

AGENDA
CONSERVATION, EDUCATION AND ECONOMIC DEVELOPMENT COMMITTEE

DATE: Wednesday, October 2, 2024

TIME: 9:00 a.m.

LOCATION: Wood County Courthouse – Room 114

1. Call meeting to order
2. Declaration of Quorum
3. Public Comments (*brief comments/statement regarding committee business*)
4. Review Correspondence.
5. Consent Agenda.
 - a. Approve minutes of previous meetings
 - b. Approve bills
 - c. Receive staff activity reports
 - d. Receive committee reports
6. Review items, if any, pulled from Consent Agenda.
7. Risk and Injury Report
8. Extension
 - a. Introduction – Olga Meza, 4-H Associate Educator
 - b. Update from Fall Clean Sweep
 - c. Review 2025 Educator Contract
9. Land & Water Conservation Department
 - a. Review and provide input on 2025 LWRM plan revision (final copy to be approved by CEED Committee at 11/6/24 meeting; public hearing will also be held in conjunction with CEED meeting)
 - b. Update on ongoing violations (nonmetallic mines and manure violations)
10. Private Sewage
11. Land Records
12. County Surveyor
13. Planning & Zoning
 - a. Consider resolution approving a zoning amendment in the town of Saratoga.
14. Economic Development
 - a. Consider release of REDI funds to conduct a housing market study in Wood County.
15. Consider Extension of CEED’s prevue to include Sustainability
16. Schedule next regular committee meeting
17. Agenda items for next meeting
18. Schedule any additional meetings if necessary
19. Adjourn

Join by phone

+1-408-418-9388 United States Toll
Meeting number (access code): 2480 898 6974

Join by WebEx App or Web

<https://woodcountywi.webex.com/woodcountywi/j.php?MTID=mf035ef5f16bbabadb180299109d386bf>

Meeting number (access code): 2480 898 6974
Meeting password: 100224

MINUTES
CONSERVATION, EDUCATION, & ECONOMIC DEVELOPMENT COMMITTEE

DATE: Wednesday, September 4, 2024

TIME: 9:00 AM

PLACE: Courthouse – Room 114

MEMBERS PRESENT: Bill Leichtnam, Tom Buttke, Tim Hovendick, Russ Perlock

MEMBERS EXCUSED: Wayne Schulz, Joe Behlen

OTHERS PRESENT: Trent Miner, County Clerk; See attached sign-in list

1. Chairman Leichtnam called the meeting to order at 9:00 AM and declared a quorum present.
2. There was no public comment.
3. The minutes of August 7 & 13, 2024, were presented. Motion by Buttke/Hovendick to approve the minutes as presented. Motion carried unanimously.
4. Motion by Hovendick/Buttke to approve the vouchers, monthly department reports and committee reports. Motion carried unanimously.
5. Ben Tanko from Alliant Energy reviewed the possibility of a lease agreement for wind energy for the Wood County land in Marathon County being leased to the Board of Regents for the Experimental Station. Planning & Zoning Director Grueneberg will discuss this possibility with the Board of Regents and bring this subject back at a future meeting.
6. Extension Area Director Solin presented the 2025 Extension budget for review. Motion by Buttke/Hovendick to approve the budget as presented and forward to the Operations Committee for their consideration. Motion carried unanimously.
7. County Conservationist Wucherpennig presented the 2025 Land & Water Conservation Dept. budget for review. Motion by Hovendick/Perlock to approve the budget as presented and forward to the Operations Committee for their consideration. Motion carried unanimously.
8. Wucherpennig discussed the field day being held in Portage County coming up on September 17th. Committee members interested need to pre-register for the event.
9. Wucherpennig presented an update on the progress of the LWRM Plan update. A draft plan is posted to the LWCD website. The committee will need to hold a public hearing in November before it goes to the full county board for approval.
10. Wucherpennig updated the committee on the ongoing violations of non-metallic mines and manure runoff. These are progressing through the various legal proceedings.

11. Marshfield Parks & Recreation Director Justin Casperson reviewed the progress of the Braem Park Pickleball Courts and requested release of the economic grant funding allocated to the project. Motion by Buttke/Perlock to approve the release of \$25,000 of economic grant funding to the City of Marshfield for the Braem Park Pickleball Courts. Motion carried unanimously.
12. Casperson requested reallocation of \$12,500 of previously approved grant funding from the Wenzel Plaza restroom to the Braem Park Pickleball Courts, since the city has not decided what avenue to pursue with the restrooms. In addition, the Pickleball Courts bids came in over budget. Motion by Hovendick/Buttke to reallocate \$12,500 of economic development grant funding to the Braem Park Pickleball Court project. Motion carried unanimously.
13. City of Wisconsin Rapids Director of Community Development Kyle Kearns presented the progress of the downtown waterfront plan being conducted and requested the release of the \$25,000 economic development grant funding for this purpose. The plan is expected to be complete by the end of the year. Motion by Leichtnam/Hovendick to release \$25,000 of economic development grant funding to the City of Wisconsin Rapids for the waterfront plan. Motion carried unanimously.
14. Representatives of the North Wood County Historical Society requested release of \$25,000 of economic grant dollars for updates to the Upham Mansion but have not completed any of the work associated with the grant fund request yet but assured the committee that by the end of November, there would be significant progress. Motion by Buttke/Hovendick to approve the release of \$25,000 of economic development grant dollars to the North Wood County Historical Society. Motion carried unanimously.
15. Planning & Zoning Director Grueneberg presented the 2025 Planning & Zoning budgets to the committee for review. Motion by Buttke/Perlock to approve the budgets as presented and forward to the Operations Committee for their review. Motion carried unanimously.
16. Grueneberg reminded the committee of the tour coming up on Friday, September 13th at 8:00 AM beginning in front of the courthouse.
17. Grueneberg presented the 2025 Economic Development budget to the committee for review. Motion by Buttke/Perlock to approve the budget and forward to the Operations Committee for their consideration. Motion carried unanimously.
18. The next regular meeting will be held on Wednesday, October 2nd at 9:00 AM.
19. Motion by Buttke/Hovendick to adjourn the meeting. Motion carried unanimously at 11:01 AM.

Minutes taken by Trent Miner, County Clerk, and are in draft form until approved at the next meeting.

Conservation, Education, & Economic Development Committee
September 4, 2024

NAME	REPRESENTING
BILL O'LENDENIZ	WCB #15
Jeff Perzyski	WCB #1
DENNIS POLACH	WCB-14
Ed Newton	Finance
Tim Houender	WCB #5
Jeremy Sohe	Extension
Russ Perlock	WCB #4
Victoria Wilson	P:2
Peter Kastenholz	Corp. Counsel
Kayla Rombakski	EXTENSION
JUSTIN CASPERSON	CITY OF MARSHFIELD
JASON Grueneberg	P:2
Barb Peeters (Web Ex)	LWCA
Lance Pliml (Web Ex)	CB Chair

Committee Report

County of Wood

Report of claims for: Extension Wood County

For the period of: September 2024

For the range of vouchers: 30240126 - 30240141

Voucher	Vendor Name	Nature of Claim	Doc Date	Amount	Paid
30240126	AMAZON CAPITAL SERVICES	Office Supplies	09/03/2024	\$127.26	P
30240127	STAPLES ADVANTAGE	Kitchen Supplies	09/03/2024	(Voided)	P
30240128	4-H LEADERS ASSOCIATION	4H Event Refunds	09/03/2024	\$105.00	P
30240129	STAPLES ADVANTAGE	Kitchen Supplies	09/10/2024	\$7.24	P
30240130	STAPLES ADVANTAGE	Kitchen Supplies	09/10/2024	\$12.92	P
30240131	PREMIER PRINTING	CWSF Signs	09/10/2024	\$78.40	P
30240132	PREMIER PRINTING	CWSF Signs	09/10/2024	\$11.91	P
30240133	UW MADISON EXTENSION	Bus Reimbursement Discover WI	09/10/2024	\$3,999.00	P
30240134	US BANK	September Credit Card Bill	09/17/2024	\$698.67	
30240135	AMAZON CAPITAL SERVICES	Science by the River Supplies	09/17/2024	\$379.79	P
30240136	NATIONAL 4-H COUNCIL / SHOP 4-H	4H Supplies	09/17/2024	\$51.70	P
30240137	VEOLIA ES TECHNICAL SOLUTIONS	Mfld Clean Sweep - Ag	09/17/2024	\$712.47	P
30240138	VEOLIA ES TECHNICAL SOLUTIONS	Mfld Clean Sweep - Household	09/17/2024	\$8,806.74	P
30240139	HUBER LAURA	August-September Expenses	09/24/2024	\$433.49	
30240140	MITCHELL ANNA M	September Expenses	09/24/2024	\$26.08	
30240141	ROMBALSKI KAYLA-ROSE	August-September Expenses	09/24/2024	\$356.90	
Grand Total:				\$15,807.57	

Signatures

Committee Chair: _____

Committee Member: _____

Committee Member: _____

Committee Member: _____

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Committee Member: _____

Committee Member: _____

Committee Report

County of Wood

Report of claims for: Land & Water Conservation

For the period of: September 2024

For the range of vouchers: 18240066 - 18240077

Voucher	Vendor Name	Nature of Claim	Doc Date	Amount	Paid
18240066	AMAZON CAPITAL SERVICES	Refund for office supplies	09/10/2024	(\$7.14)	P
18240067	AMAZON CAPITAL SERVICES	Office supplies	08/29/2024	\$44.58	P
18240068	SLATTERY THOMAS	MDV-CS Cover Crop-Slattery	09/06/2024	\$4,030.00	P
18240069	STAPLES ADVANTAGE	Office supplies	09/11/2024	\$122.46	P
18240070	STAPLES ADVANTAGE	Office supplies	09/13/2024	\$50.44	P
18240071	AMAZON CAPITAL SERVICES	Office supplies	09/16/2024	\$49.36	P
18240072	US BANK	CEED tour, Field Day, supplies	09/17/2024	\$170.47	
18240073	CHIPPEWA CO LAND CON & FOREST MGMT	Tech Tour Registration (KA)	09/20/2024	\$25.00	
18240074	AGSOURCE COOPERATIVE SERVICES	Wastewater testing	09/24/2024	\$111.00	
18240075	CHAT-R-BOX CATERING	Lunch-Cover Crop Field Day	09/17/2024	\$400.00	
18240076	BERNICK JASON	Cost Share Cover Crops	08/20/2024	\$555.00	
18240077	AMAZON CAPITAL SERVICES	Office supplies	09/24/2024	\$130.01	
Grand Total:				\$5,681.18	

Signatures

Committee Chair: _____

Committee Member: _____

Committee Member: _____

Committee Member: _____

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Committee Member: _____

Committee Report

County of Wood

Report of claims for: Planning & Zoning

For the period of: September 2024

For the range of vouchers: 22240058 - 22240065 38240015 - 38240018

Voucher	Vendor Name	Nature of Claim	Doc Date	Amount	Paid
22240058	BOYER KEVIN	SU-Prof Serv-Other	09/03/2024	\$833.00	P
22240059	INDUSTRY SERVICES DIVISION	PS-Sanitary Permit Fees	09/03/2024	\$1,000.00	P
22240060	AMAZON CAPITAL SERVICES	PS-Office Supplies	09/04/2024	\$131.59	P
22240061	AMAZON CAPITAL SERVICES	PL-Office Supplies	09/05/2024	\$12.95	P
22240062	WCCA (COUNTY CODE ADMINISTRATORS)	PS-Training/Conference/CPE	09/10/2024	\$350.00	P
22240063	US BANK	LR/PS Credit Card Charges	09/18/2024	\$560.77	
22240064	AMAZON CAPITAL SERVICES	PL-Office Supplies	09/16/2024	\$6.32	P
22240065	LAMERS BUS LINES INC	PS-Office Supplies	09/25/2024	\$525.00	
38240015	CITY OF MARSHFIELD	ED-Grant Funds	09/09/2024	\$37,500.00	P
38240016	MARYANN LIPPERT CONSULTANT LLC	ED-REDI Funds	09/03/2024	\$270.00	P
38240017	ARC CENTRAL INC	ED-Thrive Rural Grant Funds	08/19/2024	\$9,125.00	P
38240018	MID-STATE TECHNICAL COLLEGE	ED-REDI Funds	09/11/2024	\$500.00	P
Grand Total:				\$50,814.63	

Signatures

Committee Chair:

Committee Member:

Committee Member:

Committee Member:

Committee Member:

Committee Member:

Committee Member:

Committee Member:

Committee Member:

Extension Wood County staff led, delivered, planned or collaborated on all of the following activities:

4-H POSITIVE YOUTH DEVELOPMENT

Laura Huber, 4-H Program Educator

Olga Meza, 4-H Bilingual Associate Educator

- Olga Meza joined Extension Wood County as the new 4-H Bilingual Associate Educator.
- 4-H educator Laura Huber and AmeriCorps member Malina Carattini provided hands-on activities to engage youth in 4-H experiences at the Central Wisconsin State Fair. These activities served as 4-H promotion and were much appreciated by parents.
 - The activities provided included: daily craft centers with three different crafts each day, progressive Ag Safety Zone with five safety activity stations, scavenger hunts, daily guessing jars and 4-H t-shirt days.

AGRICULTURE

Matt Lippert, Agriculture Educator

- Planning for a Pasture Walk. The goal is to reach dairy producers that graze, other livestock grazers and a focus on organic grazing so that they will gain skill and confidence in utilizing grazing on their farms.

COMMUNITY DEVELOPMENT

Kayla Rombalski, Community Development Educator

- Submitted an application for Wisconsin Rapids to host the Wisconsin Connecting Entrepreneurial Communities Conference in 2025. This statewide conference would bring attention to the Wisconsin Rapids area, spotlighting recent development and the area's entrepreneurial ecosystem. Selection of host city will occur in November.
- Planning for funding opportunities in the City of Pittsville to support the "CranCity" project. This project has already received support from the Wisconsin Economic Development Corporation's (WEDC's) Office of Rural Prosperity "Thrive Rural" program. Additional grant opportunities are available. The impact of this project is to increase the economic vitality of the Pittsville area and the County.
- Basic grant proposal workshop for local government, businesses, and organization members and staff. The goal of this effort is for people to learn how to find, write and apply for grants so that they can carry out the activities of their organization, business, or government unit.
 - **Testimonial from a future grant applicant:** "Having never written a grant, I gain an understanding of how to apply/ write for a grant properly and effectively and importance of key points. Thank you!"
 - **Total Reach:** 98 individuals from non-profit organizations, businesses and local governments



CRANBERRIES

Allison Jonjak, Cranberry Outreach Specialist

- The Wisconsin Cranberry Research and Education Foundation board met to discuss upcoming needs for the Wisconsin Cranberry Research Station, including a subcommittee meeting on researcher safety.
- Needs Assessments are being conducted in conjunction with field visits in all growing regions of the state.
- Several members of the Environmental Protection Agency as well as the Wisconsin Association of Professional Agricultural Consultants attended a tour of a commercial cranberry marsh in Warrens as well as a discussion and tour of the Wisconsin Cranberry Research Station in order to understand the interplay between cranberry production and the Endangered Species Act.
- An introductory phone call was made with the grower relationship manager for a cranberry buyer to establish a relationship with him and with growers he works with.
- Eight marshes were visited across three days to develop grower relationships and conduct Needs Assessments.
- Following feedback collected by needs assessments and evaluations, a grower desire was identified that Cranberry School have a balanced blend of foundational research and applied topics. Cranberry Outreach Specialist convened a meeting of the Wisconsin State Cranberry Growers Education Committee to discuss solutions to this desire, and the decision was made to offer Cranberry School in a double-track mode for 2025.
- A Fruit Crop and Hazelnut Seminar combined with a Twilight Garden Tour was held at the Spooner Agricultural Research Station for home growers of specialty crops and fruits in the northwest region of the state. Information on disease, nutrition, planting preparation, and genetics was presented.

FOODWISE

Hannah Wendels-Scott, FoodWise Nutrition Educator

Mallory McGivern, FoodWise Administrator

Michelle Van Krey, Healthy Communities Coordinator

- A partnership with United Way/Hunger Coalition, FOCUS Food Pantry, and the Housing Authority of Wisconsin Rapids that provides "Stockboxes for Seniors", a monthly food box service where low-income seniors can receive around 25-30 pounds of nutritious foods to stock their pantry with. The goal of this partnership is to promote the boxes with community partners with the overall goal to improve food security.
 - **Total Reach:** 80 senior households monthly
- A monthly series of nutrition education lessons for adults/older adults, where participants learn about the benefits of making healthy choices and balancing physical activity with food and nutrition. Participants engage in conversation based learning techniques, activities, and have a recipe demonstration to enjoy during class.

- **Total Reach:** 12 participants

HEALTH AND WELL-BEING

Ka Zoua Thao, Bilingual (Hmong) Community Health Worker

- Hmong youth at Wisconsin Rapids Area Middle School meet monthly to discuss various topics that affect their community. Through this effort, Hmong youth will have a better understanding of these topics and advocate for change within the Hmong community. Total Reach: 17 youth group participants
 - **Total Reach:** 17 youth group participants
- Ongoing one-on-one meetings with Hmong clients, where resources and referrals are made. Through these efforts, individual clients are able to receive support navigating through the healthcare and legal systems, and get connected with community resources.
 - **Total Reach:** 42 Hmong residents in Wood County, resulting in 4 direct clients.
- Building relationships and engaging with partners to address health needs with the Hmong community within Wood County.
- A series of strength training sessions (StrongBodies) for adults in the community, where participants engage in regular, progressive strength training and health education to improve their physical and mental health, and enhance social connectedness.
 - **Total Reach:** 12 people, 16 classes



Hmong StrongBodies participants doing a sitting overhead press.

HORTICULTURE

Janell Wehr, Horticulture Educator

- A booth at the Central Wisconsin State Fair where the general public participated in an active learning game about blossom end rot. The effort was designed to increase awareness and knowledge of resources to decrease environmental contamination and pollution due to overuse of horticulture chemicals.
- An interview for the WFHR listening audience, where listeners learned about an emergent disease affecting area lilacs as well as upcoming programming opportunities. The effort was designed to increase awareness and knowledge of resources to decrease environmental contamination and pollution due to overuse of horticulture chemicals in urban and suburban environments.
- An in person 12 session horticulture course where Wood County residents and potential Master Gardener Trainees learn the fundamental principles of IPM based gardening. The goal of this effort is to increase awareness and knowledge of resources to address environmental contamination and pollution due to overuse of horticulture chemicals in urban and suburban environments.
 - **Total Reach:** 4 participants



- A presentation for the general public where participants learned about lawn maintenance using ecologically sound practices. The goal of the effort was to increase awareness and knowledge of resources to address environmental contamination and pollution due to overuse of horticulture chemicals in urban and suburban environments
 - **Total Reach: 21 attendees**
- A diagnostic service for the general public, where Marathon and Wood County residents' horticultural inquiries are answered through evidence-based resources. This effort is designed to reduce pollution through horticultural product (pesticides and fertilizers) misuse.

HUMAN DEVELOPMENT AND RELATIONSHIPS

Jackie Carattini, Human Development and Relationships Educator

- Planning for monthly meetings for the Public Education and Youth Engagement committee of the South Wood County Cultural Coalition in collaboration with The Family Center, Wisconsin Rapids Public Schools, City of Wisconsin Rapids, and Mid-State Technical College. The order to determine future goals and efforts of the group with the goal of raising cultural awareness and connections in Wood County.
- A 6-session course for renters where participants learn how to find and apply for rental housing, understand their responsibilities as a renter, how to communicate effectively with their landlords, and manage housing expenses. Through this, those with negative rental records and those new to renting are able to increase their ability to find and keep safe affordable housing, thereby increasing their stability and decreasing their reliance on public supports.
- A 10 session virtual series (Aging Mastery Program) for seniors, where participants develop sustainable self-care behaviors related to exercise, nutrition and emotional well-being. The goal of this program is to improve health, strengthen economic security, enhance well-being, and increase societal participation among older adults.
- A 6-session course for renters where participants learn how to find and apply for rental housing, understand their responsibilities as a renter, how to communicate effectively with their landlords, and manage housing expenses. Through this, those with negative rental records and those new to renting are able to increase their ability to find and keep safe affordable housing, thereby increasing their stability and decreasing their reliance on public supports.

NATURAL RESOURCES

Anna Mitchell, Natural Resources Educator

Jen McNelly, Natural Resources Educator

- Evaluating response from a survey of agencies and organizations that support farmer networks in Wisconsin. The survey was conducted to better understand how farmer networks are functioning and the nature of support they receive from collaborators/partners. Results from the survey data have been used to inform decisions about what types of support are most beneficial and needed by farmer networks and



their collaborators/partners. Discussion about survey results and the future of the project have been had with partner organizations such as the Department of Agriculture, Trade and Consumer Protection.

- A study to better understand the dynamics of nitrate leaching and examine the feasibility and impact of interseeding cover crops in potato systems. This work will help potato growers improve their practices to minimize nitrate losses.

- A field day for farmers and non-farmers in and around the Big Roche-A-Cri watershed, where attendees learned about an on-farm research project that was conducted by Farmers of the Roche-A-Cri and Petenwell & Castle Rock Stewards group members and Extension and UW-Madison researchers. Through this field day, attendees learned about the dynamics of nitrate leaching and examined the feasibility and impact of interseeding cover crops in a potato system. Attendees also learned ways in which on-farm research trials will help potato growers improve their practices to minimize nitrate losses.



Natasha Paris, Regional Crops Educator, discusses the project and how they are examining nitrate leaching in potatoes.

- **Total Reach:** 25 attendees including agency staff, non-farming community members, producers and agronomists

- An outdoor field trip for high school students in the Nekoosa School District, where students rotated to multiple stations hosted by conservation professionals and group members of a citizen led lake protection group. Through this field trip, students engaged in hands-on learning experiences about the impact actions have on water quality, how groundwater moves through the landscape, the benefit of native shoreline plants, and the risk of aquatic invasive species. Students also learned ways to become involved in citizen led water restoration efforts and discovered possible career paths in conservation.

- **Total Reach:** 20 students (grades 11-12)

- Planning for Science by the River, a free, one-day, outdoor event (October 5, 2024) for community members of all ages from Wood County and surrounding areas. The goal of this event is to celebrate science and the outdoors through Discovery Stations that explore different fields of science through information, demonstrations, and hands on learning opportunities. Through this event, attendees will learn about opportunities to engage in science and conservation related organizations, and will gain a better understanding of science and conservation efforts within their communities.

- *Extension educators Kayla Rombalski, Hannah Wendels-Scott and Janell Wehr are also assisting with Science by the River planning and preparation.*



Science By The River
Wisconsin Rapids



Wood County, Wisconsin LAND AND WATER CONSERVATION DEPARTMENT

Activities Report for Barb Peeters - September 2024

- Answered phones, took messages, replied to emails and processed incoming and outgoing LWCD mail.
- Uploaded Cover Crop Field Day flyer onto LWCD website for event on Sept. 17th.
- Created online form for registrations for the Sept. 17th Cover Crop Field Day. Lined up caterer for the event lunch (lunch provided by Wood Co. LWCD via grant funds). Tracked RSVPs via both the online form and by phone; worked with caterer to set lunch menu and submitted final head count by deadline.
- Attended September 4th CEED committee meeting via WebEx.
- Processed and submitted three cost-share reimbursement requests to DATCP for cover crops totaling \$4,410.00 (A. Weiler & Flying Dollar/L. Scheuer).
- Emailed 2025 WI Land + Water poster contest information to all Wood County school teachers (public & private). Updated email list. The 2025 theme is "Home is Where the Habitat Is". Poster judging will take place on 1/27/25 with top 3 in each age bracket advancing to the area contest on 1/30/25 in Portage County.
- Organized County Board packet materials and electronically submitted to the County Clerk's office.
- Attended Sept. 10th Wellness Committee meeting and shared updates with LWCD staff & Parks/Forestry staff.
- Replied to customer inquiries via phone & email regarding the 2025 tree/shrub/seed sale.
- Shared Land & Water mailing list for Wood County Public & Private school teachers with the Wood Co. Parks & Forestry Dept. to utilize for their upcoming logo contest.
- Reviewed the September DATCP Monthly Report and shared with LWCD staff. DATCP has updated most forms (cost share contracts, reimbursement forms, extension requests, etc.) and will use only the updated forms beginning Jan. 1, 2025. Saved updated forms to file and entered LWCD information into form templates.
- Purchased snacks for CEED tour and attended the CEED tour on September 13th.
- Scheduled, attended and took minutes at September 16th staff meeting.
- Created spreadsheet to track \$119,500.00 in ARPA funds awarded to the Land & Water Conservation (\$19,500 for drone/training/insurance/certification; \$90,000 for Water Quality Improvement Practices (residue management \$25,000, cover crops \$25,000, harvestable buffers \$40,000); and \$10,000 for Field Test Plots/Training/Field Days). Assisted County Conservationist with identifying appropriate accounts for funds.
- Drafted cost share agreement template for use with ARPA Water Quality Improvement Practices.
- Reviewed timeline for revision of the 2025 Land Water Resource Management Plan with County Conservationist frequently throughout the month in order to meet deadlines.
- Participated in the Cover Crop Field Day at Dustin Albert's farm on Sept. 17th. Assisted with set-up, delivery of lunch & clean up. Twenty-three people attended the event. It was very informative with a lot of great questions and discussion regarding the equipment show & tell, interseeding demo, demo pit to view cover crop root growth and the side-by-side early corn cover crop trial.
- Completed LWCD payroll percentages and forwarded to Finance prior to September 5th & 19th payrolls.
- Reviewed payroll reports and payroll registers.
- Generated cost share contracts for cover crops (T. Slattery, J. Bernick).
- Assisted with rusty crayfish trapping at Pittsville School, plant check for a report of giant hogweed (invasive species) for a landowner in Marshfield, and plant check for report of phragmites (invasive species).
- Updated Wellness bulletin board with 4th quarter information and assisted Human Services Wellness Rep with updating both Human Services Wellness bulletin boards.
- Processed cost share payment to landowner utilizing MDV funds (J. Bernick).
- Deposited AWO permit payments and no-till drill rental payments as received.
- Attended the EPPIC Field Day on September 24th showcasing drone application of cover crops.
- Followed up on a cost share contract missing the required landowner signatures/dates.
- Cancelled two cost-share contracts after landowner changed mind on cost sharing two fields.
- Processed department invoices/vouchers and deposits weekly for submission to the Treasurer/Finance.
- Electronically submitted staff reports/packet materials to the County Clerk's office for CEED packet.

Activities Report for Kyle Andreae – September, 2024

- September 2 – Holiday
- September 3 – Ruess permitting
- September 4 – Ruess permitting
- September 5 – Bauer design modifications
- September 6 – Bauer design modifications
- September 9 – Ruess permitting, Bauer construction inspection
- September 10 – CREP boundary repair preparation, Bauer as-built
- September 11 – Gorst site visit, Gorst design
- September 12 – No-till drill move and repair, Gorst design
- September 13 – CEED Tour
- September 16 – Staff meeting, Keuffer construction inspections
- September 17 – Albert field day
- September 18 – Keuffer construction inspection, Ruess permitting, Mentorship meeting.
- September 19 – Keuffer design review
- September 20 – No till drill repair, Keuffer stakeout
- September 21 – Keuffer communication and staging
- September 23 – CREP supply acquisition and map review
- September 24 – Keuffer construction inspection, CREP stakeout
- September 25 – Trailer repair, Gorst design change review, Keuffer construction inspection
- September 26 – Gorst design change review, Keuffer construction inspection
- September 27 – Keuffer construction inspection
- September 30 – Keuffer construction inspection



Activities Report for Kendra Wilhelm – September 2024

- Attended the monthly Lakes & Rivers Partnership meeting. September's topic was aquatic invasive species and aquatic plant management.
 - The focus was about the Lake Monitoring & Protection Network grant cycle and rollout of the new grant application materials.
- Participated in a Management Plan Implementation grant determination of eligibility meeting with DNR Lakes Biologist Scott Provost.
- Participated in a final planning meeting for the joint field day with EPPIC at Albert Acres.
- Attended a webinar to learn more about what NRCS programs are available to better align producer goals with the correct program.
- Participated in the regional nutrient management meeting.
 - Version 3 of SnapPlus will have a soft rollout in 2025. Training resources are now available online.
 - Wisconsin NRCS 590 Standard is currently in the process of being updated. The rollout of the new 590 Standard is slated for 2026.
- Presented on the rusty crayfish trapping project at Pittsville High School.
- Participated in the CEED tour.
- Submitted the 2025 Lake Monitoring and Protection Network (LMPN) grant application.
- Submitted the 2025 Management Plan Implementation surface water grant pre-application.
- Participated in the September 16th staff meeting.
- Wrote an educational article about native plants and their benefits for the Nepco Lake District.
- Attended the September 16th Nepco Lake District Board Meeting.
- Assisted with and attended the cover crop field day at Albert Acres hosted by the Wood County Land & Water Conservation Department and EPPIC.
- Assisted with the deployment of the rusty crayfish traps in the Yellow River near the Pittsville High School.
- Assisted with the rusty crayfish trapping project at Pittsville High School periodically throughout the month.
- Had discussions with multiple landowners regarding cover crop and nutrient management cost-sharing as well as verified cover crops.
 - 1,220.9 acres of cover crops have been cost shared so far this year.
- Created and shared an educational poster regarding waterfowl hunters helping to prevent the spread of aquatic invasive species.
- Responded to a call regarding a potential giant hogweed population. The population was confirmed to NOT be giant hogweed.
- Attended a cover crop field day hosted by Marathon County. The topic of the field day was seeding cover crops via a drone and on-farm cover crop trials.
- Met with a farmer to complete their nutrient management checklist.
- Transported the drill to one landowner.

Activities Report for Rod Mayer – September 2024

- Landowner correspondence for Wildlife Damage program options.
- Printed Ch. 30 info from DNR and went over with Shane. Possible coverage for permitting on upland areas of mine sites.
- New Act 82 enrollment for Spreeman. Create enrolled lands maps, site visit, calculated gross and huntable acres, created enrollment and permit application forms, send info for signatures.
- Correspondence with Tom Altman for Ron Bohn mine site – NMM file and maps – Ch. 30 discussion. Discussed with DNR and Shane.
- Processed Spreeman Act 82 wildlife damage permits – updated DNR database – email to DNR – etc.
- Tom Altmann phone meeting discussing Ron Bohn Site – Ch. 30 if continue, shoreland zoning, etc.
- Researched Fazio wildlife fence contract. Contacted DNR Wildlife Damage Program – discussed fence modification to contract – adding landowner built fence to Fazio contract – removing portion of contract fence due to purchase of Fazio land by adjoining cranberry/hops producer.
- TEAMS meeting with DNR Ch. 30 and Tom Altmann to discuss purchase of Ron Bohn mine site and continuation – terms to transfer to Ch 30 permitting – etc.
- Arendt Cranberry – Fazio fence site visit. Inspected existing contract fence, inspected landowner built portion adjoining Fazio fence, discussed options to open the two closures to combine, documented with pictures, created document and updated files. Re-mapped fence to show changes. Created narrative for fence change and change in ownership per DNR guidance.
- Pond info for exemption sent for existing pond to Harris.
- Processed Saratoga Cranberry Act 82 wildlife damage permits – updated DNR database – contacted DNR biologist – etc.
- Weiler pond complaint, researched and tracked down owner, made contact and explained rules, sent exemption application and info to landowner.
- Knuth wildlife damage alfalfa appraisal – 3rd crop. Created field map, appraisal worksheet, completed field appraisal, mapped damage with acre calculations, completed damage calculations, updated DNR database and file.
- Met with landowner for pond build info – created maps, wetland advice, printed documents.
- New Act 82 enrollment for Breuch. Create enrolled lands maps, site visit, calculated gross and huntable acres, created enrollment and permit application forms, send info for signatures.
- Set up Deer Donation program. Contact to pantries (Pittsville PANS and St. Vincent DePaul) sent participation paperwork to pantries. Contacted processors with a new participant this year (Lindsay Locker, Pittsville Meats, and OMG Butchering). Created enrollment paperwork and put binders together for processors – site visits for signatures and hand out of needed forms to participate. Completed County participation forms. Sent all enrollment paperwork for the program to DNR.
- Attended CEED tour.
- Staff meetings 8/29/24 & 9/16/24
- Meeting with Paul for GIS NMM mapping integration into new program (ArcPRO). Found issues with layers. Transferred all 2023 active layers into new ArcPRO program (50 sites). Discussed issues with Shane.
- Correspondence to Brad Brehm and bank for FA renewal. Reminder to Brad Brehm that cannot haul material from violation site – sent copy of stop work letter.
- Reviewed DNR wetland email for Maple Ridge 2 site. Printed and discussed with Shane. Let DNR wetlands know no concerns and the county will lift stop work order for wetland restoration work once DNR approves Earths wetland restoration plan.
- Reviewed Earths litigation response from Peter. Drafted responses, scanned documentation proving the denials listed on their document. Sent to Peter.
- Reviewed B&R-Fruin site financial assurance. Updated spreadsheet, software, and file for new expiration dates.
- Researched MidWI mine site. TEAMS meeting with Quest Engineering. Discussed putting together new reclamation plan and requirements for change of ownership and permit as well as issues that may be on the site. Scanned and sent copy of 2010 reclamation plan. Scanned and sent correspondence from 2012-2013 violation on site and 2013 wetland delineation for the site. Contacted current operator and possible new permittee and sent same correspondence. Updated Shane.
- Correspondence with Glacial Lake Cranberry for options and advice for dealing with sandhill crane flocks on the marsh and future deer fence build.
- Email/attachments to Brad Johnson (WiDNR NR Basin Supervisor) for guidance on CH 30 upland staging areas not covered by DNR CH 30 permitting – reclamation permitting guidance for Wood County.



