

CHIPPEWA COUNTY

LAND CONSERVATION & FOREST MANAGEMENT COMMITTEE

REGULAR MEETING

MAY 18, 2022

CHIPPEWA COUNTY COURTHOUSE, RM 302

4:30 PM

1. CALL TO ORDER

The meeting was called to order at 4:30 p.m. by R. Scholz (Co. Administrator).

2. ROLL CALL

Attendee Name	Organization	Title	Status	Arrived
Ken Schmitt	Chippewa County	District 3 (Chair)	Present	
Charles Bomar	Chippewa County	District 12 (Vice-Chair)	Present	
James Flater	Chippewa County	District 1	Present	
David Bischel	Chippewa County	District 4	Present	
Jason Bergeron	Chippewa County	District 7	Present	
Matthew Peterson	Chippewa County	District 10	Present	
James Pingel	Chippewa County	Citizen Rep	Present	

The Clerk called roll call. The Supervisors introduced themselves.

Agency staff present at times throughout the meeting were R. Scholz (Co. Administrator), D. Hutchison (DNR), K. Clow, M. Hansen, K. Klingberg, J. Larson, J. Puig, L. Schweikert, R. Yohnk, and J. Schemenauer - Recorder (LCFM).

County Board Chair D. Gullickson was present.

Members of the public present were D. Hauser, C. Kaiser, and P. Popple.

3. ELECTION OF CHAIR

At approximately 4:30 p.m., R. Scholz opened nominations for Chair of the Land Conservation & Forest Management (LCFM) Committee.

Supervisor Bergeron nominated Supervisor Schmitt.

R. Scholz called for further nominations. No further nominations were made and the nominations for Chair were closed.

Supervisor Bomar made a motion for unanimous consent for Supervisor Schmitt. Supervisor Bischel seconded the motion. Voice vote taken. Motion carried.

Supervisor Schmitt was elected Chair of the LCFM Committee.

4. ELECTION OF VICE-CHAIR

Chair Schmitt opened nominations for Vice-Chair of the Land Conservation & Forest Management (LCFM) Committee.

Supervisor Flater nominated Supervisor Bergeron. Supervisor Bergeron rejected the nomination.

Land Conservation & Forest Management Committee

Minutes

May 18, 2022

Regular Meeting

Chippewa County Courthouse, Rm 302

4:30 PM

Supervisor Bergeron nominated Supervisor Bomar.

Chair Schmitt called for further nominations. No further nominations were made and the nominations for Vice-Chair were closed.

Supervisor Flater made a motion for unanimous consent for Supervisor Bomar. Supervisor Bergeron seconded the motion. Voice vote taken. Motion carried.

Supervisor Bomar was elected Vice-Chair of the LCFM Committee.

5. MEMBERS OF THE PUBLIC WISHING TO BE HEARD

D. Hauser addressed the Committee. He expressed support for the proposed ARPA funding to address groundwater and nitrate issues in Chippewa County.

P. Popple addressed the Committee. She expressed support for the testing of PFAS in Chippewa County.

C. Kaiser addressed the Committee. She informed the Committee that the Town of Wheaton recently completed a nitrate testing project with the LCFM Department.

6. CONSENT AGENDA

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Matthew Peterson, District 10
SECONDER:	James Flater, District 1
AYES:	Schmitt, Bomar, Flater, Bischel, Bergeron, Peterson, Pingel

1. Approve the Agenda
2. Approve the Minutes
3. Land Conservation & Forest Management Committee - Regular Meeting - Mar 16, 2022 4:30 PM
4. Schedule Next Meeting Date - 6/15/22

7. REPORTS

1. Committee Orientation - L. Schweikert
L. Schweikert introduced and the Committee reviewed a Power Point report titled: Land Conservation & Forest Management, Committee Orientation 5/18/22, (Distributed 5/12/22 - copy on file & attached). K. Clow, M. Hansen, and R. Yohnk provided a brief overview of programs they manage through the LCFM.

There was general discussion.

2. Review Timber Sale Contract Extensions - M. Hansen
M. Hansen presented an oral report. The report was supported by a table titled: Report: Summary of Timber Sales for Contract Extension July 2022, (Distributed 5/12/22 - copy on file & attached). The County

Land Conservation & Forest Management Committee

Minutes
Regular Meeting

Chippewa County Courthouse, Rm 302

May 18, 2022
4:30 PM

Forest Administrator is extending six (6) timber sale contracts, as presented, per the original contract language.

There was general discussion.

8. BUSINESS ITEMS

1. Establish Regular Committee Meeting Time and Date - Chair

A calendar of the proposed 2022 LCFM meeting dates were highlighted on a 2022 calendar (Distributed 5/12/22 - copy on file & attached).

Motion to stay with the current date and time frame (3rd Wednesday of each month at 4:30 p.m.) for the LCFM Committee meetings: Bergeron/Bomar. Motion carried by voice vote.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Jason Bergeron, District 7
SECONDER:	Charles Bomar, District 12 (Vice-Chair)
AYES:	Schmitt, Bomar, Flater, Bischel, Bergeron, Peterson, Pingel

2. Review Summary of Spring 2022 Timber Sale Bids and Award Contracts - M. Hansen

M. Hansen presented an oral report. The report was supported by the following materials:

1. Table titled: Chippewa County Dept. of Land Conservation & Forest Management Weighted Average of High Bids - 5/16/21, (LCFM - copy on file & attached). The table outlines the wood types marketed through the Spring, 2022 timber sale process, the weighted average by wood product type, and the % change from the accepted November, 2021, timber sale process.
2. Summary table titled: Chippewa County Forest Listing of High Bids Submitted at May 16, 2022 Bid Opening, (LCFM - copy on file & attached). The table outlines the volume of highest bidder, and the value of the accepted bid from the Spring, 2022 timber sale.
3. Summary tables from the Spring, 2022 Timber Sale Bids for Tracts #30-21, #1-22, #2-22, #3-22, #4-22, #5-22, #6-22, #7-22, #8-22, and #9-22 (LCFM - copy on file & attached), which outlines the specific timber sale information for each tract, as submitted by each bidder.
4. Maps and prospectuses for Tracts #30-21, #1-22, #2-22, #3-22, #4-22, #5-22, #6-22, #7-22, #8-22, and #9-22, (LCFM - Distributed 5/12/22 - copy on file & attached).

There was limited discussion.

Motion to approve the high bidders, as successfully presented: Flater/Bischel. Motion carried on voice vote.

Land Conservation & Forest Management Committee

Minutes
Regular Meeting

Chippewa County Courthouse, Rm 302

May 18, 2022
4:30 PM

RESULT:	APPROVED [UNANIMOUS]
MOVER:	James Flater, District 1
SECONDER:	David Bischel, District 4
AYES:	Schmitt, Bomar, Flater, Bischel, Bergeron, Peterson, Pingel

3. Consider Action to Approve the Hickory Ridge Bike Trail Layout as Agreed to by Chippewa Off Road Bike Association and the Chippewa Valley Trail Riders - M. Hansen

M. Hansen presented an oral report. The report was supported by the following materials:

1. Map titled: Hickory Ridge Mountain Bike Expansion 2022 Approval, (LCFM - Distributed 5/12/22 - copy on file & attached).
2. Map titled: Hickory Ridge Mountain Bike Expansion 2022 Approval, (Preferred Expansion) - Distributed 5/12/22 - copy on file & attached).

There was general discussion regarding the proposed expansion area and usage.

Motion to approve the (Hickory Ridge) bike trail expansion: Bomar/Flater. Motion carried by voice vote.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Charles Bomar, District 12 (Vice-Chair)
SECONDER:	James Flater, District 1
AYES:	Schmitt, Bomar, Flater, Bischel, Bergeron, Peterson, Pingel

4. Review Nitrate Groundwater Presentation & Brainstorm Session for Solutions - K. Masarik & L. Schweikert
L. Schweikert introduced K. Masarik, UW-Stevens Point Groundwater Education Specialist.

K. Masarik presented a Power Point report to the Committee titled: Overview of Chippewa County Groundwater Quality Data, (distributed 5/12/22 - copy on file & attached). The report provides an overview of the nitrate source analysis projects currently being implemented in Chippewa County. He also presented state-wide websites that provide well testing information for public water systems and individual wells that have been tested.

There was general discussion. Discussion focused on:

1. Data that is available on the websites (state-wide and county-wide).
2. Tracking trends.
3. The effect of land use on groundwater.

L. Schweikert presented an oral report. The report was supported by a handout titled: LCFM Brainstorm Ideas on How to Utilize ARPA Funds on Groundwater Issue, (LCFM 5/16/22 - Distributed 5/16/22 - copy on file & attached). The report provides detailed options that may be implemented for use of ARPA funds to address Chippewa County's groundwater issues.

There was general discussion. Discussion focused on:

Land Conservation & Forest Management Committee

Minutes

May 18, 2022

Regular Meeting

Chippewa County Courthouse, Rm 302

4:30 PM

1. Farmer-led watershed groups and cover crops.
2. Addressing groundwater problems at the source.
3. Community-based solutions.

9. AGENDA ITEMS FOR FUTURE CONSIDERATION

The Chair noted that if the supervisors would like anything added to the next agenda, to contact him.

10. ADJOURN

Motion to adjourn: Bergeron/Flater. Motion carried by voice vote at 7:02 p.m.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Jason Bergeron, District 7
SECONDER:	James Flater, District 1
AYES:	Schmitt, Bomar, Flater, Bischel, Bergeron, Peterson, Pingel

CHIPPEWA COUNTY

LAND CONSERVATION & FOREST MANAGEMENT COMMITTEE

REGULAR MEETING

MARCH 16, 2022

CHIPPEWA COUNTY COURTHOUSE, RM 302

4:30 PM

1. CALL TO ORDER

2. ROLL CALL

Attendee Name	Organization	Title	Status	Arrived
Dean Gullickson	Chippewa County	District 7 (Chair)	Present	
Harold Steele	Chippewa County	District 1 (Vice-Chair)	Present	
Glen Sikorski	Chippewa County	District 2	Present	
Ken Schmitt	Chippewa County	District 3	Present	
Don Hauser	Chippewa County	District 6	Present	
James Pingel	Chippewa County	Citizen Rep	Absent	

The Chair noted that all members were present except Representative Pingel.

Agency staff present at times throughout the meeting were: R. Scholz (Co. Administrator), T. Pauls (Corporation Counsel), D. Hutchison (DNR), K. Masarik (UWSP), M. Hansen, K. Klingberg, J. Larson, L. Schweikert, and J. Schemenauer - Recorder (LCFM).

Members of the public present was D. Barrickman.

3. MEMBERS OF THE PUBLIC WISHING TO BE HEARD

There were no members of the public wishing to be heard.

4. CONSENT AGENDA

L. Schweikert introduced herself to the Committee as the new Department Director/County Conservationist.

The Chair moved the order of the agenda to address "Business Item 4 - Amendment to Cooperative Agreement Between Chippewa County & the Lake Wissota Improvement & Protection District to Implement Lake Wissota Protection Project."

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Ken Schmitt, District 3
SECONDER:	Harold Steele, District 1 (Vice-Chair)
AYES:	Gullickson, Steele, Sikorski, Schmitt, Hauser
ABSENT:	Pingel

1. Approve the Agenda
2. Approve the Minutes
3. Land Conservation & Forest Management Committee - Regular Meeting - Feb 16, 2022 4:30 PM

Minutes Acceptance: Minutes of Mar 16, 2022 4:30 PM (Consent Agenda)

Land Conservation & Forest Management Committee

Minutes

March 16, 2022

Regular Meeting

Chippewa County Courthouse, Rm 302

4:30 PM

4. Schedule Next Meeting Date - May 18, 2022

5. REPORTS

1. Chippewa County Well Water Quality, as Sampled & Tested by UWSP (2007-2020) - K. Masarik - UW-Stevens Point
L. Schweikert introduced K. Masarik, UW-Stevens Point Groundwater Education Specialist.

K. Masarik presented a Power Point report to the Committee titled: Overview of Chippewa County Groundwater Quality Data, (Distributed 3/10/22 - copy on file & attached). The report provides an overview of the nitrate source analysis projects currently being implemented in Chippewa County. He also presented state-wide websites that provide well testing information for public water systems and individual wells that have been tested.

There was general discussion. Discussion focused on:

1. The cost and validity of additional testing for the wells that will be sampled in 2022.
2. Data that is available on the websites (statewide and countywide).
3. Testing of additional wells in known "hot spots".

There was Committee consensus that ARPA funding criteria, in the amount of \$500,000, would be amended to reflect that funding would be used to test additional Chippewa County private wells in "hot spots" with nitrate test results of 5 or higher and provide mitigation measures, where necessary.

2. Overview of Proposed Spring, 2022 Timber Sales - M. Hansen
M. Hansen introduced the proposed Spring, 2022 Timber Sales. He reported that:

1. There are eleven (11) numbered tracts in the County Forest that are scheduled for public notice and bidding under the 2022 Spring Timber Sale. Ten (10) of the sales are new sales and one (1) is a direct sale, as it did not receive any bids in Fall, 2021.
2. Bids will be opened in May, 2022, with a bid summary to be presented to the LCFM at their May 18, 2022, meeting for Committee action.

The report was supported by the following materials:

1. Spreadsheet titled: Comprehensive Listing of Contracted Timber Sales Pre-Spring, 2022, (LCFM - Distributed 3/10/22 - copy on file & attached).
2. Map titled: Chippewa County Timber Sale Locations Spring, 2022, (LCFM - Distributed 3/10/22, copy on file & attached).
3. Map titled: 220 Pine, (LCFM - Distributed 3/10/22, copy on file & attached).
4. Map titled: Birch Creek Winter Sale, (LCFM - Distributed 3/10/22, copy on file & attached).
5. Map titled: Tract 1-22 Burnt Wagon Sale, (LCFM - Distributed 3/10/22, copy on file

Minutes Acceptance: Minutes of Mar 16, 2022 4:30 PM (Consent Agenda)

Land Conservation & Forest Management Committee

Minutes
Regular Meeting

Chippewa County Courthouse, Rm 302

March 16, 2022
4:30 PM

& attached).

6. Map titled: Deer Cam Pine, (LCFM - Distributed 3/10/22, copy on file & attached).
7. Prospectus and map titled: Wagon Trail Oak, (LCFM - Distributed 3/10/22, copy on file & attached).
8. Map titled: Double Porcupine Sale, (LCFM - Distributed 3/10/22, copy on file & attached).
9. Map titled: Direct Sale Hickory Trailhead, (LCFM - Distributed 3/10/22, copy on file & attached).
10. Map titled: Old Farm HW, (LCFM - Distributed 3/10/22, copy on file & attached).
11. Map titled: Old Stove Aspen, (LCFM - Distributed 3/10/22, copy on file & attached).
12. Map titled: Poppin Popple, (LCFM - Distributed 3/10/22, copy on file & attached).
13. Prospectus & map titled: Robinson Lake Aspen Tract 30-21, (LCFM - Distributed 3/10/22, copy on file & attached).

There was general discussion.

3. Overview of the Use of Prescribed Fire to Promote Oak Regeneration in the County Forest - D. Hutchison (DNR)

M. Hansen introduced D. Hutchison, DNR Forester for Chippewa County.

D. Hutchison presented a Power Point report titled: Prescribed Fire as a Silvicultural Tool, (LCFM - Distributed 3/10/22, copy on file & attached). The report provides an overview of prescribed burns to supplement other oak regeneration methods already being used in the County Forest. A prescribed burn is scheduled for the Camp Lake area in the Chippewa County Forest this spring.

There was general discussion. Discussion focused on the specifics of the burn area and notifying neighboring landowners of the burn.

6. BUSINESS ITEMS

1. Request to Authorize 50K Race Permit in County Forest - M. Hansen

M. Hansen presented an oral report. The report was supported by an agreement titled: Chippewa County Forest Special Event Permit and Agreement, (LCFM - Distributed 3/10/22 - copy on file & attached). The permit and agreement grants True North Adventures non-exclusive use of certain Chippewa County Forest property to conduct a 50K running event on the Ice Age Trail.

There was general discussion regarding the running event. Discussion also focused on the possibility of issuing camping permits for individuals that would like to camp in the County Forest.

Motion to approve the permit: Sikorski/Schmitt. Motion carried.

Minutes Acceptance: Minutes of Mar 16, 2022 4:30 PM (Consent Agenda)

Land Conservation & Forest Management Committee

Minutes
Regular Meeting

Chippewa County Courthouse, Rm 302

March 16, 2022
4:30 PM

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Glen Sikorski, District 2
SECONDER:	Ken Schmitt, District 3
AYES:	Gullickson, Steele, Sikorski, Schmitt, Hauser
ABSENT:	Pingel

2. Annual 2022 Matching Grant Criteria; Chippewa County Stewardship Fund - L. Schweikert
M. Hansen presented the 2022 annual Stewardship Fund criteria titled: Annual Criteria for Evaluating and Selecting Projects Submitted to the Chippewa County Stewardship Fund Local Match Grant Program in 2022, (LCFM 12/8/21 - Distributed 3/10/22 - copy on file & attached).

The Chair informed the Committee that he and T. Pauls have researched several projects funded by the Chippewa County Stewardship Fund and found that the covenants regarding permanent public access for nature-based outdoor activities have not been recorded with the easements.

There was general discussion regarding language to be included as part of the annual criteria regarding covenants.

Motion to approve the (2022) criteria, as presented, and (document in criteria) that all covenants shall be recorded on the deed in perpetuity: Schmitt/Hauser. All supervisors voted Yes except Supervisor Steele abstained. Motion passed by voice vote.

RESULT:	APPROVED [4 TO 0]
MOVER:	Ken Schmitt, District 3
SECONDER:	Don Hauser, District 6
AYES:	Gullickson, Sikorski, Schmitt, Hauser
ABSTAIN:	Steele
ABSENT:	Pingel

3. Rank LCFM CIP Projects (2023-2027) - M. Hansen & L. Schweikert
M. Hansen presented an oral report. The report was supported by the following materials:

1. Schedule titled: 2023-2027 Capital Improvement Plan Calendar, (Distributed 3/10/22 - copy on file & attached).
2. Spreadsheet titled: Department of Land Conservation & Forest Management, 2023 Capital Improvement Plan Ranking, (LCFM 3/9/22 - Distributed 3/10/22 - copy on file & attached).
3. Spreadsheet titled: Department of Land Conservation & Forest Management, Capital Improvement Plan Requests & Adjustments, (LCFM 3/10/22 - Distributed 3/10/22 - copy on file & attached).
4. Forms titled: Capital Improvement Program (CIP) Justification Forms for the LCFM for 2023-2027 fiscal years (Distributed 3/10/22 - copy on file & attached).

There was general discussion regarding the proposed projects and funding.

Minutes Acceptance: Minutes of Mar 16, 2022 4:30 PM (Consent Agenda)

Land Conservation & Forest Management Committee

Minutes
Regular Meeting

Chippewa County Courthouse, Rm 302

March 16, 2022
4:30 PM

Motion to approve ranking, as subject to current policy parameters: Schmitt/Hauser. Motion carried.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Ken Schmitt, District 3
SECONDER:	Don Hauser, District 6
AYES:	Gullickson, Steele, Sikorski, Schmitt, Hauser
ABSENT:	Pingel

4. Amendment to Cooperative Agreement Between Chippewa County & the Lake Wissota Improvement & Protection District to Implement Lake Wissota Protection Project - L. Schweikert & T. Pauls
Motion to put the Amendment to Cooperative Agreement Between Chippewa County & the Lake Wissota Improvement & Protection District to Implement Lake Wissota Protection Project on the floor: Hauser/Schmitt. Motion carried.

There was general discussion regarding the purpose of the amendment to the agreement and the proposed changes to the agreement, as discussed at previous meetings.

Motion to approve the amendment and original contract with the Lake Wissota Improvement & Protection Association, and to forward to them for their approval: Schmitt/Hauser. Motion carried.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Ken Schmitt, District 3
SECONDER:	Don Hauser, District 6
AYES:	Gullickson, Steele, Sikorski, Schmitt, Hauser
ABSENT:	Pingel

7. AGENDA ITEMS FOR FUTURE CONSIDERATION

The following items were requested for future agenda items:

1. Review limits on Chippewa County Stewardship Fund due to the ending of the Quality of Life fund.
2. Consider camping permits in Chippewa County Forest to adequately address EMS issues.

8. ADJOURN

Motion to adjourn: Schmitt/Steele. Motion carried at 7:39 p.m. by voice vote.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Ken Schmitt, District 3
SECONDER:	Harold Steele, District 1 (Vice-Chair)
AYES:	Gullickson, Steele, Sikorski, Schmitt, Hauser
ABSENT:	Pingel

Minutes Acceptance: Minutes of Mar 16, 2022 4:30 PM (Consent Agenda)



STATEMENT OF EXPLANATION COMMITTEE ORIENTATION

7.1

This agenda item will be used to introduce the Committee to its statutory roles and responsibilities.

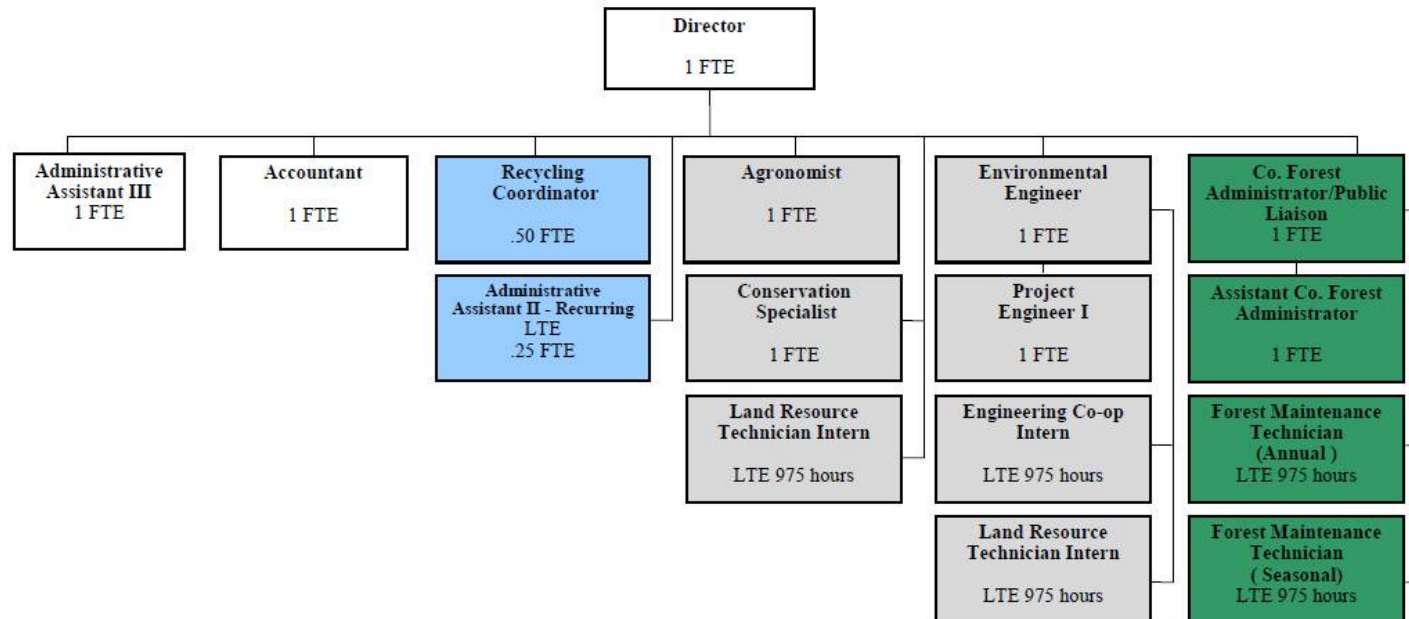
A Power Point report will be presented to highlight the mission of the Committee and Department.

