibald Lake T32N R15E Sec 2	417400	GB05	430	50	19	SE	No	BR	C			Assc	Mesotroph ic	Plan	Class I A	
Balcom Lake T28N R19E Sec 17	417500	GB04	65	62		SE	No								Class I Ins	
Barnes Lake T32N R15E Sec 16	417600	GB06	34	25		SE	UNK								Class I Ins	
Bass Lake T32N R15E Sec 9	417900	GB06	142	40	19	SE	No	BR	R	X			Oligotroph ic		Class I Ins	
Bass Lake T32N R17E Sec 22	462400	GB05	12	11		DN	UNK	BR				Assc			Class I Ins	
Bear Lake T33N R16E Sec 21	471200	GB05	78	16		DG	No	W							Class II Ins	
Bear Paw Lake T31N R17E Sec 8	418000	GB05	49	20		SE	No	BR		XX			Mesotroph ic		Class I A	
Berry Lake T28N R17E Sec 19	418300	GB03	201	27	8	SE	No	BR	C			Assc	Mesotroph ic		Class I A	
Big Gillett Lake (Gillett) T32N R16E Sec 18	486400	GB06	34	26		DG	Yes	BR							Class I Ins	
Big Island Lake T32N R15E Sec 24	489900	GB06	37	25		DG	No	R							Class I Ins	
Boot Lake T32N R15E Sec 9	418700	GB06	263	38	19	SE	No	BR	C			Assc	Oligotroph ic		Class I A	
Boulder Lake T31N R15E Sec 21	491800	GB06	362	11	7	SP	No	BR				Assc			Class II Ins	
Boundary Lake (Bass) T32N R17E Sec 12	499000	GB10	37	19	7	DN	No	BR				Assc	Mesotroph ic		Class I A	
Chain Lake T33N R16E Sec 31	464700	GB05	76	50	12	SP	No	BR				Assc			Class I Ins	

OCONTO COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtshd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	HG	MAC	LMO	TSI	Plan or Prot	P SENS	Comments
				Max	Mean											
Chicken Foot Lake (Chicken) T32N R15E Sec 15	419400	GB06	50	20		SE	No	W							Class I Ins	
Christie Lake (Christy) T28N R18E Sec 19	451000	GB03	387	10		DN	Yes	T							Class II Ins	
Chute Pond T31N R16E Sec 36	462520	GB05	417	19	7	DG	No	BR				Dist			Class II Ins	
Cooley Lake T29N R18E Sec 2	447200	GB04	60	43	16	DG	No	T							Class I Inc	
Crooked Lake T32N R17E Sec 22	462000	GB05	143	37	11	DG	No	BR	C			Asse			Class I Ins	
Deadman Lake T32N R15E Sec 22	489700	GB06	37	47		SP	No	BR							Class I Ins	
Deer Lake T30N R18E Sec 26	455100	GB05	27	5		SP	Yes								Class II Ins	
Dell Lake (Spruce) T32N R17E Sec 12	500100	GB10	35	10		SE	UNK	W							Class II Ins	
Explosion Lake T33N R13E Sec 29	466900	GB05	31	27		SP	No	R							Class I Ins	
Flower Lake (Grass) T32N R17E Sec 13	500400	GB05	45	6		SE	Yes	W							Class II Ins	
French Lake (Shay) T32N R15E Sec 13	486700	GB06	29	29		DG	No								Class I Ins	
Funk Lake T30N R18E Sec 23	455200	GB05	31	18		DG	Yes								Class I Ins	
Gilkey Lake T32N R17E Sec	462300	GB05	20	6		DN	UNK	BR				Asse				
Glocke Lake (Gluckie) T33N R15E Sec 24	421300	GB05	28	8		SE	Yes	W							Class II Ins	
Green Lake T31N R16E Sec	459900	GB05	22	25		SE	Yes	BR				Y				