Wood County WISCONSIN

OFFICE OF PLANNING AND ZONING

TO: Conservation, Education & Economic Development Committee

FR: Jason Grueneberg, Planning & Zoning Director
Emily Arndt, County Planner
Paul Bernard, Land Records Coordinator
Brad Cook, Code Administrator
Kayla Rautio, Code Technician
Victoria Wilson, Program Assistant
Vacant, Program Assistant

RE: Staff Report for October 2nd, 2024

1. Economic Development (Jason Grueneberg)

Conservation, Education & Economic Development Committee (CEED) Tour - On September 13th staff from Planning & Zoning, UW Extension, and Land and Water Conservation departments conducted our annual tour. The tour was a great success and overall a fun day. Staff from the aforementioned departments were able to showcase some of the projects that they have working on, as well as visit economic development grant projects that have been grant funded by the County Board.

Courthouse Triangle Development – On September 19th Facilities Manager Van Tassel and I met with City of Wisconsin Rapids staff to talk about future changes in the vicinity of Market St. and the Triangle Development. This blighted and undeveloped area is under ownership of Wood County and the city of Wisconsin Rapids. The city of Wisconsin Rapids continues to make progress on its downtown plan, and the plan will provide some recommendations for development in this area. The County will continue to work with the City to activate this prime piece of development real estate, while complimenting the County Courthouse Campus.

City of Pittsville Grants – On September 20th I met with city of Pittsville representatives to review a variety of grant opportunities that are currently open. The purpose of the meeting was to align current and planned city projects with funding opportunities that are available from entities like the Wisconsin Economic Development Corporation, United States Department of Agriculture, and the Economic Development Administration.

Centergy Housing Meeting – On September 23rd I participated in a meeting hosted by Centergy to discuss central Wisconsin Housing issues, and consideration of developing a housing program to address some of the issues. There will be follow up meeting to further develop some of the ideas that came out of this meeting.

Wisconsin Economic Development Corporation (WEDC) Certified Sites - On September 24th I met with WEDC staff to have a discussion regarding best practices and creating templates for Certified Sites. They will be featuring the mapping from the Marshfield Yellowstone Industrial Park as a template and example for other communities to reference.

Wisconsin Economic Development Administration (WEDA) Conference - From September 25th to the 27th I attended the WEDA Best Practices Conference in Eau Claire.

Livable Communities Grant – On September 25th I participated in a Livable Communities marketing team meeting. Discussion centered around determining demand for refurbished devices such as tablets and personal computers in Wood County and Central Wisconsin. The team also talked about solicitation efforts to collect devices from area employers to be refurbished.

Planning & Zoning (Emily Arndt)

1. Organize and attended planning meetings at the Town of Rock to work on updating their comprehensive plan.
2. Started a complete review of the first draft of the updated Town of Rock zoning ordinance
3. Organized and attended planning meeting at the Town of Cameron to review next steps for their comprehensive plan.
4. Assisted multiple towns with zoning ordinance update questions.
5. Working through review and approval of CSMs and Condo Plats
6. Continued planning the organization of future Comprehensive Plans
7. Continued working with staff to ensure that questions are answered in a proficient manner

2. Land Records (Paul Bernard)

- Parcel Mapping
- Address Mapping
- Crime Data Acquisition
- Collecting Flood Inundation information

3. Code Administrator (Brad Cook)

9-2-2024- Holiday

9-3-2024- (3) mound insp. TN:01, 08,14 answer phone calls and inquires with POWTS, SL, FL.

9-4-2024- (1) Reviewed soils, plan review, issued permit for new HT TN: 03, (1) mound plow insp. TN: 08

9-5-2024- (3) Reviewed soils, plan review, issued permit for new mound & conv TN: 07,09.19 (1) well permit reviewed and issue TN:08

9-6-2024- (2) mound and conv insp TN:08,18, answer phone calls and inquires with POWTS, SL, FL.

9-9-2024- (3) mound, plow, tanks insp TN:01, answer phone calls and inquires with POWTS, SL, FL.

9-10-2024-(1) well permits reviewed and issued TN: 07 (1) Reviewed soils, plan review, issued permit for new conv

9-11-2024- (3) mound plow, abs cell, tank insp TN:12, answer phone calls and inquires with POWTS, SL, FL.

9-12-2024- (2) Reviewed soils, plan review, issued permit for new mound & HT TN:07,17, (1) SL insp TN:04, (1) HT insp Gaffney

9-13-2024-- (2) mound insp TN: 10,12, answer phone calls and inquires with POWTS, SL, FL.

9-16-2024-(3) Reviewed soils, plan review, issued permit for new mound TN:02,06,15,, answer

phone calls and inquires with POWTS, SL, FL.

9-17-2024- (2) mound and conv insp TN:02, 07, answer phone calls and inquires with POWTS, SL, FL.

9-18-2024- (1) SL insp TN: 02, answer phone calls and inquires with POWTS, SL, FL.

9-19-2024- (2) mound insp TN:15,16, (1) well permit reviewed and issued TN:22, (2) HS letter TN:07,21, (1) Reviewed soils, plan review, issued permit for new conv TN:06

9-20-2024- (1) Reviewed soils, plan review, issued permit for conv TN: 18, (1) mound plow insp TN: 10

9-23-2024- (2) well permits reviewed and issued TN: 19,23, (2) Reviewed soils, plan review, issued permit for new mound and conv TN:02, 13

9-24-2024- (1) mound insp TN:01, 1 powts insp TN: 07, answer phone calls and inquires with POWTS, SL, FL.

9-25-2024- (2)mound and conv insp TN:07, 18, (1) SL permit issued TN:06

4. Code Technician (Kayla Rautio)

A. Studied for Soils exam

B. Continued training of POWTS plan reviews

C. Reviewed well delegation permits

D. Inspections/Investigations:

- 8-29-24: Mound plow inspection TN: 20; Mound re-inspection TN: 20
- 9-4-24: Mound re-inspection TN: 08
- 9-6-24: Conventional inspection TN: 18
- 9-9-24: Mound plow inspections TN: 08, 11, 11
- 9-10-24: Soils on-site investigation TN: 17; Mound re-inspection TN: 08
- 9-11-24: Mound re-inspections TN: 11, 11; Mound plow inspection TN: 02
- 9-12-24: Shoreland investigation inspection TN:04; POWTS complaint investigation TN: 22; Holding tank inspection TN: 02
- 9-17-24: Conventional inspection TN: 07; Mound tanks inspection TN: 02
- 9-18-24: Wetland investigation inspection TN: 02
- 9-19-24: Mound plow inspection TN: 16; Mound core inspection TN: 15
- 9-20-24: Mound re-inspection TN: 10
- 9-24-24: Mound plow inspection TN: 01; POWTS complaint investigation TN: 07 Mound re-inspection TN: 01

E. Attended Meetings/Trainings/Etc.

- 9-10-24: DSPS POWTS Chat Update – Zoom Meeting
- 9-13-24: Attended CEED Tour
- 9-25-24 & 9-26-24: Certified Soil Tester Training in Antigo

5. Office Activity (Victoria Wilson)

- a. Monthly Sanitary and Well Permit Activity – There were 19 sanitary permits and 8 permits issued in September 2024.
- b. Septic Maintenance Notices – Septic Maintenance was due by Friday August 9th this year. On Monday September 23rd, 625 second notices were mailed to property owners that have not had maintenance completed. This includes conventional, mound and holding tank systems. The state requires any active system to be pumped or inspected every three years regardless of usage. Any property owner that does not have maintenance reported to our online system by October 24th will receive a letter from our Corporation Counsel office.
- c. Triennial Program Fee – Postcards for the Septic System Triennial Program Fee are scheduled to be mailed on October 17, 2024. Approximately 3088 notices will go out for the \$25 triennial fee.
- d. Attended the following meetings/trainings & activities:
 - i. September 4th CEED meeting
 - ii. September 6th drove and timed out CEED Tour route.
 - iii. September 13th CEED Tour



Wisconsin Department of Agriculture, Trade and Consumer Protection
 Division of Agricultural Resource Management
 Bureau of Agrichemical Management
 PO Box 8911 • Madison WI 53708-8911
 Phone: (608) 224-4545 • Email: DATCPeswp@Wisconsin.gov

Wisconsin Clean Sweep Ag and/or HHW Collection Waste Summary

Grant Recipient: Wood County (5/25/2024 – Marshfield, 9/7/2024 – Wisconsin Rapids)

Grant Type: Temporary Continuous Permanent

HHW: Estimated households in collection area **31,790 (Households, 2017-2021 Census)**

Number of HHW Participants [Click here to enter text.](#) Percent HHW Participation [Click here to enter text.](#)

AG: Estimated Farms in collection area **1,062 (Total Farm Operations, 2017 USDA NASS)**

Number of Ag Participants [Click here to enter text.](#) Percent Ag Participation [Click here to enter text.](#)

VSQG: Total number VSQG participants 1 Total receiving 50% ag subsidy 0

Note: If this is a multi-municipal/tribal collection, consolidate all collections on this sheet.

HHW Waste Data

Item	Total Weight (lbs.)
Pesticides/Poisons	1833
Lead/Oil Paint	1136
Caustics/Corrosives	295
Reactives	17
Solvents/Thinners	1160
Waste Oil	0
PCBs	0
Aerosol Cans	461
Mercury	5
Dioxins	0
Latex Paint	0
Other	199
Total ALL Collected Chemicals (lbs.)	5106 lbs
Average Weight Collected Per Participant (lbs.)	Click here to enter text.

Ag Waste Data

Item	Total Weight (lbs.)
Agricultural waste collected	1020 lbs
Average weight per participant (lbs.)	Click here to enter text.

VSQG Wastes

Item	Total Weight (lbs.)
VSQG Wastes Collected (Non-subsidized collected waste)	186
VSQG Subsidized Waste (50% DATCP subsidized waste)	0
Avg. weight per VSQG participant	0

**Contract Between Wood County
and
Board of Regents of the University of Wisconsin System**

This contract is by and between Wood County, State of Wisconsin (**County**), and Board of Regents of the University of Wisconsin System, on behalf of the University of Wisconsin - Madison, Division of Extension (**Extension**) and is entered into pursuant to the authority vested in the County Committee on Agriculture and Extension Education by sections 59.22(2)(d) and 59.56(3) of the Wisconsin Statutes.

Whereas, Extension is organized both around geography, as faculty and staff deliver programs in communities throughout the state, and around academic disciplines including Agriculture, Natural Resources, Community Development, Youth, Human Development & Relationships, and Health;

Whereas, Extension is committed to maintaining an office in every county willing to commit to continued funding and space for Extension staff. Extension recognizes the value in keeping a local presence in every county and keeping the shortest distance possible between the people of Wisconsin and the Extension staff delivering programming to them;

Whereas, Extension provides opportunities to additional resources such as statewide specialists and UW-System campus resources to address specific local issues in core areas of expertise;

Whereas, the County is a critical partner in developing and implementing key educational priorities for county residents. In collaboration with Extension leadership, counties will identify local services of priority to their communities. County will agree to co-fund Extension faculty and staff based upon annually established flat fees for positions as defined below; and

Whereas, the parties need to define their respective rights and responsibilities;

Now therefore, the parties agree as follows:

1. Term, Amendment & Termination.

- a. The term of this contract is one (1) year. The term shall run from January 1, 2025 through December 31, 2025, unless amended or terminated as set forth below.
- b. Any additions, changes, modifications or renewals of this contract are subject to the mutual agreement and written consent of authorized representatives of both parties.
- c. Either the County or Extension may cancel this entire Agreement with or without cause upon sixty (60) days' written notice delivered by mail or in person; provided, however, the County shall be responsible for paying a prorated amount of fees under Section 3.1.a. through the notice period. In addition, if the contract is

cancelled before the end of the term, the discount identified in Section 3.1.a. shall be prorated (i.e. the discount amounts to roughly \$834 per month).

2. Extension Responsibilities. Extension agrees to:

- a. Hire local Extension staff who will deliver educational services aligned to County priorities. As vacancies occur, and if the County and Extension agree to continue to support the desired program and position, Extension will seek County input when filling vacant positions.
- b. Invoice the County semi-annually, in May and November for amounts due under this agreement.

3. County Responsibilities

3.1 In consideration of the programs that Extension provides to County under this contract, the County agrees to:

- a. Pay to Extension the County share of up to \$159,219 for the period of January 1, 2025 through December 31, 2025 as allocated below.

Co-Funded Positions	Fee	FTE	Total
4-H Extension Educator	\$47,634	1.0	\$47,634
Agriculture Extension Educator - Cranberry	\$47,634	0.5	\$23,817
Agriculture Extension Educator - Dairy	\$47,634	0.5	\$23,817
Human Development & Relationships Extension Educator	\$47,634	1.0	\$47,634
Community Development Extension Educator	\$47,634	1.0	\$47,634
First Educator Discount			(\$10,000)
Subtotal			\$180,536
Proposed or fully-county funded positions and other county contributions	Fee	FTE	Total

Natural Resources Extension Educator - Surface Water	\$86,880	0.5	\$43,440
Natural Resources Extension Educator - Ground Water	\$86,880	0.5	\$43,440
Horticulture Extension Educator	\$90,707	0.3	\$27,212
4-H Extension Associate Educator	\$66,950	.05	\$33,475

Final Total	\$ 328,103		
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- b. Provide travel and appropriate job expenses to the staff, office facilities and equipment (such as computers, printer, and phones), office supplies and educational programming materials, salary and fringe benefits for the clerical support staff, and other supporting budgetary items through regular County budgetary procedures in which funds are appropriated for such purposes under applicable Wisconsin law.
- 3.2 Consider and assess opportunities to provide office space with desks and chairs; access to IT support and internet connectivity; and basic operational resources in a manner similar to other Extension colleagues in the office, for FoodWise nutrition education programming to County SNAP/FoodShare eligible residents. Technology for FoodWise positions will be coordinated through the County.
- 3.3 Consider and assess opportunities to provide office space with a desk and chair for fully state funded Extension employees who serve in a regional or statewide capacity. These regional and statewide educators will be provided state-purchased technology and IT support. The opportunity for these positions to access the internet through the county may also be discussed.
4. **Delegation of Financial Budget Authority.** The parties hereby acknowledge that Extension will employ an Area Extension Director (AED), whose responsibilities may include certain budget-related functions as set forth in the Delegation of Financial Budget Authority Form (DFBA Form) attached hereto as **Exhibit A**. County may authorize the AED to carry out such functions on its behalf, but only to the extent specified in in the DFBA Form, which must be signed by an authorized representative of County in order to be effective. The County may rescind such authorization at any time by providing written notice to Extension. In the event that the parties execute a new agreement governing the subject matter of this agreement such that the term of this agreement and the term of the new agreement run consecutively, the parties agree that the delegations set forth in a duly signed DFBA Form shall remain in effect upon execution of the new agreement unless the County rescinds such authorization by providing written notice to Extension.

5. General Conditions This contract is established under the following conditions:

a. **Notices.** Any notice or demand which must be given or made by a party to this Agreement or any statute or ordinance shall be in writing, and shall be sent via e mail and certified mail. Notices to the County shall be sent to County Representative(s). Notice to the Extension shall be sent to Area Extension Director.

b. **Employer, Personnel Rules, Volunteers and Liability.** Any employees hired by Extension under Section 2.a. of this contract are employees of Extension, and are subject to the personnel rules, policies, and procedures for faculty, academic staff or University staff, as appropriate to the respective appointment in Extension as established by Wisconsin statute, and, or administrative rules; and, or, by policies or procedures adopted by the Board of Regents and the University of Wisconsin - Division of Extension. Any individual who meets Extension's definition of a volunteer and completes all registration requirements will be considered an Extension volunteer. Extension will be responsible for ensuring that its employees and volunteers take affirmative steps to make clear, when entering into

Extension Contract 3

relationships with third parties, that they are employees or volunteers of Extension. Extension shall be liable for the acts and omissions of its employees while acting within the scope of such employment. To the extent they are acting as agents of Extension, Extension shall be liable for the acts and omissions of its volunteers while acting within the scope of such agency.

Any individuals who are employed by the County in order to satisfy obligations under Section 3.1.a. of this contract are County employees and are subject to applicable County personnel rules, policies and procedures. Any volunteer engaged by County to further the purposes of this contract will be considered a volunteer of County. County will be responsible for ensuring that its employees and volunteers

take affirmative steps to make clear, when entering into relationships with third parties, that they are employees or volunteers of County. County shall be liable for the acts and omissions of its employees while acting within the scope of such employment. To the extent they are acting as agents of County, County shall be liable for the acts and omissions of its volunteers while acting within the scope of such agency.

c. **Billing.** For the period January 1, 2025 through December 31, 2025, Extension shall bill the County for the total amount under Section 3.1.a. of this contract. The County will be billed for the first half of the total contract by May 31st and the second half of the total contract by November 30th. If services are not rendered or excess services are provided to the County by Extension during the contract period, the parties will use good faith efforts to adjust the total contract amount and update future bills to coincide with the new agreed upon amount. The County shall pay the amount billed within 30 days of the billing.

d. **Cybersecurity Provisions.** Each party shall be responsible for the response to,

remediation of, and any resulting notification requirements related to cybersecurity breaches of their own information technology systems or those of any third parties hired on their behalf. This responsibility includes the financial costs of any breaches, e.g., forensics, remediation, notifications, etc. The County and Extension shall determine their individual need for cyber liability insurance coverage. Any breaches that could impact Extension data classified as moderate or high risk must be reported to Extension staff, via the Area Extension Director, and the University of Wisconsin - Madison Cybersecurity Operation Center (CSOC) Help Desk, 608-264-4357 following the risk-based timelines outline in the UWSA System Policy 1033 and associated Incident Response Plan. Following a reported breach event, the County will provide a primary staff contact and periodic response updates to Extension and the CSOC until event closure. Any breaches that could impact County data will be reported to the County immediately upon learning of the breach. The County shall provide the Area Director with the expressed point person or position for which to report a breach.

- e. **Insurance.** The Board of Regents of the University of Wisconsin System as an agency of the State, and consequently, Extension, is self-funded for liability (both public and property) under ss. 893.82 and 895.46(1), Wis. Stats. As a result, such protection as is afforded under respective Wisconsin Statutes is applicable to officers, employees, and agents while acting within the scope of their employment

Extension Contract 4

or agency. Since this is statutory insurance, there is no liability policy as such that can extend protection to any others.

County agrees to maintain appropriate insurance to cover the potential liability of its officers, employees and agents while acting within the scope of their employment or agency. Such insurance may be provided through a self-insurance program. To the extent that an Extension employee is allowed to use a County vehicle, the responsibility for insuring that vehicle lies with the County.

- f. **Nondiscrimination/Affirmative Action.** The County and Extension will comply with all applicable state and federal laws and rules prohibiting unlawful discrimination. During the performance of work under this contract, Extension agrees not to discriminate against any employee or applicant for employment because of race, creed, ancestry, religion, color, sex, national origin, age, disability, arrest or conviction record, marital status, political affiliation, sexual orientation, or membership in the National Guard. This provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and, selection for training, including apprenticeship. Extension further agrees to take affirmative action to ensure equal employment opportunities.

By: _____ Date: _____ By: _____ Date: _____

County Representative

By: _____ Date: _____
County Representative

By: _____ Date: _____
Area Extension Director
UW-Madison, Division of Extension

By: _____ Date: _____
Director of Financial Services
UW-Madison, Division of Extension

County Representative

By: _____ Date: _____
County Representative

By: _____ Date: _____
County Representative

By: _____ Date: _____
On Behalf of Board of Regents of
The University of Wisconsin System

Extension Contract 5



LAND AND WATER RESOURCE MANAGEMENT PLAN



2025 to 2035

Foreword

The foundation of the Land and Water Resource Management Plan is to put in place an underlying assessment of the land and water resources with accompanying goals, objectives and strategies to achieve the county's overall goal to protect and improve our land and water resources. This must be done within the framework of protecting our community's land and environment because the economic strength and vitality of our community is dependent on the quality of our resources.

Through leadership, accountability, engagement of community stakeholders and collaborative partnerships this plan will promote thoughtful and deliberate use of the natural resources and innovative solutions to ensure Wood County has healthy people, a healthy economy and a healthy environment today and tomorrow.

Shane A. Wucherpfennig

Shane Wucherpfennig

Land and Water Conservation Director



Wood County Land and Water Resource Management Plan 2025 to 2035

Approved by the Wisconsin Land & Water Conservation Board on:

Approved by the Conservation, Education and Economic Development (CEED) Committee on: Nov. 3, 2024

Approved by the Wood County Board on: December 17, 2024

Wood County Conservation, Education and Economic Development Committee

Bill Leichtnam – Chairman

Tom Buttke – Vice Chairman

Timothy Hovendick – Member

Russell Perlock – Member

Wayne Schulz – Member

Joe Behlen – Producer Member

Wood County

Land & Water Conservation Staff

Shane Wucherpfennig, County Conservationist

Kyle Andreae, Engineering Technician

Kendra Wilhelm, Conservation Specialist

Emily Salvinski, Conservation Specialist

Rodney Mayer, Conservation Program Coordinator

Barbara Peeters, Conservation Administrative Specialist

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EXECUTIVE SUMMARY

The Wood County Land and Water Resource Management Plan (LWRM Plan) represents a coordinated public and private investment effort to establish the framework to identify goals, objectives, and strategies for the implementation of soil and water conservation. This coordinated effort is intended to align county, state, federal and local desired outcomes aimed to protect and conserve natural resources by improving human interaction and use of these resources in a manner that is protective of the natural environment.

Land & Water Conservation Mission Statement

Protect, improve, and manage land and water resources in the County through technical and financial assistance, educational opportunities, enforcement of County Ordinances, and administration of State programs to permanently benefit land and water resources for the citizens of Wood County.

The vision and goals of the LWRM Plan embody a vision of the county's future to support resilient rural economic growth and development while improving the county's land and water quality. The initiatives found within, will guide the Land & Water Conservation Department's Land and Water Program over the next 10 years from 2025 through the year 2035. The focus and main body of the LWRM Plan is organized into five areas listed below:

Introduction

Chapter 1. Introduction - The 2025 LWRM Plan update is the county's third decennial major revision and represents a major revision to the county's LWRM Plan strategies since 2015. The introduction explains the plan development methodology, other related resource management plans and ordinances and what the department's goals/objectives and action items will be to guide implementation, management, and delivery of the soil and water conservation programs in Wood County.

Resource Assessment

Chapter 2. Resource Assessment - provides information, figures, and data specific to Wood County respective to soils, topography, groundwater, watersheds, surface water, shorelands, wetlands, land uses, water quality, agriculture, and population.

Plan Goals, Objectives, Strategies, and Measurable Outcomes

Chapter 3. Plan Goals, Objectives, Strategies, and Measurable Outcomes - Plan goals were identified by the Local Advisory Committee (LAC) through a facilitated meeting process to assure alignment with the County's Strategic Plan and the main focus of the LWRM Plan. Objectives, strategies, measurable outcomes, and contributing partners support and clarify the most important operational components in pursuit of the major effort to target resources and establish clear benchmarks to evaluate the specific outcomes of the Land and Water Program.

Plan Implementation

Chapter 4. Plan Implementation – Serves as a companion piece in conjunction with elements found in Chapter 3. This chapter provides particular attention to enhancing the collaboration of both public and private partners for the advancement of identified goals, objectives, and strategies; various potential funding sources; and clarifies the Land and Water work plan to achieve and support plan implementation.

Monitoring and Evaluation

Chapter 5. Monitoring and Evaluation – Procedures and methods are discussed to confirm and verify existing water quality and habitat conditions and is weighed against established measurable outcomes to determine whether the county and its partners are successful in terms of improving or conserving natural resources. Conversely, identifying threats to natural resources are always dynamic in nature, and proper monitoring could minimize adverse impacts.

EXECUTIVE SUMMARY *(continued)*

Public Participation

The LWRM Plan is the product of the collaborative efforts of many individuals representing the county, conservation agencies, local watershed groups, the county health department, farmers, township representatives, Wisconsin Department of Natural Resources, representatives from the USDA – Natural Resources Conservation Services, Department of Agriculture, Trade and Consumer Protection, and the University of Wisconsin-Madison Division of Extension who assisted staff in formulating this plan.

The Local Advisory Committee (LAC) met June 19th, 2024, to determine overarching goals, objectives, strategies, outcomes, and the implementation strategy for the plan. The LAC was comprised of members from the Wisconsin DNR, Wisconsin DATCP, USDA – Natural Resources Conservation Service, and the UW-Madison Extension, Township Board Members, Health Department, Wood County Board Members, Park & Forestry Department and Land & Water Conservation Department staff. The LAC provided input and clarification of goals, strategies, objectives, and measurable outcomes and provided comments to the draft plan in order to establish a final draft plan for public review and consideration. The CEED approved the draft LWRM Plan for public review at their November 3, 2024, meeting.

Public Hearing

The Public Hearing was held on November 3, 2024, and a quorum of the CEED was present to receive the comments. See Appendix X for the public hearing notice. On November 3, 2024, the CEED approved the LWRM Plan for submission to the Wisconsin Land and Water Board (LWCB) and forwarded to the Wood County Board for its favorable consideration by resolution.

The Wood County Board of Supervisors adopted the LWRM Plan on December 17, 2024.

The LWRM Plan was presented to the LWCB on **Date**, 2024, and DATCP submitted a letter formally adopting the LWRM Plan on **TBD**.

Assessment of Water Quality, Soil Erosion, and Other Nonpoint Sources of Water Pollution

Surface Water Resources



Wood County is located directly in the center of the State of Wisconsin with an approximate 809 total square mile area or 517,551 acres. Of that total, land consists of 507,597 acres and open water is 10,272 acres. There is approximately 130,725 acres of wetlands and 116,339 acres of flood plain. Sensitive areas, which are open water, wetlands and flood plains, makes up 247,064 acres or about 47% of the total area of the County. Marshfield, the largest city, in the northern part of the county, had a population of 18,642. Twenty-two townships make up the county. Wood County is bordered on the north by Marathon County, on the east by Portage County, on the south by Adams and Juneau Counties, and on the west by Clark and Jackson Counties. Wood County is located within two different river basins including the Central Wisconsin River Basin and the Black River Basin. Within these basins, ten distinct watersheds can be found.

EXECUTIVE SUMMARY *(continued)*

Wood County has a total water surface of 16,113 acres, which includes 28 named lakes, 102 unnamed lakes/flowages and 44 streams. Except for cranberry flowages, Wood County has very few lakes. Major lakes include Lake Wazeecha, Nepco Lake and Dexter Lake. All of these are impoundments.

The total stream length is 405 miles. Of this total, 39 miles are classified as trout streams with 15 miles of Class I trout streams. Major rivers in the county include, the Yellow River, Hemlock Creek, Mill Creek, East Fork Black River and the Wisconsin River. The county contains all or part of 12 Hydrologic Unit Code (HUC) -10 watersheds.

With 247,064 acres or 47% of the county being open water, wetlands and flood plains, these sensitive areas are important for nesting waterfowl, spawning fishes, flood protection, filtration, and natural resource areas for flora and fauna. Many lakes, reservoirs, rivers, and wetlands in the county support recreational uses, aquatic life, and flood protection. Local officials should look to protect these water bodies whenever there is evidence that existing controls may not be adequate to protect the continued use of the resource for recreational use purposes.

The complex interaction of surface water and nonpoint source pollution is a result of activities that take place on the land surface and the water dynamics that occur as a result e. g., how water runs off the land surface or is absorbed into the ground. Consequently, all land use activities have the potential to contribute to nonpoint source pollution problems. In rural Wood County, the 2019 Wisconsin River Total Maximum Daily Load report has identified agricultural runoff as the major source of runoff pollution and cause of surface water impairment. There is an emerging realization that unchecked storm water runoff, carrying debris, nutrients, E-coli, Chemical Biological Oxygen Demand (CBOD), substances, oils and toxic materials from impervious surfaces, are in some cases a major contributor or polluted runoff to critical water resources.

Development Impacts

In 2020, the population estimate for Wood County was 74,207. Over the last decennial period, population changes or shifts occurred in Wood County. Per the Wisconsin Department of Administration (WDOA) Demographic Services Center, Final 2023 Population Estimates, the population declined to 73,706. This is a -0.68 percent decrease. Since 1990, the population of Wood County increased by 0.13 percent, from 73,605 to 73,706 in 2023. According to the Wisconsin Blue Book - 2023-2024, in 2022, Wood County ranked 22nd in terms of population with a population density of 93.6 people per square mile.

The WDOA projects the county population to decrease from 74,749 to 71,150 between 2010 and 2040. The City of Marshfield and Wisconsin Rapids and its surrounding communities are the center of growth in terms of population and economic growth. These communities are located on the two opposite ends of the county and contribute to the development pattern of the greater metropolitan area.

The City of Marshfield has generally expanded to the west and north into the McMillian in Marathon County, respectively. Rural and suburban areas on the fringe of the City of Marshfield have experienced the effects of growth and development during the last decade with commercial, industrial, and residential growth. (2024 Draft Wood County Comprehensive Plan).

The combined population increase, and growth of residential, commercial, and industrial development including land use activities contribute to decreased water quality and increased stormwater runoff. The Cities of Marshfield, Wisconsin Rapids; are permitted Municipal Separate Storm Sewer System (MS4) communities and must comply with regulations to reduce stormwater pollution. Conversely, agricultural activities and changing trends negatively contribute to diminished water quality through the removal of buffering vegetation, increase in annual row crops, channelized ditches, increasing soil erosion, phosphorus and nutrient loading, and poor manure management.

Groundwater Resources

Groundwater is the major source of drinking water for 9 municipal-owned and operated water treatment facilities for public water supply for domestic, and industrial use in Wood County. Groundwater is also the primary source for private, domestic, industrial, and agricultural water supplies not served by municipal water. According to the Wisconsin Department of Natural

EXECUTIVE SUMMARY *(continued)*

Resources (WDNR), drinking water data, wells constructed since 1987 for private homeowners, approximately 11,172 private water wells were constructed in Wood County. The availability of groundwater varies across the county depending on the local geology. Most of the county produces ample water supply from alluvial aquifers; however, adequate groundwater is limited in parts of the county where dense bedrock is close to the surface.

The need for clean groundwater is both a health and economic issue. Groundwater quality and quantity, in both rural and urban areas vary from location to location. Where groundwater becomes polluted, property values drop, and a natural resource is diminished from its full potential. For this reason, local land use activities can significantly influence groundwater quality and quantity in terms of whether a valuable resource is protected and how all key-stakeholders have an important role in its protection.

Agricultural Trends

Agriculture in Wood County, like the rest of Wisconsin, has experienced significant changes over the past 30 years. There are numerous reasons for these shifts in agricultural activities and practices including changes in economics, population growth, societal changes, operational practices, support services, and state and national policies.