The background of the slide features a gradient from light green at the top to dark blue at the bottom. Overlaid on this are several faint, white circular patterns and a scale. The scale is a semi-circular arc on the left side, with numerical markings from 140 to 260 in increments of 10. There are also several concentric circles and dashed lines with arrows, suggesting a technical or scientific theme.

LAND CONSERVATION & FOREST MANAGEMENT

COMMITTEE ORIENTATION 5/18/2022

Organizational Chart for Conservation and Forest Management Dept



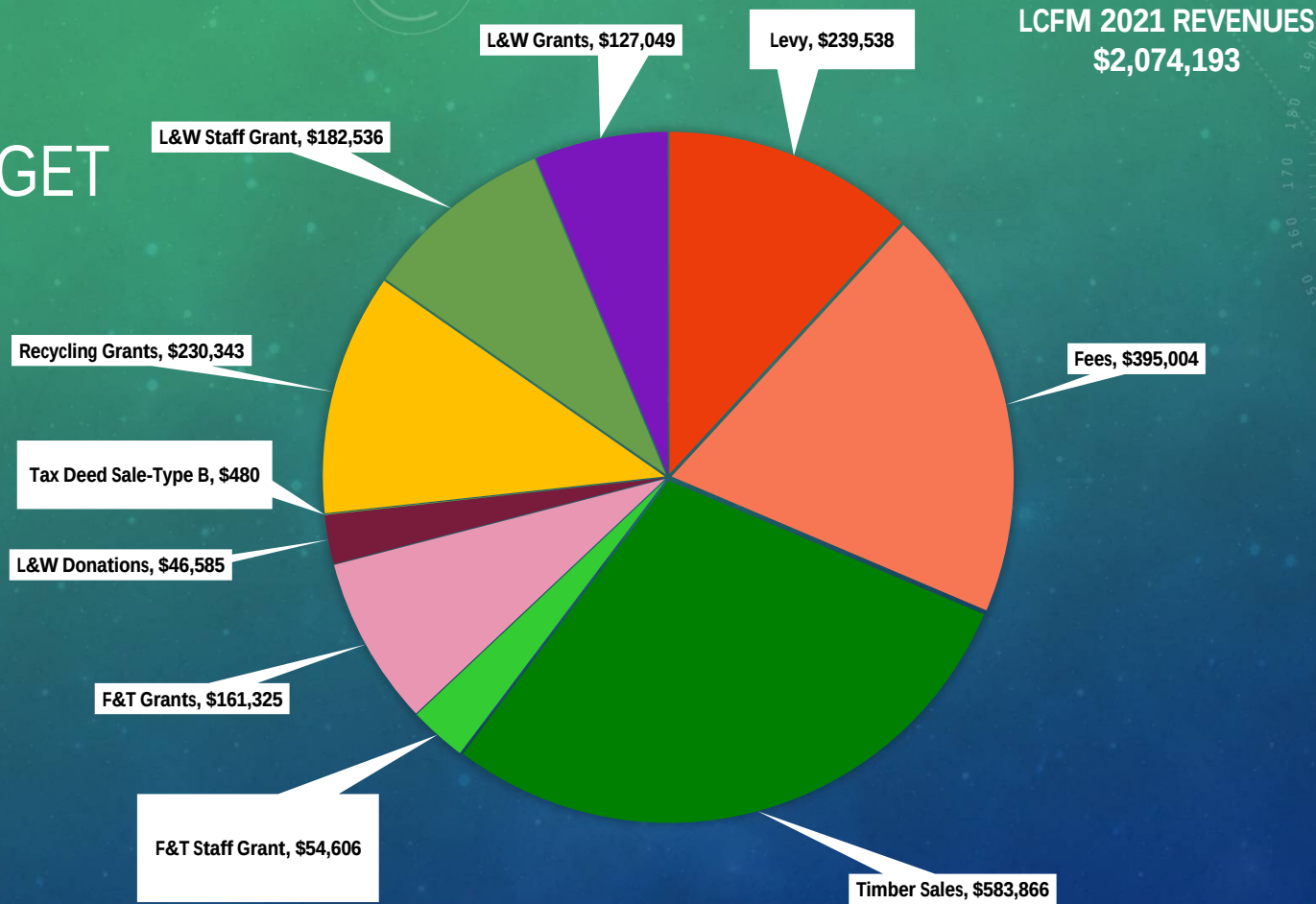
All
Divisions

Land & Water
Division

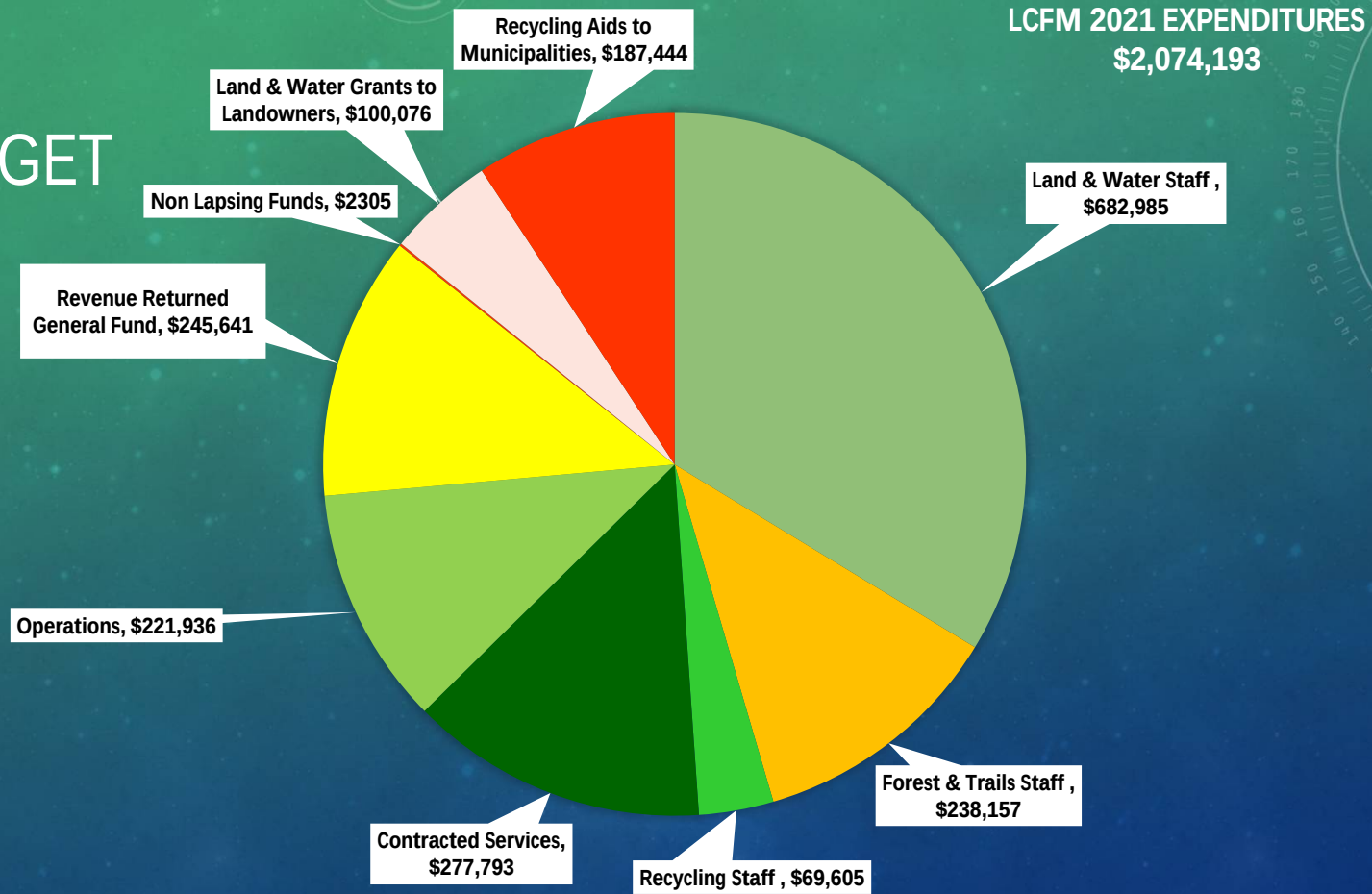
Forest & Trails
Division

Recycling
Division

BUDGET



BUDGET



LAND & WATER

- Chapter 92- It is the intent of the legislature to implement this policy by enacting this soil and water conservation law to:
 - **(a)** Establish goals and standards for conservation of soil and water resources;
 - **(b)** Provide for cost sharing, technical assistance, educational programs and other programs to conserve soil and water resources;
 - **(c)** Encourage coordinated soil and water conservation planning and program implementation; and
 - **(d)** Enable the regulation of harmful land use and land management practices by county ordinance where necessary to achieve the purposes of this chapter.

NR 151

- Statewide Agricultural Performance Standards
 - Minimum requirements to prevent non-point pollution from entering Waters of the State
 - Chippewa County adopted an Ordinance in 2021 to enforce NR 151

Statewide Agriculture Performance Standards

Who:

1. Farmers who grow agricultural crops
2. Farmers who raise, feed or house livestock
3. Farmers who have, or plan to build waste storage
4. Farmers in a Water Quality Management Area (WQMA)
 - 300' to a stream, or 2' to groundwater or bedrock
 - 250' to private well, or 1000' to municipal well
 - 100-300' to karst features

What:

1. Meet tolerable "T" soil loss (NR 151.02)
2. **Maintain 5' tillage setback from top of stream channel** (NR 151.03)
3. Prevent direct runoff from feedlots or stored manure into waters of the State (NR 151.08(4))
4. Divert clean water around feedlots, waste storage and barnyards within WQMA (NR 151.06)
5. **Prevent feed storage leachate or milk house waste from entering WQMA** (NR 151.055)
6. Build waste storage facilities according to standards (NR 151.05(2))
7. Stack manure outside a WQMA (NR 151.08(3))
8. Repair leaking waste storage facilities (NR 151.05(4))
9. Develop and follow a nutrient management plan on crop ground, **and pastures** (NR 151.07)
10. **Phosphorous Index cannot exceed 6 over the rotation nor 12 in any one year** (NR 151.04)
11. Maintain adequate sod along waters of the State (NR 151.08(5))
12. Prevent overtopping of waste storage (NR 151.08(2))
13. Close waste storage facilities according to standards (NR 151.05(3))

PLANS

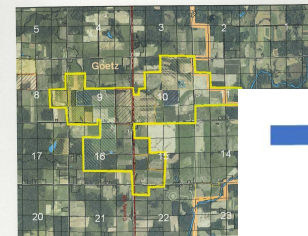
- Land & Water Resource Management (LWRM) Plan
 - Required by Dept. of Ag, Trade, & Consumer Protection (DATCP)
 - Eligible for State Staff & Support
 - Soil & Water Resource Management (SWRM) Grant
- Farmland Preservation Plan
 - Agricultural Enterprise Areas (AEA's)
 - Cadott & Bloomer AEA's
- Nine Key Element Plan – DNR
 - Eligible for Targeted Runoff Management (TRM) Grants
 - Little Lake Wissota
 - Lower Yellow River
 - Moon Bay
 - Red Cedar River
 - Eau Claire River

Chippewa County Land & Water Resource Management Plan

2019 -



Cadott Area Cooperative Agriculture Enterprise Area



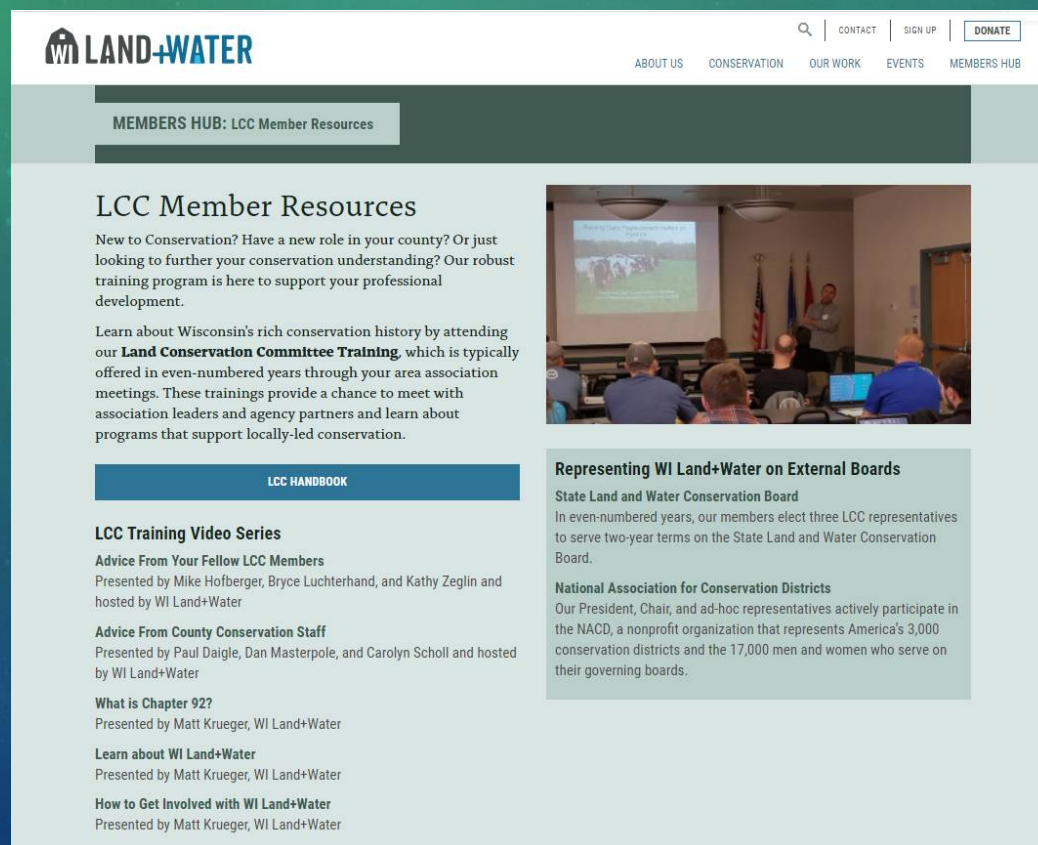
Nine Key Element Watershed Plan Little Lake Wissota Chippewa County, Wisconsin



CONSERVATION PROGRAMS

- Stewardship Programs
 - Lake Wissota
 - Chippewa County
 - Living Lands
- Annual Tree Sale
- Groundwater Testing
 - Homeowner Nitrate Testing
 - UW Stevens Point
 - Nitrate Tracking
 - Source Tracking
 - WellIntel Network
- Animal Waste Ordinance
- Conservation Reserve Enhancement Program (CREP)
- Nutrient Management Planning
- Multi Discharger Variance
- Information/Education Programs
 - Lake Inventories
 - Weather Stations
 - Area Education Network
- Aquatic Invasive Species Management – Beaver Creek Reserve
- Wildlife Damage Program - APHIS

WISCONSIN LAND+WATER ASSOCIATION



The screenshot shows the website for the Wisconsin Land+Water Association. The header includes the logo and navigation links: ABOUT US, CONSERVATION, OUR WORK, EVENTS, and MEMBERS HUB. A search bar and a DONATE button are also present. Below the header, a banner reads "MEMBERS HUB: LCC Member Resources". The main content area is titled "LCC Member Resources" and includes a paragraph about the training program, a list of video series, and a section on representing WI Land+Water on external boards. A photograph of a training session is also included.

MEMBERS HUB: LCC Member Resources

LCC Member Resources

New to Conservation? Have a new role in your county? Or just looking to further your conservation understanding? Our robust training program is here to support your professional development.

Learn about Wisconsin's rich conservation history by attending our **Land Conservation Committee Training**, which is typically offered in even-numbered years through your area association meetings. These trainings provide a chance to meet with association leaders and agency partners and learn about programs that support locally-led conservation.

LCC HANDBOOK

LCC Training Video Series

Advice From Your Fellow LCC Members
Presented by Mike Hofberger, Bryce Luchterhand, and Kathy Zeglin and hosted by WI Land+Water

Advice From County Conservation Staff
Presented by Paul Daigle, Dan Masterpole, and Carolyn Scholl and hosted by WI Land+Water

What is Chapter 92?
Presented by Matt Krueger, WI Land+Water

Learn about WI Land+Water
Presented by Matt Krueger, WI Land+Water

How to Get Involved with WI Land+Water
Presented by Matt Krueger, WI Land+Water

Representing WI Land+Water on External Boards

State Land and Water Conservation Board
In even-numbered years, our members elect three LCC representatives to serve two-year terms on the State Land and Water Conservation Board.

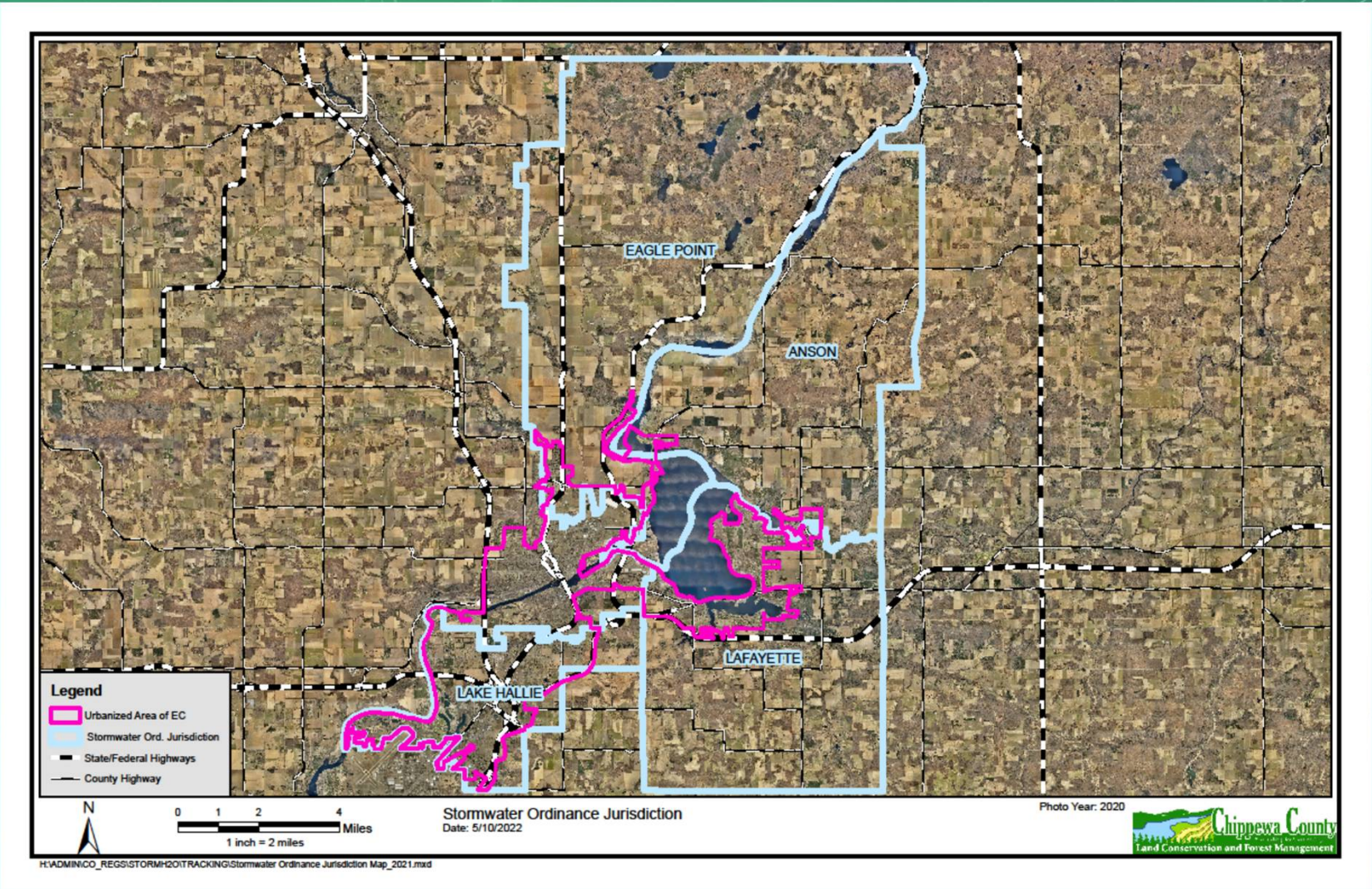
National Association for Conservation Districts
Our President, Chair, and ad-hoc representatives actively participate in the NACD, a nonprofit organization that represents America's 3,000 conservation districts and the 17,000 men and women who serve on their governing boards.

STORMWATER PROGRAM

- **NR 216.001 Purpose.** The purpose of this chapter is to establish criteria defining those storm water discharges needing WPDES storm water permits, as required by s. [283.33](#), Stats., and to implement the appropriate performance standards of subchs. [III](#) and [IV of ch. NR 151](#). The goal of this chapter is to minimize the discharge of pollutants carried by storm water runoff from certain industrial facilities, construction sites and municipal separate storm sewer systems as identified in this chapter.

STORMWATER PROGRAM

- Assist Planning & Zoning Department with plan review
 - WI Stat NR 216
 - Chapter 12 – Stormwater Management - Chippewa County Ordinance 2018
- Implement County's Municipal Separate Storm Sewer System (MS4) Permit
- Implement Joint Storm Water Program for the Chippewa Falls Urban Area
 - Cooperative Agreement with Village of Lake Hallie, Town of Anson, Town of Eagle Point, & the Town of Lafayette

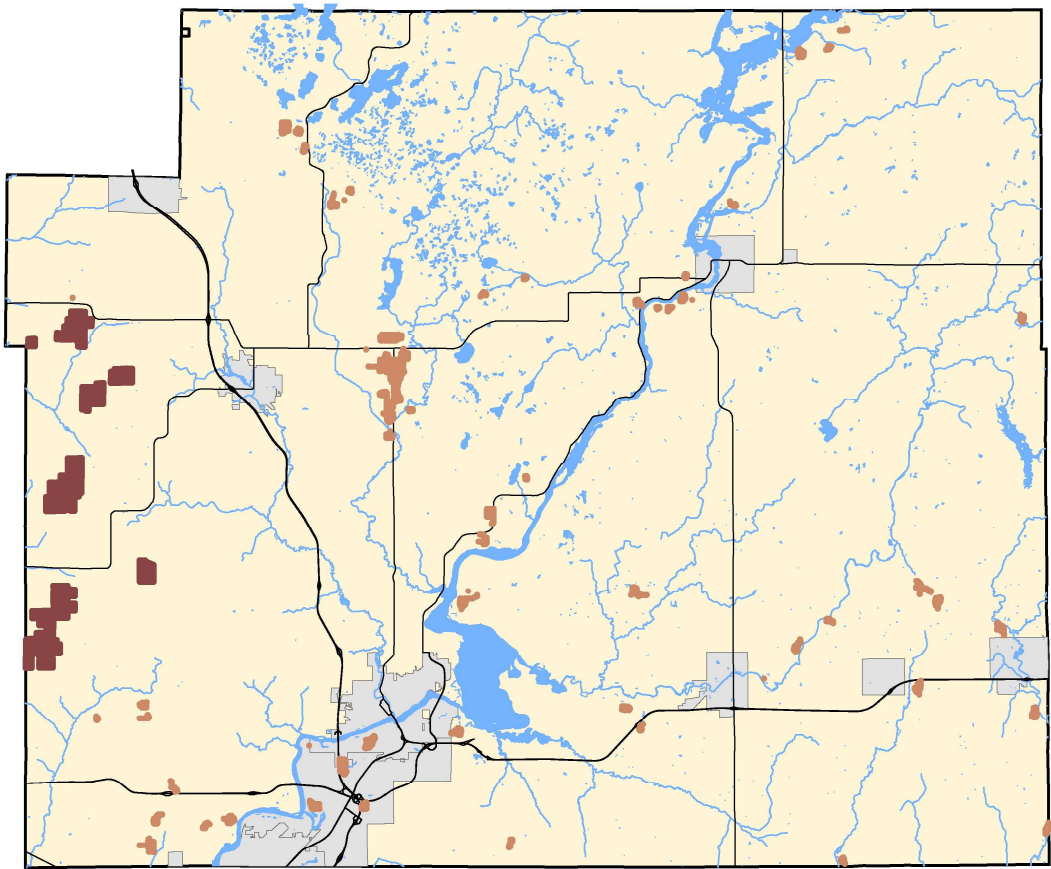


NON-METALLIC MINING PROGRAM

- **NR 135.17 Regulatory authority to issue reclamation permits.**
 - **(1) COUNTIES REQUIRED TO ISSUE PERMITS.**
 - **(a)** Subject to subs. [\(2\)](#) and [\(3\)](#), nonmetallic mining reclamation permits can be issued or otherwise acted on pursuant to this subchapter only by a county that has adopted and administers a nonmetallic mining reclamation ordinance, as required by s. [NR 135.32](#).
- Chapter 30, Article II Non-Metallic Reclamation
 - County Ordinance Revised in 2021

Location of Permitted
Non-Metallic Mines
Meeting State NR-135
Reclamation Standards

- Bedrock Sand Mines
- Sand & Gravel Mines



Map 3

Path: H:\ADMIN\SEC\ANNUAL\2020\Annual plan\map3 Updated.mxd

COUNTY FORESTS & TRAILS

- **28.11 Administration of county forests.**
- **(1) PURPOSE.** The purpose of this section is to provide the basis for a permanent program of county forests and to enable and encourage the planned development and management of the county forests for:
 - optimum production of forest products
 - recreational opportunities
 - wildlife, watershed protection and stabilization of stream flow
 - giving full recognition to the concept of multiple-use to assure maximum public benefits; to protect the public rights, interests and investments in such lands;
 - and to compensate the counties for the public uses, benefits and privileges these lands provide; all in a manner which will provide a reasonable revenue to the towns in which such lands lie.