OCONTO COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtshd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	HG	MAC	LMO	TSI	Plan or Prot	P SENS	Comments
				Max	Mean											
13																
Grignon Lake T29N R17E Sec 7	481900	GB05	26	17		DG	No	BR				Y			Class I Ins	
Grindle Lake (Waupee) T32 R17E Sec 21	421600	GB06	42	23		SE	No	BR							Class I Ins	
Hagen Lake (Hogen) T32N R16E Sec 20	421700	GB06	27	26		SE	No								Class I Ins	
Halfmoon Lake T31N R18E Sec 1	421800	GB05	28	38	11	SE	No	R	C				Mesotroph ic		Class I A	
Hidden Lake T33N R16E Sec 8	472900	GB05	36	45		DG	No								Class I Ins	
Horn Lake T33N R15E Sec 21	467100	GB05	132	11	6	SP	No	BR					Mesotroph ic		Class II A	
Impassable Lake T30N R18E Sec 23	454900	GB05	84	5		DG	Yes								Class II Ins	
John Lake T33N R16E Sec 16	470600	GB05	104	26		DG	No	BR			EM	Y			Class I Ins	
Kelly Lake T29N R19E Sec 6	446600	GB05	361	41	14	DG	No	BR	C			Assc	Mesotroph ic		Class I A	
Ledge Lake (Pine) T32N R17E Sec 1	539000	GB10	34	19		SE	UNK								Class I Ins	
Leigh Fl. (Lee Imp.) T30N R19E Sec 30	519500	GB08	231	52	12	DG	No	BR	R						Class I Inc	
Little Archibald L. T33N R13E Sec 36	423100	GB05	56	65		SE	No					Assc			Class I Ins	
Little Maiden Lake T32N R16E Sec 7	487700	GB06	39	17		DG	No	R	C				Mesotroph ic		Class I A	
Long Lake T30N R19E Sec 31	446800	GB08	38	22		SE	No	BR							Class I Ins	

Table 19. *Continued*

OCONTO COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtshd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	HG	MAC	LMO	TSI	Plan or Prot	P SENS	Comments
				Max	Mean											
Machickanee Flowage (Imp) T28N R20E Sec 34	448200	GB03	435	21	6	DG	No	BR	C	XX	EM	Asse	Hyper- Eutrophic		Class II B	
Maiden Lake T32N R16E Sec 7	487500	GB06	269	52		DG	No	BR	C	XX		Asse			Class I Ins	
Moody Lake T30N R17E Sec.3	424700	GB05	18	9		SE	No	BR	C			Asse		Prot	Class II Ins	
Munger Lake T33N R16E Sec 21	470900	GB05	97	19	5	SP	No	BR			EM		Mesotrophi c		Class II A	
Nelligan Lake T32N R17E Sec 27	425300	GB05	49	26	7	SE	No	BR							Class I Ins	
Oconto Falls Pond T28N R19E Sec 26	449300	GB03	167	28	10	DG	No	BR							Class II Ins	
Paya Lake T32N R16E Sec 10	425600	GB06	121	40	20	SE	No	BR	R			R			Class I Ins	
Pickrel Lake T31N R18E Sec 1	457300	GB05	32	18		DN	No	BR					Mesotrophi c		Class I A	
Pickrel Lake T33N R15E Sec 11	474900	GB05	127	15		DG	No	BR	R			R			Class II Ins	
Pine Ridge Lake (Long) T33N R16E Sec 23	426100	GB05	46	27		SE	No	T							Class I Ins	
Porcupine Lake T29N R19E Sec 12	443500	GB04	30	20		DG	No	BR							Class I Ins	
Ranch Lake T31N R18E Sec 12	426400	GB05	46	44	11	SE	No	T	C			Asse	Oligotrophi c		Class I A	
Reservoir Pond (Imp) T33N R15E Sec 28	466700	GB05	409	16	5	DG	No	BR		XX		Dist			Class II Ins	
Rost Lake T30N R19E Sec 24	504300	GB08	91	29	10	SE	No	BR				Asse	Mesotrophi c		Class I A	
Round Lake	446700	GB08	28	31		DN	No	BR							Class I Ins	

OCONTO COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtshd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	HG	MAC	LMO	TSI	Plan or Prot	P SENS	Comments
				Max	Mean											
T30N R19E Sec 31																
Shadow Lake T32N R15E Sec 25	488900	GB06	27	7		DN	Yes								Class II Ins	
Shay Lake T31N R18E Sec 18	456765	GB05	67	36	13	SP	No	BR							Class I Ins	
Shay Lake T32N R15E Sec 17	427300	GB06	50	36		SE	No								Class I Ins	
Smoke Lake T33N R15E Sec 14	427500	GB05	51	7		SP	Yes	BR							Class II Ins	
Star Lake T32N R15E Sec 26	427900	GB06	63	21		SE	No	BR							Class I Ins	
Sunrise Lake T32N R17E Sec.29	460900	GB05	22	32		SE	No	T	C			Assc				
Surprise lake (Bass) T33N R15E Sec 10	428100	GB05	70	30		SE	No	BR							Class I Ins	
Townsend Flow (Wheeler Imp) T33N R15E Sec 26	465000	GB05	476	30	9	DG	No	BR	R						Class I Ins	
Underwood Lake T30N R19E Sec 30	519700	GB08	43	37	15	SE	No	BR					Mesotroph ic		Class I Ins	
Veil Lake T30N R18E Sec 13	455400	GB05	54	13		SE	Yes	BR							Class II Ins	
Wapato Lake, Lower (Poison) T33N R15E Sec 32	466100	GB05	38	10		DG	Yes	W							Class II Ins	
Wapato Lake, Upper (Poison) T33N R15E Sec 31	466400	GB05	50	10		DG	Yes	R							Class II ins	
Waubee Lake T33N R16E Sec 13	439500	GB10	124	20	10	SE	No	BR				Assc			Class II Ins	
Waupee Flowage (Imp) T32N R17E Sec 21	461300	GB06	80	9	4	DG	No	BR							Class II Ins	