Land Use (2015)

As populations continue to grow, more emphasis will be needed on protecting the natural resources. Land use in Wood County is predominately agriculture and woodland. Agricultural land occupies 46 percent of the total area of the county or 240,000 acres. Approximately 77 percent of the farmland is in cropland with corn, oats, hay, and soybeans being the main crops. Cranberries are the next major agricultural crop with 72 marshes in operation; these cranberry marshes total 5,412 acres in some stage of production according to the 2012 census of agriculture.

Woodlands also occupy a major portion of the land area in Wood County with aspen, maple, oak, white birch, white pine, and red pine being the dominant species. Much of the forests are used by the paper mills for huge amounts of pulpwood, which is vital for paper production. There are also a significant number of tree farms specializing in Christmas trees located in the southern part of the county. Of the 516,544 acres in the county, 215,400 or 42 percent are classified as woodland. The County Forest contains 37,536 acres of woodland.

The Wisconsin Department of Natural Resources provides forest management assistance to woodland owners in Wood County. The WDNR forester, located in Wisconsin Rapids provides help in tree planting, timber sale establishment, non-commercial thinning and pruning, and general land management planning. The WDNR also administers the forest Stewardship Program, the Wisconsin Forest Landowner Grant Program and provides technical assistance to the Farm Service Agency and the Natural Resources Conservation Service on other forestry cost-sharing program.

Land Use (2025)

Wood County consists of 517,551 total acres. Land consists of 507,597 acres and open water is 10,272 acres. There is approximately 130,725 acres of wetlands and 116,339 acres of flood plain. Sensitive areas, which are open water, wetlands and flood plains, makes up 247,064 acres or about 47% of the total area of the County.

Of the lands listed above about 206,500 acres or covered in forest, both private and public. The County owns about 37,600 acres of the forested land. Private forested lands mainly in southeastern portion of the County. The decline in paper production in the county has resulted in a decline the demand for pulp wood. Conversion of forested lands, especially red pine stands is starting to take place.

As of 2022 there was 216,635 acres of farmed land according to the National Agricultural Statistics of USDA. The average size farm operation was 238 acres with 909 operators. The number of operators has dropped 14% from 2017 to 2022.

Of the 216,635 acres farmed, approximately 69,500 acres are in row crops; corn, corn silage, and soybeans. There is about 45,800 acres of hay ground and pasture and 9,200 acres in cranberry beds. The number of acres in a given type of row crop can change significantly from year to year based on the market forces and weather conditions.

Lands not forested or farmed are in residential use and residential use support, such as roads and infrastructure. Currently there is rapidly expanding infrastructure of electrical generation by solar farms and electrical transmission.

There is currently 2,600 acres of former farmland and pine forest in solar farms. The University of Wisconsin Extension expects that 1% of the farmland in the state will need to be converted to solar farms to meet the carbon goals of the utilities. Solar is now the most cost-effective method of generating electricity because once installed there is no ongoing fuel costs.

Because Wood County is relatively flat it is very suitable for solar farms. It also has one of the largest substations in the state at Arpin, which now

EXECUTIVE SUMMARY *(continued)*

is planned to be doubling in size, which also makes it a desirable location for utilities to build solar farms here. Of the 1% of the total farmland in the state needed for solar farms, Wood County may end up being the county with the largest amount of acreage in solar farms because it is flat, close to other grid infrastructure, and the leases provide greater income than agricultural practices with fee to no risks for the landowner.

In addition to the solar farms, transmissions lines in the County currently use approximately 1620 acres according to the Wisconsin Public Service Commission. The use restrictions placed in the easements that are imposed on landowners render the land to of little purpose. A few types of agricultural practices are allowed, but organic crop production and forestry, for example, cannot be practiced because of herbicide sprays used by the utilities and their restrictions on trees. The number and size of the transmission lines in the County is expected to substantially increase in the next ten years as solar farms are installed and other sectors of the economy in urban areas move from fossil fuels to electricity and solar power is wheeled to urban areas.

Sediment Delivery (2015)

The Wood County Land Conservation Department conducts an annual countywide transect survey of cropland to gather information on conservation tillage and soil loss rates. The survey provides a database of reliable information that can be used to monitor trends. These trends can be used to direct program activities. The data from this survey estimates that 92 percent of cropland fields in Wood County have soil loss rates below tolerable soil loss levels. Although soil erosion is not a prominent water quality problem in Wood County, it does provide a means of transporting nutrient rich soil particles and animal waste to lakes and streams. It is important to prevent the migration of nutrients to surface waters by installing best management practices that reduce erosion rates.

Sediment Delivery (2025)

The largest U.S. export in terms of quantity and dollar value is soil. We lose more soil, in tons, than all the corn, soybeans, and other exported agricultural products combined. And it is also the largest export in terms of dollars.

Soil erosion from farmland is estimated in tons per acre per year. The RUSLE2 modeling program is used to estimate the soil loss based on land cover, soil type, and run off intensity. Soils are classified at T1, T2, and so on. T1 meaning one ton of soil per acre per year. T1 is considered a low level of erosion.

Wood County's 69,500 acres of row crops with average soil losses from row crops at 2 to 3 tons per acres means each year county loses about 140,000 to 200,000 tons of soil. Pollutants attached to soil particles, such as phosphorus, are major reason for the surface waters being listed as impaired waters.

Efforts to move from row cropping to grass based agriculture will reduce the amount of soil loss and pollutants to surface waters. Grass based agriculture also builds soil health and helps to sequester carbon in the soil in the form of organic matter.



Polluted spring runoff carrying soil and manure into local streams.

EXECUTIVE SUMMARY *(continued)*

To address resource concerns such as soil health and water quality, this Land and Water Resource Management Plan will continue to rely upon proven farm conservation programs and practices such as the NR151 performance standards and prohibitions, nutrient management, soil health principles and managed grazing. This Plan will place greater emphasis on new and innovative engagement and adoption strategies to greatly increase the use of additional best management practices on not only on cropland but also adjacent to shorelands, stormwater, and any major land disturbance activity that can contribute to sediment and nutrient loadings into the water in order to align efforts to meet applicable Total Maximum Daily Load (TMDL) report and help meet water quality standards.

SUMMARY OF WORK PLAN

SUMMARY OF WORK PLAN

The following LWRM Plan goals, objectives, strategies, and measurable outcomes reflect a 10-year time period. They were developed by the LAC, with input, review and clarification by the TAC, both through a facilitated planning process include the following:

Plan Goals

The goals and supplemental details are also presented in an infographic and text format for a more user-friendly presentation for both readers and implementers of this document.

- **Goal 1:** Land resources are improved and protected county-wide.
- **Goal 2:** Surface water quality is improved and protected.
- **Goal 3:** Groundwater quality and quantity is improved and protected.
- **Goal 4:** Actively educate and engage all community stakeholders to develop an understanding of land, surface water, and groundwater quality concerns.

Water Quality Objectives in Consultation with the Department of Natural Resources

Coordination with the Wisconsin DNR is paramount to implement water quality objectives as outlined in the LWRM Plan and the Wisconsin River Total Maximum Daily Load (TMDL) reports for total phosphorus. TMDL is one important tool required by the Clean Water Act (CWA) and employed by Wisconsin DNR to quantitatively assess a stream's water quality and allocate allowable pollutant loads among sources along the stream. TMDLs must be developed for water bodies impaired by point sources and/or nonpoint sources.

Section 303(d) of the Clean Water Act and Title 40 of the Code of Federal Regulations, Part 130 require states to develop TMDLs for waters not meeting quality standards for its designated uses under technology-based controls for pollution. A TMDL helps determine how much pollution a waterbody can assimilate and still meet water quality standards. The TMDL process quantitatively assesses a water bodies condition causes of impairment and reductions from both point and nonpoint sources, needed to restore and protect the quality of impaired water resources. The U. S. Environmental Protection Agency Region 5 approved the Wisconsin River Basin TMDL on April 26, 2019. This LWRM Plan will support the Wisconsin River Basin TMDL report.

Agricultural Performance Standards and Prohibitions

Since the passing of legislation in 2002, Wood County conservation programming is committed to develop programs and plans, provide financial and technical assistance to landowners, and regulatory ordinances to successfully implement Wisconsin's NR151 agricultural performance standards and prohibitions (APSP), where required. APSP's will continue to be achieved through a mix of voluntary and regulatory approaches identified in the LWRM Plan to increase the land in Wood County achieving compliance with these requirements.

Under the leadership of the Land & Water Conservation Department (LWCD) and the Conservation, Education & Economic Development Committee (CEED), the implementation of the APSP is a primary focus of the conservation staff in terms of compliance monitoring and enforcement of the Waste Management Ordinance, and the Farmland Preservation Program. Achieving compliance with the APSP will also be a primary strategy used by conservation staff for implementing TMDL pollutant reduction goals.

SUMMARY OF WORK PLAN

Wood County LWRM Plan Accomplishments – 2015-2025

Timeline of significant accomplishments that supported implementation of the 2015 LWRM Plan goals:

- **2015(a)** – Successfully completed the Land and Water Resource plan and had it approved by the Land and Water Board in December of 2015.
- **2015(b)** – Engaged community to update 1982 Farmland Preservation Plan-adopted by County Board **2015(b)** – Completed
- **2016** – Received a Notice of Discharge Grant from the Wisconsin Department of Natural Resources for remediation of a site to meet the state performance standards.
- **2018(b)** – Developed metallic mining regulations to protect environment, especially the water resources, of the county through a local County Ordinance adopted by the Wood County Board.
- **2019(a)** – Drafted, published and received approval of a 9-Key element plan for the Mill Creek Watershed from the WI DNR and EPA. The plan aligned with the Wisconsin River TMDL, and the plan approval made the watershed eligible for state and federal funds to implement the strategies outlined in the plan.
- **2019(b)** – In December of 2019, Wood County applied for a Targeted Runoff Management Grant (TRM) and was successful in securing a \$650,000 grant to start the implementation of the Mill Creek 9 Key element plan.
- **2019(c)** – Educated and qualified/requalified over 105 different Wood County farmers to develop their own Nutrient Management Plan through Wisconsin’s largest multi-county Nutrient Management Farmer Education training program, over the last decade
- **2020-2023** – Wood County Land & Water Conservation Department successfully implemented Phase 1 of the Mill Creek Watershed Plan aligning with the implementation matrix outlined in the plan and meeting the goals established during that phase of the project. Phase 2 of the plan started in January of 2024.
- **2015-2023** – Wood County Land & Water Conservation Department through the installation and recommendations of measures to improve agricultural practices, minimize nonpoint pollution, habitat destruction and soil loss half tracked a total reduction of 40,196 lbs. of phosphorous and 35,516 tons of sediment from entering surface waters of Wood County. It is estimated that 1lb. of phosphorous can produce 500 lbs. of algae and over the course of the last ten years that would calculate out to around 20,098,000 pounds of algae in our lakes and rivers. These efforts help to align conservation efforts to reduce phosphorus levels to target levels identified in the Wisconsin River Basin TMDL.
- **2020** – Completed the Wood County Strategic Plan adopted by the Wood County Board of Supervisors in May of 2020. The Wood County strategic plan has been developed to provide strategic guidance to Wood County operations to enhance efficiency while carrying out the County’s mission and providing pathways to the achievement of its vision. Six overarching categories were used in the strategic plan which cross-cut departmental boundaries. Within each category, overarching strategies were identified. To fully attain some of the strategies, the actions will be achieved by multiple departments, along with partnering organizations. It is recommended each department review the strategies, and, if relevant, identify actionable items that contribute to the achievement of the strategy. The success of this plan is dependent on departments, stakeholders, and elected officials to identify and implement their respective actionable items needed to achieve these strategies. To remain relevant, this five-year plan will be reviewed annually and updated as needed, with a comprehensive review by the Operations Committee in 2024.

SUMMARY OF WORK PLAN

Water Quality and Habitat Monitoring

Water quality and habitat monitoring within selected watersheds are critical to assess, and recommend measures to improve agricultural practices, minimize nonpoint pollution, habitat destruction and soil loss. Continued analysis of impaired water resources can help prioritize and align conservation efforts to reduce phosphorus levels to target levels identified in the Wisconsin River Basin TMDL.

Various state, local government, private companies, and non-profit entities are key stakeholders in terms of collecting water quality and habitat data over the next decennial period. Wood County Land & Water Conservation Staff continue to monitor water quality parameters in the Mill Creek Watershed to assess the water quality in relation to private, public water use along with outdoor and recreational uses that are being impaired by exceedances of phosphorus. Other lake groups and organizations will continue to promote sound land use and nonpoint source best management practices to protect their respective lakes. DNR Water Quality Biologists have been, and will continue to be, relied upon for technical assistance for completing water quality monitoring and measuring progress towards meeting TMDL reductions goals in specific watersheds in Wood County.

Plan Evaluation

Progress Tracking

The 2025-2035 LWRM Plan moves beyond identifying goals, objectives, strategies, and measurable outcomes as identified by the local advisory committee. The operational component will be measured each year to assess progress toward each overarching goal of protecting the land and water resources. Annual work plan activities of the Land and Water Program will be reflective of progress in terms of meeting identified goals, objectives, strategies, and measurable outcomes of the LWRM Plan, but also align with the 2024 Wood County Comprehensive Plan, and the approved Wisconsin River Basin and Mill Creek Watershed TMDL Reports.

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Wisconsin Chapter 92 .10 and ATCP 50 .12 provide guidance for counties to develop a land and water resource management plan. This plan revises and supersedes all previously approved plans and reflects an overall effort to strengthen conservation programs, available grant funding, and other resources to effectively address the land and water resource management issues facing Wood County, with intended outcome of improving and protecting the land and water resources which the county's citizens, farmers, landowners, businesses and industries are dependent upon for their livelihood.

Wood County's LWRM Plan is intended to complement and coordinate with existing plans, specifically the County's Comprehensive and Strategic Plans to ensure the county is proactive in enhancing health, safety, and prosperity by protecting the environment, and providing recreational and economic opportunities which make Wood County a preferred place to live, work, visit, and do business.

The goals, objectives, strategies and measurable outcomes outlined in this plan will serve to guide and align (LWCD) Land & Water Conservation Department's Land and Water Program initiatives through the year 2035. The outcomes of these measures help to further define success with respect to allocating various local, state and federal resources to further initiatives identified in annual work plans required of this plan.

Plan Development Process

With oversight provided by the Wood County Conservation, Education and Economic Development Committee (CEED), the LWRM Plan is a product of the collaborative efforts of Conservation staff, the LAC comprised of key individuals representing the stakeholders in soil health, lake and reservoir management, soil erosion prevention, wildlife, diverse farming operations, groundwater protection & protection of our natural resources.

Wood County Conservation staff provided pertinent input and assisted with the development of specific target areas, overall review, and authored elements of this plan. A meeting was held by the LAC to review and consider staff recommendations to determine and advance identified final overarching goals, objectives, strategies, outcomes, and the implementation strategy for the plan. The LAC provided comments of the draft plan in order establish a final draft plan for public review and consideration.

Local Advisory Committee meeting date:

- June 19, 2024

A Technical Advisory Committee (TAC) comprised of members from the Wisconsin Department of Natural Resources A Technical Advisory Committee (TAC) comprised of members from the Wisconsin Department of Natural Resources (DNR), Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP), United States Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS) and County Conservation Staff met both in person along with virtually to review goals, strategies, objectives, and measurable outcomes on June 7, 2024. In addition, the Land Conservation staff updated the CEED committee on the LWRM plan updates and projected timelines. The 2025-2035 LWRM Plan Revision incorporates the most recent available data and maps from LWCD, DNR, Department of Agriculture, Trade and Consumer Protection (DATCP), Department of Administration (DOA), Environmental Protection Agency (EPA), Natural Resources Conservation Service (NRCS), U.S. Census Bureau, and Geographic Information System data sources and updates resource information used in the 2022 where possible.

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PLAN REQUIREMENTS

The Wood County LWRM Plan was developed to meet the requirements of the county Land and Water Management Planning Program. ATCP 50 .12 codifies specific standards for the approval of the LWRM Plan and was verified against the ARM-LWR-167 LWRM Plan Review Checklist, WI.Stats.§ 92 .10 & Adm. Code § ATCP 50 .12 (August 2017).

The LAC’s recommendations were presented to the Wood County Conservation, Education and Economic Development Committee on September 4 and October 2, 2024, for the Committee’s favorable consideration. The Conservation, Education and Economic Development Committee will hold a public hearing November 6, 2024. The CEED noticed and conducted a public hearing to solicit broad public input and recommendations. The notice of public hearing, and minutes can be found in [Appendix A](#). The LWRM Plan was approved by County Board on December 17, 2024.

PERFORMANCE STANDARDS & PROHIBITIONS

In NR151, the DNR established agricultural and non-agricultural performance standards and prohibitions (APSP) to reduce runoff and protect water quality. In ATCP 50, the DATCP identified conservation practices that farmers must follow to meet the DNR standards. These standards require counties to consult with DNR and identify how they will assist landowners to achieve compliance with performance standards and prohibitions.

As a condition of the Wood County’s land and water program and state law, the LWCD staff must notify landowners and land users if APSP determinations are made. Landowners may receive individual determinations involving conditions on their property through a) conservation plans, b) compliance status reports, and c) compliance status letters authorized under the NR151 implementation strategy, and notices issued under NR151 .09 or NR151 .095. DNR staff may be consulted with before or after LWCD staff make NR151 compliance determinations.

Wood County is devoted to developing programs and plans to successfully implement Wisconsin’s agricultural performance standards and prohibitions (APSP). The blend of program coordination and plans add accountability and organization to the nonpoint program efforts. The agricultural nonpoint program relies upon the leadership of the CEED and the Land & Water Conservation Department staff to implement the standards consistent with State Statute 92 .10(6)(a)5 and ATCP 50 .12(2)(i) Wis. Adm. Code.

Since the adoption of NR 151, local conservation programming has been tied directly to providing technical and financial assistance to landowners required or wanting to comply with state APSP. APSP are measurable goals to be achieved by farm operators for specific production practices. Technical standards ensure that practices installed.



Emerging seeding from no-till cropland planting

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Managed Grazing

on the land meet uniform design requirements to accomplish stated objectives and are outlined by ATCP 50.

The implementation of the APSP is a primary focus of the administration, compliance monitoring and enforcement of the Animal Waste Management Ordinance and the Farmland Preservation Program. These programs provide direct compliance and local enforcement of specific performance standards. Additionally, a county managed grazing program, hosting soil health field days, which demonstrate effective, economical alternatives and provide extensive outreach and application opportunities for landowners to apply best management practices to meet performance standards.

RELATED PLANS

Mill Creek – 9 Key Element Watershed Plan – 2019

This watershed-based plan was developed to be compliant with EPA’s 9 key element components of an impaired watershed. The plan was approved in 2019 providing grant eligibility and outlines a strategy to restore waters that are impaired by nonpoint source pollution using state targeted runoff management (TRM) grants & federal section 319 funds. The County, State - DNR and the EPA all weighed in on the plan to ensure the plan met all the requirements. The Mill Creek watershed, which includes land in Portage and Wood Counties is consistent with the Wisconsin River TMDL and was modeled for pollutant loading data for the entire watershed. The plan and grant is administered through Wood County Land and Water Conservation, who partners with Portage County Land and Water Conservation. The project implementation also partners with the Farmers of Mill Creek Watershed Council, a local Producer Led Watershed group. The Mill Creek plan can be viewed here: <https://dnr.wisconsin.gov/topic/Nonpoint/9keyElement/planMap.html>

Wisconsin River TMDL - 2019

The State DNR, together with many partners throughout the basin, are working to improve water quality of the Wisconsin River, its reservoirs and tributaries. The Total Maximum Daily Load (TMDL) study provides a strategic framework and prioritize resources for water quality improvement in the Wisconsin River Basin. The Wisconsin River TMDL study area spans Wisconsin's central corridor from the headwaters in Vilas County to Lake Wisconsin in Columbia County, covering 9,156 square miles (approximately 15 percent of the state). The U.S. EPA approved the Wisconsin River TMDL on April 26, 2019. On July 9, 2020, the U.S. EPA approved site-specific phosphorus criteria for Petenwell Lake, Castle Rock Lake and Lake Wisconsin. The science behind the site-specific criteria is presented in Appendix C of the TMDL. When the EPA approved the Wisconsin River Basin TMDL in 2019, they approved allocations based both on the statewide phosphorus criteria applicable at the time and these newly approved site-specific criteria. With the approval of the site-specific criteria, the allocations presented in Appendix K of the TMDL will now be used for future wastewater permitting decisions and as the basis for locally led nonpoint reduction plans. The Wisconsin TMDL can be referenced here: <https://dnr.wisconsin.gov/topic/TMDLs/WisconsinRiver/index.html>

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Wood County Farmland Preservation Plan – 2015

The Wood County Farmland Preservation Plan is required under Chapter 91 of the Wisconsin Statutes. The purpose of this plan is to guide and manage growth and development in a manner that will preserve the rural character; protect the agricultural base and natural resources; and contribute to the County's overall goal of promoting public safety, health and prosperity within the County. This plan is the primary policy document in directing preservation of agricultural production capacity, farmland preservation, soil and water protection, and future land development while respecting private property rights and individual units of government. The Wood County Board adopted the Wood County Farmland Preservation Plan on April 29, 2015.

Upper Yellow River Watershed Nonpoint Source Control Plan – 1994

The Wood County Farmland Preservation Plan is required under Chapter 91 of the Wisconsin Statutes. The purpose of this plan is to guide and manage growth and development in a manner that will preserve the rural character; protect the agricultural base and natural resources; and contribute to the County's overall goal of promoting public safety, health and prosperity within the County. This plan is the primary policy document in directing preservation of agricultural production capacity, farmland preservation, soil and water protection, and future land development while respecting private property rights and individual units of government. The Wood County Board adopted the Marathon County Farmland Preservation Plan on April 29, 2015.

<https://dnr.wisconsin.gov/sites/default/files/topic/Nonpoint/9kep/expired/UpperYellowRiver.pdf>

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WOOD COUNTY ORDINANCES

Animal Waste Management Ordinance – Ch. 801

Wood County adopted its first Manure Storage Ordinance in 2000. Several revisions have occurred included the action taken by The Wood County Board of Supervisors adopted an Amended ordinance what is now referred to as the “Animal Waste Storage, Nutrient Management and Groundwater Protection Ordinance” in August of 2015. The purpose of this ordinance is to regulate the location, design, construction, installation, alteration, operation, maintenance, closure, use, and application of animal waste from all waste storage facilities covered by this ordinance so as to protect the health and safety of residents and transients; prevent the degradation of surface and groundwater thereby preventing the spread of disease and promoting the prosperity and general welfare of the citizens of Wood County; and protect the groundwater and surface water resources of Wood County . It is also intended to provide for the administration and enforcement of the ordinance and provide penalties for its violations.

Because agriculture is so prevalent in Wood County, one of the most significant potential groundwater contamination sources is animal waste. Both storage and spreading of animal waste can contaminate groundwater if not done properly.

Animal waste storage facilities currently in use range from manure pits dug 50 years ago to newly engineered and installed storage structures. Currently there are 221 animal waste storage facilities in Wood County (see map 2-10). According to Land Conservation Department records, 84 of these structures were designed and installed to meet technical standards and specifications that were in effect at the time they were built. It is estimated that there are 137 manure storage facilities that do not meet any type of technical standards for design and installation. Wood County regulates the location, design, and installation of animal waste through its Animal Waste and Manure Management Ordinance. This ordinance ensures that all new, substantially altered, and abandoned manure storage facilities are completed in compliance with approved standards and specifications. The ordinance also requires that permitted storage facilities submit and follow an annual nutrient management plan.

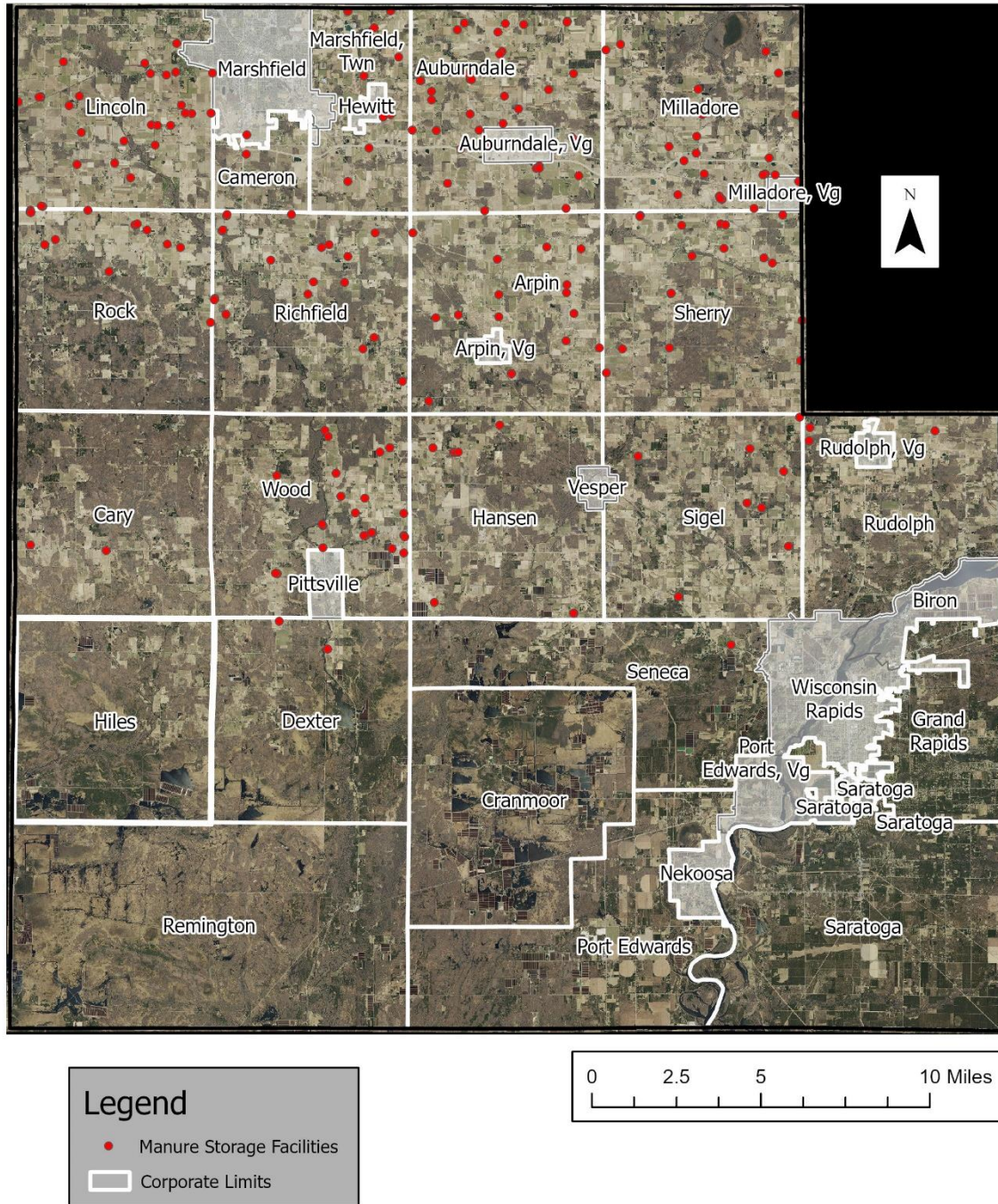
The most recent ordinance revision (August 2015) incorporated most of the APSP of the State. This gives the LWCD more tools to address the most critical sources of runoff pollution to surface and ground waters, thereby safeguarding land and water resources



clay lined waste storage facility

FIGURE 1-1

Manure Storage Facilities Wood County, Wisconsin



Nonmetallic Mining Reclamation Ordinance – Ch. 802

Wood County adopted the Nonmetallic Mining Reclamation Ordinance in 2001. Several revisions have occurred with the most recent being December of 2017.

Nonmetallic mining is recognized as an important industry, which contributes to the county’s economic and social well-being. However, the long-term damage to the physical environment and tax base that can be caused by nonmetallic mining must be reduced. It is the purpose of Chapter 802 to establish regulations for nonmetallic mining site reclamation that will restore the site to a purposeful and acceptable landscape appearance and use.

According to LWCD’s records, historically, over 85 nonmetallic excavation sites operated within the County of Wood. As of 2024, 6 active nonmetallic mining operations have been reclaimed within the county assuring environmental impacts are minimized and the site is returned to a reasonable land use.

Currently in 2024, 53 active mining sites are in operation under NR 135, 17 additional mining sites are under the jurisdiction of NR 340, and some sites are split between NR 135 and NR 340. The Village of Marathon City has two active mining sites are under their jurisdiction or authority. These mining sites are administered through the partnership of DNR and county regulations to protect surface and groundwater resources.



Active Mine Site



Reclaimed Mine Site

Shoreland, Shoreland-Wetlands & Floodplain Code - Chapter 704

The Wood County Board of Supervisors adopted the Shoreland, Shoreland-Wetland, and Floodplain Code in December 2012. These regulations are applicable in all unincorporated areas of the County. Wisconsin law mandates counties to adopt and administer a zoning ordinance that regulates land use in Shoreland, Shoreland-Wetland and Floodplain areas for the entire area of the county outside of villages and cities. The legislature of Wisconsin has delegated responsibility to the counties to further the maintenance of safe and healthful conditions; prevent and control water pollution; protect spawning grounds, fish and aquatic life; control building sites, placement of structures and land uses; and to preserve shore cover and natural beauty.

Areas regulated by this ordinance include lands within 1,000 feet of the ordinary high-water mark of navigable lakes, ponds or flowages and areas within 300 feet of the ordinary high-water mark of navigable rivers or stream or to the landward side of the floodplain, whichever distance is greater. When development is permitted in a wetland, the development should occur in a manner that minimizes adverse impacts upon the wetland.

Most of the development regulations are aimed at establishing buffers and minimizing runoff to protect water quality. While the County adopted and enforces shoreland regulations within Wood County, the WDNR maintains oversight responsibilities to ensure compliance with State Statutes.

RELATED STATE AND FEDERAL REGULATIONS

Department of Agriculture, Trade and Consumer Protection (ATCP) 50: Wisconsin's Soil and Water Resource Management Rule

Per the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) website, "ATCP 50 is the administrative rule used by the DATCP to implement state and federal laws. It covers soil and water resource management grants to counties, county resource management planning, and conservation compliance for farmland preservation tax credits, local ordinances, nutrient management and other conservation practices. DATCP cooperates with the Wisconsin DNR, county land conservation committees and other agencies to administer conservation programs.

Effective February 1, 2018, ATCP 50 has been revised to incorporate the 2015 Natural Resources Conservation Service (NRCS) 590 Standard for nutrient management. Documents here and on our nutrient management pages reflect those changes."

ATCP 51: Wisconsin's Livestock Facility Siting

DATCP is responsible for maintaining and revising the standards in ATCP 51 used by local governments in issuing permits. As part of this responsibility, DATCP must review siting standards in ATCP 51 every four years based on criteria set forth in 93 .90 (2)(b). Wisconsin State Statute 93 .90 – Livestock facility siting and expansion provides uniform regulation of livestock facilities statewide.

According to the livestock facility siting law, a county, town, city or village ("political subdivision") may not prohibit or disapprove a new or expanded livestock facility of any size unless one of the following applies:

- The site is located in a zoning district that is not an agricultural zoning district.
- The site is located in an agricultural zoning district where the livestock facility is prohibited. A prohibition, if any, must be clearly justified on the basis of public health or safety. The livestock facility siting law limits exclusionary zoning based solely on livestock facility size.
- The proposed livestock facility violates a valid local ordinance adopted under certain state laws related to shoreland zoning, floodplain zoning, and construction site erosion control or stormwater management.
- The proposed livestock facility violates a local building, electrical or plumbing code that is consistent with the state building, electrical or plumbing code for that type of facility.
- The proposed livestock facility will have 500 or more "animal units."

Department of Natural Resources (DNR) NR 151: Runoff Management

Agricultural Runoff Management is described in subchapter II – APSP. These standards are intended to create good farming practices to reduce nonpoint source pollution runoff to protect water quality and include the following standards Under NR 151, either the LWCD or DNR may be required to make a “bona fide” offer of cost sharing when requiring farmers to meet these APSP:

- Sheet, rill and wind erosion.
- Tillage setback.
- Phosphorus index performance.
- Manure storage facilities.
- Process wastewater handling.
- Clean water diversion.
- Nutrient management.
- Cropland and livestock performance standards and prohibitions.



clean spring runoff diverted around farmstead.