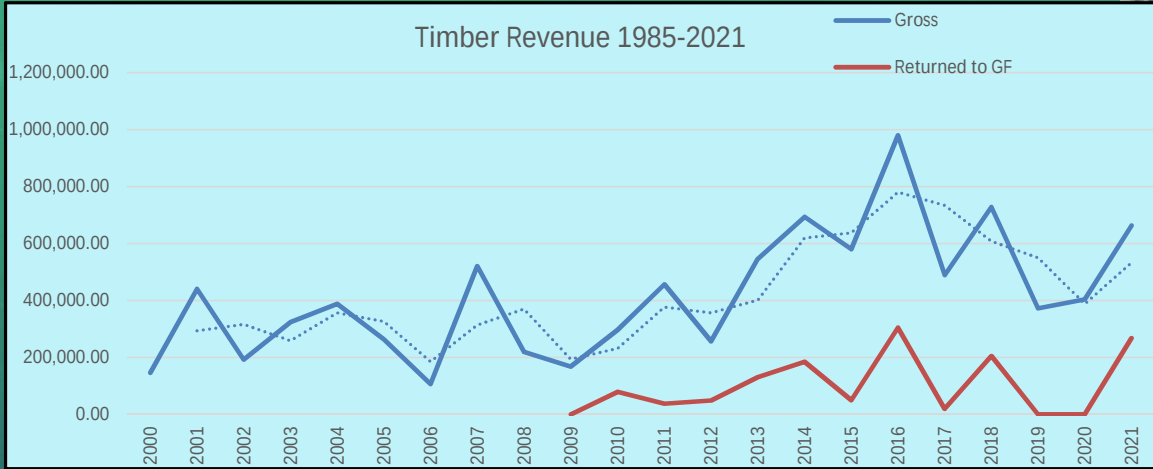
Chippewa County Forest Comprehensive Land Use Plan

2021 - 2035



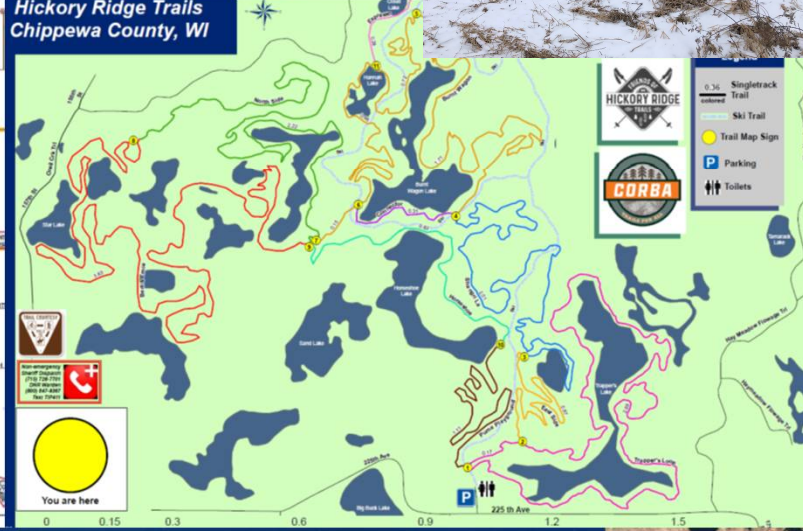
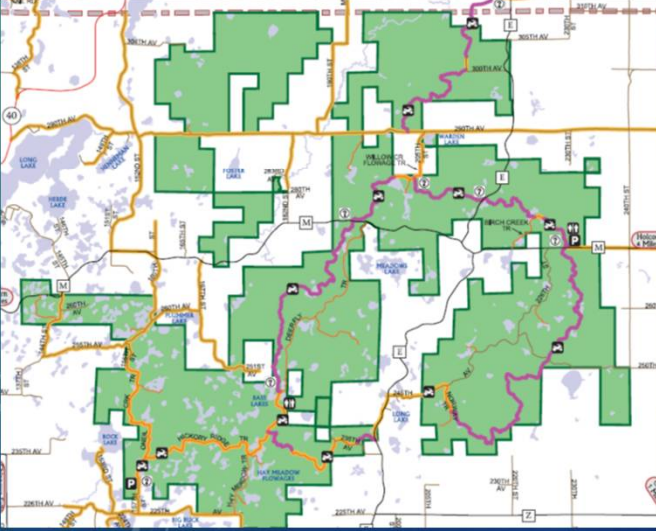
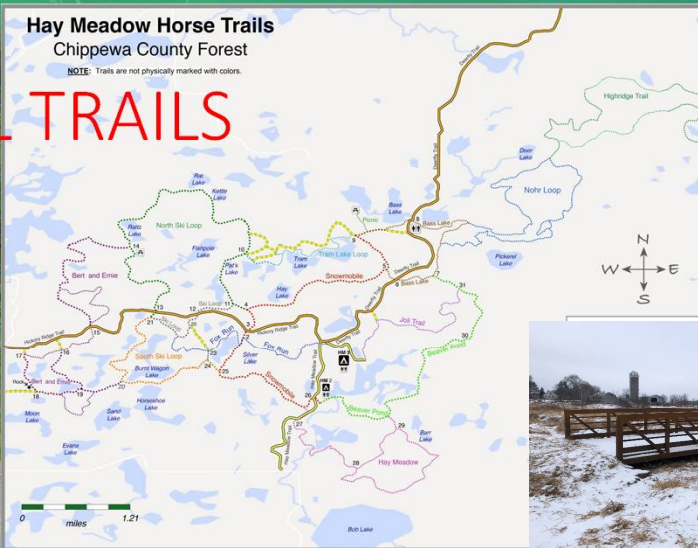
- Completed the planning process to update the Chippewa County Forest Comprehensive Land Use Plan (2021-2035)
- Plan provides policy guidance on County Forest management
- County Board approves annual work plans guided by the 15 year plan
- Annual work plans and reports are incorporated into the 2021-2035 plan

COUNTY FOREST MANAGEMENT



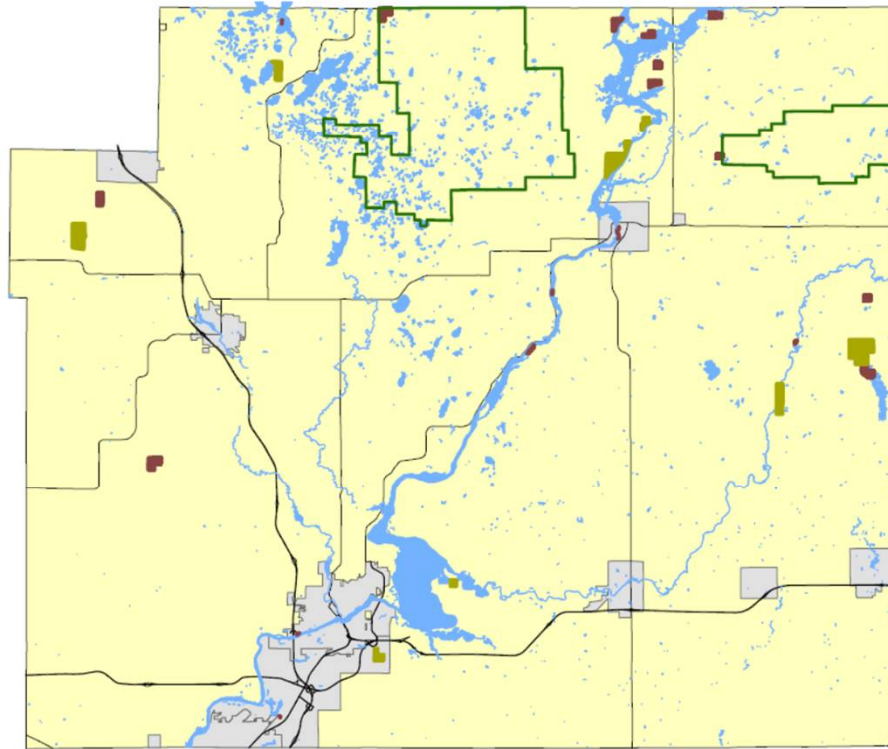


RECREATIONAL TRAILS



TAX DEED PARCELS

Location of
Chippewa County
Forest and
Special Management
Units



Map 4

January 28, 2021

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192nd Tax Deed Sale



Tax Deed 20 acres and County Forest 22 acres.



RECYCLING PROGRAM



- Wisconsin State Statutes Ch. 287 encourages waste reduction and recycling in the state by requiring that certain items be recycled.
- This law assigns responsibilities for recycling to municipalities and provides grant assistance to support local programs.

Wisconsin Recycles



The following items are **banned** from landfills and incinerators statewide and should be reused, recycled or composted.

Containers

- #1 and #2 plastic bottles and jars
- Aluminum containers
- Bi-metal cans
- Glass containers
- Steel (tin) cans

Paper and Cardboard

- Corrugated cardboard
- Magazines, catalogs, and other materials on similar paper
- Newspaper and newsprint materials
- Office paper

Yard Materials

- Grass clippings
- Debris and brush under 6" in diameter
- Leaves

Vehicle Items

- Lead-acid vehicle batteries
- Tires *
- Used oil filters
- Waste oils *

*These items may be burned in a solid waste treatment facility with energy recovery.

Appliances

- Air conditioners
- Boilers
- Clothes dryers
- Clothes washers
- Dehumidifiers
- Dishwashers
- Freezers
- Furnaces
- Microwaves
- Ovens
- Refrigerators
- Stoves
- Water heaters

Electronics

- Cell phones
- Computers – desktop, laptop, netbook, tablet
- Computer monitors
- Computer keyboards and mice
- Computer scanners
- Computer speakers
- Desktop printers (including those that fax and scan)
- DVD players, VCRs, DVRs and all other video players
- External hard drives
- Fax machines
- Flash drives/USBs
- Other items that plug into a computer
- Televisions

Why ban items from the landfill and incinerator?

The items on this list are made of materials that can be reused in new products. Some also have toxic components that we do not want in our groundwater, air or soil. Recycling and composting allow landfills to last longer, provide markets with valuable reusable materials, create jobs, and prevent pollution.

Why not ban more materials?

Corrugated cardboard is banned while waxed cardboard is not. Some things with plugs, like computers, are banned, while others, like toasters, are not. Why? Current bans cover some of the most easily reusable or most toxic materials on the market today. Eventually more items may be added to this list as new recycling markets develop or the types of materials we throw away change.

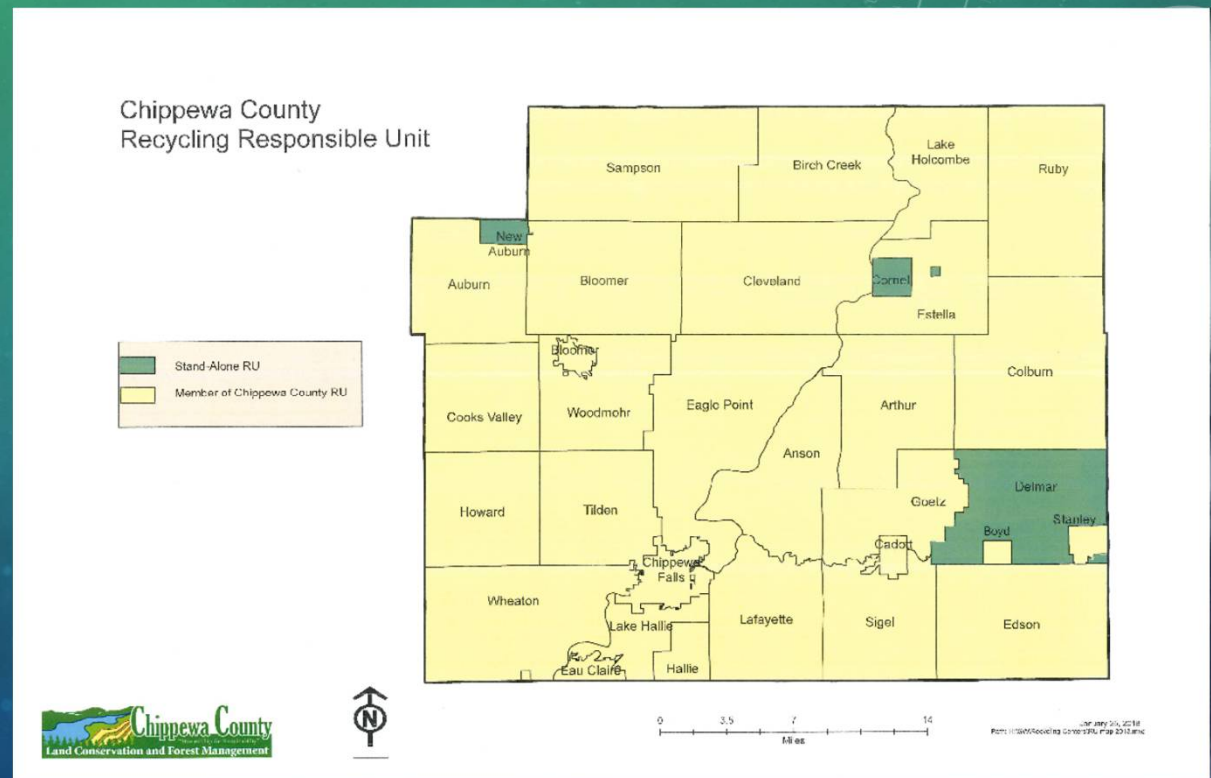
Some communities go above and beyond what is required by state law. Check with your local government or recycling service provider to find out what additional materials are accepted for recycling in your area. For more information about Wisconsin's recycling program, search "recycle" at dnr.wis.gov. Wisconsin's recycling requirements apply to everyone in the state at all residences and places of work or play.



Wisconsin Department of Natural Resources
Bureau of Waste and Materials Management
PO Box 7921, Madison, WI 53707 • (608) 266-2111
DNR.WasteMaterials@dnr.wis.gov
Wisconsin's Department of Natural Resources is an equal opportunity employer. We encourage people of all ages, races, ethnicities, and abilities to apply for jobs. For more information, please contact the Bureau of Waste and Materials Management at (608) 266-2111 or dnr.wis.gov.
DNR-2014-1974 3/17 © Wisconsin Department of Natural Resources

Chippewa County Responsible Unit:

- Chippewa County is designated by 28 of 31 municipalities to be the Responsible Unit (RU).
- Intergovernmental Agreements entered by the County and municipalities.



County's Duties:



- Coordinates and administers Recycling Program Grants.
- Develops and implements Information and Education Program.
- Administers and enforces Recycling, Litter and Solid Waste Ordinances.
- Administers special recycling collection programs.

Special Recycling Collection Programs:

- Ag and Household Hazardous Waste
- Appliances
- Electronics
- Waste Tires
- Scrap Metal
- Ditch Clean Up



Municipality's Duties:



- Develop and maintain a recycling collection system.
 - § Drop-off Recycling Center
 - § Curbside Program
- Arrange for transport of recyclables.
- Pay the recycling costs through fees, grants, or other means.
- Maintain financial records.

TYPES OF CURRENT RECYCLING PROGRAMS:

	Single Municipality		Multi-Municipality
Drop-Off Recycling Center – 18	Arthur Birch Creek Cleveland Colburn Cooks Valley Eagle Point Edson Estella Goetz	Howard Lafayette Lake Holcombe Ruby Sigel Tilden Wheaton	City of Bloomer Town of Bloomer Town of Auburn Town of Woodmohr Town of Sampson Village of Lake Hallie Town of Hallie
Curbside Service – 5	Anson Boyd Cadott Chippewa Falls Stanley		

ANY QUESTIONS?





STATEMENT OF EXPLANATION REVIEW TIMBER SALE CONTRACT EXTENSIONS

7.2

The County Forest Administrator will report on the Department's recommendation to extend six (6) timber sale contracts, per original contract language.

The affected logging contractors requiring extensions are listed in the following spreadsheet.

The maximum time duration of a timber sale contract, including extensions, shall be four (4) years. Extension beyond this period of time shall be considered by the Chippewa County Land Conservation & Forest Management Committee only in the event of special justification.

REPORT: SUMMARY OF TIMBER SALES FOR CONTRACT EXTENSION JULY 2022

SALE NO. &	CURRENT	ORIGINAL	EST. WOOD VOLUME OF	ORIGINAL	ESTIMATED WOOD	No. of	CURRENT ADMINISTRATIVE
1284-19 Ted Stzok	7/1/2022	6/1/2019-1/1/2022	Oak Pulp 46 Tons MX HW Pulp 560 Tons Aspen Pulp 10 Tons Ash Logs 64.5 MBF Basswood Logs 31.5 MBF Red Oak Logs 18.3 MBF Mx HW Logs 62.7	\$63,325.50	0%	1	Extend contract 1 year -20% stumpage increase per original contract terms.
1285-19 Ted Strzok	7/1/2022	6/1/2019-1/1/2022	Aspen Pulp 900 Tons MX HW Pulp 360 Tons Oak Pulp 270 Tons Red Oak Logs 13 MBF MX HW Logs 5 MBF	\$32,440.00	0%	1	Extend contract 1 year -20% stumpage increase per original contract terms.
1291-19 Ted Stzok	7/1/2022	12/1/2019-7/1/2022	Aspen Pulp 2200 Tons MX HW Pulp 1750 Tons Oak Pulp 1200 Tons Red Oak Logs 77 MBF MX HW Logs 28 MBF	\$133,425.00	0%	0	Extend contract 6 months -0% stumpage increase per original contract terms.
1289-19 David Hakes	7/1/2022	6/1/2019-1/1/2022	MX HW Pulp 1500 Tons MX HW Logs 33 MBF	\$14,775.00	80%	1	Extend contract 1 year -20% stumpage increase per original contract terms.
1290-19 David Hakes	7/1/2022	6/1/2019-1/1/2022	MX HW Pulp 1650 Tons MX HW Logs 32 MBF	\$14,715.00	80%	1	Extend contract 1 year -20% stumpage increase per original contract terms.
1309-20 Kron Forest Products	7/1/2022	12/1/2020-1/1/2022	Aspen Pulp 40 Tons Red Pine Pulp 272 Tons	\$4,368.00	0%	1	Extend contract 1 year -10% stumpage increase per original contract terms.



**STATEMENT OF EXPLANATION
ESTABLISH REGULAR COMMITTEE MEETING TIME AND DATE**

8.1

County ordinance Sec. 2-82 states that "All standing committee board chairs shall, at the first regular meeting, establish a regular meeting date and time with due consideration given to the scheduling conflicts, including working hours of each member and the County Administrator. Notification of these regular meeting dates shall be placed on file in the office of the County Clerk and the County Administrator."

Most recently, the Land Conservation & Forest Management Committee has generally met at 4:30 p.m. on the 3rd Wednesday of the month.

Attached is a calendar with the proposed 2022 monthly meeting dates for purposes of discussion.

Calendar

2022

January

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

February

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

March

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

April

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

June

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

July

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

August

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

October

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

November

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

December

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



Proposed 2022 LCFM Meeting Dates



STATEMENT OF EXPLANATION
REVIEW SUMMARY OF SPRING 2022 TIMBER SALE BIDS AND AWARD
CONTRACTS

8.2

The LCFM, acting through the Forest and Trails Division (FT), manages the Chippewa County Forest for multiple public objectives in accordance with the Chippewa County Forest Comprehensive Land Use Plan and WI. Stats. Chapter 28. These objectives include management of the Co. Forest system for sustainable timber production, public recreation and environmental conservation.

Chippewa Co. manages the Co. Forest to optimize forest health by applying standard silvicultural treatments, that are applied to designated timber stands.

As a primary silvicultural treatment, scheduled timber harvests are routinely conducted at the timber stand level as needed to meet overall forest management objectives.

Under the process, timber stands that are scheduled for harvest are evaluated by WI DNR and FT foresters. These foresters identify the trees to be harvested and estimate the volume of the different timber types that are available for harvest within each timber stand sale tract.

Bid packages are then prepared for each timber stand sale tract and competitive bids are sought from private sector logging contractors seeking to harvest the wood products within each sale tract.

In preparing for and conducting the harvest, prescribed "best management practices" are used by the County and by logging contractors.

The County routinely plans and administers two (2) bid openings on a seasonal basis, one in the Spring and one in the Fall.

Following this process, the FT Division has now solicited and received competitive bids for the current seasonal sale, involving ten (10) County Forest Timber Sales totaling approximately 360 acres and one (1) sale of approximately 13 acres that did not receive any bids in Fall, 2021.

To complete the competitive bid process the FT Division has compiled bids, evaluated them to assure that they are complete, and has identified the highest bidder for each timber sale tract. The LCFM Committee will review the outcome of this competitive bid process and will take action to award the timber sale contract for each sale tract.