OCONTO COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtshd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	HG	MAC	LMO	TSI	Plan or Prot	P SENS	Comments
				Max	Mean											
Waupee Lake T31N R17E Sec 3	439600	GB05	34	2		SE	Unk	W					Oligotroph ic		Class II Ins	
Wescott Lake T30N R18E Sec 24	455300	GB05	38	27	14	SP	Yes	BR							Class I Ins	
Wheeler Lake T33N R16E Sec 22	439800	GB05	293	35	15	SE	No	BR	C			Assoc	Oligotroph ic		Class I A	
White Lake T30N R18E Sec 36	447000	GB04	49	49	21	DG	No	BR							Class I Ins	
White Potato Lake T31N R18E Sec 23	515100	GB05	978	11	5	SE	Yes	BR	C			Assoc		Plan	Class II Ins	
Winslow Lake (Long) T32N R16E Sec 8	486200	GB06	58	33		SP	No					Assoc			Class I Ins	
Wiscobee Lake T20N R17E Sec 5	481700	GB06	32	40		DG	No	BR							Class Ins	

Table 20. Lake table for Shawano County, Wisconsin.

SHAWANO COUNTY LAKES																
Lake Name T/ R/ Section	WBID	Wtsd ID	Surfac e Area	Depth		Lake Type	Winterkil l	Access	SH	H G	MA C	LM O	TSI	Plan or Prot	P SENS	Comment s
				Max	Mean											
Mud Lake T27N R18E Sec 10	0414900	GB02	28	2		SP	Y								Class II Ins	
Pensaukee Lakes T27N R17E Sec 14	0415000	GB02	109	49	8	SP	y	BR							Class I Ins	

APPENDIX 5 Nonpoint source watershed rankings

Watershed Name and Identification Number	Stream Rank	Lake Rank	Groundwater Rank	Subwatershed Streams and Lake Project Ranks
Suamico and Little Suamico Rivers (GB01)	High	NR	Low	Suamico River – High Potters Creek – High West Br Suamico River – High South Br Suamico River – High Little Suamico River – High
Pensaukee River (GB02)	High	INS	Low	Current Priority Watershed
Lower Oconto River (GB03)	Low	INS	Low	Coopman Creek – High Dump Creek – High Berry Lake – High
Little River (GB04)	High	INS	Low	Completed Priority Watershed
Lower North Branch Oconto River (GB05)	Low	INS	Low	
South Branch Oconto River (GB06)	Low	INS	Low	
Lower Peshtigo River (GB07)	Med	INS	Low	Trout Creek – High Bundy Creek – High
Little Peshtigo River (GB08)	Med	INS	Low	Montana Lake – High Gilas, Nelligan, Little Nelligan Cluster – High Bass Lake ongoing lake project
Middle Inlet and Lake Noquebay (GB09)	INS	High	Med	Currently a lake project
Middle Peshtigo and Thunder River Project (GB10)	Low	INS	High	Currently a priority watershed
Upper Peshtigo River (GB11)	Low	INS	Low	
Otter Creek and Rat River (GB12)	Low	INS	Low	
Wausaukee and Lower Menominee Rivers (GB13)	Low	INS	Low	
Pike River (GB14)	Low	INS	Low	
Pemebonwon and Middle Menominee Rivers (GB15)	Low	INS	Low	
Pine River (GB16)	Low	Med	Low	
Popple River (GB17)	Low	INS	Low	Hilbert Lake – High for lake protection project
Brule River (GB18)	Low	INS	Low	

APPENDIX 6 Groundwater Resources

Groundwater is the source of potable water for all residents within the Upper Green Bay Basin, except for those served by a municipal surface water system in the city of Marinette. Groundwater is withdrawn from glacially deposited sand and gravel, Silurian age dolomite and sandstone (St. Peter) and the Cambrian age sandstone. Shallow wells, high bedrock, and difficulty locating groundwater in Marinette County make water systems highly susceptible to land use activities. There is a potential for surface water or wetlands to be affected as communities look for alternate shallow groundwater supplies. Specific problems include:

- Nitrate levels above the Maximum Contaminant Level (MCL) in one Crivitz well led to closing of that well.
- Total Trihalomethane and bacteria problems are present in Goodman Sanitary District wells
- One Niagara Waterworks well will exceed the new arsenic standard of 10 ug/L
- Coleman and Peshtigo wells will exceed the Radium standard of 5 pCi/L

Groundwater and Drinking Water Issues

- Where the glacially deposited sand and gravel aquifer overlies Precambrian granite, finding adequate groundwater for municipal and private wells could lead to conflicts where surface water and wetlands are affected due to groundwater level declines.
- Groundwater quality in communities where the only source is the shallow sand and gravel aquifer may be vulnerable to contamination due to land use activities.
- New drinking water standards for arsenic and radium will cause municipal wells in the basin to exceed MCLs.
- Where agriculture is present, private wells show increased nitrate levels.