NR 216: Construction Site Erosion

Construction site erosion and uncontrolled storm water runoff from land disturbing activities can have significant adverse impacts upon local water resources. Under subchapter III of NR 216, Wis. Adm. Code, a notice of intent shall be filed with the DNR by any landowner who disturbs one or more acres of land. This disturbance can create a point source discharge of storm water from the construction site to waters of the State and is therefore regulated by the DNR. Agriculture is exempt from this requirement for activities such as planting, growing, cultivating, and harvesting crops for human or livestock consumption and pasturing or yarding of livestock, as well as sod farms and tree nurseries.

Agriculture is not exempt from the requirement to submit a notice of intent for one or more acres of land disturbance for the construction of barns, manure storage facilities or barnyard runoff control systems. Furthermore, construction of an agricultural building or facility must follow an erosion and sediment control plan consistent with NR 216 .46, Wis. Adm. Code and including meeting the performance standards of s. NR 151 .11, Wis. Adm. Code.

An agricultural building or facility is not required to meet the post-construction performance standards of NR 151 .12, Wis. Adm. Code.

NR 243: Concentrated Animal Feeding Operations (CAFO)

The U. S. Environmental Protection Agency (EPA) delegate’s implementation of the Clean Water Act (CWA) and Federal NPDES CAFO permit program to states. In Wisconsin, animal feeding operations with 1,000 animal units or more also called a Concentrated Animal Feeding Operation (CAFO) is required to have a Wisconsin Pollutant Discharge Elimination System (WPDES) permit in place when they to operate. WPDES permits requirements under NR 243 include the following:

- Zero discharge standard for runoff to navigable waters from production areas.
- Manure and process wastewater storage and handling systems.
- Manure and non-manure spill response plan.
- A plan for manure and process wastewater application on cropped fields.
- Manure application restrictions.

CHAPTER I | INTRODUCTION *(continued)*

- Manure storage.
- Inspection, monitoring and reporting requirements.

DNR: Wisconsin's Managed Forest Law

Enrollment into the Managed Forest Law (MFL) program is open to all private owners of forested land. To be eligible for the MFL program, a landowner must have a minimum of 20 acres of contiguous land and at least 80 percent of that land must be productive forestland. To participate in the MFL program, landowners designate property as "Open" or "Closed" to public access for recreation and commit to a 25 or 50-year sustainable forest management plan. According to the Wisconsin DNR Forest Crop Law & Managed Forest Law – 2019 Master Listing, 14,727 .4 acres are listed as "open", and 97,636 .4 acres are listed as "closed."

The MFL program provides incentives to protect privately owned woodlands from destructive timber cutting practices and over harvesting and prevents land from becoming developed and/or converted to agricultural land use. Lands are enrolled in the MFL program; these properties are no longer susceptible to further subdivision and continued residential housing sprawl, without penalty and withdrawal.

The United States Environmental Protection Agency (USEPA):

Storm Water Phase II: Municipal separate storm sewer systems

The USEPA Storm Water Phase II Final Rule was promulgated on December 8, 1999 (64FR68722), effective March 10, 2003, is designed to significantly control off lot discharges. Municipal separate storm sewer systems (MS4s) generally serving populations of covers urbanized areas that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile and areas outside of an urbanized area of at least 10,000 and a population of at least 1,000 people per square mile.

A Wisconsin Pollution Discharge Elimination System (WPDES) storm water program address impairments caused by polluted runoff, the Clean Water Act (CWA) of 1990 established a program to address storm water quality coming from developed urbanized areas to reduce contamination of storm water runoff and prohibit illicit discharges. MS4 program communities include the following six minimum control measures:

- Public Education and Outreach
- Public Participation/Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention/Good Housekeeping

The USEPA: Clean Water Act (CWA) Section 303(d): Total Maximum Daily Load (TMDL)

Section 303(d) of the CWA established the TMDL program. The TMDL program identifies and restores polluted rivers, lakes, stream, and other surface waterbodies by detailing in a quantitative assessment the water quality problems and contributing sources of pollution. It is required of all waterbodies that do not meet Wisconsin's water quality standards. The document determines how much a pollutant needs to be reduced to meet water quality standards and provides the foundation for taking actions locally to restore a waterbody to fishable and swimmable standards.

Wisconsin is required by the Clean Water Act to submit a prioritized list of impaired waterbodies to the U. S. EPA every two years. A TMDL is the amount of pollutant that can be assimilated by a water body without a violation of water quality standards, and includes waste load allocations for point sources, load allocations for nonpoint sources, and a margin of safety.

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WOOD COUNTY LAND & WATER CONSERVATION DEPARTMENT

The Land & Water Conservation Department is a public service agency that provides a host of regulatory, professional, educational and technical services to the general public and local governments of Wood County. These program and service areas include the following:

Land and Water Services

The Land and Water Conservation staff provides the implementation and administration of County policy established to protect land and water resources, balance sustainable land use with economic opportunities, promote community health and safety, protect public infrastructure, and minimize land use conflicts.



local stream with proper vegetated riparian buffer



deer grazing

Land & Water Conservation Program Responsibilities

Land & Water Conservation Program Services are driven by Wood County's LWRM Plan. The LWRM Plan outlines a comprehensive strategy for the implementation of soil and water conservation in Wood County from 2025 through 2035. The county's conservation responsibilities include the following:

- First and foremost, implement the Land and Water Resource Management Plan.
- Conserve, protect, and enhance the quality of natural resources such as water, ground water, land, and the environment to ensure public health and safety.
- Prevent adverse land use activities, minimize conflicts, maximize investments, and protect rural character. Ensure compliance with federal, state, and local regulatory programs.
- Provide sound financial and technical assistance, and effective forward-thinking education activities promoting innovative agricultural practices.

Financial and Technical Assistance

To implement conservation practices of the LWRM Plan the county will access available grants from county, state and federal sources to support staffing expenditures and to fund grants for landowners to implement best management practices (BMPs). Along with the county conservation staff, the Land & Water Conservation Department rely upon the DNR, USDA-NRCS and Farm Services Agency (FSA), UW-Extension, DATCP, USEPA to provide specialized and technical assistance to local conservation program delivery. Progress toward various program objectives are tracked by conservation staff to ensure compliance.

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Technical Review for State and Local Regulatory Programs

Conservation program staff provides oversight and coordination of conservation programs, monitoring of program and regulatory compliance requirements, enforcement activities, preparation of resource management plans, special project studies and educational activities. Staff provides review of designs for standards and construction, project implementation oversight, proper certification, inspection and construction oversight, livestock licensing, verification for cost share funding, assist financial management and reimbursement, farmland preservation certification, and verify compliance with the NR 151 agriculture performance standards and prohibitions.

Educational Activities

The Farmers of Mill Creek Watershed Counsel and Mill Creek Watershed 9 Key Plan

FMCWC is a watershed group dedicated to finding solutions to water resource concerns in Northern Wood County & Northwestern Portage County. Land & Water Conservation, along with several other partners, initiated the formation of this group in 2016, which is also part of a bigger statewide producer led effort. Wood County Land & Water Conservation Department partners with the group on hosting many events annually to align the educational efforts with the Mill Creek Watershed 9 Key plan strategies outlined in that plan.

Wood County recognizes the need for community-wide landowner involvement (beyond producer led or special interest groups) in practices that protect land and water resources from agricultural, homeowner, industrial and other pollution sources. FMCWC & Land Conservation leads the educational efforts in the Mill Creek Watershed and neighboring watersheds by engaging citizens, landowners and farmers through events, peer group learning, demonstration fields, social media, public service announcements and economic analysis of conservation practices. These efforts are funded through several public and private grant programs.

Lakes Program

Wood County Land & Water Conservation Department's Lake Program builds surface water resource health by educating landowners and fostering local partnerships.

Education and outreach efforts focus on engaging shoreland owners to adopt practices that benefit water quality and wildlife habitat, such as shoreland buffers and native vegetation, removal of aquatic invasive species, and stormwater management. Landowners are educated and engaged through various platforms, such as: educational events, shoreland buffer and rain garden demonstration sites, shoreland owner guides, newsletters, social media, and staff technical assistance. LWCD also partners with lake groups and organizations to address goals and objectives listed within Lake Management Plans.

A Lake Management Plan for Nepco Lake was recently developed in 2024 providing the framework for cultivating partnerships with other lake, Golden Sands Resource Conservation and Development Council, and other local groups and organizations. By building partnerships with citizens and organizational leaders, LWCD strives to create communities that value and protect surface water resources.

Invasive Species Awareness

The Land & Water Conservation Department promotes education and outreach efforts focusing on invasive species, both terrestrial & aquatic throughout the county to bring an awareness to our communities of species that are restricted or prohibited by state law.

CHAPTER I | INTRODUCTION *(continued)*

ADDITIONAL CONSERVATION, PLANNING & ZONING DEPARTMENT AND RELATED COUNTY PROGRAMS

Invasive Species Program

The Land and Water Conservation Department has built an invasives species program that focuses both on terrestrial and aquatic invasive species. The program focuses on both land & water resource health by trying to identify, map, monitor and educate youth, farmers, the public, lake property owners and other local partners of the negative effects of these invasive species. The department has been fostering local partnerships to help minimize the spread of invasives.

Wisconsin's invasive species rule, Wis. Admin. Code NR 40 classifies regulated invasive species as restricted or prohibited species. Restricted species: species that are widely established in the state. It is illegal to transfer, transport, and introduce restricted species without a permit. Prohibited species: species that are not yet in the state or in a few places. It is illegal to transfer, transport, introduce, and possess a prohibited species without a permit.

Aquatic Invasive Species

There are twelve known and verified aquatic invasive species (AIS) located within Wood County. One of the AIS is a prohibited species (non-native phragmites). Active management occurs on each known population. Nepco Lake and Petenwell Lake are listed as two of the "Top 300 AIS Prevention Priority Waterbodies," which is focused on shielding or containing the waterbodies from AIS. The Wood County Land & Water Conservation Department supports the goals within the Wisconsin Aquatic Invasive Species Management Plan to prevent the introduction of new AIS into Wisconsin, contain the spread of AIS in Wisconsin, and control existing populations of AIS to minimize harmful impacts by participating in the Lake Monitoring & Protection Network as well as pursuing other Surface Water Grants.

Terrestrial Invasive Species

There are fourteen known and verified terrestrial invasive species (TIS) located within Wood County. One of the TIS is a prohibited species (giant hogweed). Active management and monitoring occurs in areas with known populations and surrounding areas.

The Wood County Land & Water Conservation Department in March of 2017, presented to the County board on the environmental and health risks associated with Wild Parsnip. This invasive plant is not currently listed as a noxious weed in WI state Statute 66.0407(b). Wild parsnip creates health and ecological threats and is increasingly prevalent within the County. Wild parsnip is listed by the WI DNR as an invasive species with control encouraged by WI Administrative Rule NR 40. Wood County is authorized by WI State Statute 66.0407(1)(b) to designate any weed as noxious within County Boundaries. On March 17, 2017, the Board of Supervisors for the County of Wood, by resolution designated wild parsnip (*Pastinaca sativa*) as a "noxious weed" within the County. This action gives the county the authority to identify, map, monitor, and eradicate the species throughout the county. Wild parsnip is a restricted species that poses a hazard to human health (causes phytophotodermatitis when sap contacts skin in the presence of sunlight). Annual mapping and control measures are put in place in mid-summer and fall. Coordination with the Wood County Highway Department, Portage County Land & Water Conservation Department, and the Wood County Weed Commissioner is key in response and management efforts.

This protocol also aligns with this Land & Water Plan and would make the county eligible for future state funds if a statewide funding program becomes available.

CHAPTER I | INTRODUCTION *(continued)*

Farmland Preservation Program

Wood County adopted its first Farmland Preservation Plan in 1982. The goals of the program are twofold, to preserve Wisconsin farmland for production of commodities by means of local land use planning and soil conservation practices and to provide tax relief to landowners . For the landowner to receive tax credits they must be in compliance with current applicable NR 151 Agricultural Performance Standards and Prohibitions .

In 2008, the State created the Working Lands Initiative to update and enhance the Farmland Preservation Program . In 2015, Wood County completed an update of its Farmland Preservation Plan to incorporate the new program opportunities of the Working Land Initiative into local programming .

The protection of agricultural cropland and woodland land uses are important to maintaining the rural and cultural integrity and diversity of Wood County, but more importantly assure that the economic benefits of these sectors is maintained and enhanced . Sound land use requires policies that conserve resources and allow for the profitable use of the land. Conversion and fragmentation of agricultural cropland and woodlands from productive use are continuing concerns in Wisconsin and Wood County .

The Farmland Preservation Program in Wood County has a 42-year history of incentivizing adoption and implementation through 15-year Farmland Preservation agreements.

The state income tax credit incentives that Farmland Preservation Program participants are eligible for range from \$5 .00 to \$10 .00 per acre per year, depending on where in the county the land is located and what level of participation a landowner chooses . Participants with land in an Agricultural Enterprise Area who enroll in a Farmland Preservation Agreement are eligible for \$5 .00 per acre per year . Participants with land in a Farmland Preservation Zoning district are eligible for \$7 .50 per acre per year . And participants with land in both are eligible for \$10 .00 per acre per year . Figure 1-1 illustrates these eligibility areas.

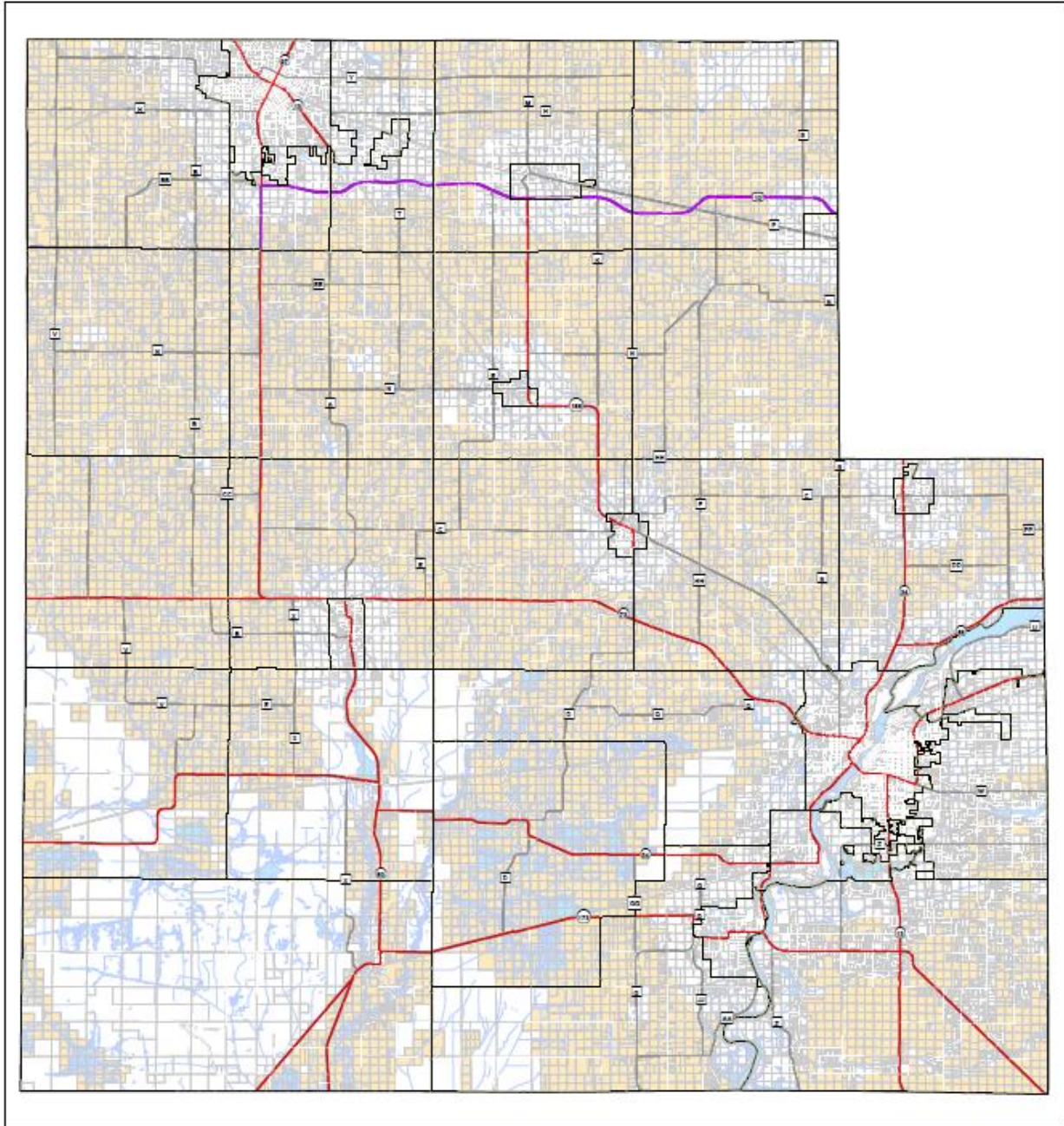
The Wood County Land & Water Conservation staff are responsible for administering each participant’s soil conservation plan and monitoring compliance with soil and water conservation standards. LWCD conducts compliance “spot checks” on 25% of the program participants annually. The tax credits are intended as an incentive to keep land in active farming and meeting soil and water conservation standards.

Wood County will continue to implement the farmland preservation program in accordance with Chapter 91, Wisconsin statutes

FIGURE 1-2

Farmland Preservation Plan

Wood County, Wisconsin



- Farmland Preservation Area
- Parcels
- Corporate Limits
- Water Body
- US Highway
- State Highway
- County Highway
- Local Roads

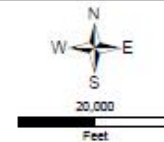


Figure 1-3 shows state income tax credit incentive levels for Farmland Preservation areas.

FIGURE 1-3

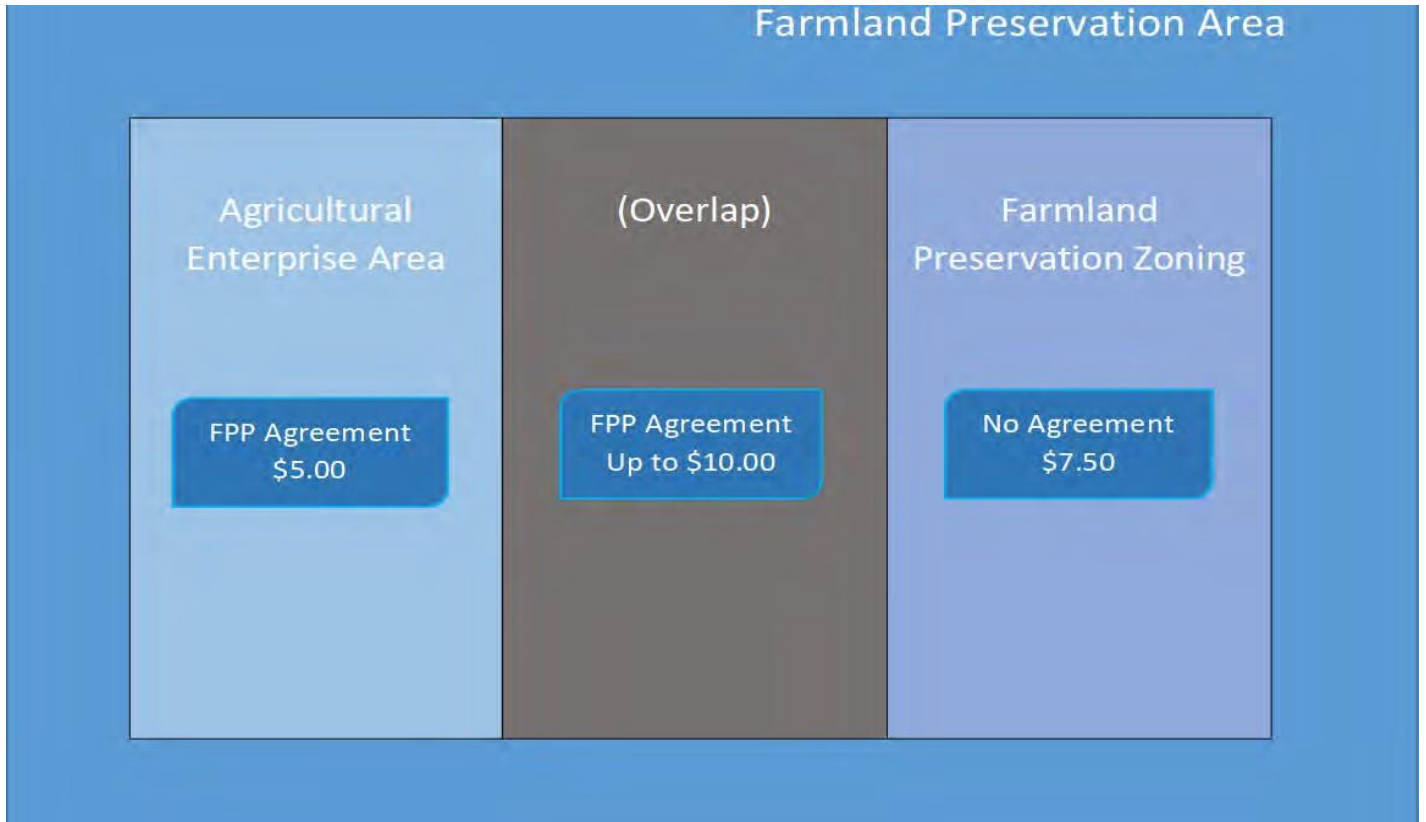
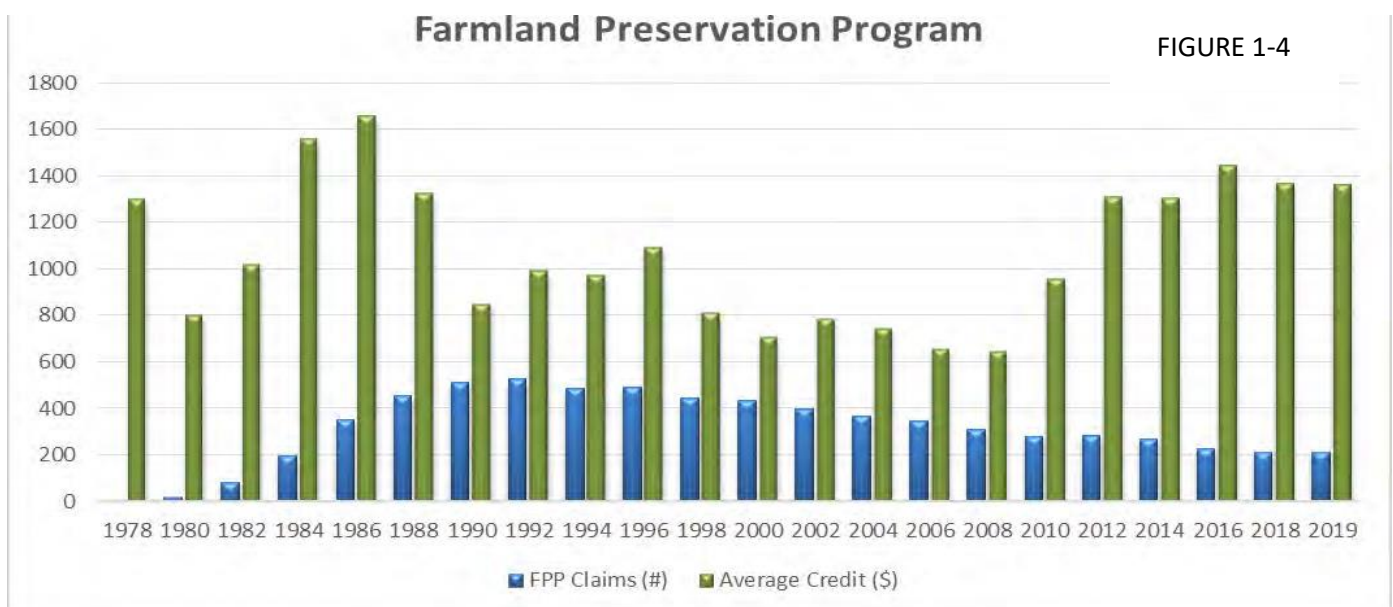


Figure 1-4 shows Farmland Preservation claims and the average annual credit per claim, from the beginning of the program in 1978



Source: WI DATCP and DOR Farmland Preservation Tax Credit Statistics

Nutrient Management Program

Nutrient management is defined as managing the amount, form, placement, and timing of applications of animal waste and commercial fertilizer to provide essential plant nutrients. The purpose is to ensure a proper supply of plant nutrients for crop production while minimizing the entry of nutrients to surface water and groundwater. Under the NRCS Nutrient Management Technical 590 standard for Wisconsin, nutrient management plans must also minimize soil erosion and phosphorus loss from cropland to surface waters.

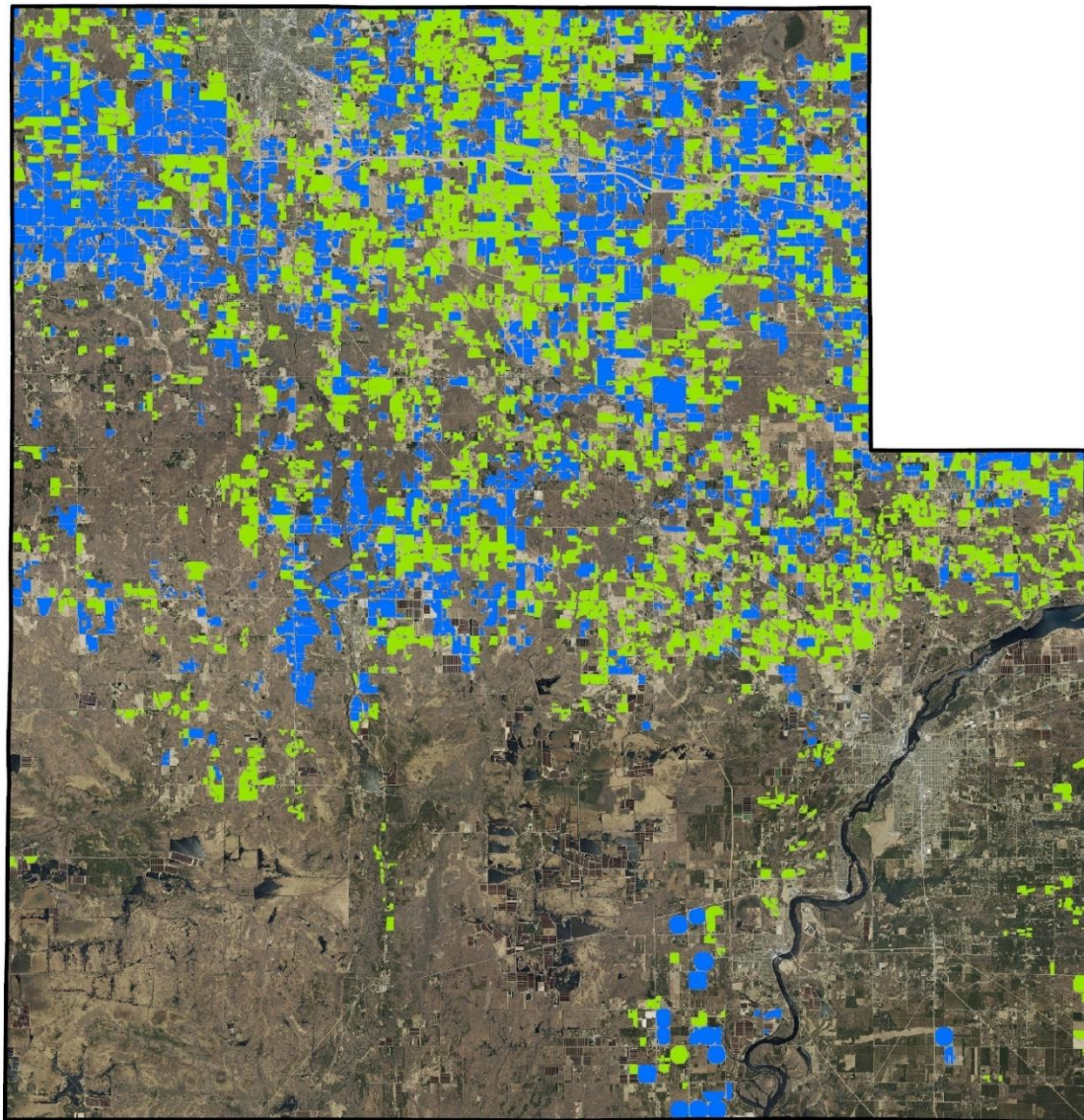
Wood County requires nutrient management plans for landowners constructing and operating waste storage facilities, as well as for other programs such as the Farmland Preservation Program. As of 2008, all landowners that apply manure and/or fertilizer to cropland are required to have a nutrient management plan for those activities as outlined in NR 151.07. In 2024, 94 Wood County landowners have nutrient management plans on 59,044 acres (40%) of cropland; please refer to nutrient management plan Figure 1 - 4. Since 2007, Wood County has worked with the UW-Extension, North Central Technical College, and Wisconsin Nutrient and Pest Management Program to train and prepare a good percentage of Wood County landowners to develop their own nutrient management plans. This effort has been very successful and will be continued.

LWCD staff will work with DNR staff to implement and enforce the nutrient management plan requirements by conducting complaint investigations with DNR staff, providing compliance reports, providing administration of grants and tracking implementation. Efforts will also be taken to monitor the land spreading activities of off-farm generated waste sources such as industrial, municipal and septic producers. These land-spreading activities must comply with specific State and local regulations and be consistent with agricultural best management practices.



Figure 1-5 Farmland acres currently under a Nutrient Management Plan.

FIGURE 1-5

Farmland with a Nutrient Management Plan
2016-2023
Wood County, Wisconsin



Legend

-  Farmland with a NMP
-  Farmland without a NMP

0 3 6 12 Miles



CHAPTER 2 | RESOURCE ASSESSMENT

Wood County, in the Central part of Wisconsin, has a total area of 516,544 acres. Of this total, 507,428 acres is land and 9,116 are water. In 2024, the population of Wood County was 74,100. Wisconsin Rapids, the county seat in the southeast part of the county, had a population of 18,371. Marshfield, the largest city, in the northern part of the county, had a population of 19,090. Twenty-two townships make up the county. Wood County is bordered on the north by Marathon County, on the east by Portage County, on the south by Adams and Juneau Counties, and on the west by Clark and Jackson Counties.

The earliest settlement of Wood County began soon after what is now Wisconsin came under the authority of the United States in 1815. Daniel Whitney, with others, erected a sawmill at what is now Nekoosa in 1831.

The vast stands of quality timber, especially white pine, attracted lumbermen, and the lumber industry grew rapidly. The sandy parts of the county were logged first because the trees there were almost entirely pine, which was the only timber cut by the early lumbermen. Settlers followed the lumbermen, but because the sandy areas were poorly suited to farming, the settlers soon moved to the northern part of the county, where soils are finer textured. They frequently burned the hardwood timber to clear the land for farming.

Wood County was created in 1856 from a part of Portage County. Several boundary changes followed until 1872, when the present boundaries were established.

Wheat and rye were the principal crops at first, but about the turn of the century dairying began to increase in importance. Butter was the main dairy product, but cheese soon became more important. In 1925, more than 12 million pounds of cheese was produced in Wood County.

The culture of cranberries began in the early 1870's, and today Wood County is the leading cranberry producing county in Wisconsin.

Paper mills replaced sawmills as the era of lumbering drew to a close. Numerous sites on the Wisconsin River between Nekoosa and Biron provide waterpower to operate the paper mills. The river supplies the vast quantities of water needed in making paper. Paper is now the principal industrial product in Wood County. (The Wisconsin Rapids paper mill closed in June 2020.)

The census of 1860, the first to include Wood County, showed a population of 2,425 people. By 1900 the population was 25,865, of which about one-third was in urban areas. In 1950, 50,000 people lived in the county, and slightly more than half were classified as urban residents.