CHIPPEWA COUNTY
DEPT. OF LAND CONSERVATION & FOREST MANAGEMENT
WEIGHTED AVERAGE OF HIGH BIDS
5/16/2021

WOOD TYPE	WEIGHTED AVERAGE	UNIT	Change From May, 2021	FALL WEIGHTED AVERAGE
Mixed Hardwood Logs	\$363.66	MBF	+\$71.88	\$291.78
Red Oak Logs	\$391.00	MBF	-\$69.46	\$460.46
White Oak Logs	\$400.00	MBF	-\$138.57	\$538.57
Oak Logs	\$443.68	MBF	+\$30.74	\$412.94
Red Maple Logs	\$385.00	MBF	+\$185.00	\$200.00
Sugar Maple	\$385.00	MBF		
Ash Logs	\$385.00	MBF		
Basswood Logs	\$200.00	MBF		

Aspen Cordwood	\$25.83	TON	-\$4.22	\$30.05
Red Maple Cordwood	\$11.00	TON	-\$1.00	\$12.00
Mixed Hardwood Cordwood	\$12.12	TON	+\$3.23	\$8.89
Oak Cordwood	\$18.87	TON	+\$8.62	\$10.25
Balsam Fir Cordwood	\$12.00	TON		
White Spruce Cordwood	\$10.00	TON		
Red Pine cordwood	\$16.99	TON		

	5/17/2021	11/15/2021
Total number of bids =	31	44
Number of sales advertised =	11	10
Number of sales sold =	10	10
Total acres sold =	386	341
Total Volume of Cordwood (Tons) Sold =	13,893	15,670
Total Volume of Sawlogs (MBF) Sold =	1314	621
Total value of advertised minimum bids =	\$459,940.00	\$ 337,258.00
Total value of winning bids =	\$744,934.00	\$ 569,771.50

Chippewa County Forest
Listing of High Bids Submitted at May 16, 2022 Bid Opening

Tract	SPECIES	Tons	MBF	Min Price	David Hakes	
					\$ / Ton or MBF	Total \$ For Product
Tract 1-22	Mixed Hardwood cordwood	250			\$ 10.00	\$ 2,500.00
	Oak cordwood	300			\$ 15.00	\$ 4,500.00
	Oak logs		20		\$ 300.00	\$ 6,000.00
	Aspen cordwood	1900			\$ 33.11	\$ 62,909.00
	TOTAL BID VALUE			\$ 46,750.00	\$ 358.11	\$ 75,909.00

Tract	SPECIES	Tons	MBF	Min Price	Kron Forest Products	
					\$ / Ton or MBF	Total \$ For Product
Tract 2-22	Pine cordwood	640			\$ 20.00	\$ 12,800.00
	Mixed Hardwood cordwood	75			\$ 5.00	\$ 375.00
					\$ -	\$ -
					\$ -	\$ -
	TOTAL BID VALUE			\$ 6,775.00	\$ 25.00	\$ 13,175.00

Tract	SPECIES	Tons	MBF	Min Price	Theodore Strzok	
					\$ / Ton or MBF	Total \$ For Product
Tract 3-22	Red Maple cordwood	1800			\$ 11.00	\$ 19,800.00
	Mixed Hardwood cordwood	1700			\$ 11.00	\$ 18,700.00
	Aspen cordwood	220			\$ 11.00	\$ 2,420.00
	Red Maple logs		157		\$ 385.00	\$ 60,445.00
	Ash logs		105		\$ 385.00	\$ 40,425.00
	Sugar Maple logs		20		\$ 385.00	\$ 7,700.00
	Red Oak logs		12		\$ 385.00	\$ 4,620.00
	Basswood logs		11		\$ 200.00	\$ 2,200.00
						\$ -
	TOTAL BID VALUE			\$ 87,300.00	\$ 1,773.00	\$ 156,310.00

Tract	SPECIES	Tons	MBF	Min Price	David Hakes	
					\$ / Ton or MBF	Total \$ For Product
Tract 4-22	Aspen cordwood	1935			\$ 22.22	\$ 42,995.70
	Mixed Hardwood cordwood	320			\$ 10.00	\$ 3,200.00
	White Spruce codwood	40			\$ 10.00	\$ 400.00
					\$ -	\$ -
	TOTAL BID VALUE			\$ 40,340.00	\$ 42.22	\$ 46,595.70

Tract	SPECIES	Tons	MBF	Min Price	Michael Prokop	
					\$ / Ton or MBF	Total \$ For Product
Tract 5-22	Aspen cordwood	1260			\$ 28.90	\$ 36,414.00
	Mixed Hardwood cordwood	520			\$ 10.90	\$ 5,668.00
	Balsam Fir cordwood	130			\$ 12.00	\$ 1,560.00
	Mixed Hardwood logs		30		\$ 400.00	\$ 12,000.00
					\$ -	\$ -
	TOTAL BID VALUE			\$ 32,430.00	\$ 422.90	\$ 55,642.00

Attachment: Winning Bid (6948 : Review Summary of Spring 2022 Timber Sale Bids and Award Contracts)

49

Tract	SPECIES	Tons	MBF	Min Price	David Hakes	
					\$ / Ton or MBF	Total \$ For Product
Tract 6-22	Oak cordwood	1300			\$ 25.25	\$ 32,825.00
	Aspen cordwood	100			\$ 25.00	\$ 2,500.00
	Mixed Hardwood cordwood	500			\$ 25.25	\$ 12,625.00
	Red Oak logs		153		\$ 400.00	\$ 61,200.00
	White Oak logs		6		\$ 400.00	\$ 2,400.00
	Mixed Hardwood Logs		12		\$ 300.00	\$ 3,600.00
	TOTAL BID VALUE			\$ 60,200.00	\$ 1,175.50	\$ 115,150.00

Tract	SPECIES	Tons	MBF	Min Price	Peter Hetke	
					\$ / Ton or MBF	Total \$ For Product
Tract 7-22	Oak Cordwood	560			\$ 10.50	\$ 5,880.00
	Mixed Hardwood Cordwood	560			\$ 8.25	\$ 4,620.00
	Aspen cordwood	40			\$ 27.00	\$ 1,080.00
	Red Oak Logs		80		\$ 375.00	\$ 30,000.00
	Mixed Hardwood Logs		30		\$ 275.00	\$ 8,250.00
	TOTAL BID VALUE			\$ 34,900.00	\$ 695.75	\$ 49,830.00

Tract	SPECIES	Tons	MBF	Min Price	Potlatch	
					\$ / Ton or MBF	Total \$ For Product
Tract 8-22	Red Pine cordwood	300			\$ 10.57	\$ 3,171.00
					\$ -	\$ -
	TOTAL BID VALUE			\$ 540.00	\$ 10.57	\$ 3,171.00

Tract	SPECIES	Tons	MBF	Min Price	Theodore Strzok	
					\$ / Ton or MBF	Total \$ For Product
Tract 9-22	Mixed Hardwood cordwood	240			\$ 14.00	\$ 3,360.00
	Oak cordwood	500			\$ 14.00	\$ 7,000.00
	Oak logs		56		\$ 495.00	\$ 27,720.00
	Mixed Hardwood logs		24		\$ 495.00	\$ 11,880.00
					\$ -	
					\$ -	
	TOTAL BID VALUE			\$ 24,100.00	\$ 990.00	\$ 49,960.00

Tract	SPECIES	Tons	MBF	Min Price	Prokop	
					\$ / Ton or MBF	Total \$ For Product
Tract 30-21	Aspen cordwood	380			\$ 6.31	\$ 2,397.80
	Mixed Hardwood cordwood	100			\$ 6.31	\$ 631.00
	Mixed Hardwood logs		5		\$ 200.00	\$ 1,000.00
	TOTAL BID VALUE			\$ 3,923.00	\$ 212.62	\$ 4,028.80

Tract	SPECIES	Tons	MBF	Min Price	Nitek		Hakes		Strzok		Futurewood		\$ / Ton or MBF	Total \$ For Product
					\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product		
Tract 1-22	Mixed Hardwood cordwood	250			\$ 7.00	\$ 1,750.00	\$ 10.00	\$ 2,500.00	\$ 12.00	\$ 3,000.00	\$ 2.00	\$ 500.00		\$ -
	Oak cordwood	300			\$ 7.00	\$ 2,100.00	\$ 15.00	\$ 4,500.00	\$ 12.00	\$ 3,600.00	\$ 2.00	\$ 600.00		\$ -
	Oak logs		20		\$ 285.00	\$ 5,700.00	\$ 300.00	\$ 6,000.00	\$ 450.00	\$ 9,000.00	\$ 200.00	\$ 4,000.00		\$ -
	Aspen cordwood	1900			\$ 21.00	\$ 39,900.00	\$ 33.11	\$ 62,909.00	\$ 31.26	\$ 59,394.00	\$ 30.10	\$ 57,190.00		
	TOTAL BID VALUE			\$ 46,750.00		\$ 49,450.00		\$ 75,909.00		\$ 74,994.00		\$ 62,290.00		\$ -

Tract	SPECIES	Tons	MBF	Min Price	Bridge Creek		Kron		Biewer		Potlatch		\$ / Ton or MBF	Total \$ For Product
					\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product		
Tract 2-22	Red Pine cordwood	640			\$ 11.00	\$ 7,040.00	\$ 20.00	\$ 12,800.00	\$ 15.93	\$ 10,195.20	\$ 15.66	\$ 10,022.40		\$ -
	Mixed Hardwood cordwood	75			\$ 4.00	\$ 300.00	\$ 5.00	\$ 375.00	\$ 1.00	\$ 75.00	\$ 2.50	\$ 187.50		\$ -
					\$ -	\$ -	\$ -	\$ -		\$ -		\$ -		\$ -
					\$ -	\$ -	\$ -	\$ -		\$ -		\$ -		\$ -
	TOTAL BID VALUE			\$ 6,775.00		\$ 7,340.00		\$ 13,175.00		\$ 10,270.20		\$ 10,209.90		\$ -

Tract	SPECIES	Tons	MBF	Min Price	Nitek		Strzok		Hakes		Buffalo Lumber		\$ / Ton or MBF	Total \$ For Product
					\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product		
Tract 3-22	Red Maple cordwood	1800			\$ 6.75	\$ 12,150.00	\$ 11.00	\$ 19,800.00	\$ 15.00	\$ 27,000.00	\$ 11.06	\$ 19,908.00		\$ -
	Mixed Hardwood cordwood	1700			\$ 6.75	\$ 11,475.00	\$ 11.00	\$ 18,700.00	\$ 15.00	\$ 25,500.00	\$ 11.06	\$ 18,802.00		
	Aspen cordwood	220			\$ 20.00	\$ 4,400.00	\$ 11.00	\$ 2,420.00	\$ 18.00	\$ 3,960.00	\$ 9.00	\$ 1,980.00		
	Red Maple logs		157		\$ 275.00	\$ 43,175.00	\$ 385.00	\$ 60,445.00	\$ 300.00	\$ 47,100.00	\$ 346.00	\$ 54,322.00		
	Ash logs		105		\$ 125.00	\$ 13,125.00	\$ 385.00	\$ 40,425.00	\$ 300.00	\$ 31,500.00	\$ 245.00	\$ 25,725.00		
	Sugar Maple logs		20		\$ 400.00	\$ 8,000.00	\$ 385.00	\$ 7,700.00	\$ 300.00	\$ 6,000.00	\$ 445.00	\$ 8,900.00		
	Red Oak logs		12		\$ 375.00	\$ 4,500.00	\$ 385.00	\$ 4,620.00	\$ 300.00	\$ 3,600.00	\$ 321.00	\$ 3,852.00		
	Basswod logs		11		\$ 120.00	\$ 1,320.00	\$ 200.00	\$ 2,200.00	\$ 300.00	\$ 3,300.00	\$ 96.00	\$ 1,056.00		\$ -
						\$ -		\$ -		\$ -		\$ -		\$ -
	TOTAL BID VALUE			\$ 87,300.00		\$ 98,145.00		\$ 156,310.00		\$ 147,960.00		\$ 134,545.00		\$ -

Tract	SPECIES	Tons	MBF	Min Price	Strzok		Hakes						\$ / Ton or MBF	Total \$ For Product
					\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product		
Tract 4-22	Aspen cordwood	1935			\$ 20.56	\$ 39,783.60	\$ 22.22	\$ 42,995.70		\$ -		\$ -		\$ -
	Mixed Hardwood cordwood	320			\$ 12.00	\$ 3,840.00	\$ 10.00	\$ 3,200.00		\$ -		\$ -		\$ -
	White Spruce cordwood	40			\$ 10.00	\$ 400.00	\$ 10.00	\$ 400.00		\$ -		\$ -		\$ -
					\$ -	\$ -		\$ -		\$ -		\$ -		\$ -
	TOTAL BID VALUE			\$ 40,340.00		\$ 44,023.60		\$ 46,595.70		\$ -		\$ -		\$ -

Tract	SPECIES	Tons	MBF	Min Price	Flannel Fleet		Strzok		Nitek		Futurewood		Prokop		Hakes		Lake States	
					\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product
Tract 5-22	Aspen cordwood	1260			\$ 26.00	\$ 32,760.00	\$ 29.76	\$ 37,497.60	\$ 25.00	\$ 31,500.00	\$ 30.65	\$ 38,619.00	\$ 28.90	\$ 36,414.00	\$ 26.67	\$ 33,604.20	\$ 33.10	\$ 41,706.00
	Mixed Hardwood cordwood	520			\$ 14.00	\$ 7,280.00	\$ 12.00	\$ 6,240.00	\$ 6.50	\$ 3,380.00	\$ 2.00	\$ 1,040.00	\$ 10.90	\$ 5,668.00	\$ 7.50	\$ 3,900.00	\$ 7.00	\$ 3,640.00
	Basam Fir cordwood	130			\$ 7.00	\$ 910.00	\$ 5.00	\$ 650.00	\$ 2.00	\$ 260.00	\$ 2.00	\$ 260.00	\$ 12.00	\$ 1,560.00	\$ 7.50	\$ 975.00	\$ 5.00	\$ 650.00
	Mixed Hardwood logs		30		\$ 325.00	\$ 9,750.00	\$ 350.00	\$ 10,500.00	\$ 150.00	\$ 4,500.00	\$ 200.00	\$ 6,000.00	\$ 400.00	\$ 12,000.00	\$ 300.00	\$ 9,000.00	\$ 150.00	\$ 4,500.00
					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -		\$ -	\$ -	\$ -		\$ -
	TOTAL BID VALUE			\$ 32,430.00		\$ 50,700.00		\$ 54,887.60		\$ 39,640.00		\$ 45,919.00		\$ 55,642.00		\$ 47,479.20		\$ 50,496.00

Tract	SPECIES	Tons	MBF	Min Price	Strzok		Nitek				Hakes		Northwest HW	
					\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product
Tract 6-22	Oak cordwood	1300			\$ 14.00	\$ 18,200.00	\$ 9.00	\$ 11,700.00	\$ 11.06	\$ 14,378.00	\$ 25.25	\$ 32,825.00	\$ 8.50	\$ 11,050.00
	Aspen cordwood	100			\$ 20.00	\$ 2,000.00	\$ 19.00	\$ 1,900.00	\$ 9.00	\$ 900.00	\$ 25.00	\$ 2,500.00	\$ 11.00	\$ 1,100.00
	Mixed Hardwood cordwood	500			\$ 14.00	\$ 7,000.00	\$ 9.00	\$ 4,500.00	\$ 11.06	\$ 5,530.00	\$ 25.25	\$ 12,625.00	\$ 8.50	\$ 4,250.00
	Red Oak logs		153		\$ 505.00	\$ 77,265.00	\$ 400.00	\$ 61,200.00	\$ 345.00	\$ 52,785.00	\$ 400.00	\$ 61,200.00	\$ 490.00	\$ 74,970.00
	White Oak logs		6		\$ 505.00	\$ 3,030.00	\$ 450.00	\$ 2,700.00	\$ 425.00	\$ 2,550.00	\$ 400.00	\$ 2,400.00	\$ 490.00	\$ 2,940.00
	Mixed Hardwood logs		12		\$ 505.00	\$ 6,060.00	\$ 225.00	\$ 2,700.00	\$ 270.00	\$ 3,240.00	\$ 300.00	\$ 3,600.00	\$ 300.00	\$ 3,600.00
	TOTAL BID VALUE			\$ 60,200.00		\$ 113,555.00		\$ 84,700.00		\$ 79,383.00		\$ 115,150.00		\$ 97,910.00

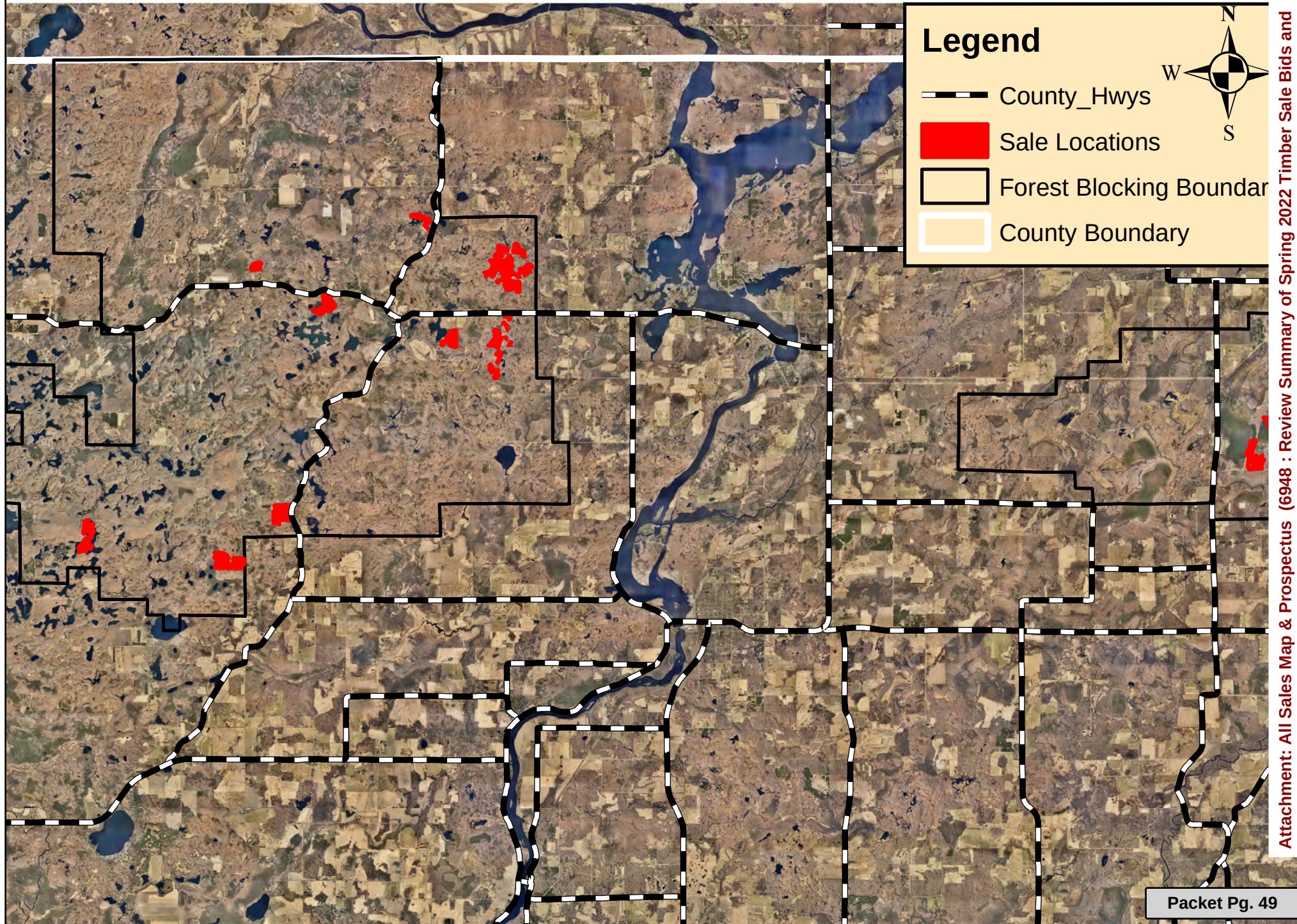
Tract	SPECIES	Tons	MBF	Min Price	Nitek		Strzok		Hetke		Buffalo Lumber & Tie		Prokop			
					\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	\$0.00	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product
Tract 7-22	Oak Cordwood	560			\$ 6.50	\$ 3,640.00	\$ 8.00	\$ 4,480.00	\$ 10.50	\$ 5,880.00	\$ 9.00	\$ 5,040.00	\$ 5.00	\$ 2,800.00	\$ -	\$ -
	Mixed Hardwood Cordwood	560			\$ 6.50	\$ 3,640.00	\$ 8.00	\$ 4,480.00	\$ 8.25	\$ 4,620.00	\$ 9.00	\$ 5,040.00	\$ 5.00	\$ 2,800.00		
	Aspen cordwood	40			\$ 18.00	\$ 720.00	\$ 8.00	\$ 320.00	\$ 27.00	\$ 1,080.00	\$ 9.00	\$ 360.00	\$ 5.00	\$ 200.00		
	Red Oak Logs		80		\$ 375.00	\$ 30,000.00	\$ 275.00	\$ 22,000.00	\$ 375.00	\$ 30,000.00	\$ 305.00	\$ 24,400.00	\$ 300.00	\$ 24,000.00		
	Mixed Hardwood Logs		30		\$ 225.00	\$ 6,750.00	\$ 175.00	\$ 5,250.00	\$ 275.00	\$ 8,250.00	\$ 230.00	\$ 6,900.00	\$ 300.00	\$ 9,000.00	\$ -	\$ -
	TOTAL BID VALUE			\$ 34,900.00		\$ 44,750.00		\$ 36,530.00		\$ 49,830.00		\$ 41,740.00		\$ 38,800.00		\$ -

Tract	SPECIES	Tons	MBF	Min Price	Bridge Creek		Kron		Potlatch		Hakes		Biewer			
					\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product
Tract 8-22	Red Pine cordwood	300			\$ 9.60	\$ 2,880.00	\$ 8.00	\$ 2,400.00	\$ 10.57	\$ 3,171.00	\$ 3.60	\$ 1,080.00	\$ 5.03	\$ 1,509.00		\$ -
					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -
	TOTAL BID VALUE			\$ 540.00		\$ 2,880.00		\$ 2,400.00		\$ 3,171.00		\$ 1,080.00		\$ 1,509.00		\$ -

Tract	SPECIES	Tons	MBF	Min Price	Nitek		Strzok		Hetke		Prokop		Buffalo Lumber & Tie		Hakes		Northwest HW	
					\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product
Tract 9-22	Mixed Hardwood Cordwood	240			\$ 7.00	\$ 1,680.00	\$ 14.00	\$ 3,360.00	\$ 8.50	\$ 2,040.00	\$ 10.90	\$ 2,616.00	\$ 11.06	\$ 2,654.40	\$ 10.00	\$ 2,400.00	\$ 6.00	\$ 1,440.00
	Oak cordwood	500			\$ 7.00	\$ 3,500.00	\$ 14.00	\$ 7,000.00	\$ 10.50	\$ 5,250.00	\$ 10.90	\$ 5,450.00	\$ 11.06	\$ 5,530.00	\$ 10.00	\$ 5,000.00	\$ 6.00	\$ 3,000.00
	Oak logs		56		\$ 375.00	\$ 21,000.00	\$ 495.00	\$ 27,720.00	\$ 425.00	\$ 23,800.00	\$ 400.00	\$ 22,400.00	\$ 350.00	\$ 19,600.00	\$ 250.00	\$ 14,000.00	\$ 470.00	\$ 26,320.00
	Mixed Hardwood logs		24		\$ 275.00	\$ 6,600.00	\$ 495.00	\$ 11,880.00	\$ 275.00	\$ 6,600.00	\$ 300.00	\$ 7,200.00	\$ 250.00	\$ 6,000.00	\$ 250.00	\$ 6,000.00	\$ 300.00	\$ 7,200.00
																	\$ -	
					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TOTAL BID VALUE			\$ 24,100.00		\$ 32,780.00		\$ 49,960.00		\$ 37,690.00		\$ 37,666.00		\$ 33,784.40		\$ 27,400.00		\$ 37,960.00

Tract	SPECIES	Tons	MBF	Min Price	Prokop											
					\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product	\$ / Ton or MBF	Total \$ For Product
Tract 30-21	Aspen cordwood	380			\$ 6.31	\$ 2,397.80	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Mixed Hardwood cordwood	100			\$ 6.31	\$ 631.00										
	Mixed Hardwood logs		5		\$ 200.00	\$ 1,000.00										
					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TOTAL BID VALUE			\$ 3,923.00		\$ 4,028.80		\$ -		\$ -		\$ -		\$ -		\$ -