Groundwater and Drinking Water Priorities

- Assist counties and farmers with nutrient and pest management in areas where there is agricultural land use
- Promote proper abandonment of unused wells to protect groundwater quality
- Promote wellhead and source water protection planning for municipalities

Groundwater Contamination Potential Ranking by Watershed

Each watershed within the Green Bay Basin was ranked based on land coverage and groundwater sample analytical results in the DNR's GRN database. The table below lists each watershed score and gives a short description of the land cover and groundwater sample analytical data that determined the score. A score of 20 or more is considered medium. At 30 or greater, the score is considered high for groundwater contamination potential.

Abbreviations include:

1. ES: Groundwater enforcement standard as per NR 140 Wis. Adm. Code. For nitrate the groundwater ES is 10 ppm.
2. PAL: Groundwater Preventive Action Limit as per NR 140 Wis. Adm. Code. For nitrate the groundwater ES is 2 ppm.
3. CAFO: Confined Animal Feeding Operation, which consists of the equivalent of 1000 animal units.

Watershed	Total	Comments
Suamico and Little Suamico Rivers	66.00	Sixty-five percent of the land cover is agriculture in this watershed.
Pensaukee River	72.76	Sixty-one percent of the land cover is agriculture and there is one CAFO in the watershed. Of 58 wells sampled for nitrate, 10 % exceeded the ES and 39% exceeded the PAL.
Lower Oconto River	45.68	The land cover is 44% agriculture.
Little River	60.53	The land cover is 58% agriculture and there are 2 CAFOs in the watershed.
Lower North Branch Oconto River	6.24	The watershed is 65% forest land cover.
South Branch Oconto River	8.73	Land cover in the watershed is 70% forest
Lower Peshtigo River	35.48	Land cover in the watershed is 34% agriculture.
Little Peshtigo River	50.36	Fifty percent of the watershed is agriculture land cover.
Middle Inlet and Lake Noquebay	25.83	Only 9% of the watershed is agriculture but 23% and 46% of 20 wells sampled exceeded the ES and PAL for nitrate. Pesticides were detected in 20 wells.
Middle Peshtigo and Thunder Rivers	12.86	Only 2% of the watershed is agricultural land cover but of 37 wells sampled for nitrate, 24 % exceeded the PAL. None exceeded the ES.
Upper Peshtigo River	2.83	Only 2% of the land cover is agriculture.
Otter Creek and Rat River	1.61	Seventy-six percent of the land cover is forest.
Wausaukee and Lower Menominee Rivers	8.18	Forty-six percent of the watershed is forest. Only
Pemebonwon and Middle Menominee Rivers	3.80	The watershed is 65% forest and 20% wetland land cover.
Pine River	1.43	The watershed is 76% forest and 16% wetland.
Brule River	1.95	The watershed is 80% forest.

Wellhead Protection Planning

Within the Upper Green Bay Basin, Wausaukee and Florence have approved wellhead protection plans.

Appendix 7 303D Waters

Waterbody Name	County	Stream Miles	Total Miles	Existing Use	Codified Use	Impact	Sediment DOM	ATM DEP	Habitat DOM	NPS DOM	Point DOM	NPS/PS BLEND	Other DOM
Lake Michigan	Multiple Counties												X
Bass Lake	Marinette				WWSF	DO, winter kill							x
Gilas Lake	Marinette					Hg FCA		x					
Green Bay - south of Marinette and its tributaries including the Menominee, Oconto, Fox & Peshtigo Rivers from their mouths to the first dam	Brown, Oconto, Door, Marinette	119 sq. mi				pcb FCA							x
Green Bay AOC (inner bay) (1)	Brown				WWSF	pcb FCA, bac, DO							x
Lower Menominee AOC	Marinette	0-3	3		WWSF	as FCA, hab	x						
Maiden Lake	Oconto					Hg FCA		x					
Menominee River in Marinette County	Marinette	0-15	15			FCA	x	x					x
Noquebay Lake	Marinette					Hg FCA		x					
Oconto River Machinckanee Flowage	Oconto					Hg FCA		x					
Peshtigo River at Caldron Falls Flowage	Marinette					Hg FCA		x					
Peshtigo River at High Falls Flowage	Marinette					Hg FCA		x					
Peshtigo River at Peshtigo Flowage	Marinette					Hg FCA		x					
Reservoir Pond	Oconto					Hg FCA		x					