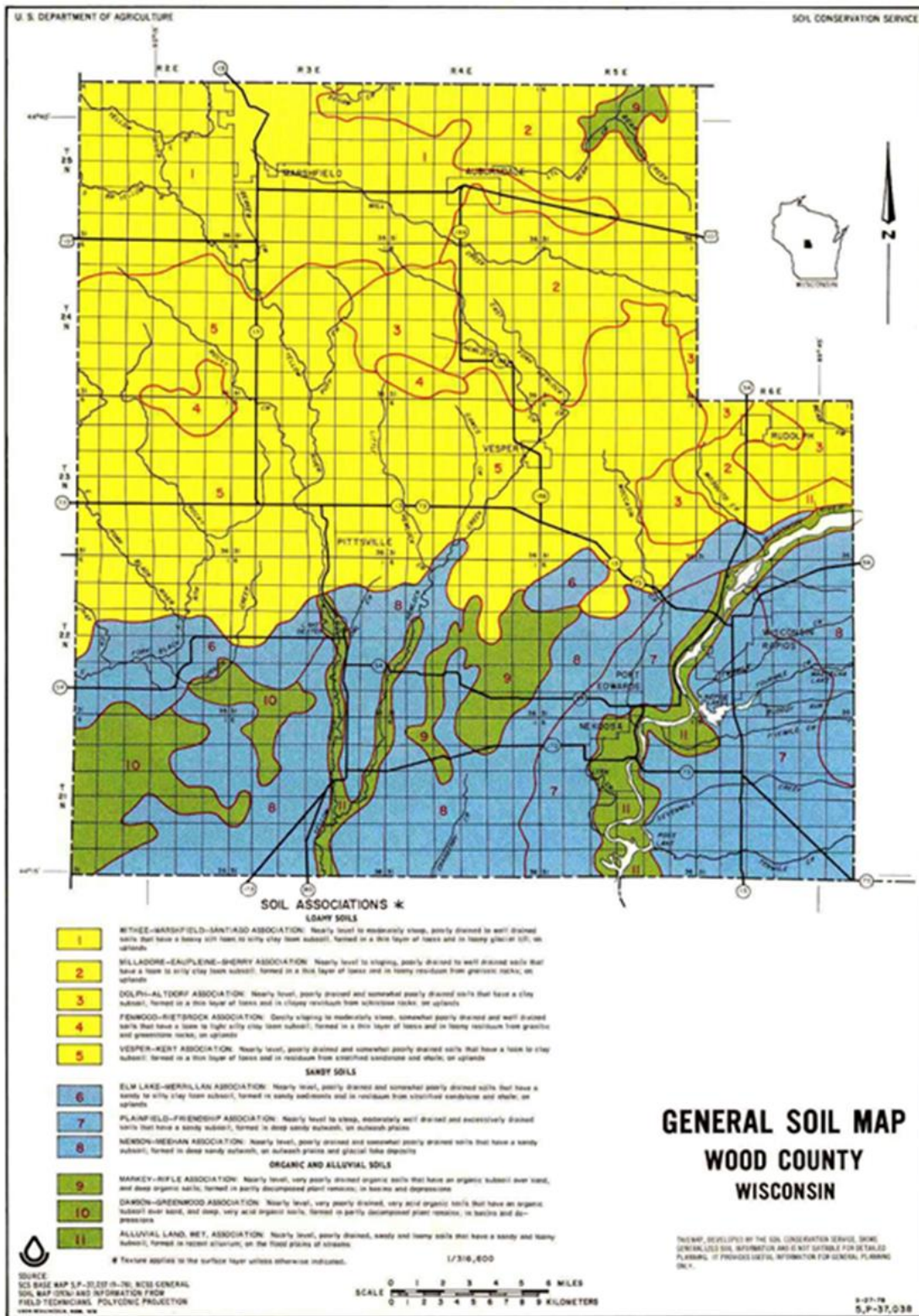
In an attempt to illustrate the latest available land cover data for Wood County, Figure 2 – 2: Land Cover, provides land cover data obtained from DNR. Based on land cover data generated for the State of Wisconsin, the acreage for each land cover type such as urban, agricultural, grassland, forest, open water, wetland, barren, and scrubland are included in the legend of Figure 2-2.



Figure 2-1 Location of Wood County, WI

CHAPTER 2 | RESOURCE ASSESSMENT

Figure 2-2 General Soi Map Wood County, WI



CHAPTER 2 | RESOURCE ASSESSMENT

Topography and Soils

Topography

Wood County's terrain is primarily the result of glaciation. The far northern and western areas of the county are broad, nearly level to sloping ground moraines. The central area, except for the Wisconsin River Valley, is a mixed terrain of ground moraines and uplands underlain by bedrock at a depth of 2 to 20 feet. The Wisconsin River Valley is composed of nearly level to very steep outwash terraces and nearly level and gently sloping flood plains. The southeastern area of the county consists mainly of nearly level to steep outwash plains and stream terraces and undulating to very hilly moraines and drumlins. Figure 2 – 3: Terrain – Elevation map illustrates the variation in elevation found within the County.

Soil Associations

Most of the soils found in the county are best used for cropland and woodlands. The soils of Wood County are primarily derived from the weathering of glacial drift, outwash, and bedrock. A few soils have formed in glaciolacustrine deposits, alluvial deposits, or organic material. The U. S. Department of Agriculture's Natural Resources Conservation Service conducted a Soil Survey in 1977, which described the kinds of soils that exist in an area. Soils are described in terms of their location on the landscape, profile characteristics, relationship to one another, suitability for various uses, and needs for particular types of management.

Another method of describing soils is through hydrologic soil groups. Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover.

Soils play a significant role in determining the suitability for a site for development. Most soils in Wood County are suitable for agriculture, except those with excessive slopes or areas that are poorly drained. The United States Department of Agriculture (USDA) has identified areas most suitable for agriculture production, with minimal limitations and requiring minimal inputs for successful production as "prime farmlands". Not all lands classified as prime farm soils are used for farming; some have been developed with residential or other uses. The Wood County Farmland Preservation Plan includes more detailed information on prime farm soils.

The Survey identified 11 primary soil associations (Figure 2 – 2: Generalized Soils Map) in Wood County. These soil associations include the following:

Withee – Marshfield – Santiago Association

The soils of this association are on the glacial ground moraine in the northern and northwestern parts of the county.

- Current land cover: Most of this association is cultivated, but woodlots are common.
- Other important features: In recent years extensive residential development has taken place in parts of this association.

Milladore – Eau Claire – Sherry Association

The soils of this association are on broad upland plains in the northeastern part of the county and around Rudolph.

- Current land cover: Most of this association is cultivated, but some areas are in woodlots.
- Other important features: Most of the soils of this association have a seasonal high-water table. The potential for recreational use is moderate to good.

Dolph – Altdorf Association

The soils of this association are on broad upland plains around Rudolph and Powers Bluff.

- Current land cover: About half of this association is cultivated, and the rest, mostly on wetter sites, is in woodland or native pasture.
- Other important features: Most of the soils of this association have a seasonal high-water table and are wet in spring.

Fenwood – Rietbrock Association

This association consists of soils on prominent hills in the north-central and west-central parts of the county.

- Current land cover: Most of this association is in woodland and native pasture.
- Other important features: Potential for recreational use is good.

CHAPTER 2 | RESOURCE ASSESSMENT

Vesper – Kert Association

The soils of this association are on the upland plain in a broad belt across the middle of the county.

- Current land cover: About 60 percent of the association is cultivated. The rest is in woodland, native pasture, or wildlife habitat.
- Other important features: Much of this association has good potential for wildlife habitat.

Elm Lake – Merrilan Association

The soils of this association are on the northern edge of Glacial Lake Wisconsin in the area west of Dexterville and in a small area west of Wisconsin Rapids.

- Current land cover: Most of this association is in woodland, but some small areas are cultivated.
- Other important features: This association has moderate potential for woodland and good potential for wildlife habitat.

Plainfield – Friendship Association

The soils of this association are on outwash plains on either side of the Wisconsin River and extend from the vicinity of Wisconsin Rapids southward.

- Current land cover: Most of this association is in woodland.
- Other important features: This association has good potential for irrigated crops.

Newsom – Meehan Association

Most of the soils of this association are on nearly level outwash plains and glacial lakebeds east of Wisconsin Rapids and in the southwestern and south-central parts of the county.

- Current land cover: Most of this association is in woodland. Some areas were once cultivated but have been planted to trees or have reverted to woodland.
- Other important features: This association has good potential for wildlife habitat.

Markey – Rifle Association

The soils of this association are on the glacial lake plain in the south-central part of the county and in a small area in the northeastern part of the county.

- Current land cover: Most of this association is in woodland or wildlife habitat. A few small areas are used for native pasture and large areas are in cranberries.
- Other important features: These soils have good potential for use as wildlife habitat.

Dawson – Greenwood Association

The soils of this association are on the glacial lake plain in the extreme southwest part of the county.

- Current land cover: Most of this association is in woodland or wildlife habitat. Some areas are used for growing cranberries.
- Other important features: These soils have good potential for wildlife habitat.

Alluvial land, wet Association

This association consists of bottomlands, islands, and sloughs along the Wisconsin and Yellow Rivers.

- Current land cover: Most of this association is in woodland and wildlife habitat, but some areas are in native pasture.
- Other important features: Floods are frequent, and the water table is high.

The soils in the northern two-thirds of Wood County formed in “two-storied” parent material. That is, the upper 20 to 26 inches of the soils formed in silty wind-laid material, and the lower part of the soils formed either in glacial till or in residuum weathered from underlying bedrock.

If a line were drawn east and west approximately through Wisconsin Rapids, it would roughly separate the loamy soils north of the line from the sandy soils south of the line. The loamy soils have a cap of wind laid silty material that averages about 24 inches in thickness.

In the northwestern part of the county, the soils formed partly in the underlying loamy glacial till. These are soils of the Withee, Marshfield, Santiago, and Mann series.

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In the northeastern part of the county, the material below the silty cap is loam residuum weathered from the underlying gneissic rock. Milladore, EauPleine, and Sherry soils formed in this silt and residuum.

An area north of Powers Bluff in Richfield and Arpin Townships and areas in Sigel, Sherry, and Rudolph Townships have soils that formed partly in underlying clayey residuum weathered from schistose bedrock. These are soils of the Dolph and Altdorf series.

A broad belt across the middle of the county is soils that formed in the silty cap and underlying layers of residuum from weakly cemented sandstone and acid clay shale. These are soils of the Kert, Vesper, Hiles, and Veedum series.

Most of the soils in the southern part of the county formed in sandy material deposited by glacial melt waters along the Wisconsin River or in Glacial Lake Wisconsin. Soils of the Nymore, Plainfield, Friendship, Meehan, and Newson Series formed in these.

Topography and Soil Associations

In an effort to illustrate the complex relationship among various soils associations, terrain and elevation, and the hydrologic transport system of watersheds within Wood County. The connectivity with potential intense land use activities, the importance of soil retention, soil types, drainage patterns and hydrology, and how nonpoint source stormwater, phosphorus and nutrients can travel quickly through the hydrologic system within watersheds which influence the overall water quality, aquatic health, and biodiversity of a watershed.

Soil Erosion

The primary concerns with soil erosion are the potential loss of productive farm soils and the impact of sediment and nutrient runoff on water quality in relation to the eroded soil. To maintain long-term soil productivity, an average soil erosion rate of three to five tons per acre per year for cropland, depending on soil type, is considered allowable or tolerable (“T” level) in Wood County. From 2018-2023, the average soil loss rate for Wood County cropland is 1.8 tons per acre per year. To preserve water quality, the County’s goal is to keep soil erosion rates below “T” levels, particularly in water-quality management areas. Most soil erosion in Wood County is associated with agricultural activities. Soil erosion can also be a problem related to mining, development of buildings and roads, and forest clearing.

A variety of efforts are currently used or encouraged to control and minimize soil erosion include conservation tillage, stormwater permitting requirements, management intensive grazing, crop rotations, development restrictions on steep slopes, and construction best management practices.

Soil erosion has many potential sources within the county but based upon the resource assessments agricultural land is the primary contributor. With 240,000 acres of cropland within the county, agricultural soil erosion has been a longtime concern for the Land & Water Conservation Department. However, other land disturbances such as mining, residential and commercial construction, roads and forestry have the potential to deliver significant amounts of sediment to waterways. Soil erosion delivers soil sediment, organic material and nutrients to surface waters and is considered the primary nonpoint source of pollutant to our waterways.

Soil Erosion Transect Survey

In June 1999, Wood County conducted its first transect survey. The survey has been repeated every year from 1999 to 2024. The cropland average annual “tolerable” soil loss rate (“T” level) for Wood County in 1999 was 2.7 tons per acre per year. The current estimated average county-wide cropland soil erosion rate is 1.6 tons/acre/year, with a downward trend. However, it is important to understand that soil loss calculations and acceptable “T” are performance values based on maintaining soil productivity, not protecting water quality, which creates an inherent conflict among local, state, and federal agencies in terms of achieving water quality standards as specified in the Wisconsin River (TMDL). Even though soil loss is lower, total phosphorous (P), total suspended solids (TOS) and total nitrogen (N) levels have trended up, which Transect Survey doesn’t show. The following trends can be identified from the Transect Survey, and are illustrated in Figures 2-6 thru 2-8 below:

1. Cropland soil erosion rates have decreased in the last ten years.
2. Cropping practices are trending toward more annual and erodible crop types being grown.
3. Tillage practices are trending toward less disturbance, but a higher percentage of cropland is being tilled annually.

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Wood County Hydrology

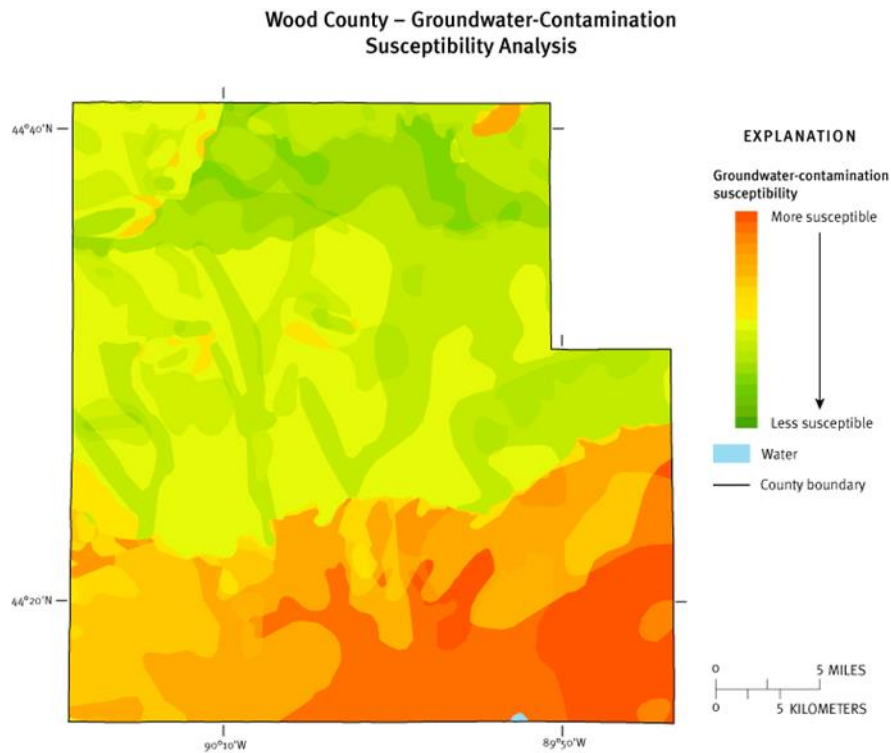
Wood County has two distinct geologic areas that affect groundwater. The northern two-thirds of the County have Precambrian rocks near to the ground's surface. Unconsolidated materials in this area are generally less than 20 feet thick. In this area wells often cannot pump water from the unconsolidated material but are installed in the Precambrian rocks and utilize fractures in the rock to access water. Groundwater recharge in this area is approximately 1-4 inches annually¹.

In the Southeastern portion of the County there are sand and gravel deposits that range from 40-100 thick, that allow for easy access to large amounts of groundwater. This portion of Wood County is in the "Central Sands" region of Wisconsin. Groundwater recharge in this portion of the County is estimated at 7-12 inches per year¹.

These geologic differences not only affect groundwater availability (quantity) but also potential quality. You will see on the generalized groundwater susceptibility map for Wood County that the northern two-thirds of the County is considered less susceptible to groundwater contamination. Groundwater susceptibility is defined as the ease with which a contaminant can be transported from the lands surface to the groundwater water table. Areas with high susceptibility are areas where it is easier for the transport of potential contaminants and areas with lows susceptibility are those where it is more difficult for the transport of potential contaminants. The reason for the low susceptibility ranking in the northern portion of Wood County is due to a variety of characteristics that include the shallow depth to bedrock (there is not an aquifer contained in the shallow unconfined materials, therefore it is isn't as easy for potential contaminants to reach groundwater), the type of bedrock present (the sandstone and igneous/metamorphic rock present do not contain many fractures and provide some level of protection from contaminants moving downward from the lands surface), and the soils in the area that have a low to medium permeability that don't allow for easy transport of water or contaminants through them¹.

Groundwater susceptibility increases the farther south you go in Wood County with the southeast corner have the highest susceptibility. This is due to the thick deposits of unconfined materials that hold easily accessible aquifers. This area also contains highly permeable soils that allow for easy transport of water and potential contaminants.

¹ Batten, W.G. (1989) Hydrogeology of Wood County, Wisconsin. *Wisconsin Geologic and Natural History Survey. Information Circular #60.* <https://wgnhs.wisc.edu/catalog/publication/000310/resource/ic60>



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

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

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

Figure 2-3 Groundwater Susceptibility of Wood County, WI
<https://wi.water.usgs.gov/gwcomp/find/wood/susceptibility.html>

Groundwater Use

Everyone in Wood County relies on and utilizes groundwater. 100% of the drinking water, approximately 44% of irrigation water, and approximately 45% of industrial water is pumped from groundwater. Groundwater pumping can be divided into five general areas: agricultural, commercial, industrial, municipal, and rural residential. Agricultural, industrial, and municipal water supplies are pumped from approximately 152 high-capacity wells in the County. Rural residential and some commercial uses pump from approximately 13,000 low-capacity wells². The number of high-capacity and low-capacity wells in the County continues to grow.

The Wisconsin Water Use 2022 Withdrawal Summary, developed by DNR, indicates Wood County as ranking 28th in the state for groundwater withdrawal. Wood County is withdrawing between 2.5-5 billion gallons as shown in Figure 2-4.

The number indicates ranking of total withdrawal by county (#1 = highest, #71 = lowest)

² Wisconsin Department of Natural Resources Drinking Water and Groundwater Use Information System. 2024. <https://apps.dnr.wi.gov/waterusepub/Source>

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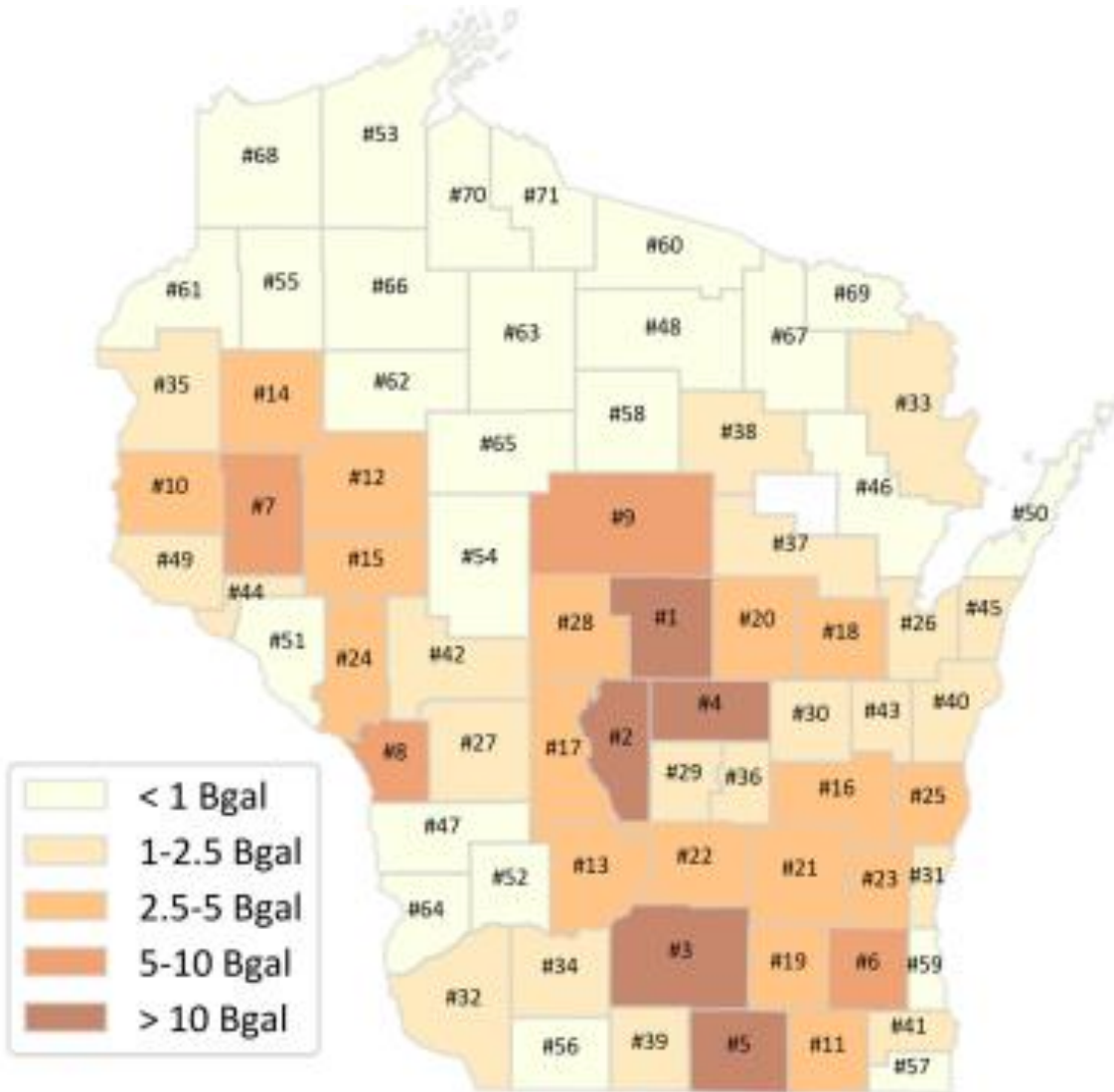


Figure 2-4 Average Groundwater Withdrawals by County 2022

<https://dnr.wisconsin.gov/sites/default/files/topic/WaterUse/WithdrawalReport/2022.pdf>

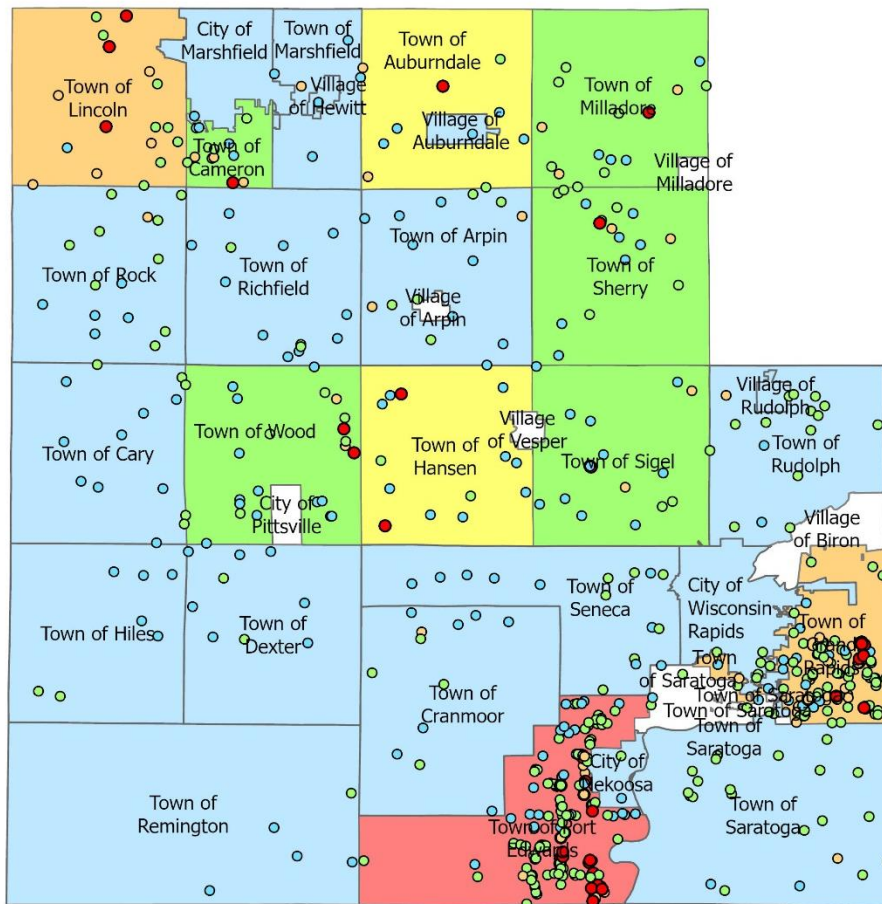
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County Wide Nitrate Study 2019-2023

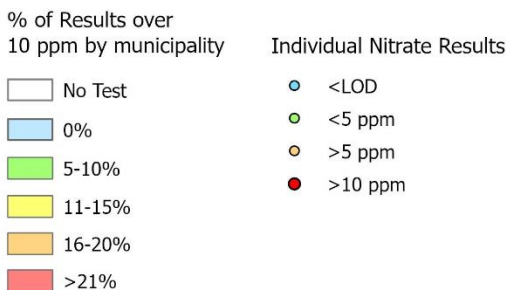
In 2019 the Land & Water Conservation Department presented to the County Board of Supervisors on nitrate contamination throughout Wood County. The County had a lot of private well testing done previously but not in any kind of an organized strategic manner. The Land & Water Conservation Department emphasized that it would be very difficult to analyze existing test results and pull any kind of trend data from it as it was so random. The Director recommended doing a county wide study targeting all 22 townships with a goal of 1 private well sampling in every section across the County. This would be a great representation of nitrate levels county wide as well as set a baseline to build from for future testing and trend analysis. The County Board moved to fund the study and the study began in 2019. The sampling effort was done over the 5-year period from 2019-2023.

Nitrate Testing 2019-2023

Wood County, Wisconsin



Legend



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High-Capacity Well Use of Groundwater

High-capacity wells or well systems are defined as one or more wells, drillholes, or mine shafts on a property (contiguous or adjacent land having the same owner) that have a combined approved pump capacity of 1000,000 gallons per day (Section NR 812.07(52-53) Wisconsin Administrative Code). Any high capacity well in the state must be reviewed and permitted by the WIDNR. The process for reviewing and permitting a high capacity well can be found at <https://dnr.wisconsin.gov/topic/Wells/HighCap/Apply.html>. WIDNR requires the amount of water pumped from these wells to be reported annually. Figure ___ shows the most recent annual record from 2022. The largest user of groundwater in Wood County is for municipal water or public utilities, followed by agricultural irrigation and cranberry production. The total amount of groundwater pumped in Wood County in 2022 was 3,091,771,827 gallons. The amount of groundwater pumped from these sources varies from year to year, dependent on how many wells may be pumping and conditions that may affect the amount of water needed.

Figure 2-5 Groundwater Pumping by Use

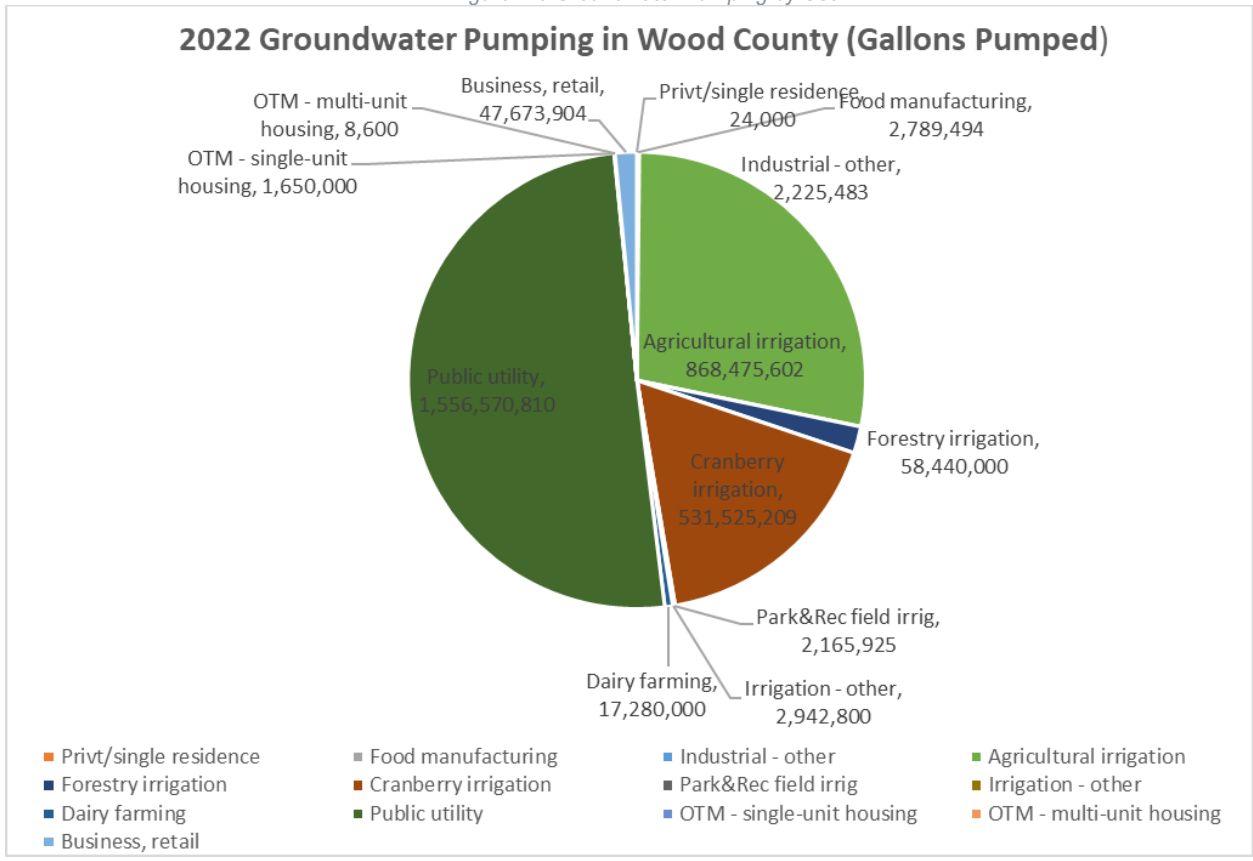


Figure ____.

Groundwater pumped (in gallons) from high-capacity wells in Wood County in 2022. <https://apps.dnr.wi.gov/waterusepub/Source>

Central Sands Groundwater County Collaborative

In 2018, six counties, including Wood County, began meeting to discuss concerns over groundwater quality issues in the Central Sands. These Counties recognized the need to work together across municipal boundaries in order to address the groundwater issues and make efficient use of groundwater resources. In 2019, Adams, Juneau, Marquette, Portage, Waushara, and Wood County boards unanimously passed resolutions to officially create the Central Sands Groundwater County Collaborative or CSGCC. Each County has representatives from their County Land and Water Conservation Department, County Health Department, and elected officials that make up the Collaborative. **The mission of CSGCC is to work together to meet the present and future needs for safe, high-quality reliable, and sustainable drinking water.**

In 2019 CSGCC members also drafted a list of initiatives to guide their future efforts. These initiatives are a way to work towards

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assuring safe drinking water for residents of and visitors to the participating Counties. The complete list of initiatives is listed below. Some of the initiatives have already been completed while others can serve as future activities that Wood County will continue to work towards.

- 1) Understand current groundwater conditions by evaluating existing data and reports. Develop a sampling strategy to collect water quality information across the counties in the Central Sands region. This information will be used to inform consumers, identify problem areas, interpret relationships to land use practices, and evaluate changes over time. In areas considered "hot spots", conduct further analysis to inform consumers and evaluate likely sources of nitrate contamination.
 - a) Conduct a GAP analysis by assessing and summarizing existing nitrate data and groundwater studies.
 - b) Develop a spatial data layer with septic locations.
 - c) Develop and launch a sampling strategy for nitrate trend monitoring that will inform consumers and the interpretation of analyzed data, answer questions about how groundwater is changing over time and whether practices are achieving safe drinking water goals.
 - d) In areas identified as "hot spots", conduct additional sampling that includes analysis of indicators for likely land management practices. Interpretation should include the use of existing data and identify the likely factors affecting nitrate contamination, when possible.
- 2) Understand where areas most vulnerable to groundwater contamination exist to guide development and use of ordinances, practices, and other preventative responses for nitrogen-contributing land uses.
 - a) Develop a map of susceptibility/risk of nitrate contamination based on physical characteristics and land use attributes.
- 3) Develop a uniform understanding of methods to prevent groundwater contamination from nitrogen based on information from previous studies in the Central Sands region and similar settings.
 - a) Conduct a systematic review to develop a menu of best management practices to address nitrate contamination concerns in the counties.
 - b) Develop a menu of good groundwater options for counties and possibly residential, agricultural, industrial, and municipal.
- 4) Develop a unified regional outreach strategy to provide partisan-free education about groundwater conservation and water quality safety to the general public.
 - a) Use a variety of outreach techniques to urge private well owners to routinely test their well water.