Chippewa County Timber Sale Locations Spring 2022

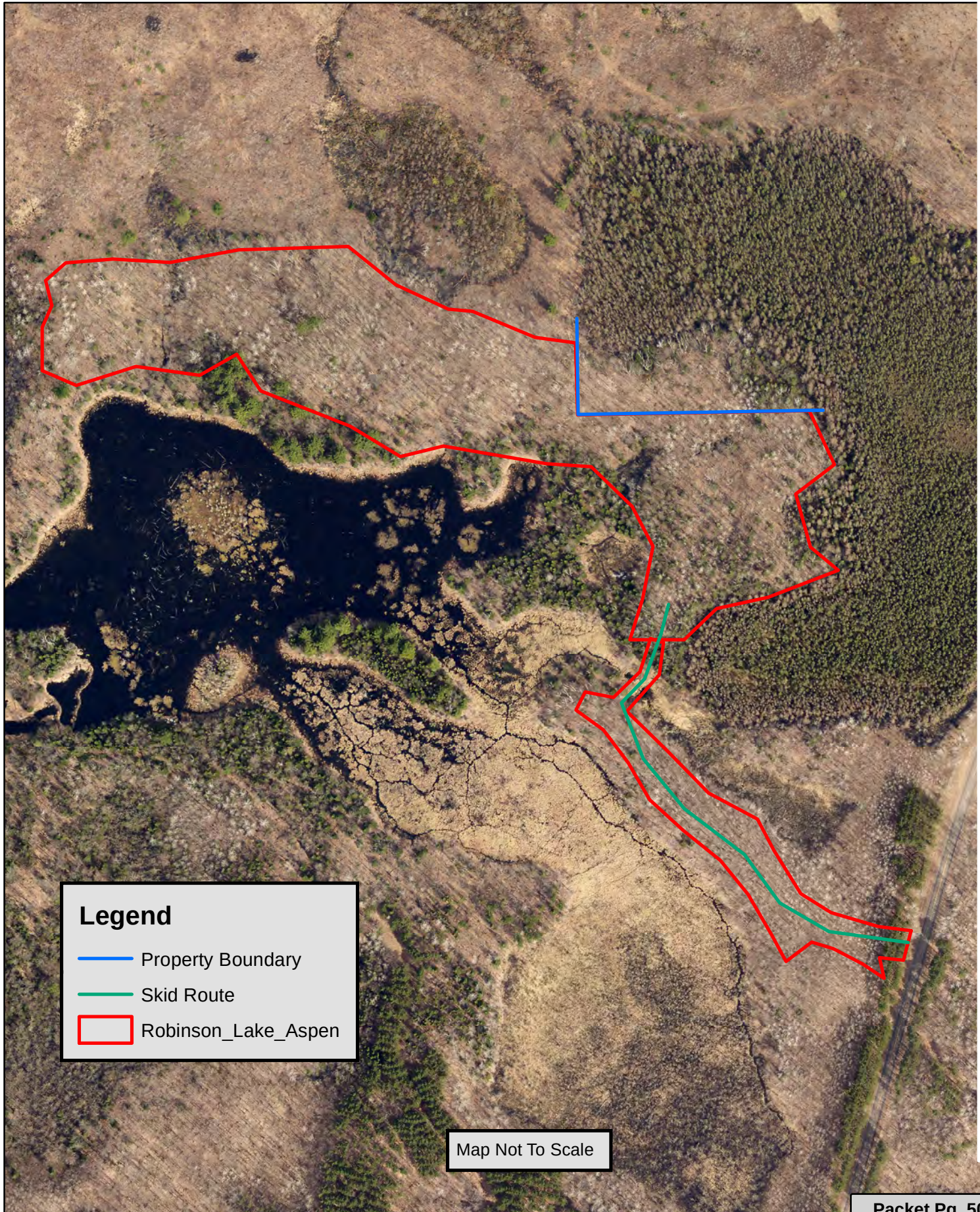


Attachment: All Sales Map & Prospectus (6948 : Review Summary of Spring 2022 Timber Sale Bids and

Robinson Lake Aspen Tract 30-21

8.2.d

Approximatly 13 acres



Legend

- Property Boundary
- Skid Route
- Robinson_Lake_Aspen

Map Not To Scale

Packet Pg. 50

CHIPPEWA COUNTY TIMBER SALE TRACT 30-21**Robinson Lake Aspen**

(approximately 13 acres)

Located in T32N R7W Section 16, Town of Birch Creek

The table below contains an estimate of the amount of each species/product. There is no minimum bid for each species; however **the total minimum bid that is acceptable for Tract 30-21 is \$ 3,923.00.**

Species	Amount	
	Tons	MBF
Aspen cordwood	380	
Mixed Hdwd cordwood	100	
Mixed Hardwood logs		5

Sale Area Description:

This sale will be a clear-cut to coppice the aspen in the stand. The boundaries of this sale are marked with red paint line and red to delineate wetland boundaries with blue paint to represent the property line. The sale is accessed from Hwy E. There is currently no existing road. A road/ landing will need to be constructed at the location. The landing must be located outside of the aesthetic zone or hidden to the road by the red pine plantation. The sale is made up of a hogsback which ends at a wetland and a larger area across the wetland. Frozen ground conditions may be required at a wetland crossing.

Cutting Requirements:

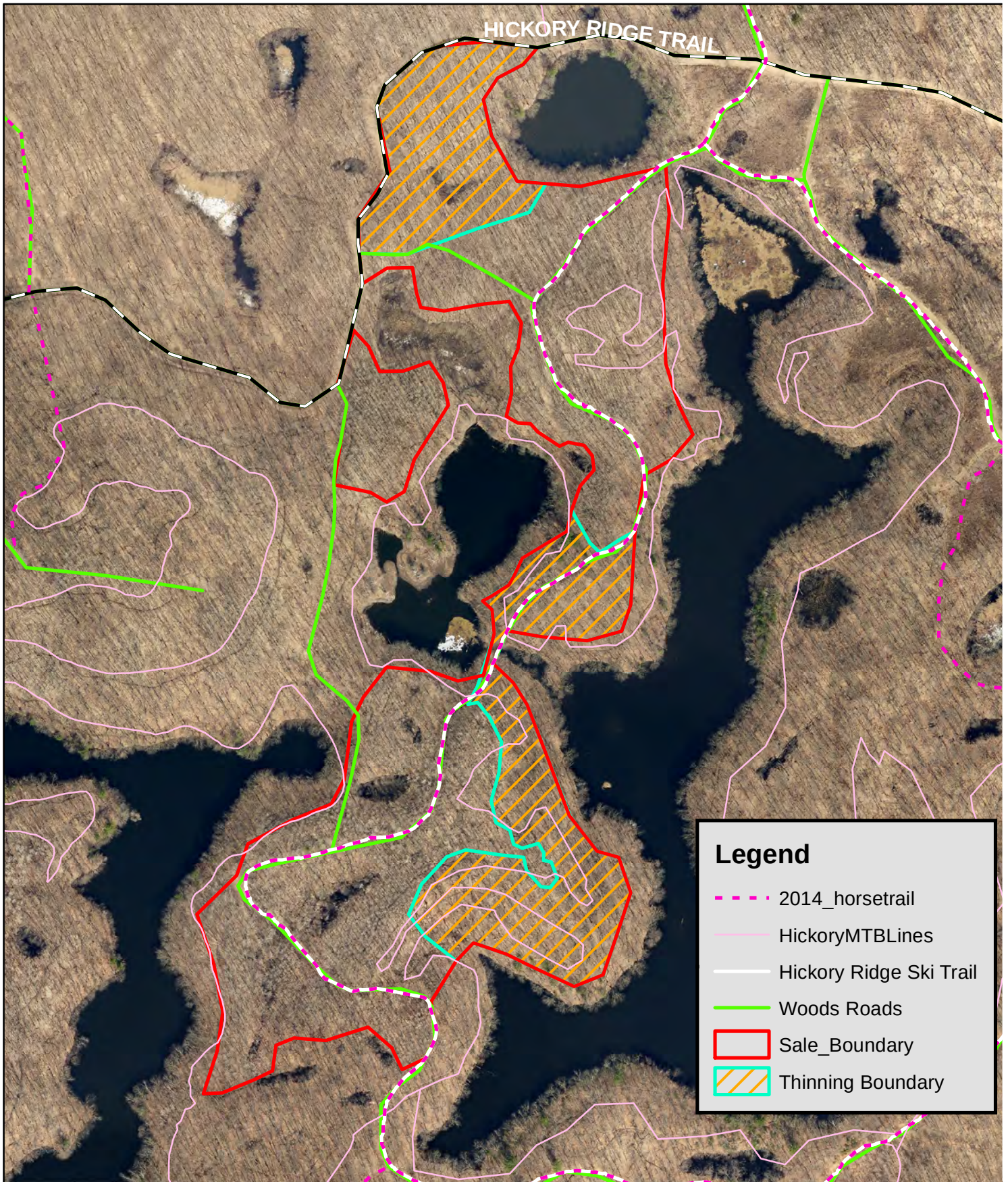
Aspen Harvest Areas: (13 acres) Cut all trees one inch in diameter and larger. **Do not** cut any boundary trees or conifers.

Special Conditions:

- The contract length is 2 years.
- *Leave all snags (dead trees) unless they present a safety hazard. Use caution to limit the disturbance of Course Woody Debris (CWD) on the forest floor.* (ie) down logs greater than 12 inches in diameter.
- In the event that timber mats will be required County timber mats are available for use, at no charge, on a first come first served basis.
- All logging debris must remain within the sale boundaries and kept from wetlands.
- All landing locations must be approved. All merchantable timber that is removed along landings or skid trails must be utilized and accounted for through mill slips or log scales.
- All hardwood logs, (except aspen) 10" or larger on the small end will be charged at the appropriate saw log stumpage rate.

Tract 1-22 Burnt Wagon Sale

Approximately 32 acres



Attachment: All Sales Map & Prospectus (6948 : Review Summary of Spring 2022 Timber Sale Bids and Award Contracts)

Map Not To Scale

CHIPPEWA COUNTY TIMBER SALE TRACT 1-22

Burnt Wagon Sale

Located in Sec. 10 T31N R8W Town of Cleveland

Total Sale Area: (approximately 32 acres)

The table below contains an estimate of the amount of each species/product. There is no minimum bid for each species; however **the total minimum bid that is acceptable for Tract 1-22 is \$ 46,750.00.**

Species	Amount	
	Tons	MBF
Mixed Hdwd cordwood	250	
Oak cordwood	300	
Oak logs		20
Aspen cordwood	1900	

Sale Area Description:

The boundaries of this sale are marked with red paint lines. This northern hardwood stand of approximately 10 acres will be thinned using uneven-aged management silviculture, utilizing single tree selection with canopy gaps. All other 22 acres of this sale will be an aspen Clear-cut. This sale is accessed from the Hickory Ridge Trail and utilizes the Hickory Ridge Ski trail as the main point of access. Bike and Horse trails run throughout this sale and will be flagged by the user groups to alert loggers of the trail. Disturbance to the trails must be kept to a minimum and all debris cleared from the trail bed. Trails will be closed Monday-Friday but open on weekends. Harvesting highly discouraged on weekends due to safety. High quality, professional timber harvest operations will be expected. The County will be responsible for signage.

Cutting Requirements:

- Selection Harvest Area: (10 Acres) **(Harvesting only allowed August 10 to Dec 1)** Cut all trees marked with orange paint, including non-commercial trees marked with orange paint. Do not cut sale boundary trees (red paint) or selection harvest boundary trees marked with green paint.
- Clear Cut Area: (22 Acres) **(Harvesting Allowed from June 1- Dec 1)** Cut all trees 1" and larger. Do Not Cut or Damage oak saplings up to 4" in diameter. Do not cut sale boundary trees (red paint) or selection harvest boundary trees marked with green paint.

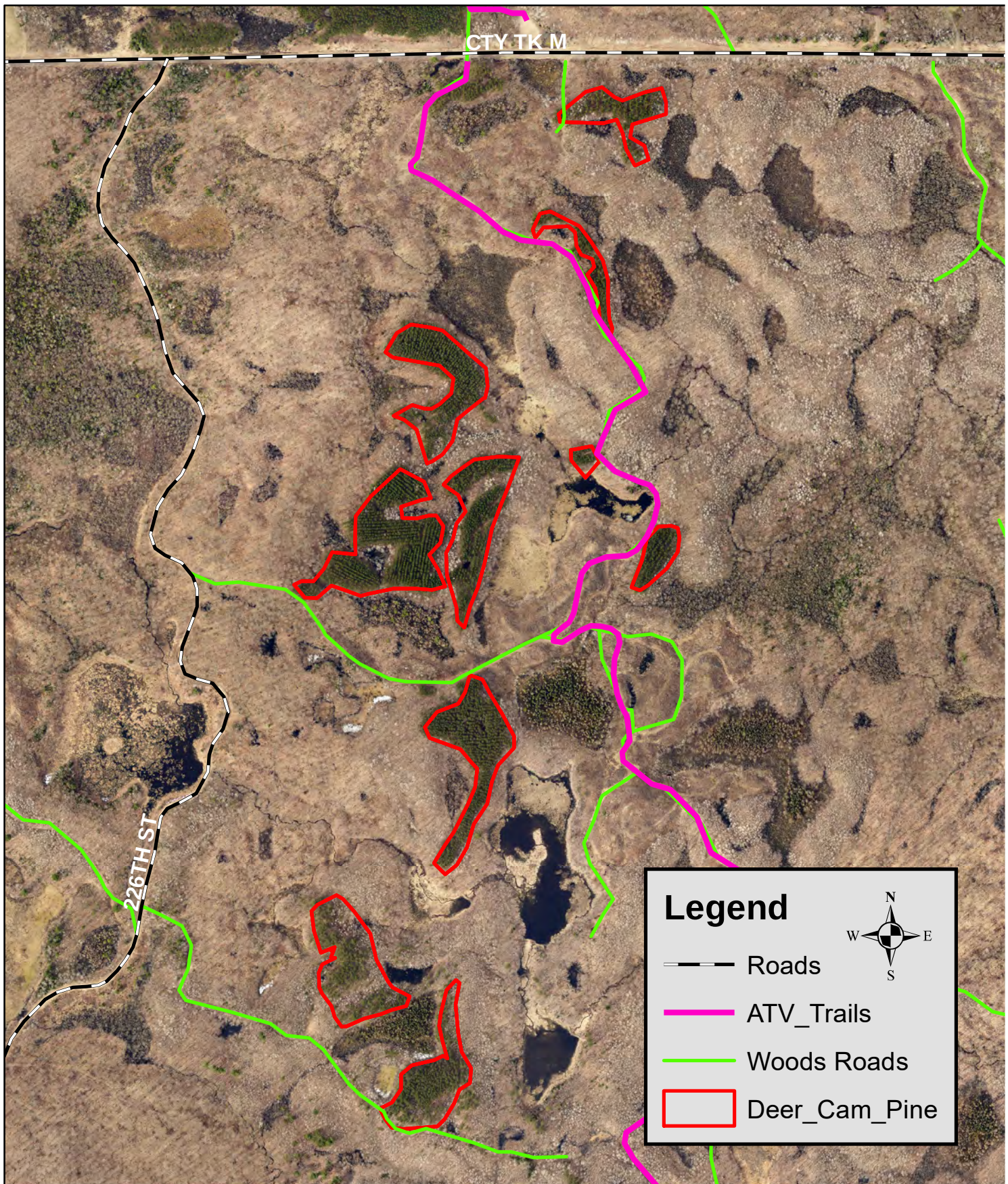
Special Conditions:

- **Harvest activity in Selection Harvest areas only permitted from August 10 to December 1.**
- **Harvesting Activity in Aspen Clear-cut area allowed between June 1 and Dec 1**
- **The sale can be actively harvested after December 1 provided there are no operations on or adjacent the Ski Trail.**
- No harvesting activity will be allowed if rutting occurs.
- All logging debris must remain within the sale boundaries and kept from wetlands and trails.
- All landing locations must be approved. All merchantable timber that is removed along landings or skid trails must be utilized and accounted for through mill slips or log scales.
- *Leave all snags (dead trees) unless they present a safety hazard. Use caution to limit the disturbance of Course Woody Debris (CWD) on the forest floor.* (ie) down logs greater than 12 inches in diameter.
- All cordwood shall be utilized to a 4" top diameter.
- All hardwood logs, 10" or larger on the small end will be charged at the appropriate saw log stumpage rate.
- The contract length is 2 years.

Tract 2-22 Deer Cam Pine

8.2.d

Approximately 28 acres red pine second thinning



Attachment: All Sales Map & Prospectus (6948 : Review Summary of Spring 2022 Timber Sale Bids and Award Contracts)

Map Not to Scale

Packet Pg. 54

CHIPPEWA COUNTY TIMBER SALE TRACT 2-22**Deer Cam Pine**

(approximately 28 acres)

Located in Sections 26 and 27, T32N R7W, Town of Birch Creek

The table below contains an estimate of the amount of each species/product. There is no minimum bid for each species; however **the total minimum bid that is acceptable for Tract 2-22 is \$ 6,775.00.**

Species	Amount	
	Tons	MBF
Red Pine cordwood	640	
Mixed Hardwood Cordwood	75	

Sale Area Description:

Red Pine Thinning: The pine trees to be thinned are about 45 years old. It appears that this is a second thinning for the plantation. The purpose of this thinning will be to remove intermediate and co-dominant trees to reduce the basal area allowing good crown spacing for future growth. The boundaries of this sale are not marked. Boundaries of the sale will be one machine width outside of the pine plantation area and at least 15 ft from any wetland and 35 ft from any stream bank.

Cutting Requirements:

Red Pine Thinning Area: (28 acres) Cut all trees marked with orange paint including non-merchantable trees.

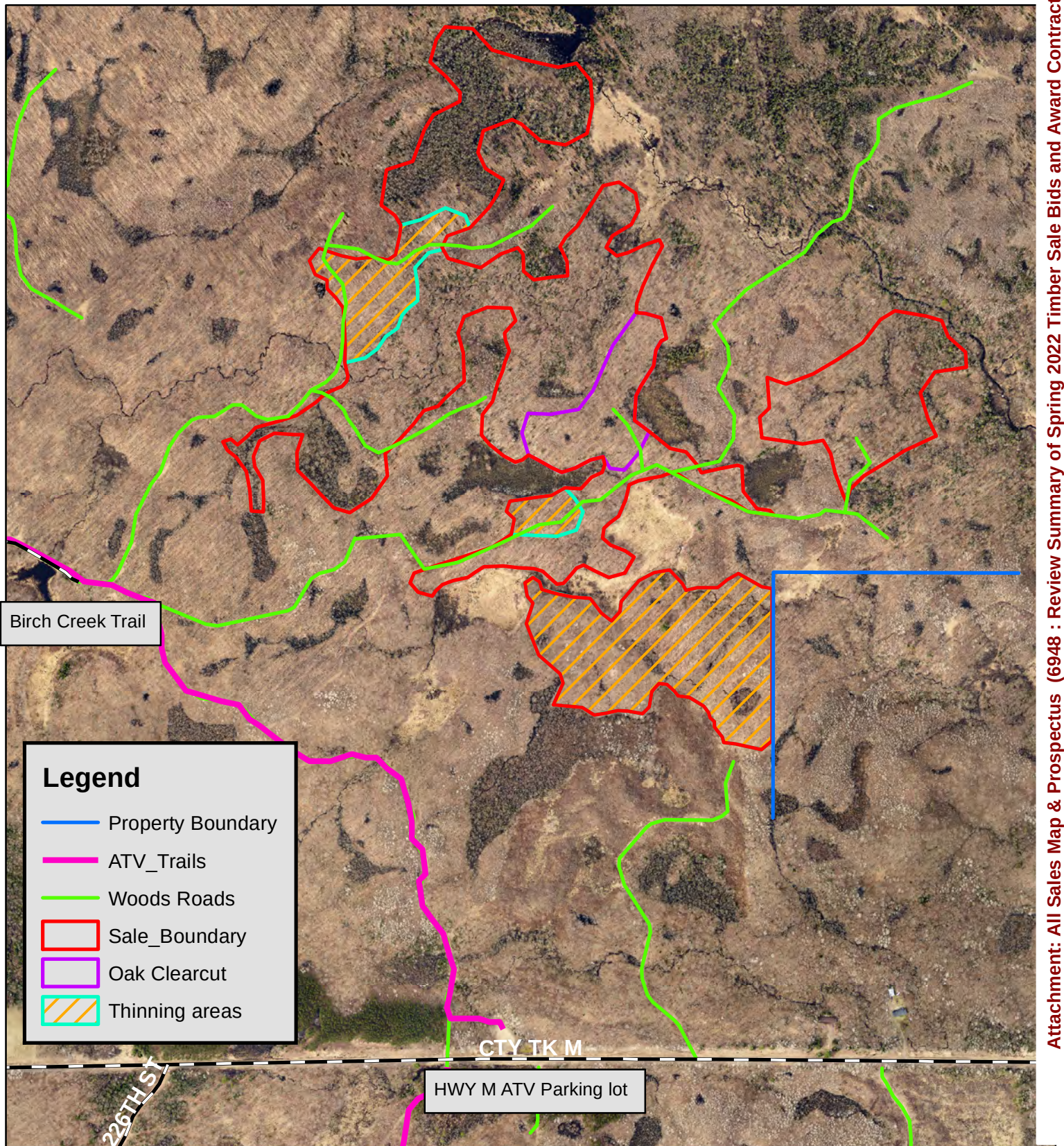
Special Conditions:

- The contract length is 2 years.
- If the logging contractor last cut a site that contained HRD and/or was within 25 miles of an infected site, the contractor will be required to clean all logging equipment with pressurized water prior to entering Chippewa County Forest- preferably on the previous site or at a commercial washing facility.
- The site is not within a 25-mile buffer of the location of a known stand of HRD as of 3/14/2022. In the event of confirmation of HRD within 25 miles of this site, the County will undertake, at its own expense, stump treatment as recommended by the WI DNR
- Timber mats or other stream crossing BMP's approved by the County may be required. The County's timber mats may be available at no charge (first-come, first-served). Stream crossings shall be minimized.
- *Leave all snags (dead trees) unless they present a safety hazard. Use caution to limit the disturbance of Course Woody Debris (CWD) on the forest floor.* (ie) down logs greater than 12 inches in diameter.
- All logging debris must remain within the sale boundaries and kept from wetlands.
- All landing locations must be approved.
- All cordwood shall be utilized to a 4" top diameter.
- All hardwood logs, (except aspen) 10" or larger on the small end will be charged at the appropriate saw log stumpage rate.

Map Located on Back

Birch Creek Winter Sale

Approximately 72 acres Clearcut and 28 acres Single Tree Selection.



Map Not to Scale

CHIPPEWA COUNTY TIMBER SALE TRACT 3-22**Birch Creek Winter Sale**

Located in T32N R7W Section 15, 22 and 23, Town of Birch Creek

Total Sale Area: (approximately 100 acres)

The table below contains an estimate of the amount of each species/product. There is no minimum bid for each species; however **the total minimum bid that is acceptable for Tract 3-22 is \$ 87,300.00.**

Species	Amount	
	tons	MBF
Red Maple cordwood	1800	
*MX HW cordwood	1700	
Aspen Cordwood	220	
Red Maple Logs		157
Ash Logs		105
Sugar Maple Logs		20
Red Oak Logs		12
Basswood Logs		11

*MX HW is 45% Ash

Sale Area Description:

The boundaries of this sale are marked with red and blue paint lines with green separating clear-cut and single tree selection areas. The purpose of this harvest is to regenerate hardwood species in low areas and shift composition away from ash. Thinning areas are included in this winter sale due to complicated hydrology to minimize ground disturbance. Stream crossings should be minimized as well as equipment operation in non-forested wetland areas.

Cutting Requirements:

Hardwood Clear-cut Area: (65 acres) Cut all trees 4" or greater. Do not cut sale boundary trees (red, green or blue paint) Do not cut or damage Yellow Birch and Oak.

Selective Harvest Areas: (28 acres) Cut all orange marked trees including non-merchantable trees. Do not cut sale boundary trees (red, green or blue paint).

Oak Clear-cut Area: (7 Acres) Purple Outline, Cut all trees 1" and greater. Do not cut sale boundary trees red or purple.

Special Conditions:

- **Harvest activity is permitted only when frozen ground conditions exist.**
- No harvesting activity will be allowed if rutting occurs.
- Timber mats may be required, County timber mats are available for use, at no charge, on a first come first served basis.
- All logging debris must remain within the sale boundaries and kept from non-forested wetlands, streams and trails.
- All landing locations must be approved. All merchantable timber that is removed along landings or skid trails must be utilized and accounted for through mill slips or log scales.
- *Leave all snags (dead trees) unless they present a safety hazard. Use caution to limit the disturbance of Course Woody Debris (CWD) on the forest floor. (ie) down logs greater than 12 inches in diameter.*
- All cordwood shall be utilized to a 4" top diameter.
- All hardwood logs, (except aspen) 10" or larger on the small end will be charged at the appropriate saw log stumpage rate.
- The contract length is two years.

Poppin Popple

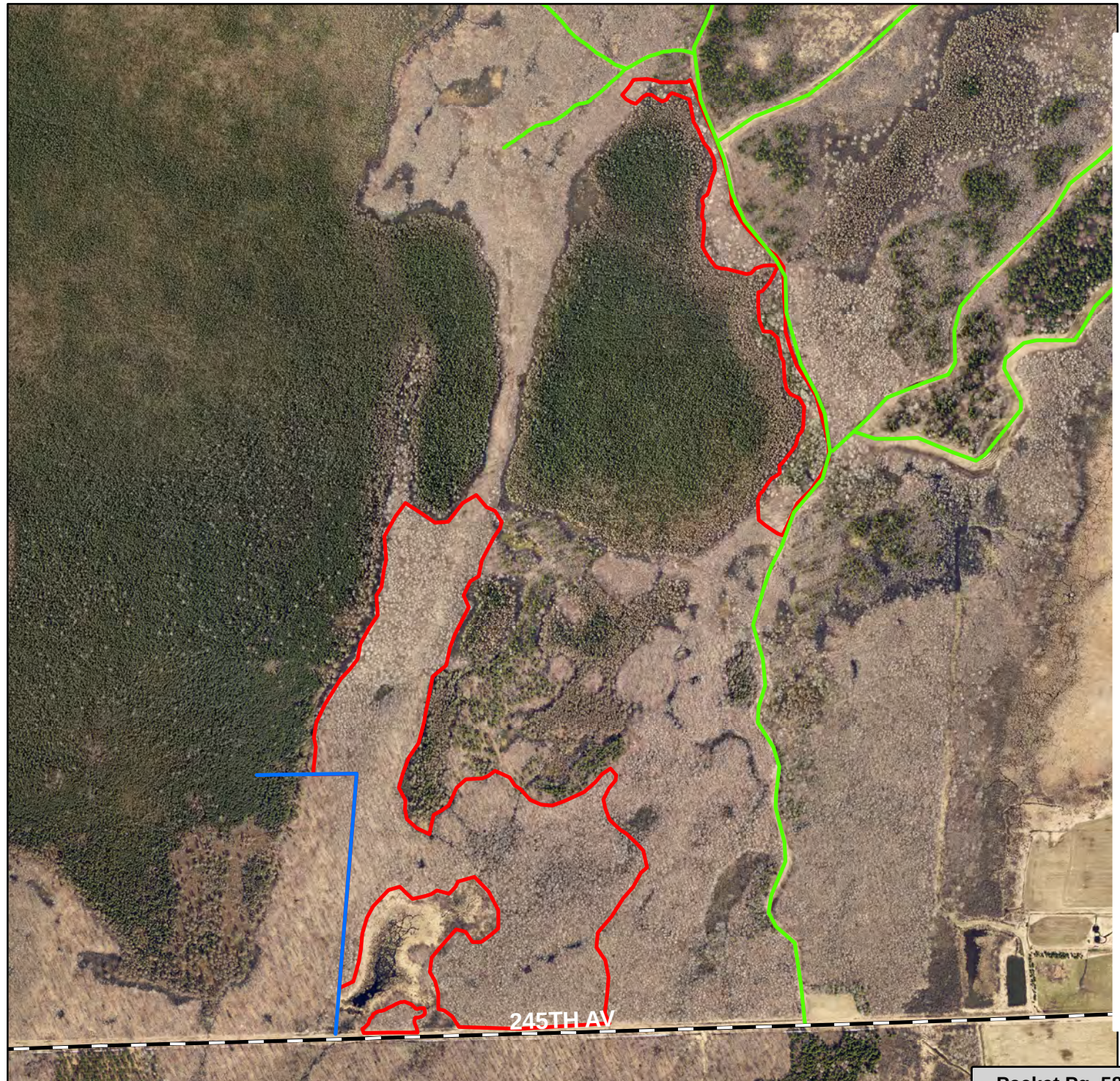
Approximatly 41 acres
Aspen Coppice

Winter only harvest

Legend

- Property Boundary
- Roads
- Woods Roads
- Sale Boundary

Map Not to Scale



CHIPPEWA COUNTY TIMBER SALE TRACT 4-22

Poppin Popple

(approximately 41 acres)

Located in Section 3, T31N R5W, Town of Ruby

The table below contains an estimate of the amount of each species/product. There is no minimum bid for each species; however **the total minimum bid that is acceptable for Tract 4-22 is \$ 40,340.00.**

Species	Amount	
	Tons	MBF
Aspen cordwood	1935	
Mixed Hdwd cordwood	320	
White Spruce cordwood	40	

Sale Area Description:

This sale will be a clear-cut to coppice the aspen in the stand. The boundaries of this sale are marked in red with blue paint line along the private property. The sale is accessed off of 245th Ave and the Ruby Game trail.

Cutting Requirements:

Aspen Harvest Areas: (41 acres) Cut all trees one inch in diameter and larger. **Do not** cut any boundary trees (red or blue paint).

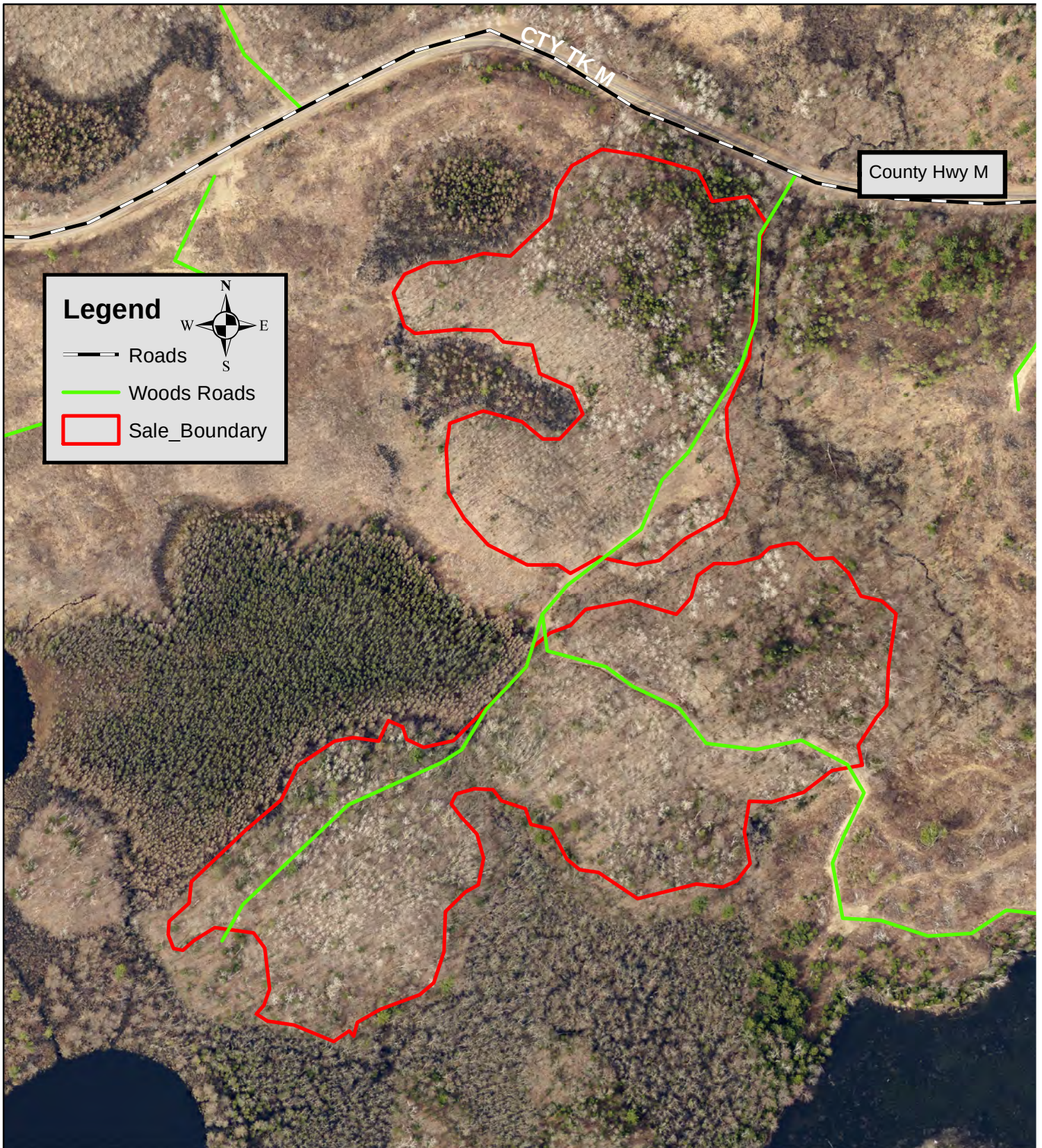
Special Conditions:

- **Harvest activity is permitted only when frozen ground conditions exist.**
- *Leave all snags (dead trees) unless they present a safety hazard. Use caution to limit the disturbance of Course Woody Debris (CWD) on the forest floor. (ie) down logs greater than 12 inches in diameter.*
- All logging debris must remain within the sale boundaries and kept from wetlands.
- All landing locations must be approved.
- All cordwood shall be utilized to a 4" top diameter.
- All hardwood logs, (except aspen) 10" or larger on the small end will be charged at the appropriate saw log stumpage rate.
- Contract length is 2 years.

Map Located on Back of Page

Tract 5-22 Old Stove Aspen

Approximately 24 acres aspen regeneration harvest



Attachment: All Sales Map & Prospectus (6948 : Review Summary of Spring 2022 Timber Sale Bids and Award Contracts)

Map Not to Scale

CHIPPEWA COUNTY TIMBER SALE TRACT 5-22**Old Stove**

(approximately 24 acres)

Located in T32N R7W Section 20, Town of Birch Creek

The table below contains an estimate of the amount of each species/product. There is no minimum bid for each species; however **the total minimum bid that is acceptable for Tract 5-22 is \$ 32,430.00.**

Species	Amount	
	Tons	MBF
Aspen cordwood	1260	
Mixed Hardwood cordwood	520	
Balsam Fir cordwood	130	
Mixed Hardwood Logs		30

Sale Area Description:

This sale will be a clear-cut to coppice the aspen in the stand. The boundaries of this sale are marked with red paint line and red to delineate wetland boundaries. The sale is accessed off of Hwy M. This sale has a good road and landing area.

Cutting Requirements:

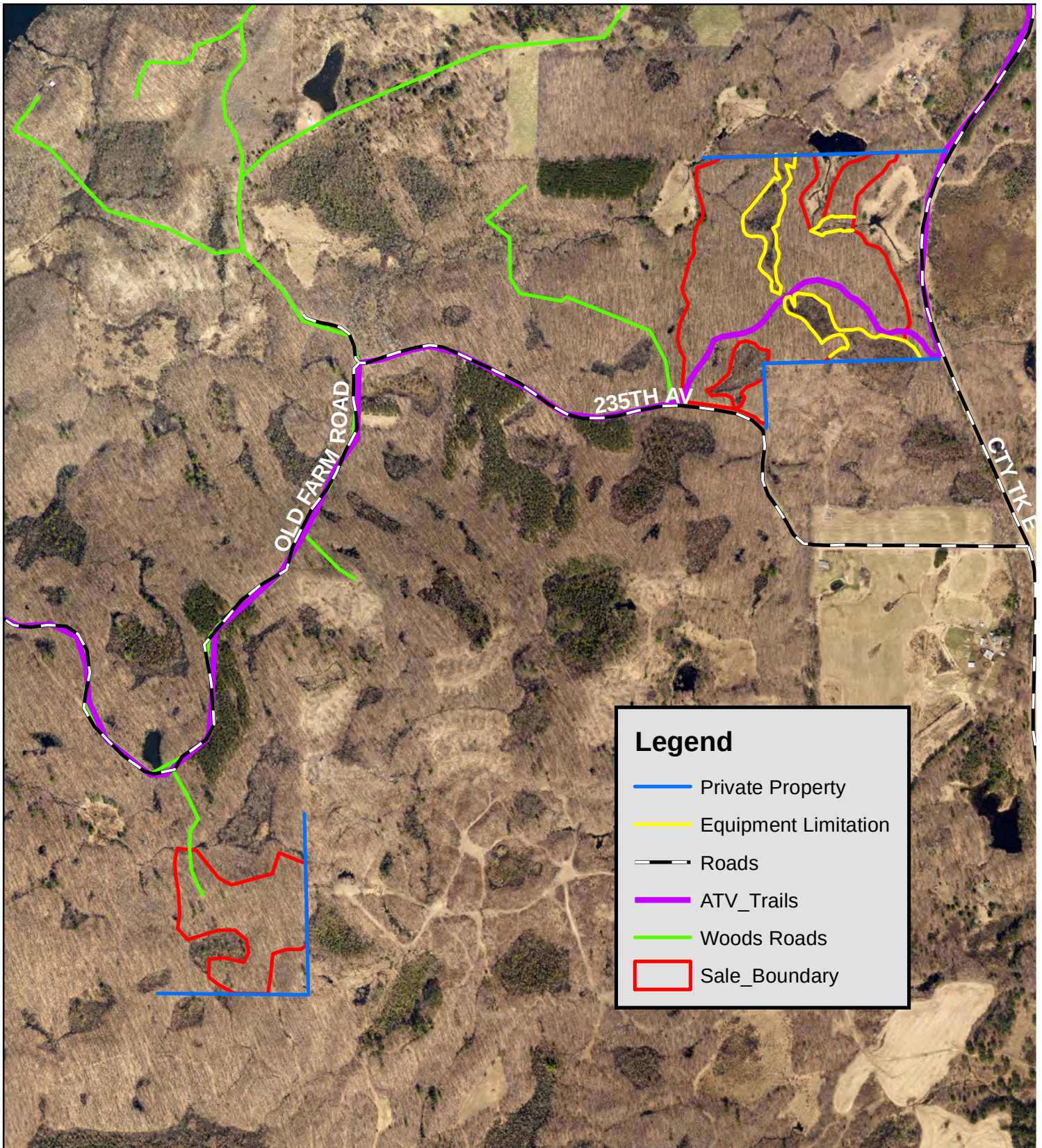
Aspen Harvest Areas: (24 acres) Cut all trees one inch in diameter and larger. **Do not** cut any boundary trees (red paint)

Special Conditions:

- The contract length is 2 years.
- *Leave all snags (dead trees) unless they present a safety hazard. Use caution to limit the disturbance of Course Woody Debris (CWD) on the forest floor. (ie) down logs greater than 12 inches in diameter.*
- All logging debris must remain within the sale boundaries and kept from wetlands.
- All cordwood shall be utilized to a 4" top diameter.
- All landing locations must be approved.

Tract 6-22 Double Porcupine

Approximately 41 acres Shelterwood First Cut



Attachment: All Sales Map & Prospectus (6948 : Review Summary of Spring 2022 Timber Sale Bids and Award Contracts)

Map Not To Scale

CHIPPEWA COUNTY TIMBER SALE TRACT 6-22

Double Porcupine Oak Shelter Wood Harvest

Total Sale Area: (approximately 41 acres)

Located in T31N R8W Section 12 and T31N R7W Section 7, Town of Birch Creek

The table below contains an estimate of the amount of each species/product. There is no minimum bid for each species; however **the total minimum bid that is acceptable for Tract 6-22 is \$ 60,200.00.**

Species	Amount	
	tons	MBF
Oak cordwood	1300	
MX HW cordwood	500	
Aspen Cordwood	100	
Red Oak Logs		153
White Oak Logs		6
MX HW logs		12

Sale Area Description:

The boundaries of this sale are marked with red and blue paint lines along private property. This sale is 41 acres of oak shelterwood first harvest. This harvest system will be implemented to regenerate an oak stand. Scarification by logging equipment will be encouraged in shelterwood area. The sale is accessed off of 235th ave and the ATV Trail.

Cutting Requirements:

Shelter wood area: (41 acres) Cut all trees 1" or greater. Do not cut reserve trees marked in Green, sale boundary trees (red or blue paint) or trees that are marked with yellow paint to identify riparian management zones and wetlands.

Special Conditions:

- No harvesting activity will be allowed if rutting occurs.
- Oak Wilt Restrictions apply: No harvesting is allowed between April 1 and July 15.
- Timber mats may be required. County timber mats are available for use, at no charge, on a first come first served basis.
- No equipment operation is allowed within wetland areas delineated by yellow paint.
- All logging debris must remain within the sale boundaries and kept from wetlands, lakes and trails.
- All landing locations must be approved. All merchantable timber that is removed along landings or skid trails must be utilized and accounted for through mill slips or log scales.
- *Leave all snags (dead trees) unless they present a safety hazard. Use caution to limit the disturbance of Course Woody Debris (CWD) on the forest floor.* (ie) down logs greater than 12 inches in diameter.
- All cordwood shall be utilized to a 4" top diameter.
- All hardwood logs, (except aspen) 10" or larger on the small end will be charged at the appropriate saw log stumpage rate.
- The contract length is two years.

Map is Located on Back

Wagon Trail Oak

Oak shelterwood
first harvest

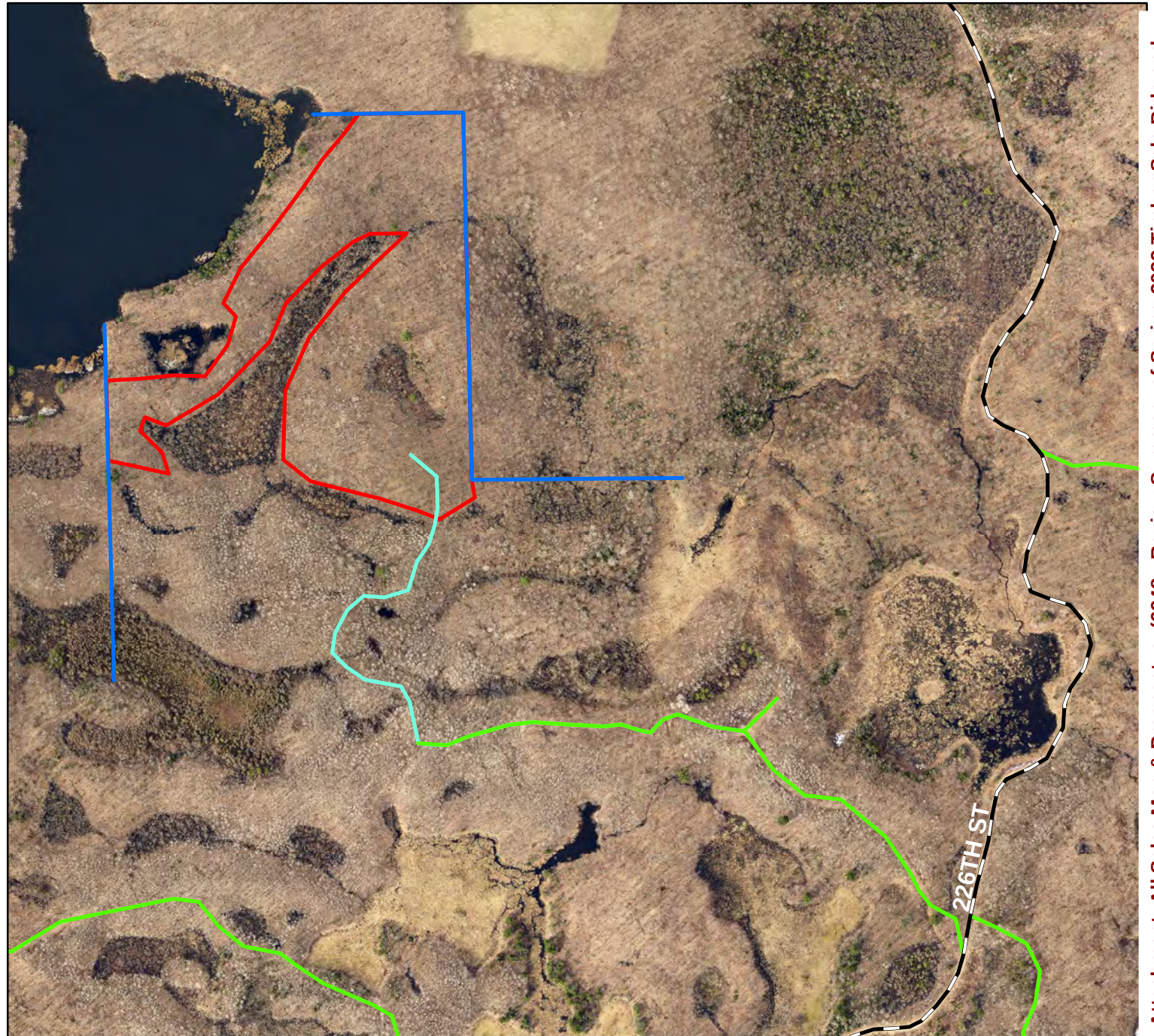
22 acres



Legend

- Property Boundary
- Roads
- New Road location
- Sale Boundary
- Woods Roads

Map Not to Scale



Attachment: All Sales Map & Prospectus (6948 : Review Summary of Spring 2022 Timber Sale Bids and

CHIPPEWA COUNTY TIMBER SALE TRACT 7-22**Wagon Trail Oak Shelter Wood Harvest**

Located in T32N R7W Section 27, Town of Birch Creek

Total Sale Area: (approximately 22 acres)

The table below contains an estimate of the amount of each species/product. There is no minimum bid for each species; however **the total minimum bid that is acceptable for Tract 7-22 is \$ 34,900.00.**

Species	Amount	
	tons	MBF
Oak cordwood	560	
MX HW cordwood	560	
Aspen Cordwood	40	
Red Oak Logs		80
MX HW logs		30

Sale Area Description:

The boundaries of this sale are marked with red and blue paint lines along private property. This sale is 22 acres of oak shelterwood first harvest. This harvest system will be implemented to regenerate an oak stand. Scarification by logging equipment will be encouraged in shelterwood area. To access this sale a new section of road will need to be built improving an old skid trail. Timber mats will be required to cross a small drainage to access the back section of this sale.

Cutting Requirements:

Shelter wood area: (22 acres) Cut all trees 1" or greater. Do not cut reserve trees marked in Green, sale boundary trees (red or blue paint) or trees that are marked with yellow paint to identify riparian management zones and wetlands.