Work to Characterize Wood County Groundwater

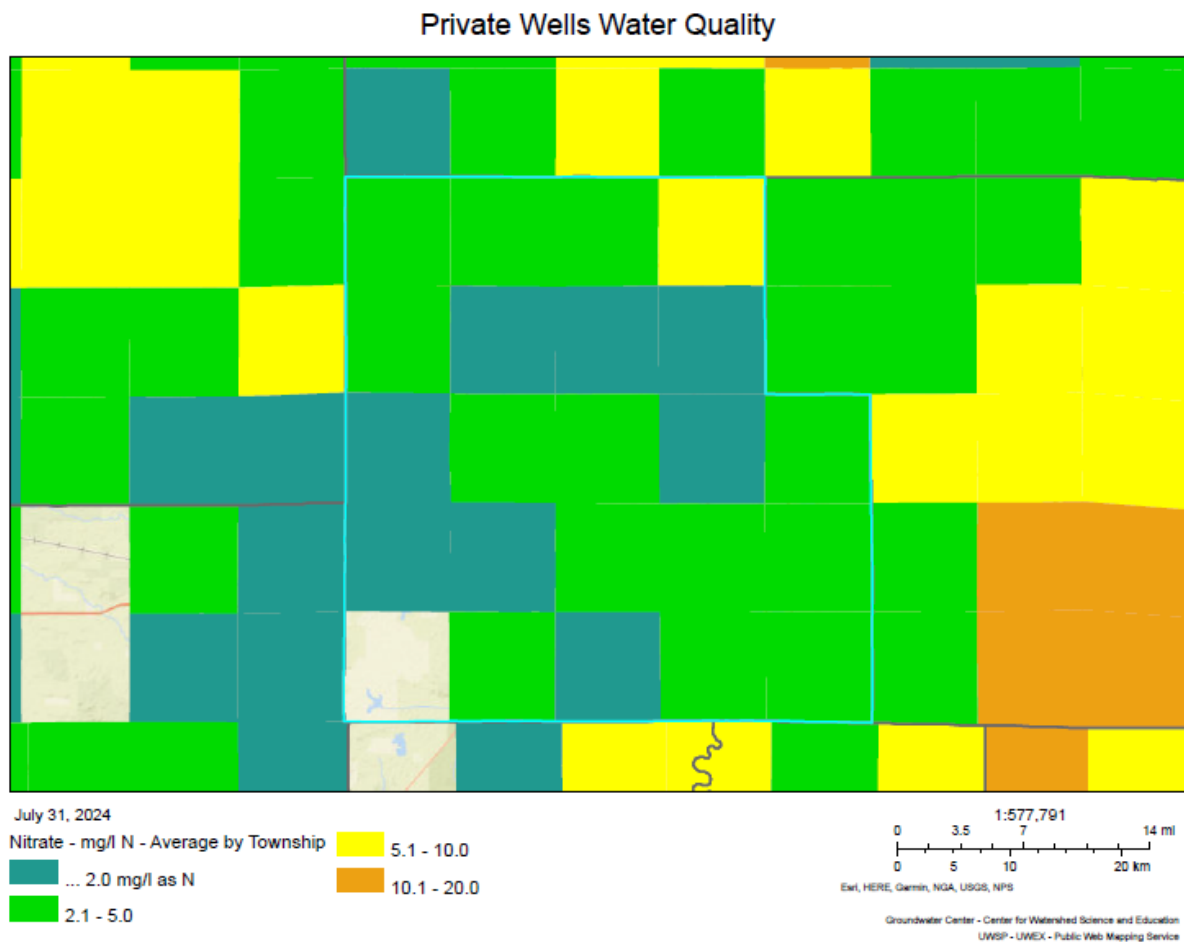
Over the last five years there have been numerous efforts to characterize the groundwater quality of Wood County. Overall, the quality of groundwater in Wood County is considered to be good. The most naturally occurring contaminant is iron and the most common man-made contaminant is nitrate-nitrogen. The characterizations of Wood County's groundwater confirm these findings.

Wisconsin Well Water Viewer

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The Wisconsin Well Water Viewer was created as an educational tool to help people better understand Wisconsin's groundwater resources. The Well Water Viewer relies mostly on voluntarily submitted well water samples from homeowners and other well water data collected by state agencies over the past 40 years. This includes private well water quality data from the Center for Watershed Science and Education, the WI Dept. of Ag, Trade and Consumer Protection, and the WI Department of Natural Resources Groundwater Retrieval Network, Eau Claire County Health Dept and La Crosse County Health Dept³. The well water viewer can summarize water quality data on a County level, municipal level, or section level for a variety of water quality analytes that include Alkalinity, Arsenic, Atrazine, Bacteria, Chloride, Conductivity, Copper, Iron, Lead, Manganese, Nitrate, pH, Saturation Index, Sulfate, and Total Hardness. The well water viewer can provide a good overview of water quality in areas of the County. The well water viewer also identifies areas where no water samples have been collected. According to the Wisconsin Well Water Viewer 6% of private wells sampled in Wood County exceed the drinking water standard for nitrate-nitrogen, which is lower than the state average of 9%³. Exceedances of the nitrate-nitrogen drinking water standard in private wells occur most often in private wells in the southeastern portion of Wood County, likely due to the sandy soils and high amount of agricultural land (Figure 2-6).

Figure 2-6 Nitrate-Nitrogen Concentration by Township in Wood County, WI 2024

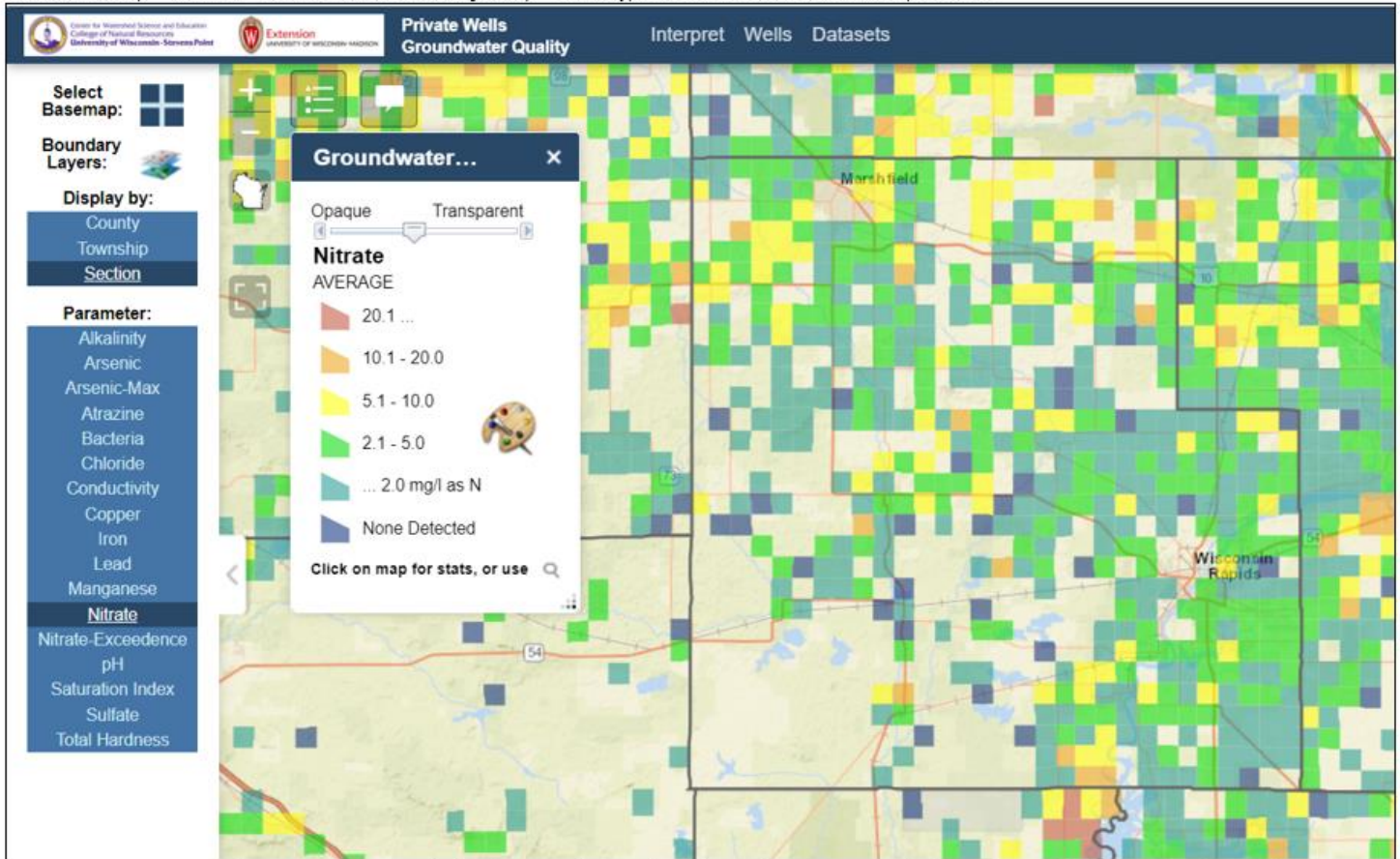


³ Wisconsin Well Water Viewer. 2024. https://gissrv3.uwsp.edu/webapps/gwc/pri_wells/

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Figure 2-7 Average Nitrate Concentration by Township in Wood County, WI 2024

Wood County – Private Wells Groundwater Quality – Average Nitrate Concentrations by Section

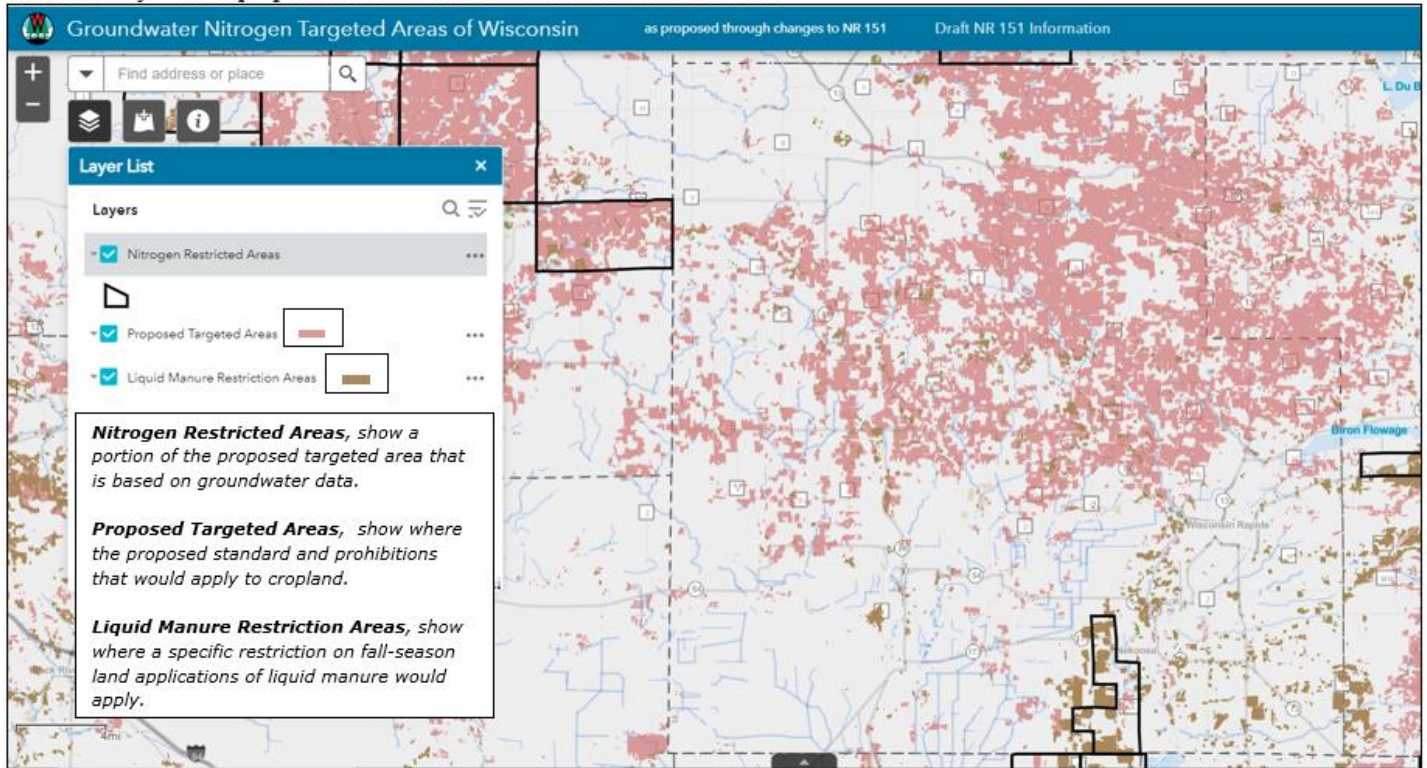


Source: UW Stevens Point Center for Watershed Science and Education - <https://www3.uwsp.edu/cnr-ap/watershed/Pages/WellWaterViewer.aspx>

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Figure 2-8 DNR Proposed Sensitive Areas for Nitrate Contamination in Wood County, WI

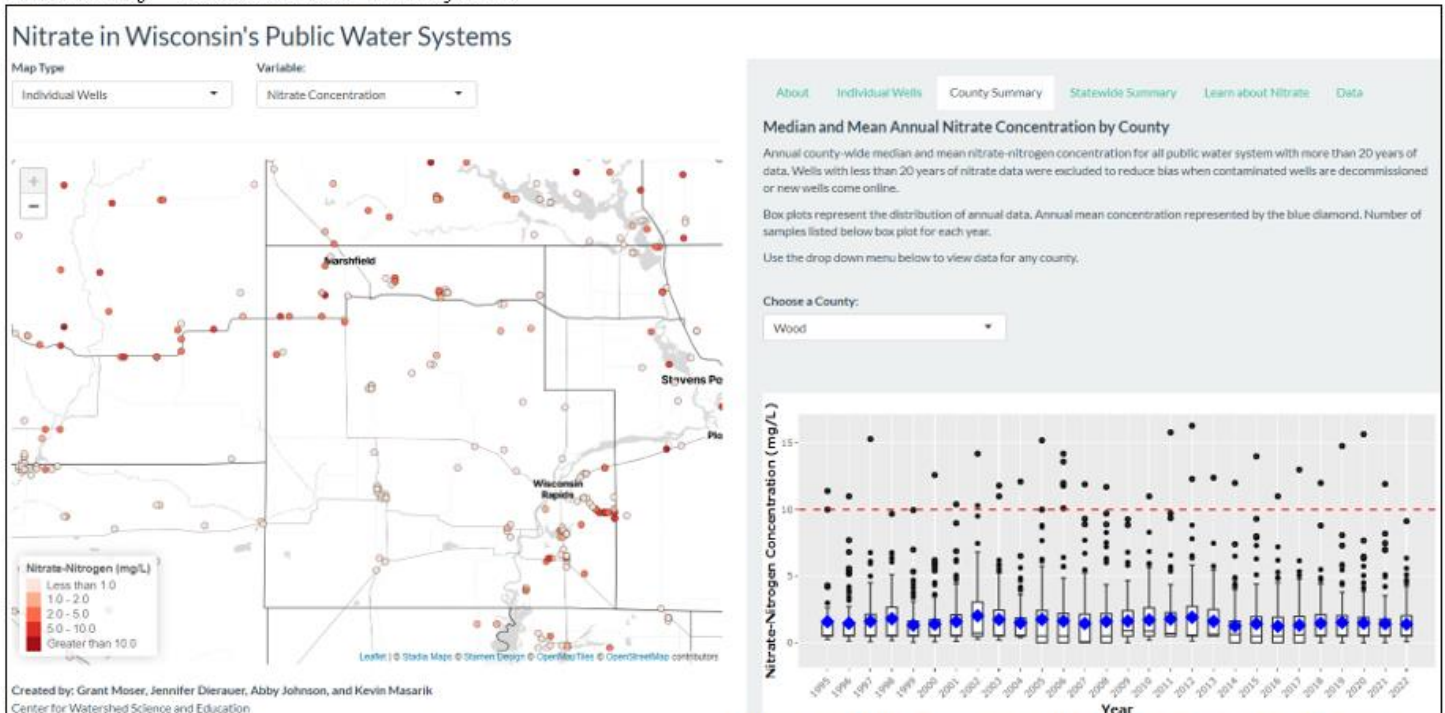
Wood County – DNR proposed Sensitive Areas for Nitrate Contamination



Source: Wisconsin DNR - <https://dnr.wisconsin.gov/topic/nonpoint/nr151nitrate.html>

Figure 2-9 Nitrate in Public Water Systems in Wood County, WI

Wood County – Nitrate in Public Water Systems



Source: UW Stevens Point Center for Watershed Science and Education - https://www3.uwsp.edu/cnr-ap/watershed/Pages/nitrate_trends.aspx

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High-Capacity Well Use of Groundwater

In 2021-2022, the Central Sands Nitrate and Neonicotinoid Study performed a data-gap analysis and compiled an exhaustive database of over 100,000 historical groundwater nitrate and neonicotinoid concentrations for wells across Adams, Juneau, Marquette, Portage, Waushara, and Wood counties. Using data collected from 1953-2021, the study evaluated trends in nitrate and neonicotinoid in groundwater and explored correlations between groundwater quality and land-use type.

The Gap analysis highlighted that the amount of nitrate samples increased since 1953 but remained stable overall since the early 2000's. Neonicotinoid data points only began to be collected after 2008, and sampling continued to increase since then. Through GIS a map was produced showing which sections with at least one well or septic system have never been sampled for nitrate (or no record of sampling could be found) or have not been sampled for nitrate in the last five years. A similar spatial gap analysis could not be conducted on the neonicotinoids data as very few and sparse data points have been collected.

No consistent increasing or decreasing linear trends were found for average nitrate data within each township of the CSGCC region. For the nitrate data in Wood County townships, please see Appendix _____. While the nitrate-nitrogen concentrations in samples over time do display a trend line, none of the R² values (listed on the graphs) are statistically significant, meaning that there are no statistically significant trends in nitrate-nitrogen trends found in the private well samples as part of this study. If Wood County wants to examine nitrate-nitrogen trends in private wells, they should consider a sampling strategy that samples the same private wells over an extended period of time. Neonicotinoid detection and exceedances of chronic and aquatic life benchmarks for invertebrates increased over time.

Through a logistic regression model, certain factors were examined to determine how they affected nitrate-nitrogen and neonicotinoids concentrations. Below is a summary of the statistical analysis findings for each variable. A positive trend indicates that the probability of the stated event increases as the value of a variable increases. A negative trend indicates the probability of the stated event decreases as the variable's value increases. An important variable to pay attention to is well depth, because this is a factor that can be controlled or determined by well owners. Generally, across the townships in Wood County, the deeper the well the less likely the well is to have nitrate-nitrogen concentrations above 10 mg/L.

Variable	Probability Nitrate > 10 mg/L	Probability of neonicotinoids detection
Well age	Positive trend	No relationship
Well depth	Negative trend	Negative trend
Percent agricultural land use	Positive trend	Positive trend
Number of septic systems	Negative trend (see final report of study for explanation)	Not applicable
Soil hydraulic conductivity	Positive trend	Positive trend
Soil clay content		Negative trend
Soil organic matter	Negative trend	Negative trend

Overall, neonicotinoids and nitrate data compilation is an ongoing and continuous processes that requires collaboration between various stakeholders. The database produced by this study has been extremely valuable to the researchers,

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policymakers, and members of the public for understanding and mitigating the impacts of groundwater contamination, and for protecting the quality and availability of groundwater resources. The database was used in the development of the nitrate susceptibility map of Wood County.

Nitrate-Nitrogen Trends in Public Drinking Water Systems in Wood County

The Wisconsin Department of Natural Resources (DNR) and the U.S. Environmental Protection Agency (USEPA) define a "public water system" as a system for the provision to the public of piped water for human consumption, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. "Serving" water means that water is available for drinking regardless of whether the water is actually being consumed⁴.

There are four different types of public drinking water systems, but all types are required to routinely sample their water quality. Because these systems are routinely sampled, they provide one of the most robust sources of water quality data to assess trends in water quality over time.

The University of Wisconsin-Stevens Point Center for Watershed Science and Education developed an online tool that compiles water quality data from public drinking water systems across the state to assess nitrate-nitrogen concentrations in public drinking water systems as well as trends nitrate-nitrogen concentrations in the systems⁵.

In 2022, (the most recent annual data) Wood County's 120 public drinking water systems had an average nitrate concentration of 1.4 mg/L and none of the public drinking water systems exceeded the nitrate-nitrogen drinking water standard of 10 mg/L.

When looking at nitrate-nitrogen trends in the 120 Wood County public drinking systems, there are seven systems that have decreasing trends in nitrate-nitrogen concentrations and two systems that have increasing trends in nitrate-nitrogen concentrations. The remaining 177 public drinking water systems have no nitrate-nitrogen trend.

Potential Actions

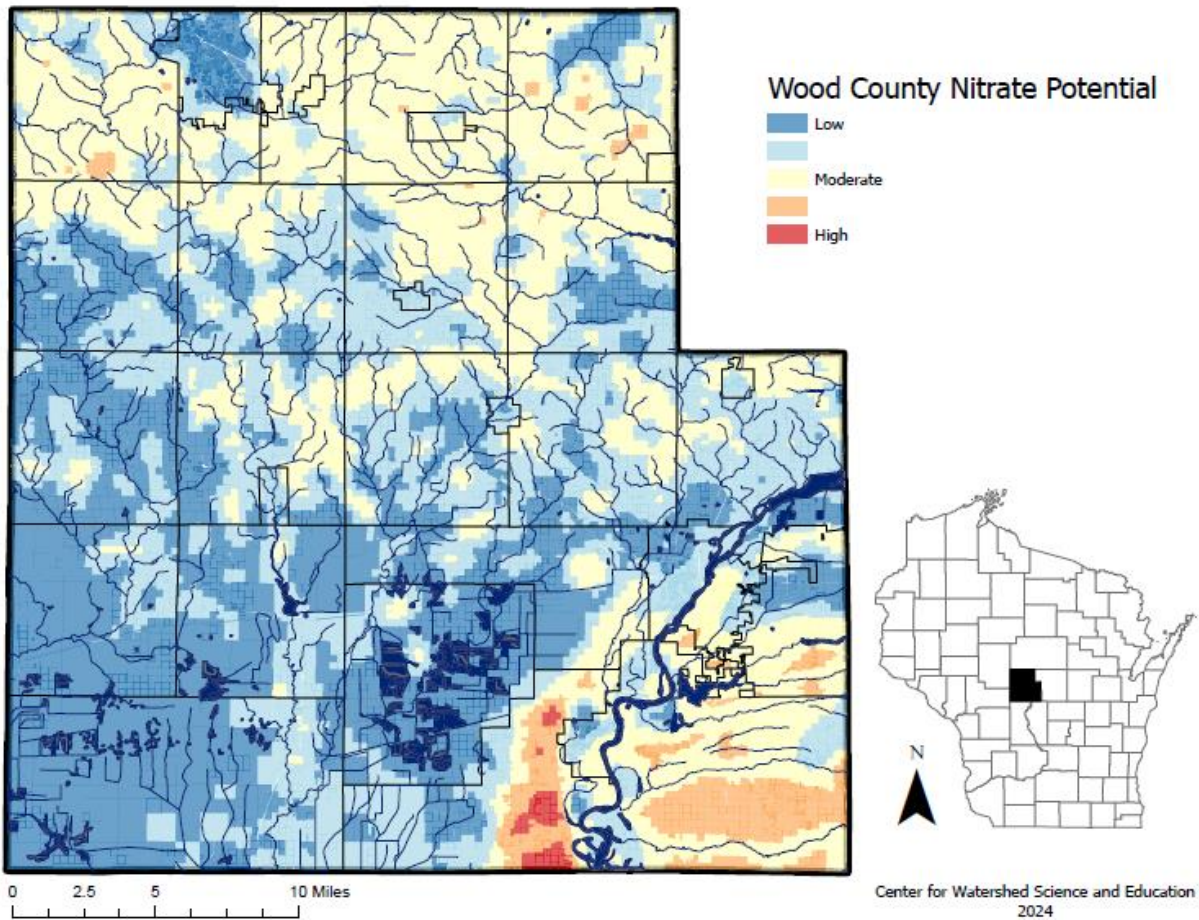
- 1) Establish a monitoring program of residential wells throughout the County that can be monitored recurrently to establish water quality trends in Wood County.
- 2) Continue to update the Wood County database of well information and drinking water quality results from the Wood County Lab
- 3) Utilize the Wood County nitrate risk map to identify areas of protection and areas where best management practices should be employed.
- 4) Continue to participate in multi-County collaborative efforts to address groundwater quality and quantity issues in Central Wisconsin.

⁴ Wisconsin Department of Natural Resources. 2024. Public Drinking Water Systems. <https://dnr.wisconsin.gov/topic/DrinkingWater/QualityData.html>

⁵ Moser, G., J. Dierauer, A., Johnson, and K. Masarik. 2024. Nitrate in Wisconsin's Public Water Systems. UWSP Center for Watershed Science and Education and UW-Madison Division of Extension. http://68.183.123.75/wisconsinwater/WI_NITRATE_TREND_2023/

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Figure 2-7 Map of Nitrate-Contamination Potential for Wood County, WI



A map that shows the potential for nitrate contamination throughout Wood County was created using land covers and soil drainage information from within a 500 - meter buffer of each parcel centroid. Multiple linear regression was used to investigate the relationship of nitrate to weighted drainage rank and the percentages of land cover classified as: potato/vegetable, continuous corn, cash grain, and dairy rotation. The factors analyzed are known to influence well water quality including geologic influences (i.e. soil drainage classification) and human activities (i.e. agricultural land cover types).

The Wiscland 2.0 coverage was used to determine the area of various agricultural land covers on each parcel. SSURGO database was used to characterize soil drainage class for each parcel. Rankings were assigned to each drainage classification with 1 representing very poorly drained soils and 7 representing excessively drained soils. A weighted average of soil drainage class was determined for the area within a 500-meter buffer of the parcel centroid.

The output from the multiple linear regression was used to assign a risk value to each parcel in the County, to determine areas with a high risk of nitrate contamination to areas with a low risk.

Nitrate is dependent on a variety of factors which include land-use, soils, geology, well depth, casing depth, etc. Even under similar land cover categories, the land cover data used for this analysis cannot determine the degree to which management may differ between owners. For example, sources and rates of nitrogen may differ, cover crops may be used on some fields and not others, or types of crops planted may have changed since 2017 when the Wiscland data layer was published. As a

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result, predicting high nitrate risk does not mean wells in those areas are guaranteed to have elevated nitrate, but does suggest a greater likelihood of detecting nitrate at elevated levels. Similarly, prediction of low risk does not rule out the possibility that a well has unsafe levels of nitrate. The map is not a replacement for routine well testing of important parameters such as nitrate. Predictive models like these can be used to inform county outreach strategies or prioritize areas for additional conservation management.

The map of nitrate contamination potential correlates well with actual data from Wood County [insert screen capture from well water viewer]

Masarik, Kevin. 2024. Center for Watershed Science and Education

Source Water Protection

On December 20, 2018, the U. S. President signed the Agriculture Improvement Act of 2018, commonly known as the Farm Bill. The Bill earmarked source water protection a priority within U. S. Department of Agriculture conservation programs and to designate significant funding towards those efforts. NRCS is an agency within the U. S. Department of Agriculture (USDA) that works with private landowners including farmers and ranchers.

Under the new Farm Bill, ten percent of spending on Conservation Title programs is to be directed to source water protection, providing at least \$4 billion over the next 10 years. These programs are intended to assist farmers, ranchers, and forest landowners protect and enhance environmental outcomes that have benefits both on and off-farm. Moreover, there is a now a directive for USDA to work closely with utilities to identify and prioritize areas that need source water protection.

Protecting sources of drinking water is an effective way to reduce risks to public health, control water treatment costs, and address water quality concerns at the source. Private landowners support safe drinking water through conservation practices to protect source water. The USDA's Natural Resources Conservation Service (NRCS), which helps farmers, ranchers and agricultural landowners address source water protection and other resource concerns, is launching a new effort in Wisconsin.

Figure 2-8 Illustrates Wisconsin's effort to target eight watersheds that will be eligible for special source protection efforts.



Figure 2-8

In Wood County, the Four- & Five-Mile Watershed is a proposed source water protection watershed. The Four- & Five-Mile River Watershed is located in the southeast portion of Wood County and is an important water resource in the County.

Drinking Water

Drinking Water Quality

The Wood County Land & Water Resource Management Plan 2025-2035 recognizes the need to Protect and enhance the quantity and quality of potable groundwater and potable surface water supplies. The following five strategies are goals of this plan and include the following:

Strategy A Develop a County Groundwater Protection Plan.

Strategy B Continue to develop and implement watershed management plans and targeted management plans to minimize the impacts on water quality.

Strategy C Evaluate the county's role in conducting tests and analysis of contaminants in private wells and in evaluating whether such tests should be mandatory instead of voluntary.

Strategy D Explore alternative methods for snow and ice removal from hard surfaces to reduce the impact of salt on surface water and groundwater.

Strategy E Create partnerships with agencies and organizations to further efforts to protect surface water and groundwater.

Groundwater is the major source of public water supply for private, domestic, agricultural, and industrial use in Wood County. Areas along the Wisconsin River provide ample water supply from alluvial aquifers; however, adequate groundwater is limited in parts of the county where dense bedrock is close to the surface.

The need for clean groundwater is both a health and economic issue. Groundwater quality and quantity, in both rural and urban areas can vary in any location at any time. Where groundwater becomes polluted, property values drop, and a natural resource is diminished from its full potential. For this reason, local land use activities can significantly influence groundwater quality and quantity in terms of whether a valuable resource is protected and how all key stakeholders have an important role in its protection.

The University of Wisconsin-Stevens Point, Center for Watershed Science and Education, provides a portal through the university's website to view water quality data for all counties in the State of Wisconsin. The Wisconsin Well Water Quality Viewer for Private Well Data offers information regarding general well water data for Wood County; however, drinking water quality data for Wood County is still limited and would require more sampling or testing data to establish a better understanding of possible water quality concerns that may or may not exist within the county. Therefore, it must be carefully considered whether a well testing program is required to make better-informed decisions regarding public health.

CHAPTER 3 | GOALS & OBJECTIVES

Surface Water Resources

Physiology, Geology, and Drainage

Wood County lies in two geographic provinces of Wisconsin. The northern one-third is part of the Northern Highland, and the rest of the county is part of the Central Plain according to the Soil Survey of Wood County, Wisconsin.

In general, the Northern Highland region has underlying bedrock that consists of Precambrian crystalline rocks. The western half of this region has a mantle of heavy loam glacial till over bedrock. The rest of this region has, over the bedrock, a layer, which varies in thickness; this layer is loamy residuum weathered from Precambrian rock. The entire region was covered by a layer, about two feet thick of wind-deposited silt.

The central plain region has underlying bedrock that consists of Cambrian sandstone interbedded with varying amounts of shale. The shale layers are generally thin or absent in parts of Sigel and Hansen Townships but are thick and very prominent in the western part of the county. Glacial till covers the sandstone and shale in the northwestern part of the county and on a few broad, low ridges south of Powers Bluff, but the rest of the Central Plain in Wood County is residual. One to two feet of loess cover the entire region except the lake plain and outwash parts.