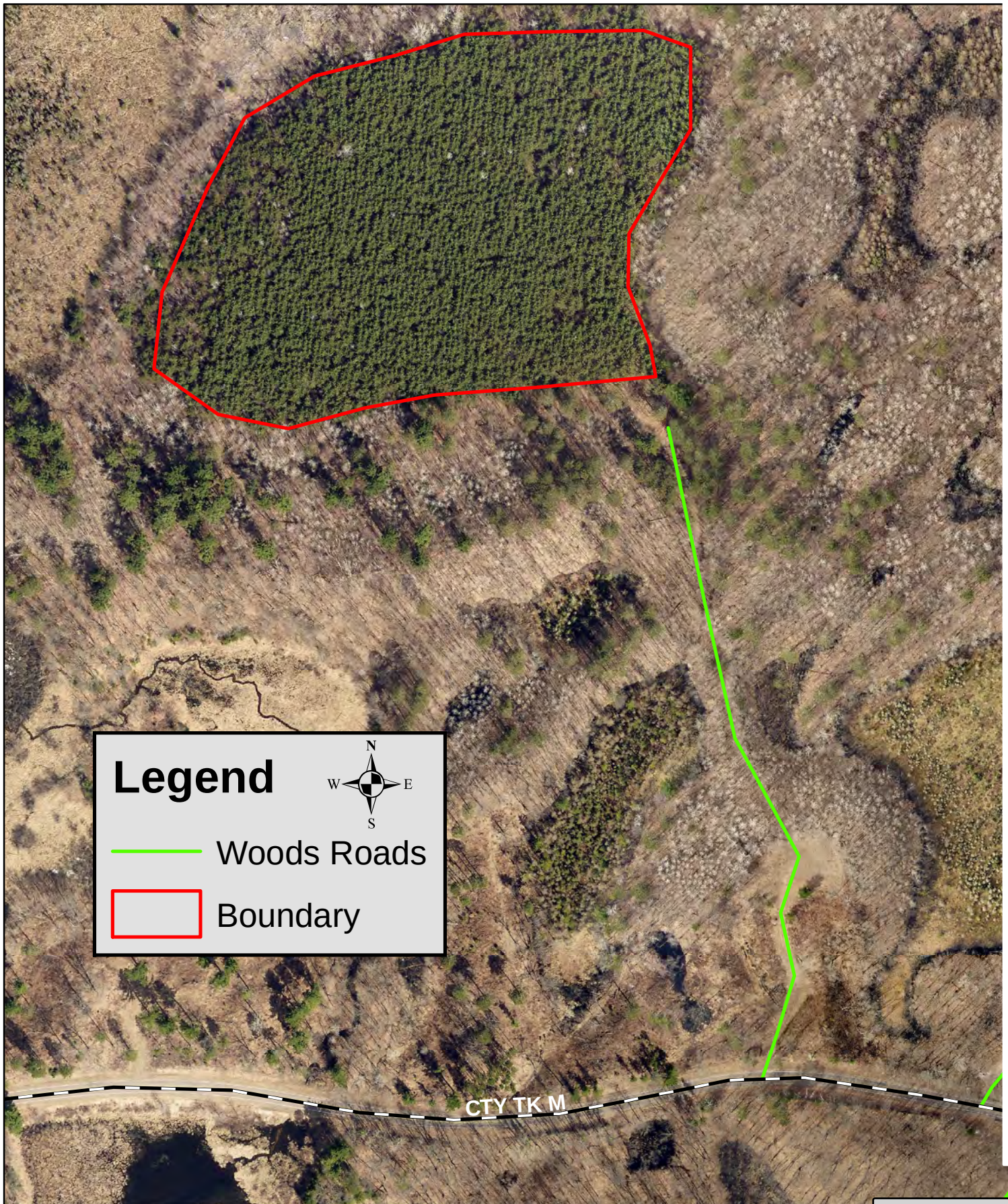
Special Conditions:

- No harvesting activity will be allowed if rutting occurs.
- Oak Wilt Restrictions apply: No harvesting is allowed between April 1 and July 15.
- Timber mats will be required. County timber mats are available for use, at no charge, on a first come first served basis.
- No equipment operation is allowed within wetland areas delineated by yellow paint.
- All logging debris must remain within the sale boundaries and kept from wetlands, lakes and trails.
- All landing locations must be approved. All merchantable timber that is removed along landings or skid trails must be utilized and accounted for through mill slips or log scales.
- *Leave all snags (dead trees) unless they present a safety hazard. Use caution to limit the disturbance of Course Woody Debris (CWD) on the forest floor.* (ie) down logs greater than 12 inches in diameter.
- All cordwood shall be utilized to a 4" top diameter.
- All hardwood logs, (except aspen) 10" or larger on the small end will be charged at the appropriate saw log stumpage rate.
- The contract length is two years.

Map is Located on Back

220 Pine

Approximately 10 acres of red pine first thinning



CHIPPEWA COUNTY TIMBER SALE TRACT 8-22**220 Pine**

(approximately 10 acres)

Located in Section 19, T32N R7W, Town of Birch Creek

The table below contains an estimate of the amount of each species/product. There is no minimum bid for each species; however **the total minimum bid that is acceptable for Tract 8-22 is \$ 540.00.**

Species	Amount	
	Tons	MBF
Red Pine cordwood	300	

Sale Area Description:

Red Pine Thinning: The pine trees to be thinned are about 22 years old. It appears that this is the first thinning for the plantation. The purpose of this thinning will be to remove suppressed and intermediate trees to reduce the basal area allowing good crown spacing for future growth. The boundaries of this sale are not marked. Boundaries of the sale will be one machine width outside of the pine plantation area and at least 15 ft from any wetland.

Cutting Requirements:

Red Pine Thinning Area: (10 acres) Cut two rows, leave three rows. Rows are not marked and are tough to define. Cut rows should be just wide enough to move equipment through. Cut all trees in the row, including non-merchantable trees. Harvest plans must be approved by the county

Special Conditions:

- The contract length is 2 years.
- If the logging contractor last cut a site that contained HRD and/or was within 25 miles of an infected site, the contractor will be required to clean all logging equipment with pressurized water prior to entering Chippewa County Forest- preferably on the previous site or at a commercial washing facility.
- The site is not within a 25-mile buffer of the location of a known stand of HRD as of 3/14/2022. In the event of confirmation of HRD within 25 miles of this site, the County will undertake, at its own expense, stump treatment as recommended by the WI DNR
- *Leave all snags (dead trees) unless they present a safety hazard. Use caution to limit the disturbance of Course Woody Debris (CWD) on the forest floor. (ie) down logs greater than 12 inches in diameter.*
- All logging debris must remain within the sale boundaries and kept from wetlands.
- All landing locations must be approved.
- All cordwood shall be utilized to a 4" top diameter.

Map Located on Back

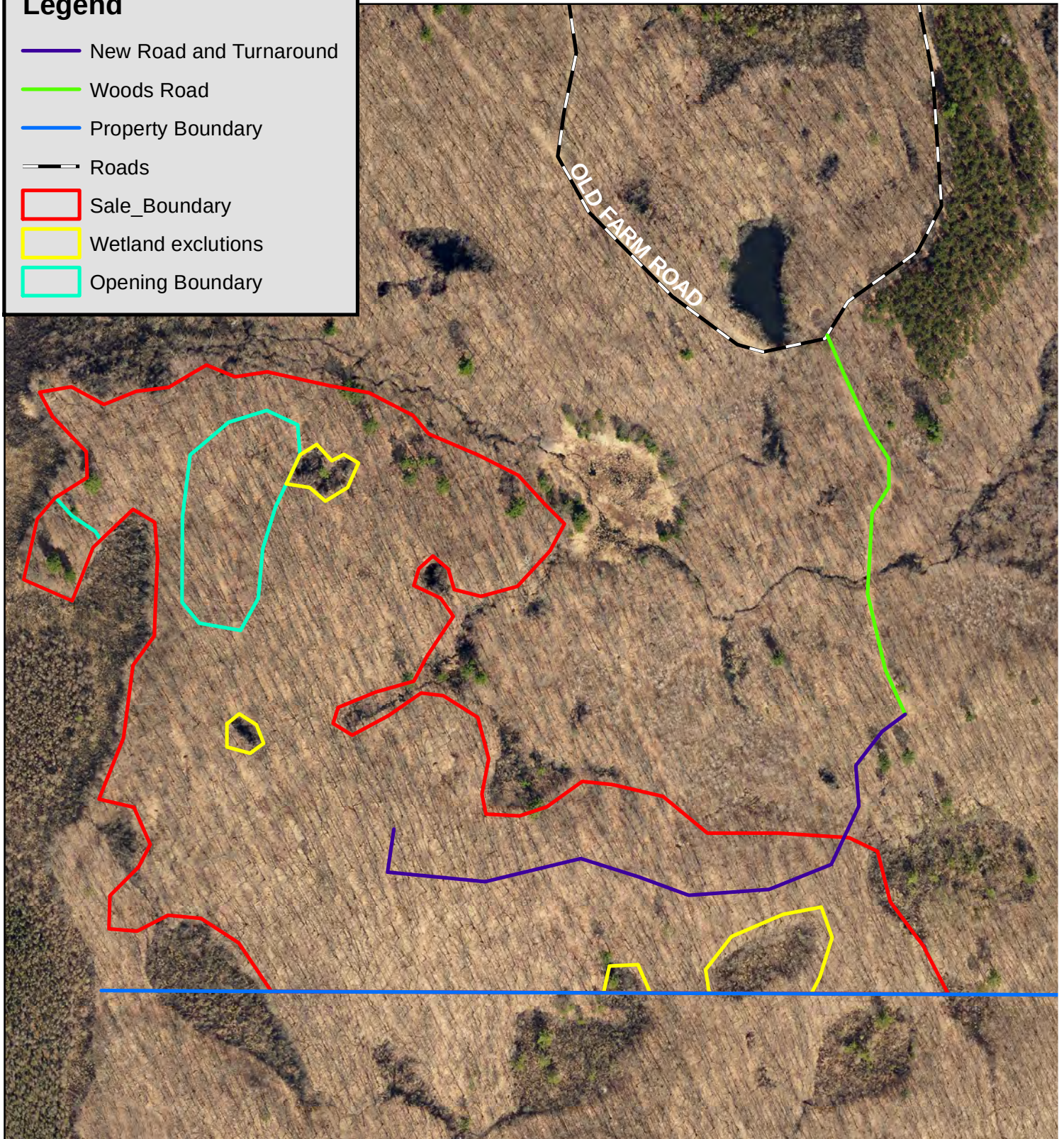
Posted Oak

Approx 27.5 acres single tree selection
and 2.5 acres clearcut.



Legend

- New Road and Turnaround
- Woods Road
- Property Boundary
- Roads
- Sale_Boundary
- Wetland exclusions
- Opening Boundary



Map Not To Scale

CHIPPEWA COUNTY TIMBER SALE TRACT 9-22

Posted Oak Sale

Located in Sec. 12 T31N R8W Town of Cleveland

Total Sale Area: (approximately 30 acres)

The table below contains an estimate of the amount of each species/product. There is no minimum bid for each species; however **the total minimum bid that is acceptable for Tract 9-22 is \$ 24,100.00.**

Species	Amount	
	Tons	MBF
Mixed Hardwood cordwood	240	
Oak cordwood	500	
Oak logs		56
Mixed Hardwood logs		24

Sale Area Description:

The boundaries of this sale are marked with red paint lines. These Northern Hardwood stands of approximately 30 acres will be thinned using uneven-aged management silviculture, utilizing single tree selection with canopy gaps. This sale is accessed from Old Farm Rd. A new road and turn around will need to be built to access the sale area.

Cutting Requirements:

Selection Harvest Area: (27.5 Acres) Cut all trees marked with orange paint, including non-commercial trees marked with orange paint. Do not cut sale boundary trees (red, yellow or green paint) or property boundary trees marked with blue paint.

Clear Cut Area: (2.5 Acres) Marked with green paint. Cut all trees 1" and larger. Do not cut sale boundary trees (red or green paint)

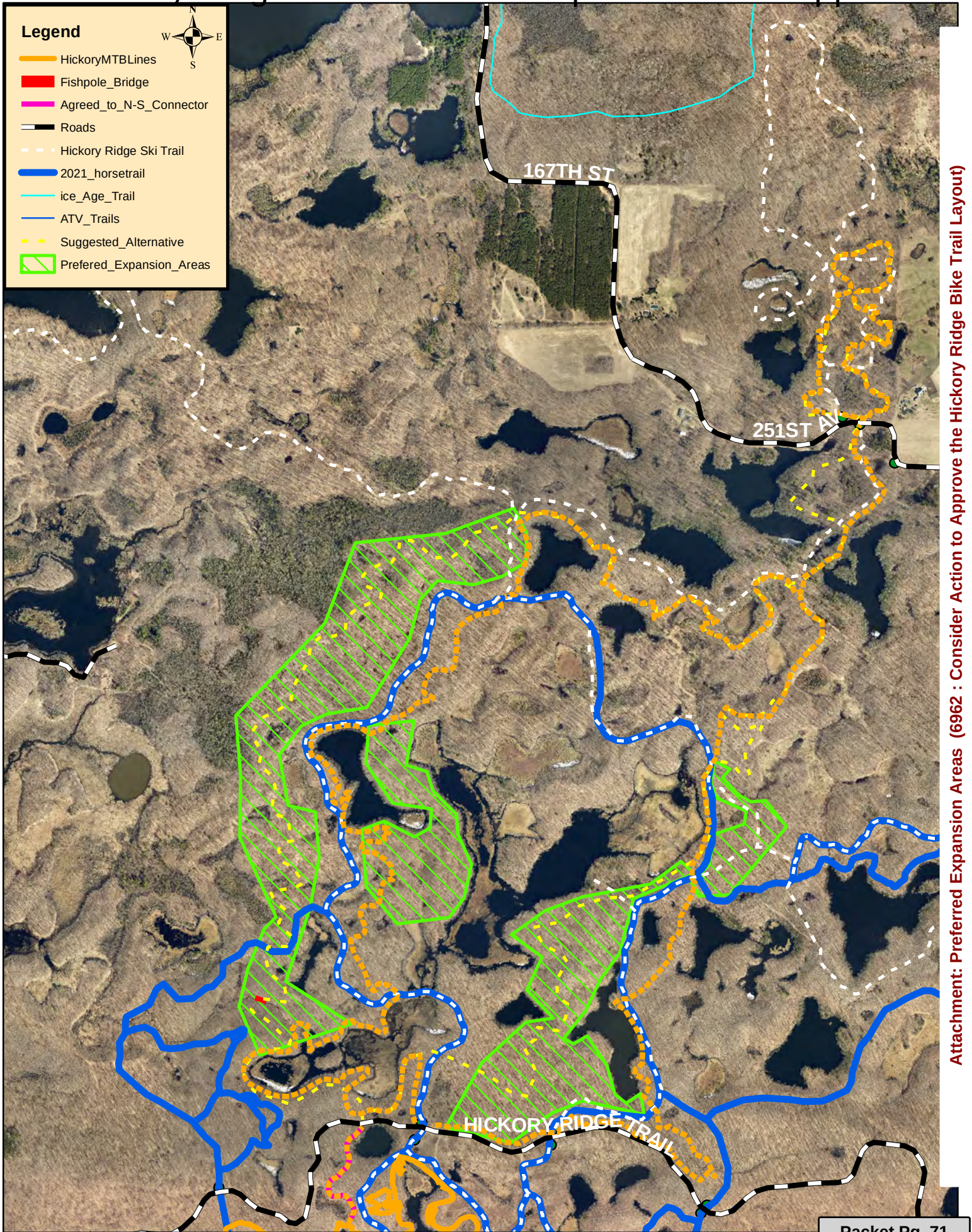
Special Conditions:

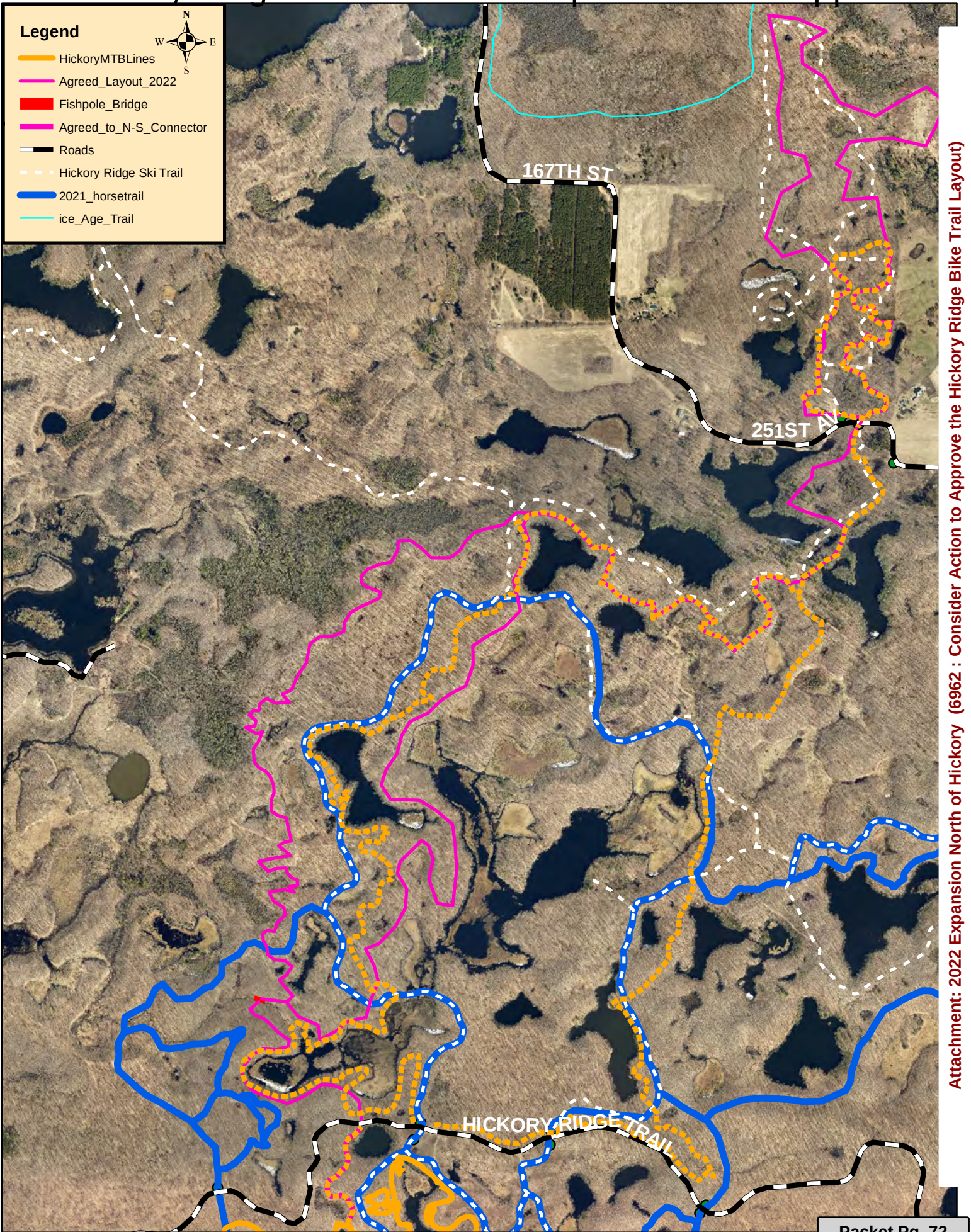
- No harvesting activity will be allowed if rutting occurs.
- Oak Wilt and NHI Restrictions apply: No harvesting or other operation is allowed within the site between April 15 and August 10th.
- Timber mats may be required, County timber mats are available for use, at no charge, on a first come first served basis.
- All logging debris must remain within the sale boundaries and kept from wetlands and trails.
- All landing locations must be approved. All merchantable timber that is removed along landings or skid trails must be utilized and accounted for through mill slips or log scales.
- *Leave all snags (dead trees) unless they present a safety hazard. Use caution to limit the disturbance of Course Woody Debris (CWD) on the forest floor.* (ie) down logs greater than 12 inches in diameter.
- All hardwood logs, 10" or larger on the small end will be charged at the appropriate saw log stumpage rate.
- All cordwood shall be utilized to a 4" top diameter.
- The contract length is 2 years.



STATEMENT OF EXPLANATION
CONSIDER ACTION TO APPROVE THE HICKORY RIDGE BIKE TRAIL
LAYOUT AS AGREED TO BY CHIPPEWA OFF ROAD BIKE ASSOCIATION
AND THE CHIPPEWA VALLEY TRAIL RIDERS

This agenda item will be used to consider Committee approval of the proposed trail layout that has been negotiated between County staff and the user groups. The Chippewa County Forest hosts multiple recreation trails, many with multiple uses and several designated for only a single use. Often these trails are in separate areas; sometimes uses are separated by time of use (cross-country skiing vs. horseback riding). The mountain bike trails and horseback riding trails are both used at the same time of year, are very close in proximity, and cross at certain locations. This can cause disturbance to the user experience if trail layout is not designed to minimize conflict and overlapping uses. The Committee has been made aware of the request for and incorporated the idea of an expanded mountain bike trail network in the 2021-2035 County Forest Comprehensive Land Use Plan. The County Forest Administrator has been working with representatives of the Chippewa Off Road Bike Association and the Chippewa Valley Trail Riders Horse Club to minimize user conflicts through improved trail layout.







STATEMENT OF EXPLANATION
REVIEW NITRATE GROUNDWATER PRESENTATION & BRAINSTORM
SESSION FOR SOLUTIONS

8.4

Kevin Masarik, Groundwater Education Specialist with UW - Extension in the College of Natural Resources at the University of Wisconsin - Stevens Point, will review past groundwater sampling events, update on current contracted studies, and demonstrate the online well monitoring data site for Chippewa County.

Overview of Chippewa County Groundwater Quality Data



CHIPPEWA COUNTY
Public Health
Prevent. Promote. Protect.