Wood County is drained by four primary drainage systems. The Wisconsin River flows through the southeastern quarter of the county and intercepts a number of small creeks that drain the eastern part of the county. Mill Creek flows eastward from Marshfield, draining part of northern Wood County. The Yellow River and Hemlock Creek system, which flows southward, drains the central and largest part of the county. The extreme western part of the county is drained by the westward-flowing East Fork of the Black River. A few small creeks in the extreme northern part of the county flow northward into the Little Eau Pleine River in adjoining Marathon County. The watershed divides are generally low and ill-defined, as is characteristic of an area of low relief and somewhat poorly drained or poorly drained soils.

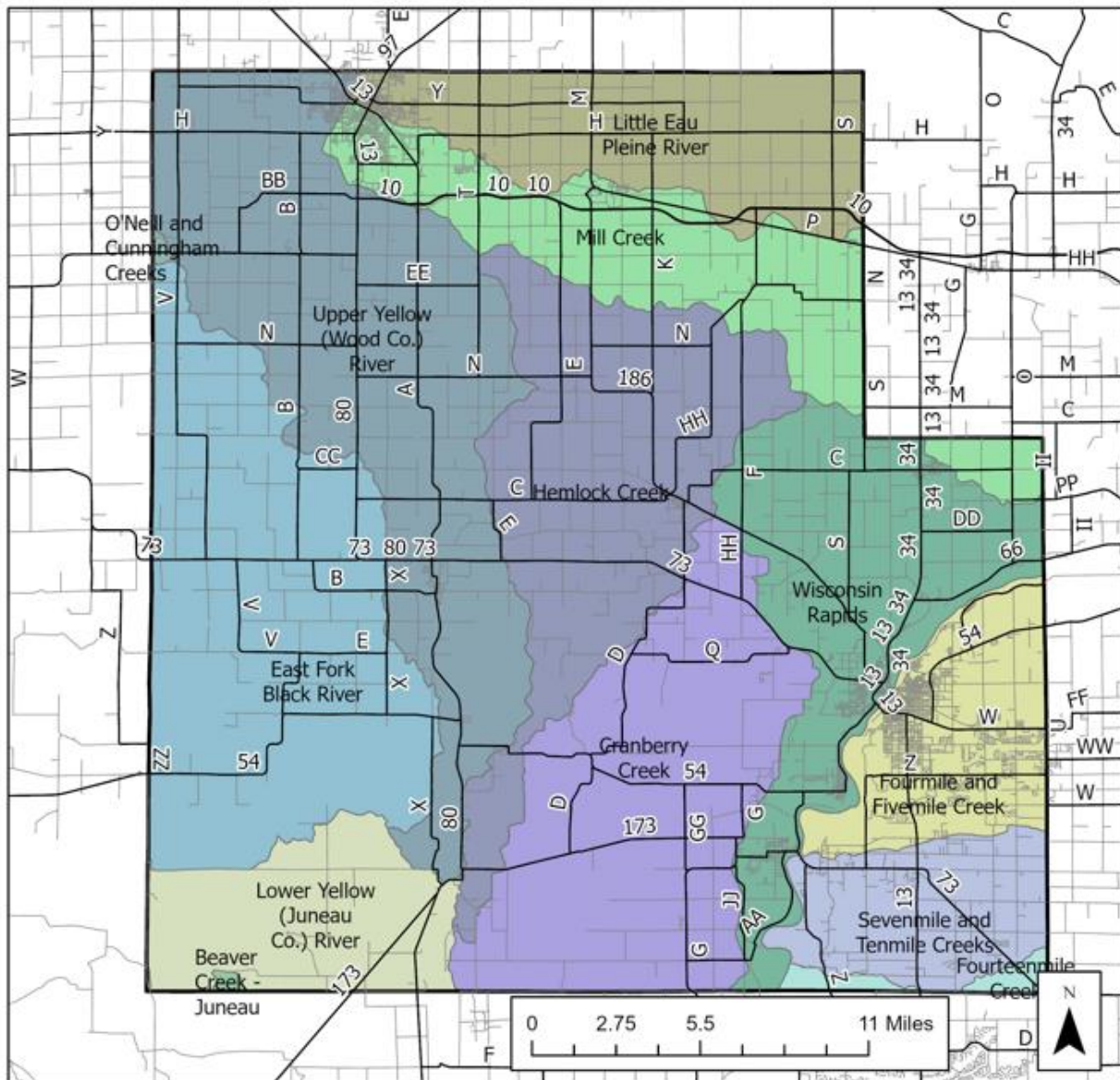
Watersheds and Drainage

A watershed can be defined as an interconnected area of land draining from surrounding ridge tops to a common point such as a lake or stream confluence with a neighboring watershed. All lands and waterways can be found within one watershed or another. Wood County watersheds are shown in (map 2-6). In Wisconsin, watersheds vary in scale from major river systems to small creek drainage areas and typically range in size from 100 to 300 square miles. River basins encompass several watersheds. There are 32 river basins in Wisconsin, which range in size from 500 to over 5,000 square miles. Wisconsin's 32 river basins are then divided in 23 geographic management units. These units or "GMUs" are the basis for the reorganized DNR and form the nucleus around which programs are implemented in the regions.

Wood County is located within two geographic management units (GMUs) including the Black-Buffalo-Trempealeau, and the Central Wisconsin GMU. Within these GMUs, Wood County is located within two different river basins including the Central Wisconsin River Basin and the Black River Basin. Within these basins, ten distinct watersheds can be found.

Major Watersheds Wood County, Wisconsin

Figure 2-9



Legend

- | | | |
|-----------------------------|---------------------------------|-------------------------------|
| Beaver Creek - Juneau | Cranberry Creek | Sevenmile and Tenmile Creeks |
| East Fork Black River | Lower Yellow (Juneau Co.) River | Upper Yellow (Wood Co.) River |
| Fourmile and Fivemile Creek | Mill Creek | Wisconsin Rapids |
| Fourteenmile Creek | O'Neill and Cunningham Creeks | |

CHAPTER 2 | RESOURCE ASSESSMENT (continued)

Wetlands

According to Wisconsin State Statutes, Chapter NR 103, wetlands are areas which water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions. Wetlands may be seasonal or permanent and are commonly referred to as swamps, marshes, fens or bogs. Wetland plants and soils have the capacity to store and filter pollutants ranging from pesticides to animal wastes. Wetlands provide storage of floodwaters preventing damage to developed areas. Wetlands can make lakes, rivers, and streams cleaner, and drinking water safer. Wetlands also provide valuable habitat for fish, plants, and animals.

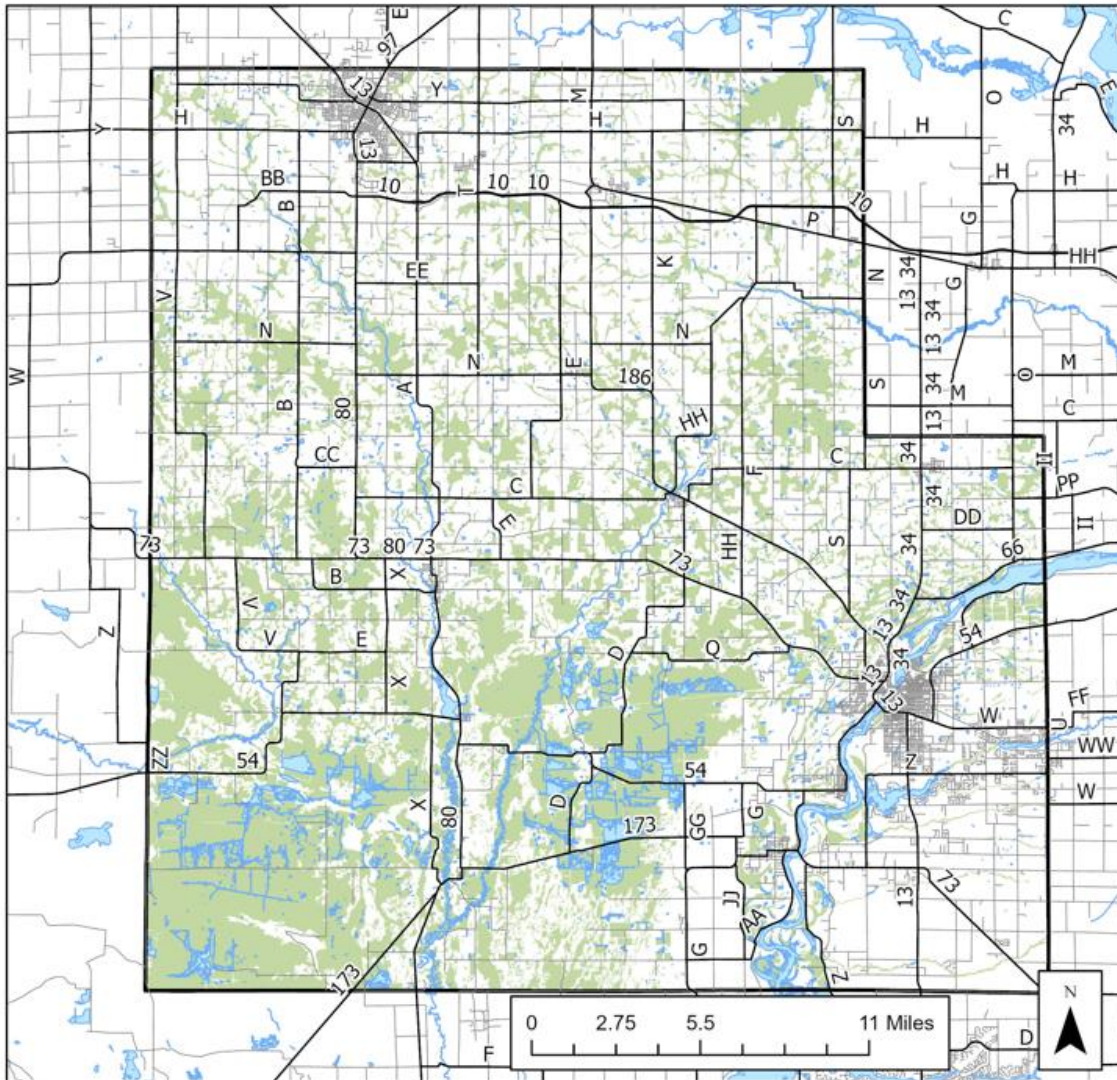
As is the case statewide and nationally, Wood County has experienced a decline in the number of quality wetlands. According to the WDNR, there are 130,725 acres of wetland in Wood County or 25.8% of total acres in the county. WDNR mapped wetlands for Wood County are shown in (map 2-7).

Construction of new and expanded cranberry beds has traditionally been done in wetlands. Now, however, new construction is usually done in upland soil types, avoiding wetlands.

The Wisconsin DNR and the US Army Corp of Engineers require mitigation when natural wetland sites are destroyed. Several mitigations have taken place in Wood County during the past ten years. In many cases, the mitigated wetlands are of lesser quality than the destroyed wetlands.

WI DNR Wetland Inventory Wood County, Wisconsin

Figure 2-10



Legend

-  DNR Wetland Inventory
-  Rivers, Streams and Lakes

CHAPTER 2 | RESOURCE ASSESSMENT (continued)

Woodland

Woodland is one of the most prominent land cover features found in Wood County. Woodlands are important to the county's resource base, culture, and economy. Woodland serves many functions, adds value to both the local economy and quality of life. They provide wildlife habitat, recreational opportunities, timber, and pulpwood.

Woodlands occupy a major portion of the land area in Wood County with aspen, oak, maples, white birch, white pine, and red pine being the dominant species. Much of the forests are used by the paper mills for huge amounts of pulpwood, which is vital for paper production. There are also a significant number of tree farms specializing in Christmas trees located in the southern part of the county. Of the 516,544 acres in the county, 215,400 acres or 42 percent are classified as woodland (figure 2-11). The county forest contains 37,536 acres of woodland. In the 1850's county forests were covered primarily with stands of white pine and tamarack. Between 1850 and the early 1930's when the county first acquired forestland, portions of the county were cutover, drained, burned, and farmed. Because of soil condition many farms failed, leaving tax delinquent lands with acquisitions beginning in the 1930's. The Wood County Forest generates significant revenues for the county, primarily through pulpwood harvests.

An increasing share of the property tax burden continues to shift to forestland owners, primarily due to use-value assessment and the rising assessed value of forestland. Use-value assessment is lowering the property tax burden for owners of agricultural land, thus placing more demand on non-agricultural properties. Rising property taxes for forestland owners have led to a sharp increase in Managed Forest Law (MFL) program enrollment. This WDNR program provides a property tax break for forest owners who agree to adopt a forest management plan.

As one of only 29 counties with county forestland, the Wood County Forest is a unique community resource. The landscape of the county forest supports thriving forest communities and abundant recreational opportunities. Hunting, fishing, hiking, biking, camping, canoeing, kayaking, ATVs, snowmobiles, snowshoeing, boating, cross-country skiing, bird watching, and sightseeing are all important elements of Wood County's culture and economy that are supported by the County Forest.

CHAPTER 2 | RESOURCE ASSESSMENT (continued)

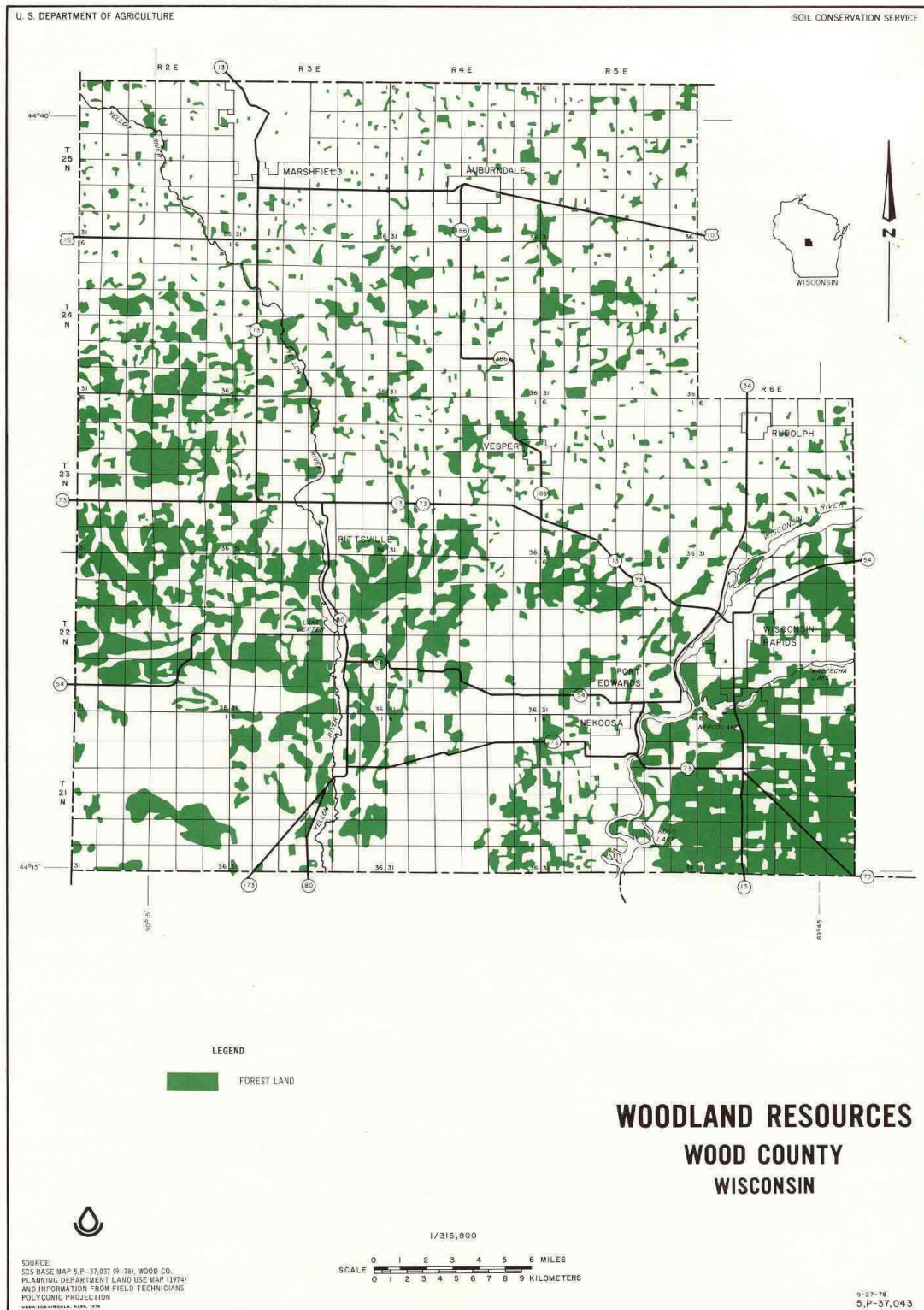


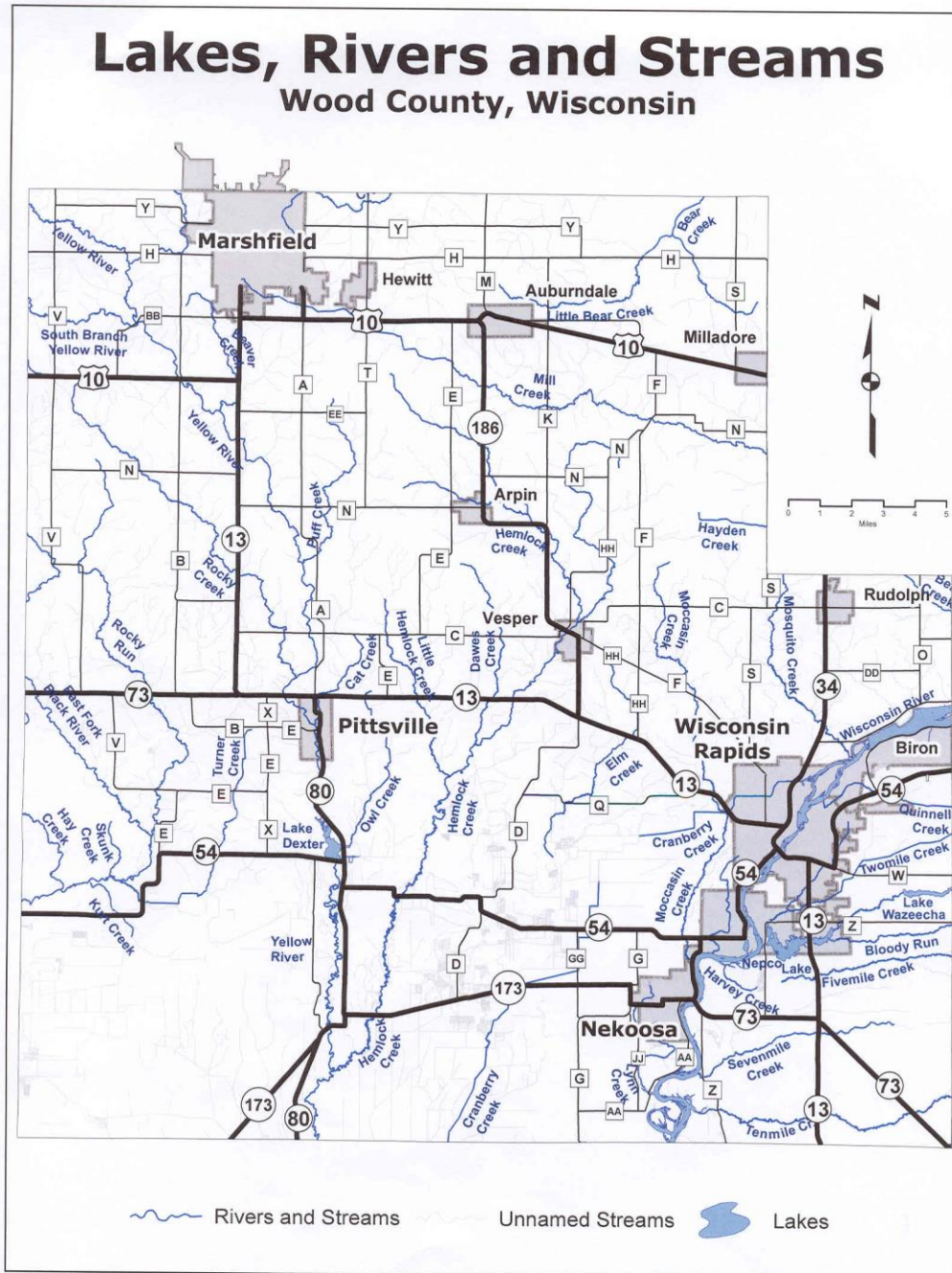
Figure 2-10

CHAPTER 2 | RESOURCE ASSESSMENT (continued)

Surface Water Resources

Wood County has a total water surface of 16,113 acres, which includes 28 named lakes, 102 unnamed lakes/flowages and 44 streams. Except for cranberry flowages, Wood County has very few lakes. Major lakes include Lake Wazeecha, Nepco Lake and Dexter Lake. All of these are impoundments.

The total stream length is 405 miles. Of this total, 39.0 miles are classified as trout streams with 15.0 miles of Class I trout streams. Major rivers in the county include, the Yellow River, Hemlock Creek, Mill Creek, East Fork Black River and the Wisconsin River (figure 2-12).



Impaired Waters

The listing of waters under the Clean Water Act (s.303(d)) must, under current U.S. Environmental Protection Agency (EPA) requirements, occur every two years. This list identifies waters which are not meeting water quality standards, including both water

CHAPTER 2 | RESOURCE ASSESSMENT (continued)

quality criteria for specific substances or the designated uses, and is used as the basis for development of Total Maximum Daily Loads (TMDLs) under the provisions of section 303(d)(1)(c) of the Act. The 303(d) list has been characterized as an impaired waters list. There are twenty-five listed impaired water bodies in Wood County, according to the WDNR. These waters are listed within Wisconsin's 303(d) Water-body Program and are managed by the WDNR's Bureau of Watershed Management. They include Brion Flowage, Dexter Lake, South Branch O'Neil Creek, Wisconsin River, Bear Creek, Beaver Creek, Cat Creek, Dawes Creek, East Branch Yellow River, East Fork Hemlock Creek, Flick Creek, Hemlock Creek, Little Bear Creek, Little Hemlock Creek, McMillan Creek, Mill Creek, Moccasin Creek, Puff Creek, Rocky Creek, South Branch Yellow River, South McMillan Creek, Yellow River, and three unnamed creeks.

Waterbody Name	Water Type	Start Mile	End Mile	Size (Miles or Acres)	Pollutants (Causes)	Impairments (Observed Effects)	Watershed Name
Bear Creek	River	0	11.7	11.7	Total Phosphorus	High Phosphorus Levels	Mill Creek
Beaver Creek	River	0	4	4	Total Phosphorus	High Phosphorus Levels, Impairment Unknown	Upper Yellow (Wood Co.) River
Beaver Creek	River	4	6.2	2.2	Total Phosphorus	High Phosphorus Levels	Upper Yellow (Wood Co.) River
Biron Flowage	Impoundment			2,187	Perfluorooctane sulfonate (PFOS)	PFOS Contaminated Fish Tissue	Wisconsin Rapids
Cat Creek	River	0	2.3	2.3	Total Phosphorus	High Phosphorus Levels	Upper Yellow (Wood Co.) River
Dawes Creek	River	0	7.8	7.8	Total Phosphorus	Impairment Unknown	Hemlock Creek
Dexter Lake	Impoundment			286.7	Escherichia Coli (E. Coli)	Recreational Restrictions - Pathogens	Upper Yellow (Wood Co.) River
Dexter Lake	Impoundment			286.7	Total Phosphorus	Eutrophication, Excess Algal Growth	Upper Yellow (Wood Co.) River
East Branch Yellow River	River	0	8.8	8.8	Total Phosphorus	Impairment Unknown	Upper Yellow (Wood Co.) River
East Fork Hemlock Creek	River	0	11	11	Total Phosphorus	Impairment Unknown	Hemlock Creek
Flick Creek	River	0	1.4	1.4	Total Phosphorus	High Phosphorus Levels	Wisconsin Rapids
Hemlock Creek	River	0	27	27	Total Phosphorus	Degraded Biological Community	Hemlock Creek
Hemlock Creek	River	27	32.9	5.9	Total Phosphorus	High Phosphorus Levels	Hemlock Creek
Little Bear Creek	River	0	1.5	1.5	Total Phosphorus	Degraded Biological Community	Little Eau Pleine River
Little Bear Creek	River	1.5	8	6.5	Total Phosphorus	Impairment Unknown	Little Eau Pleine River
Little Hemlock Creek	River	0	10.4	10.4	Total Phosphorus	High Phosphorus Levels	Hemlock Creek
McMillan	River	0	8.7	8.7	Total	Impairment Unknown	Little Eau Pleine River

CHAPTER 2 | RESOURCE ASSESSMENT (continued)

Creek					Phosphorus		
Mill Creek	River	16	32.8	16.8	Total Phosphorus	Low Dissolved Oxygen	Mill Creek
Moccasin Creek	River	5	19.1	14.1	Total Phosphorus	Impairment Unknown	Wisconsin Rapids
Puff Creek	River	0	7.7	7.7	Total Phosphorus	Degraded Biological Community	Upper Yellow (Wood Co.) River
Rocky Creek	River	0	12.2	12.2	Total Phosphorus	Impairment Unknown	Upper Yellow (Wood Co.) River
South Branch O'Neill Creek	River	0	18.1	18.1	Total Phosphorus	High Phosphorus Levels	O'Neill and Cunningham Creeks
South Branch Yellow River	River	0	17.5	17.5	Total Phosphorus	Degraded Biological Community	Upper Yellow (Wood Co.) River
South McMillan Creek	River	0	8	8	Total Phosphorus	High Phosphorus Levels	Little Eau Pleine River
Unnamed	River	5	7.9	2.9	Total Phosphorus	High Phosphorus Levels	Upper Yellow (Wood Co.) River
Unnamed	River	0	5	5	Total Phosphorus	Impairment Unknown	Upper Yellow (Wood Co.) River
Unnamed	River	0	1.9	1.9	Total Phosphorus	Degraded Biological Community	Upper Yellow (Wood Co.) River
Unnamed	River	0	1.3	1.3	Total Phosphorus	Impairment Unknown	Upper Yellow (Wood Co.) River
Yellow River	River	8.4	39.1	30.7	Total Phosphorus	Impairment Unknown	Lower Yellow (Juneau Co.) River
Yellow River	River	39.1	50	10.9	Total Phosphorus	High Phosphorus Levels	Upper Yellow (Wood Co.) River
Yellow River	River	53	83.1	33.1	Total Phosphorus	High Phosphorus Levels	Upper Yellow (Wood Co.) River
Wisconsin River	River	188	204.4	16.4	Cause Unknown	Degraded Biological Community	Fourteen mile Creek
Wisconsin River	River	188	204.4	16.4	Polychlorinated Biphenyls (PCBs)	PCBs Contaminated Fish Tissue	Fourteen mile Creek
Wisconsin River	River	204.4	223.7	19.3	Mercury	Mercury Contaminated Fish Tissue	Wisconsin Rapids
Wisconsin River	River	204.4	223.7	19.3	Polychlorinated Biphenyls (PCBs)	PCBs Contaminated Fish Tissue	Wisconsin Rapids

Outstanding and Exceptional Waters

Wisconsin has classified many of the State's highest quality waters as Outstanding Resource Waters (ORWs) or Exceptional Resource Waters (ERWs). Chapter NR 102 lists the ORWs and ERWs. The WDNR conducted a statewide evaluation effort in the early 1990's to determine which waters qualified for ORW and ERW classification. By 2006, a significant number of waters were added to Chapter NR

CHAPTER 2 | RESOURCE ASSESSMENT (continued)

102 as ORWs and ERWs. Wood County has 15.0 miles of Class I trout water classified as exceptional resource waters. This would include 5.0 miles of Bloody Run Creek, 2.3 miles of Fivemile Creek 1.5 mile of Lynn Creek, 3.0 miles of Rocky Creek, and 3.2 miles of Sevenmile Creek.

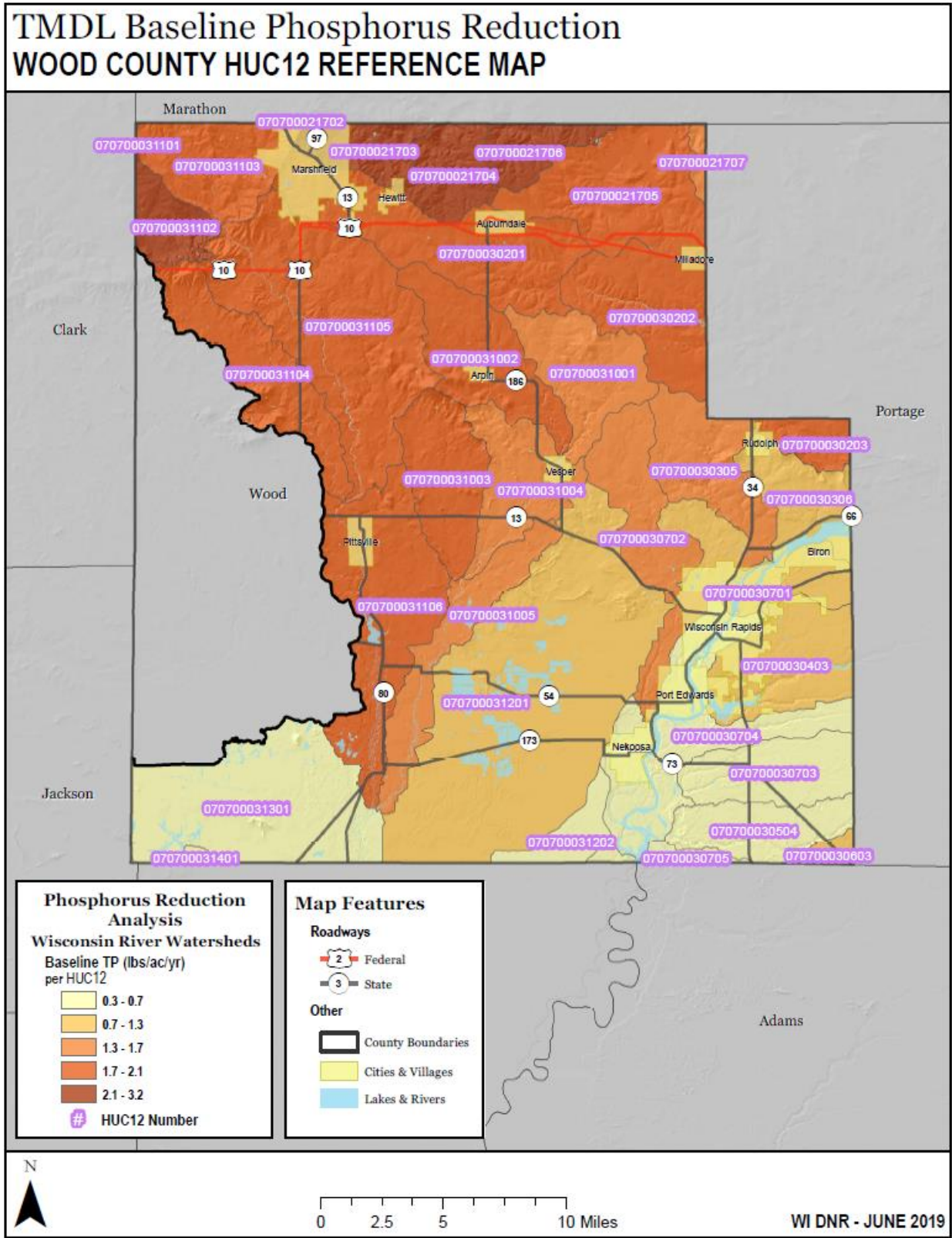
Healthy Watersheds, High Quality Waters

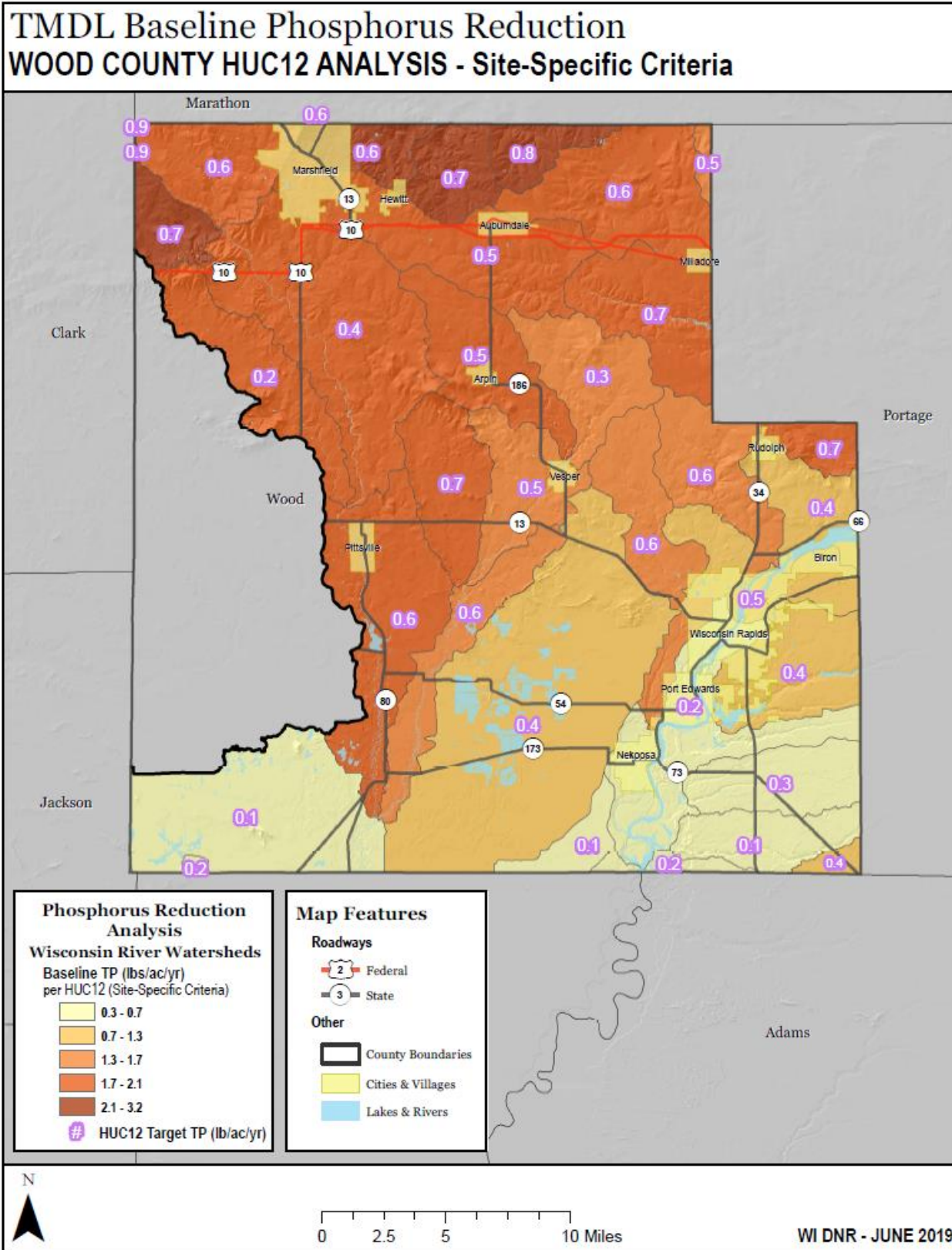
In 2022, the Wisconsin Department of Natural Resources published the Healthy Watersheds, High-Quality Waters Action Plan which identifies, and shifts focus to protecting the healthy water resources of Wisconsin. In 2021, DNR staff identified high quality lakes, rivers, and streams, healthy wetlands, and rare and unique wetlands for each county in Wisconsin. Figure ## shows Wood County's healthy watersheds and high-quality waters.

2021 High-Quality Waters: Lakes, Rivers, Streams										
Wood County - 7 High-Quality Waters identified in 2021										
Data sorted by alphabetical county and alphabetical waterbody name										
OFFICIAL NAME	LOCAL NAME	WBIC	PRIORITY WATERSHEDS HUC6: • State: •• Both: •••	COUNTY NAME (STREAM MOUTH & LAKE LOCATION)	HUC6	HUC12 CODE (STREAM MOUTH & LAKE LOCATION)	UNIQUE & RARE RESOURCES (COUNT)	Attaining WQS (COUNT)	IBIs (COUNT)	HQW CRITERIA (COUNT)
Bloody Run		1390600		Wood	Wisconsin	070700030403	2	1	1	3
Hemlock Creek		1366300		Wood	Wisconsin	070700031005	1		1	2
Owl Creek		1370300		Wood	Wisconsin	070700031106		1	1	2
Rocky Creek	Run	1370800		Wood	Wisconsin	070700031104	2	1	4	3
Sevenmile Creek		1387000		Wood	Wisconsin	070700030704	2	2	3	3
Tennile Creek	Ditch # 10	1382700		Wood	Wisconsin	070700030704	3	4	3	3
Unnamed		1372400		Wood	Wisconsin	070700031105		1	1	2

2021 High-Quality Waters: Healthy Wetlands										
Wood County - 9 Healthy Wetlands identified in 2021										
Data sorted by alphabetical county and increasing Healthy Wetland ID										
WETLAND ID	SITE NAME	SITE ID	PRIORITY WATERSHEDS HUC6: • State: •• Both: •••	COUNTY NAME	HUC6	HUC12 CODE	DISTURBANCE RANK	PLANT COMMUNITY CONDITION	LAT	LONG
Healthy_231	Hiles Wetlands SNA	NC147	•••	Wood	Miss-Black-Root	070400070605	1	1	44.381103	-90.268278
Healthy_233	Hiles Wetlands	NC148	•••	Wood	Miss-Black-Root	070400070605	1	1	44.386212	-90.257311
Healthy_234	Hiles Wetlands SNA	NC146	•••	Wood	Miss-Black-Root	070400070605	1	1	44.40183	-90.285532
Healthy_264	Mead Conifer Bog SNA	NC157		Wood	Wisconsin	070700021705	1	1	44.667057	-89.890776
Healthy_272	Mead Conifer Bog SNA	NC156		Wood	Wisconsin	070700021705	1	1	44.6771	-89.8836
Healthy_274	Mead WA	NC026		Wood	Wisconsin	070700021705	2	2	44.6827	-89.87761
Healthy_275	Mead WA	NC020		Wood	Wisconsin	070700021707	1	1	44.682701	-89.850394
Healthy_276	Mead WA	NC024		Wood	Wisconsin	070700021707	1	1	44.68405	-89.85229
Healthy_277	Mead Conifer Bog SNA	NC155		Wood	Wisconsin	070700021705	2	1	44.684451	-89.879997

2021 High-Quality Waters: Rare & Unique Wetlands										
Wood County - 5 Rare & Unique Wetlands identified in 2021										
Data sorted by alphabetical county and increasing Rare & Unique Wetland ID										
WETLAND ID	WETLAND TYPE	SITE ID	PRIORITY WATERSHEDS HUC6: • State: •• Both: •••	COUNTY NAME	HUC6	HUC12 CODE	SRANK	GRANK	LAT	LONG
Rare_222	Central Poor Fen	CPHER061WI	•	Wood	Wisconsin	070700031301	S3	G3G4	44.316188	-90.159898
Rare_224	Central Poor Fen	CPHER061WI	•	Wood	Miss-Black-Root	070400070605	S3	G3G4	44.326648	-90.274007
Rare_234	Central Poor Fen	CPHER061WI	•	Wood	Miss-Black-Root	070400070605	S3	G3G4	44.380064	-90.273074
Rare_235	Central Poor Fen	CPHER061WI	•	Wood	Wisconsin	070700031106	S3	G3G4	44.389454	-90.087796
Rare_236	Central Poor Fen	CPHER061WI	•	Wood	Miss-Black-Root	070400070604	S3	G3G4	44.396696	-90.287262





CHAPTER 2 | RESOURCE ASSESSMENT (continued)

Wood County - Edge of Field Total Phosphorus Target by HUC12							
HUC12 CODE	HUC12 NAME	TMDL	CROPLAND ACRES IN COUNTY	BASELINE TP (lb/ac/yr)	TARGET TP CC (lb/ac/yr)	TARGET TP SSC (lb/ac/yr)	
070700021702	Mcmillan Marsh-Little Eau Pleine River	WRB	0.00		2.5	0.5	0.6
070700021703	Squaw Creek/Scheuer Creek	WRB	2,632.05		2.6	0.5	0.6
070700021704	Wild Creek-Little Eau Pleine River	WRB	4,706.58		2.6	0.5	0.7
070700021705	Bear Creek	WRB	7,597.61		1.9	0.4	0.6
070700021706	Honey Island Flowage-Little Eau Pleine River	WRB	2,686.67		2.6	0.5	0.8
070700021707	Townline Reservoir-Little Eau Pleine River	WRB	395.78		1.5	0.3	0.5
070700030201	Upper Mill Creek	WRB	11,675.77		1.9	0.4	0.5
070700030202	Middle Mill Creek	WRB	6,785.48		1.8	0.4	0.7
070700030203	Bear Creek	WRB	1,796.17		1.8	0.4	0.7
070700030305	Mosquito Creek	WRB	3,548.02		1.7	0.3	0.6
070700030306	Biron Flowage-Wisconsin River	WRB	1,344.95		1.1	0.2	0.4
070700030403	Nepco Lake	WRB	256.55		1	0.2	0.4
070700030504	Tenmile Creek	WRB	192.01		0.3	0.1	0.1
070700030603	Fourteenmile Creek	WRB	0.00		1.1	0.2	0.4
070700030701	City of Wisconsin Rapids-Wisconsin River	WRB	965.49		1.3	0.3	0.5
070700030702	Mocassin Creek	WRB	3,796.18		1.5	0.3	0.6
070700030703	Sevenmile Creek	WRB	326.47		0.7	0.1	0.3
070700030704	Fivemile Creek-Wisconsin River	WRB	660.56		0.5	0.1	0.2
070700030705	Peenwell Lake	WRB	348.71		0.5	0.1	0.2
070700031001	East Fork of Hemlock Creek	WRB	4,801.61		1.7	0.3	0.3
070700031002	Upper Hemlock Creek	WRB	5,265.98		1.8	0.5	0.5
070700031003	Little Hemlock Creek	WRB	4,374.11		1.9	1.9	0.7
070700031004	Middle Hemlock Creek	WRB	2,827.97		1.7	1.4	0.5
070700031005	Lower Hemlock Creek	WRB	1,020.40		1.5	1.5	0.6
070700031101	Headwaters of the Yellow River	WRB	50.49		3.2	0.9	0.9
070700031102	South Branch of the Yellow River	WRB	4,023.07		3.1	0.7	0.7
070700031103	East Branch of the Yellow River-Yellow River	WRB	6,060.06		2.1	0.6	0.6
070700031104	Rocky Creek	WRB	3,447.51		1.9	0.2	0.2
070700031105	Puff Creek-Yellow River	WRB	14,736.12		2	0.4	0.4
070700031106	Owl Creek-Yellow River	WRB	3,486.99		1.9	1	0.6
070700031201	Upper Cranberry Creek	WRB	4,104.04		1	1	0.4
070700031202	Lower Cranberry Creek	WRB	1,078.36		0.3	0.3	0.1
070700031301	Mead Marsh-Yellow River	WRB	198.91		0.3	0.3	0.1
070700031401	Meadow Valley-Beaver Creek	WRB	17.35		0.6	0.6	0.2

CHAPTER 3 | GOALS & OBJECTIVES

Approach Perspective

The foundation of the Land and Water Resource Management Plan for Wood County is soil health. The role of soil health is critical for the capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans. The role of healthy soil to improve infiltration, reduce flooding, temper droughts and improve base flow for streams and rivers is vastly underestimated. If we are to improve our environment from unchecked runoff it starts with healthy soils.

The importance of managing soils so they are resilient and sustaining for this and future generations cannot be overlooked. To do this, we need to consider soil as living organism that when provided the basic necessities for life performs functions required to produce food and fiber but also clean our environment. Only “living” things can have health, so we must consider soil as a living ecosystem. It is teeming with billions of bacteria, fungi, and other microbes that are the foundation of a symbiotic ecosystem. A healthy soil ecosystem provides nutrients for plant growth, absorbs and holds rainwater for use during dryer periods, filters and buffers potential pollutants from leaving our fields, which is the foundation for all agricultural and forest activities. If we were to measure only one criterion for healthy soils it would be the organic matter level. If organic matter levels are decreasing our soils are losing health, if they are increasing soil health increases. What is truly essential for soil health is covering our soils year-round to improve infiltration, reduce erosion and nutrient loss. The agricultural practices most common for this are managed grazing, cover crops, conservation tillage, crop rotation, and perennial forages. This applies to not only agriculture but construction sites, shoreland riparian areas, buffer strips and other best management practices. We can no longer leave our soils exposed to the elements for long periods of time, especially from early October through mid-June if we want to have healthy soils along with clean surface and ground water.

Plan Goals & Objectives

The overarching goal of the LWRM Plan is to provide direction to natural resources managers of all levels of government for the protection and improvement of our natural resources. Achieving this overarching goal will require many different small steps taken in unity with a coordinated effort across Wood County as outlined in this chapter. The LWRM Plan is designed to align with Wood County’s Comprehensive and Strategic Plans to improve and protect land and water resources within the county.

The LAC reviewed and updated the goals, objectives, and strategy of the 2025-2035 LWRM Plan. For clarity, the goals, objectives, strategies, and measurable outcomes are defined to explain the differences among the three elements.

Goals are statements about Wood County’s aspirations in the topic area.

Objectives are vision statements which provide direction to the subtopics within the areas of each goal.

The future health and social well-being of Wood County will be determined to a large extent by how the natural environment contributes to an individual’s lifelong health and well-being. The social, economic, and physical environment in which a person lives shapes his or her individual characteristics and behaviors. And to that end, Wood County is committed to being a strong supporter of the agriculture community while striving to achieve watershed restoration and reducing nonpoint source pollution such as phosphorus. The reduction of phosphorus from watershed projects and practices will allow the county to assess progress toward improving water quality standards and will align planning and decisions necessary to ensure continued progress.

CHAPTER 3 | GOALS & OBJECTIVES

Land Water Resource Management Plan GOALS:

Goal 1: Reduce Sediment Delivery to Surface Waters.

Objectives:

1. Reduce erosion and sediment delivery from cropland fields.
2. Reduce sediment from non-cropland acres.
3. Administer Nonmetallic Mining Reclamation Ordinance.
4. Reduce sediment from construction sites.

Goal 2: Reduce Animal Waste and Nutrient Delivery to Surface Waters and Groundwater.

Objectives:

1. Increase the number of cropland acres that have a nutrient management plan.
2. Reduce runoff of winter-spread manure.
3. Administer County Animal Waste Storage Ordinance.
4. Reduce runoff from barnyards and feedlots.
5. Promote proper well abandonment.
6. Implement Chapter 102, Wisconsin Statutes Phosphorus Rule.
7. Reduce high nitrate levels in drinking water.
8. Establish a harvestable buffer cost-share program using various funding sources, including but not limited to, DATCP funds and Wisconsin DNR Surface Water Grant Program (i.e. Management Plan Implementation).

Goal 3: Reduce Crop Damage Caused by Wildlife.

Objectives:

1. Administer Wildlife Damage Abatement and Claims Program.

Goal 4: Protect and Develop Wetlands and Uplands for Wildlife Habitat.

Objectives:

1. Increase and protect wetlands and wildlife habitat.

Goal 5: Increase Efforts to Inventory the Water Resources of Wood County.

Objectives:

1. Increase water quality monitoring on Wood County Streams.
2. Increase water quality monitoring for groundwater resources in Wood County.

Goal 6: Minimize the Adverse Effects of Urban Sprawl and Land Fragmentation in Rural Wood County.

Objectives:

1. Maintain prime farmland and reduce housing development in rural areas.

Goal 7: Improve Air Quality in Wood County.

Objectives:

1. Reduce wind erosion from cropland fields.
2. Increase awareness of Wood County air quality.

CHAPTER 3 | GOALS & OBJECTIVES

Goal 8: Improve Woodlands in Wood County.

Objectives:

1. Educate landowners on proper forestry management.

CHAPTER 4 | PLAN IMPLEMENTATION & COORDINATION

Implementation of this LWRM Plan will be to continue education efforts, provide technical assistance, seek additional revenue streams to fund this plan, and grow compliance levels of landowners that meet the state performance standards and prohibitions. In addition, this Plan over the next ten-years will begin to focus on achieving and meeting water quality standards and lowering the phosphorus levels in the impaired watershed as specified in the Wisconsin and Fox-Wolf River Basin TMDL. Because of the complexity of the problems and multiple jurisdictions involved, most likely no one protective mechanism will solve the problem. More likely, a wide range of mechanisms will be necessary and, in many cases, may be preferred to give locally-based and supported initiatives maximum flexibility in achieving their protection goals and needs.

Growing Community Engagement

It is imperative to recognize the need to develop and grow a committed groups of stakeholders at the watershed level, such as we have done with Farmers of Mill Creek Watershed Counsel (FMCWC) & Petenwell Castle Rock Stewards (PACRS). A valuable lesson has been learned in the past that not just one or two groups can accomplish this task. A broad group of stakeholders need to be involved to achieve the outcome we desire, where a large percentage of people that control the land, implement conservation on their land to improve the land and water. Wood County LWCD staff have and will continue to seek valuable input and coordinate with a diverse group of agencies, associations, private sector business, citizens, landowners, farmers and organizations involved in resource management and protection.

These agencies and groups include: United State Environmental Protection Agency, United States Department of Agriculture-(Natural Resource Conservation Service, Animal and Plant Health Inspection Service – Wildlife Services, and United States Forest Service), Wisconsin Department of Agriculture, Trade, and Consumer Protection, Wisconsin Department of Natural Resource staff (such as Water Resources Management Specialists, Fisheries Biologists, Water Regulations and Zoning Specialists, Water Program Management staff, Watershed Management staff), Army Corps of Engineers, University of Wisconsin Madison–Division of Extension; University of Wisconsin Stevens Point and Marshfield Agriculture Research Station, County Parks and Forestry, Land Records & Regulations, and the County Highway and Health Department

Public engagement



Other organizations involved include the following: County Lake Associations/Districts, GrassWorks Inc., Golden Sands Resource Conservation and NRCS. LWCD staff works actively with many regional organizations promoting resource conservation at both large and small-scale levels. Each agency, organization, association, and individual has its individual resource issues, programs, and plans; but cooperatively we can work together for the greater good of Wood County’s land and water resources.

CHAPTER 4 | PLAN IMPLEMENTATION & COORDINATION

Nonpoint Source Pollution and Storm Water Managements

The threats to surface and groundwater resources are changing. Historically, point sources were viewed as the primary threat. Now, however, because of the successful implementation of point source controls, nonpoint runoff pollution is the primary threat to county water resources. Nonpoint problems are both water quality and quantity based. The increase of storm water runoff from poor soil conditions and increasing impervious surfaces are major threats to water resources. The solutions to these problems are watershed-specific and therefore must be pursued using a watershed approach sometimes involving multiple government jurisdictions.

Healthy Soil for Healthy Plants, Animals and People

Soil health can be defined as the capacity of a soil to function as a vital living ecosystem that sustains plants, animals, and humans. The importance of managing soil health to sustain agricultural productivity for this and future generations cannot be overlooked. We need to recognize that, when provided with the basic necessities of life, the living component of soil performs functions crucial to the production of food and fiber. We must consider and care for soil as a living ecosystem. It is teeming with billions of living bacteria, fungi, and other microbes that are the foundation of a stable ecosystem. This microbial component of the soil ecosystem: improves soil structure and stability; cycles nutrients for plant growth; increases rainwater infiltration and storage for use during drier periods; and prevents potential pollutants from leaving our fields. If we needed to measure soil health by only one criterion it would be organic matter. In general, if organic matter levels are decreasing our soil health is declining and if they are increasing our soil health is improving. The best management practices most commonly used to increase organic matter levels and improve soil health are managed grazing, cover crops, conservation tillage, no-till and perennial crops. In Wood County, farmers can no longer leave soils exposed to the elements from early October through mid-June if the county is to have healthy soils and clean water. To improve soil health the following five principles, need to be understood and followed by farmers in the county:

1. Soil Cover

Keep plant residues on the soil surface -- a high percentage of soil must be protected by residue. Living or dead vegetation on the soil surface year-round is the building block for soil health.



2. Limit Disturbance of Soil

Minimize or eliminate tillage, this provides an opportunity for soil biology to start re-building soil aggregates, pore spaces, and organic matter.



3. Increase Diversity

Mimic nature by incorporating a diversity of cool and warm season grasses and broad leaf plants into a management system, by utilizing three or more crops and cover crops in a rotation. Grassland and cropland plant diversity increases soil and animal health.

4. Living Roots

Keep plants growing throughout the year to feed the soil. Cover crops and perennial forages add carbon to the soil via biomass and root exudates that feed and sustain soil micro-organisms.



5. Integrate Livestock and animal manure

Managed grazing and properly applied animal manure from storage increases the soil biological activity on cropland and

CHAPTER 4 | PLAN IMPLEMENTATION & COORDINATION

improve nutrient cycling. Proper grazing techniques of managed pastures, cover crops and crop residue, increases livestock's level of nutrition.

CHAPTER 5 | MONITORING & EVALUATION

According to the Wisconsin River Basin TMDL, the primary source of nonpoint pollution is from rural areas whose major land use is agriculture. As a result, agricultural stormwater runoff from fields carries animal waste, pesticides, nutrients, sediment, and phosphorus. The TMDL has identified phosphorus as the primary nonpoint source pollutant and will be the focus of conservation staff and efforts.

The evaluation and monitoring of water quality and habitat along riparian and wetland areas will be critical to improving overall water quality in designated impaired watersheds within Wood County, as well as coordinating with adjacent units of government where areas of impaired watersheds are located outside of the county. Land cover using the Wiscland 2 .0 digital database will enable staff to examine GIS land cover data to further examine physical land cover attributes that may exacerbate nonpoint source pollution on a sub-basin scale and on a more refined analysis along riparian corridors.

The Wood County LWRM Plan is intended to be a flexible document that will review progress toward goals, objectives, and measurable outcomes on an annual basis. LWCD staff will align annual work program efforts to ensure effective favorable progress.

Agricultural Nonpoint Source and Farmland Preservation Program Monitoring and Tracking

1. *Agricultural Performance Standards and Prohibitions Monitoring and Evaluation*

GIS technology, SnapPlus nutrient management planning software, remote sensing, and on-site evaluations are currently being used as tools to evaluate, track and monitor landowner compliance with the agricultural performance standards and prohibitions. Animal lot manure discharges are monitored using the BARNY runoff model.

2. *Soil Transect Survey*

A annual Soil Erosion Transect Survey conducted by conservation staff, farm-level soil conservation assessments via SnapPlus nutrient management planning software and use of satellite imagery are some main tools used to monitor the erosion of croplands within the county, along with changes in land use.

3. *Monitoring Soil Organic Matter Levels*

Soil health is monitored by analyzing annual aggregate county-wide soil test data for organic matter levels based upon data from thousands of soil test results from various DATCP-approved labs and reported by the UW soil testing lab.

4. *Wetland monitoring through partners*

The Wisconsin DNR provides, updates and maintains the official wetlands mapping of the State. LWCD depends on these maps along with site specific delineation when needed to identify wetlands.

5. *35 Feet Tillage Setback*

This LWRM Plan calls for an inventory of 35-foot Shoreland buffers. This will begin an effort to track, evaluate and increase buffers along surface waters and wetlands of the county.

6. *Agricultural Runoff*

The reduction of agricultural runoff to surface water is outlined in Objective 2 .1 and success will be determined by monitoring the outcome measurements in chapter 3. Monitoring will be done with a variety of tools including site specific evaluation tools, watershed modeling, using satellite imagery to estimate crop residue levels and monitoring by the WI DNR.

CHAPTER 5 | MONITORING & EVALUATION

1. Phosphorus

Phosphorus loading from agricultural croplands and pastures is currently modeled using the Wisconsin Phosphorus Index (PI) planning and assessment tool that is part of the SnapPlus nutrient management planning software program.

As part of tracking the outcomes over the life of this LWRM Plan, conservation staff will conduct a biennial survey of farmers to assess which forms they prefer to receive their information and measure if they have successfully used or implemented the information. Public awareness and educational opportunities to enhance agricultural practices will be promoted events through educational demonstrations such as on-farm field days, and through courses such as nutrient management farmer education classes.

Surface Water Quality Monitoring

Phosphorus loading

The need for water quality monitoring and assessment for phosphorus loading is characterized by the data results found in the Wisconsin River Basin TMDL report. Clearly, the most significant element of this LWRM Plan is to achieve and reduce surface water phosphorus levels to recommended TMDL phosphorus criterion for 303(d) impaired waters in Wood County. The county will rely upon the WI DNR for their prescribed role in water quality monitoring within the county. In addition, LWCD currently monitor total P and TSS on 5 different monitoring sites in the Mill Creek Watershed annually since 2019 and sample on a 6-month median annually until the Mill Creek TMDL Watershed is completed.

Additional water quality monitoring will include lakes and streams testing through LWCD staff & volunteer efforts. Responsible agencies, local government, volunteer groups and LWCD staff will collaborate to monitor water resources.

Lake Districts

Wood County in 2024, through educational efforts helped a newly formed Nepco Lake District with the development and review of a lake management plan for Nepco Lake. Wood County LWCD with the use of their Lake Management Network Grant (LMPN) helped the district educate the public on ways to protect, enhance, and improve long-term water quality. Wood County will continue to assist, promote and monitor the progress of their plan.

Aquatic Invasive Species

Wood County currently conduct ongoing inventories, monitoring and management of lakes and reservoirs. LWCD staff has developed a very Robus database for tracking invasive species with GIS.

Citizen Monitoring

Raise public awareness, especially among the watersheds' residents, of the pollution sources and solutions in and out of Wood County. Take a more proactive approach of Water Action Volunteers, citizens and citizen groups to monitor natural resources.

Project Tracking

Conservation staff and partners will continue to meet annually over the next 10 years following plan adoption. Conservation staff will be responsible for demonstrating and assessing progress toward the stated goals, to allow both staff and partners to target projects and revise/amend the strategies if a realignment is required to better achieve the overall protection of natural resources.

CHAPTER 5 | MONITORING & EVALUATION

Overall Plan Evaluation

Important aspects of the LWRM Plan include tracking progress, maintaining contact with partner communities/organizations, and amending/updating the plan to reflect newly identified opportunities, needs, and gaps. It is planned that the partners will revisit goals, objectives, action steps, and outcomes annually to determine necessary program adjustments.

The partners will continue to meet following plan adoption over the life of this plan to assess progress toward the stated goals, to allow partners to better target projects and revise/amend the plan at its 5-year interval. The list of actions allows key stakeholders to assess progress in the following manner:

- Select projects will be monitored for effectiveness (e. g., pollutant reduction), as part of the project or as a separate monitoring effort.

These data will be compiled yearly. Partners will meet approximately quarterly to coordinate on projects and share results. Each year, partners will review progress and assess whether revised goals are needed.

Plan Update/Annual Work Plan Revision

To assess progress and update partners, conservation staff will:

- Track progress using summary tables.
- Hold meetings with partners and discuss plan progress, pending projects, and newly identified project needs at least annually or as appropriate to manage projects.
- Maintain contact with partners by telephone, e-mail, newsletter, or other methods; and
- Present updates at meetings, e. g. ERC, EPPIC, other pertinent groups.
- Consult annually with DNR nonpoint, TMDL and WQ monitoring staff to discuss/evaluate progress and opportunities for collaboration to implement TMDLs within selected watersheds.

LWCD will retain the LWRM Plan document and use its web page to post updates, information, discussion materials, upcoming events/coordination, and contact information.

WOOD COUNTY LWRM PLAN ADVISORY GROUP

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Scott Provost.....	DNR
Pat Oldenburg.....	DNR
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Barbara Peeters.....	Wood County LWCD
Shane Wucherpfennig.....	Wood County LWCD

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Bill Leichtnam.....	County Board, District 19
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DEFINITIONS

- Aquifer.....An underground layer of soil material or bedrock that contains groundwater.
- ATCP 50.....The chapter of Wisconsin’s Administrative Code that implements the Land and Water Resource Management Program as prescribed in Chapter 92 of the Wisconsin Statutes.
- BasinAn extremely large watershed area, used by DNR to identify major drainage patterns in the State. Wood County falls within two major drainage basins, the Black-Buffalo-Trempealeau River Basin and the Central Wisconsin River Basin.
- Best Management Practices.....(BMPs) The most effective practice or combination of practices for reducing nonpoint source pollution to acceptable levels.
- Chapter 92Portion of the Wisconsin Statutes outlining the soil and water conservation, agricultural shoreland management and animal waste management laws and policies of the State.
- Conservation – CEEDThe portion of the Wood County government that is empowered by Chapter 92 of the Wisconsin Statutes to conserve and protect the County’s soil, water and related natural resources.
- Conservation Reserve Program.....(CRP) A provision of the Federal Farm Bill that takes eligible cropland out of production and puts that land into grass or tree cover for 10 to 15 years.
- Crop ResidueThe plant residue left on the soil surface after the harvest of a crop and preparation of the soil for the following crop.
- Department of Agriculture, Trade and Consumer Protection (DATCP) – The State agency responsible for establishing statewide soil and water conservation policies and administering the State’s soil and water conservation programs. DATCP administers State cost-share funding for a variety of LWCD operations, including support for staff, materials and conservation practices.
- ErosionThe process by which rainwater and runoff detach soil particles from the soil surface and carry them downhill.
- Geographic Information Systems (GIS) – A computerized system of maps and layers of data about land including soils, land cover, topography, field boundaries, roads and streams, zoning and land use, etc
- Glacial Till.....Rock fragments and soil materials transported and deposited by the ice of glaciers.
- Impaired Waters 303(d) ListA DNR list of water bodies, required by the federal Clean Water Act, that do not meet or are not expected to meet quality water standards.

APPENDIX B

- Natural Resources Conservation Service (NRCS) – The NRCS is under the direction of the United States Dept. of Agriculture (USDA) and is responsible for soil survey inventory and information, farm conservation planning, and providing technical assistance to landowners regarding best management practices.
- Nonpoint Source Pollution The pollution that occurs when rainfall or snowmelt runs over land surface or through the soil, picks up natural and human applied pollutants, and deposits them into surface water or groundwater. Pollutants include soil particles, fertilizers, animal waste, pesticides, petroleum products, and other toxic materials.
- Nutrient Management A conservation practice designed to minimize the contamination of surface and ground water by limiting the amount of nutrients applied to the soil to no more than what the crop rotation is expected to use. It involves frequent soil testing and annual planning of the techniques, placement, rate, and timing of fertilizer and animal waste applications. Also includes an analysis of soil erosion rates based on cropping and tillage practices.
- Parent Material The original rock and organic materials that a soil formed from. Climate, landscape position, plants and animals act on these materials over time to form soils with unique properties.
- Sedimentation The transport and deposition of soil particles from soil erosion and by surface runoff. The particles may be deposited onto the land surface or into surface water or groundwater.
- Storm Water The portion of rainfall and snowmelt that runs over the land surface and does not soak into the ground. Paved surfaces and roofs increase storm water quantities. Storm water often delivers pollutants to surface waters.
- Sub-basin A large watershed area used by DNR as a management unit for strategic planning.
- Surface Water Quality Management Area – A land area draining to and within 1,000 feet of a lake or 300 feet of a stream.
- Technical Standards The specifications for the design, construction, implementation and maintenance of conservation practices.
- Tillage Farming operations which mechanically disturb the soil in preparation for planting a crop. Clean tillage, or moldboard plowing, buries all or most of the crop residue from the previous crop. Minimum tillage, reduced tillage, and conservation tillage leaves a portion of the crop residue from the previous crop on the soil surface after planting to protect the soil from erosion. No-till leaves all of the crop residue on the soil surface.
- TMDL Total maximum daily load for total phosphorus, established by section 303(d) of the Clean Water Act.

APPENDIX B

Tolerable Soil Loss (T)The maximum rate of soil erosion, in tons per acre per year, that is allowable for a particular soil to sustain its productivity for growing plants and crops.

University of Wisconsin-Extension (UW-Ext) – The local outreach branch of the University of Wisconsin that is responsible for formal and informal educational programs throughout the state.

Watershed.....A land area that drains to a common point such as to a stream or lake, or to a group of streams and/or lakes.

Wisconsin Department of Natural Resources (WDNR) – the State agency responsible for managing State owned lands and protecting public waters of the State. The WDNR also administers programs to regulate, guide and assist land conservation programs within individual counties, as well as landowners in managing land, water, fish and wildlife.

Wisconsin Land & Water Association – Membership organization that represents the state’s 72 county Land & Water Conservation Committees, Departments and their employees.