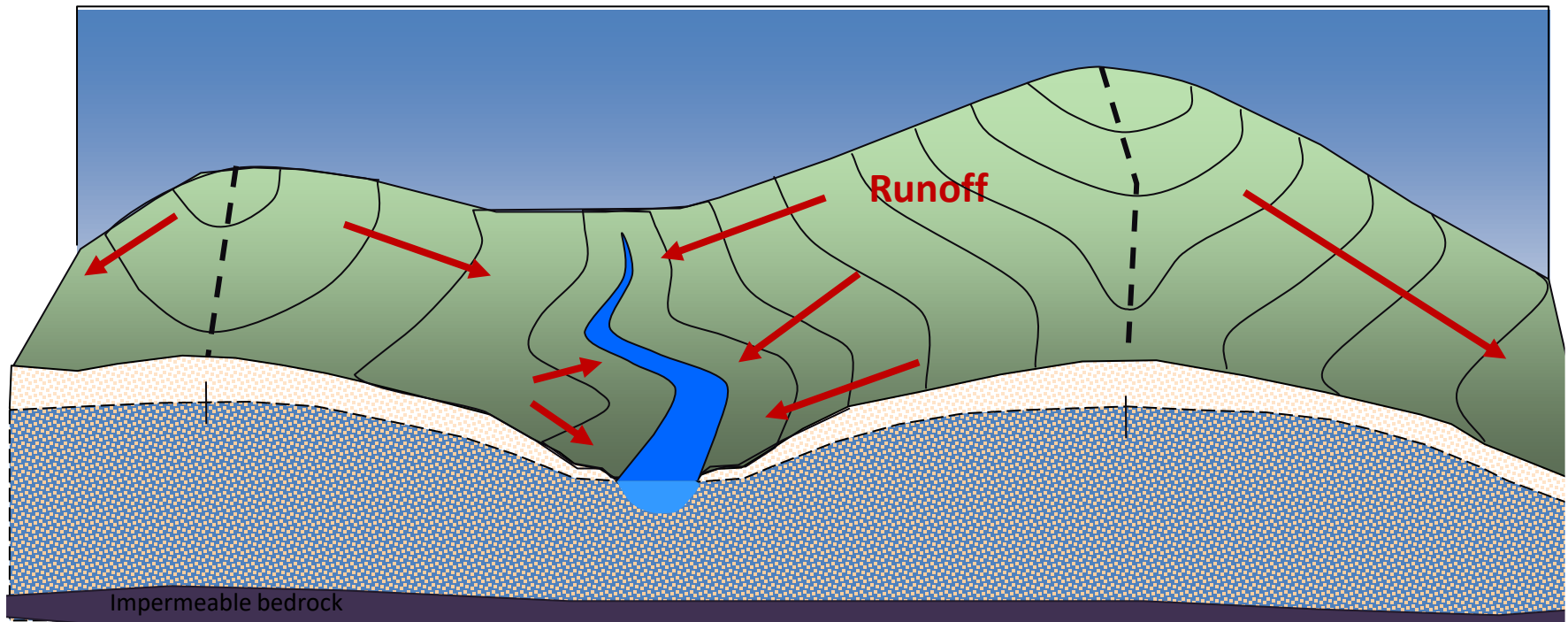


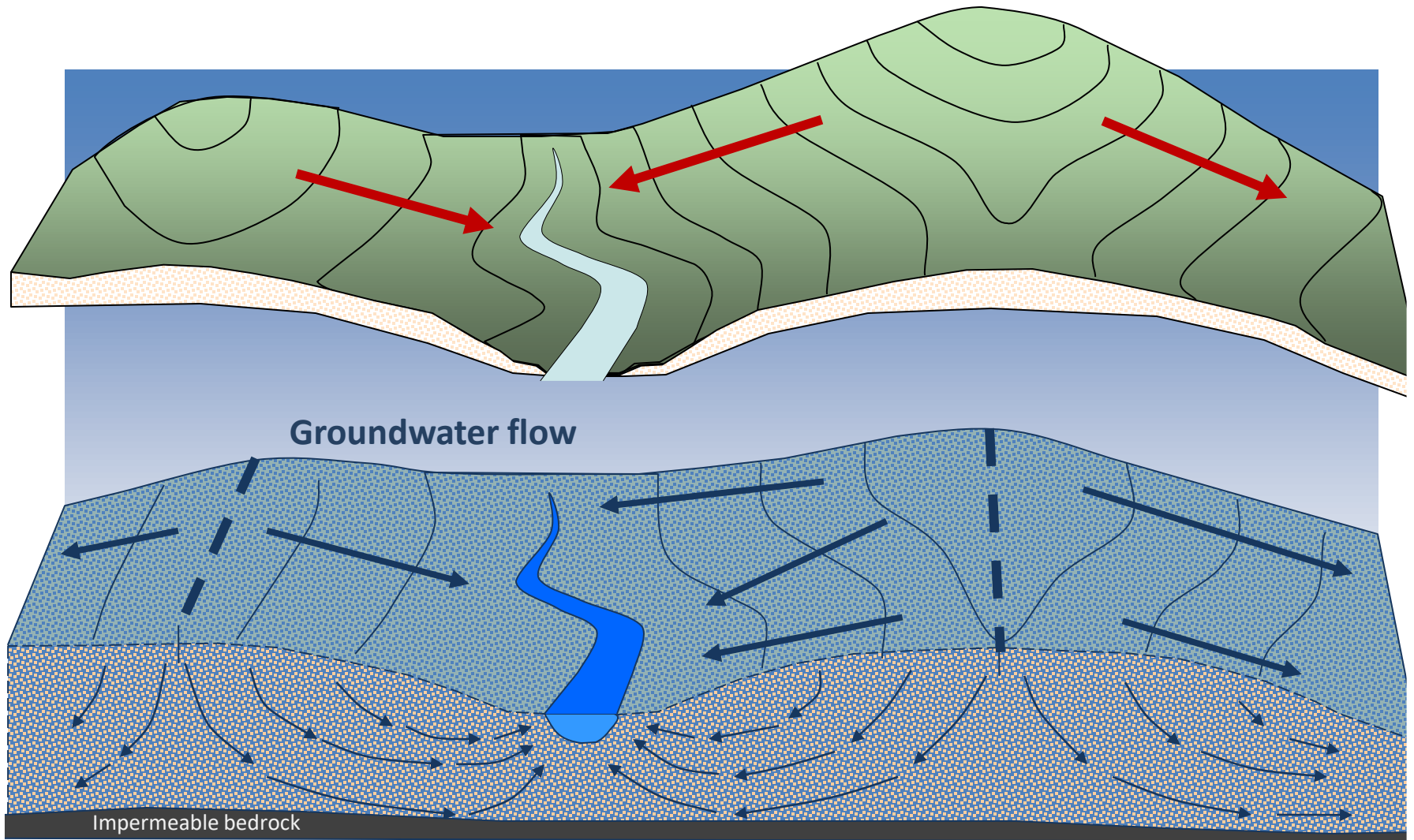
Center for Watershed Science and Education
College of Natural Resources
University of Wisconsin-Stevens Point



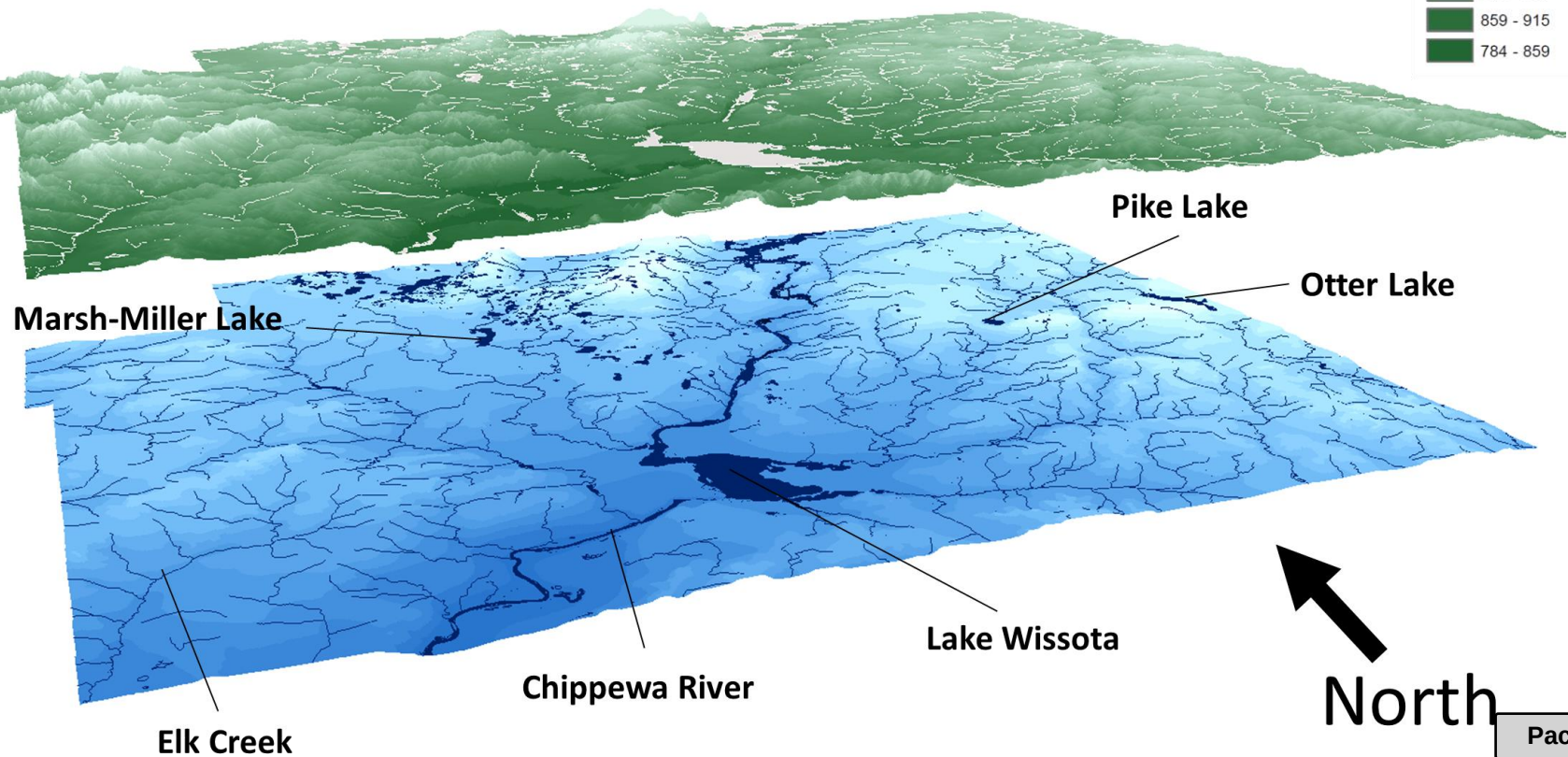
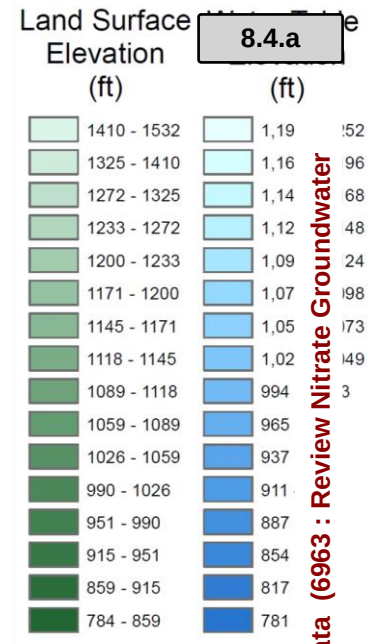
Extension
UNIVERSITY OF WISCONSIN-MADISON

Watershed – the land area where water originates for lakes, rivers or streams. Water flows from high elevation to low elevation.





Chippewa County Water Table

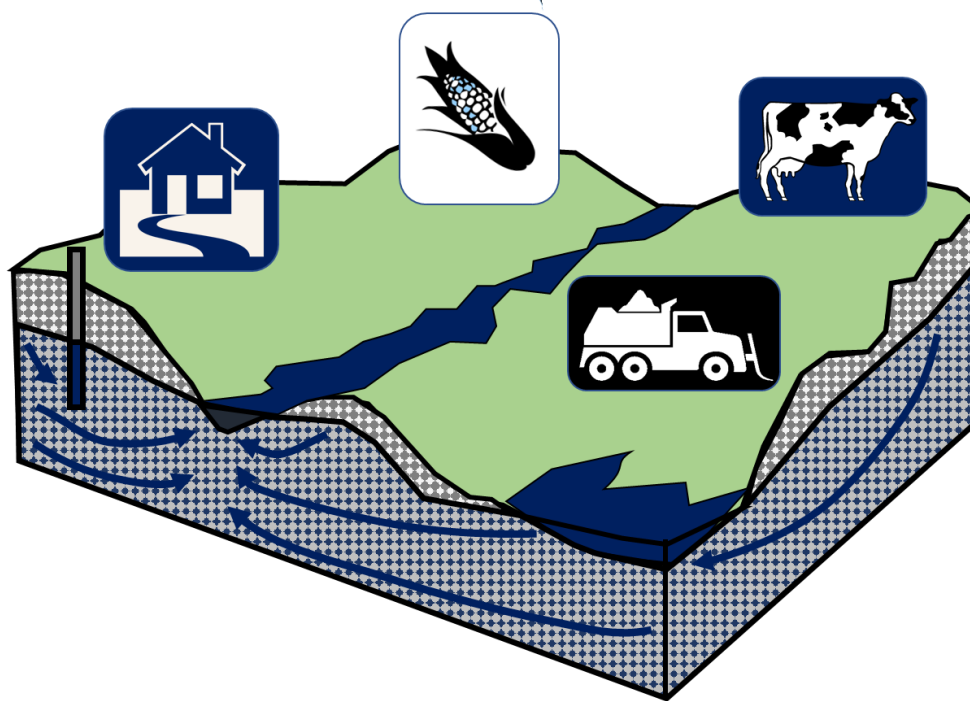


Attachment: Overview of Groundwater Quality Data (6963 : Review Nitrate Groundwater

Groundwater 101

Nitrate / Chloride

- Useful for understanding land-use impacts on groundwater



Conductivity

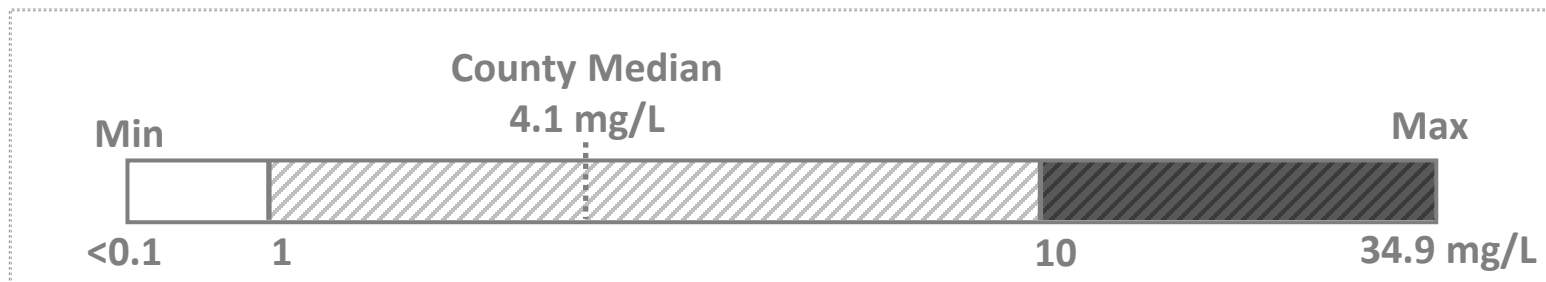
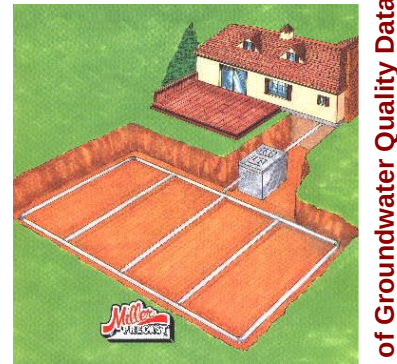
- Overall water quality, combination of both land-use, rocks, and soils

Total Hardness / Alkalinity / pH

- Help us understand how rocks and soils impact groundwater

Nitrate

- Natural levels in groundwater < 1 mg/L
- Elevated levels associated with:
 - Fertilizers, manure/bio-solid applications, septic system effluent
- Health Standard: 10 mg/L
 - Methemoglobinemia, birth defects, miscarriages, thyroid function
 - Greater than 10 mg/L should not be used by infants, pregnant women or those trying to become pregnant. Everyone else avoid long-term consumption.
- Treatment: Reverse osmosis, distillation, or anion exchange (drinking water only)



Health considerations

Aesthetic concerns

Likely land use impacts

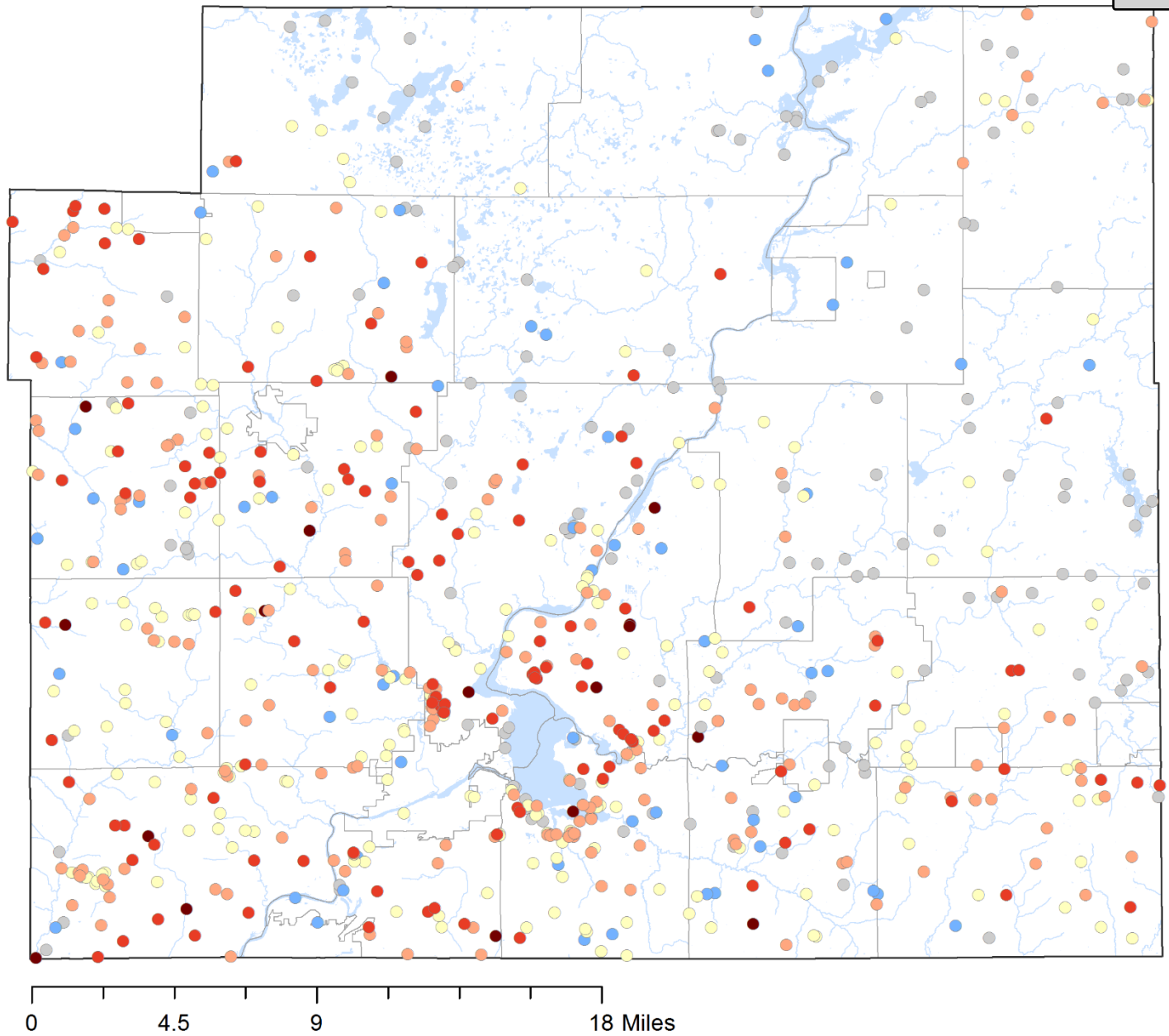
No health or

Packet Pg. 79



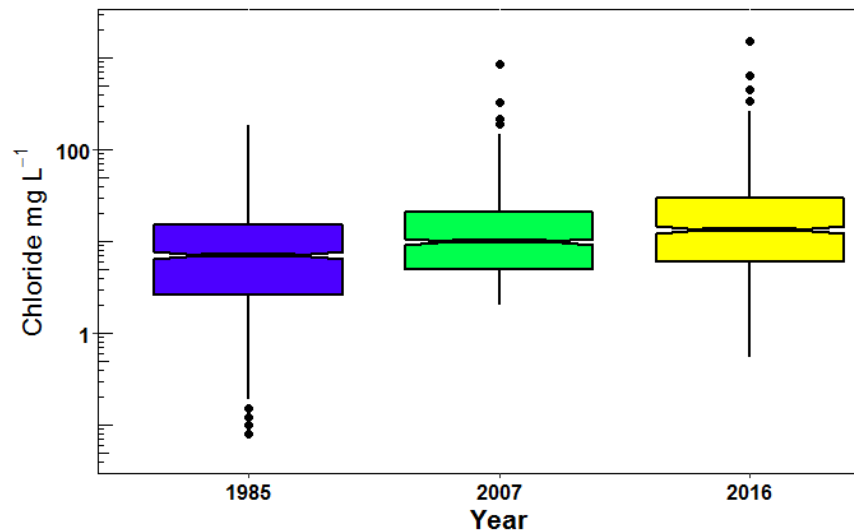
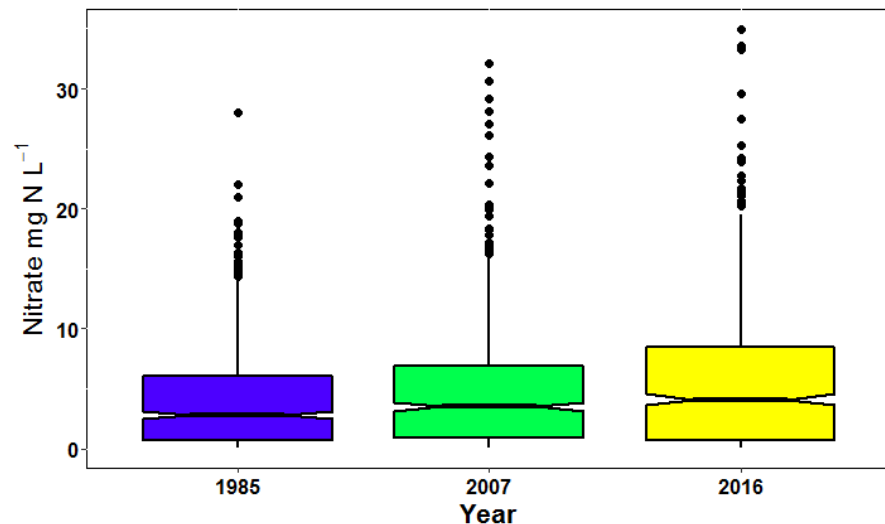
NITRATE-NITROGEN (mg/L)

- < 0.1
- 0.2 - 1.0
- 1.1 - 5.0
- 5.1 - 10.0
- 10.1 - 20.0
- > 20.0



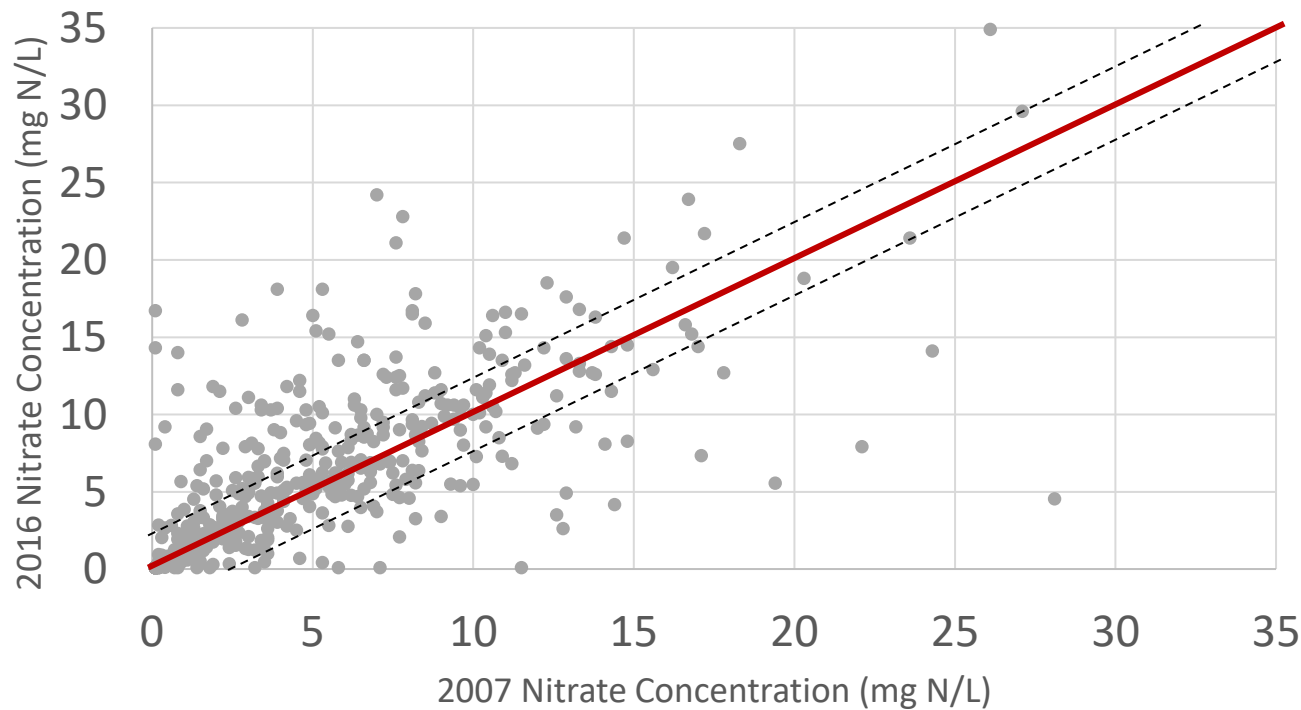
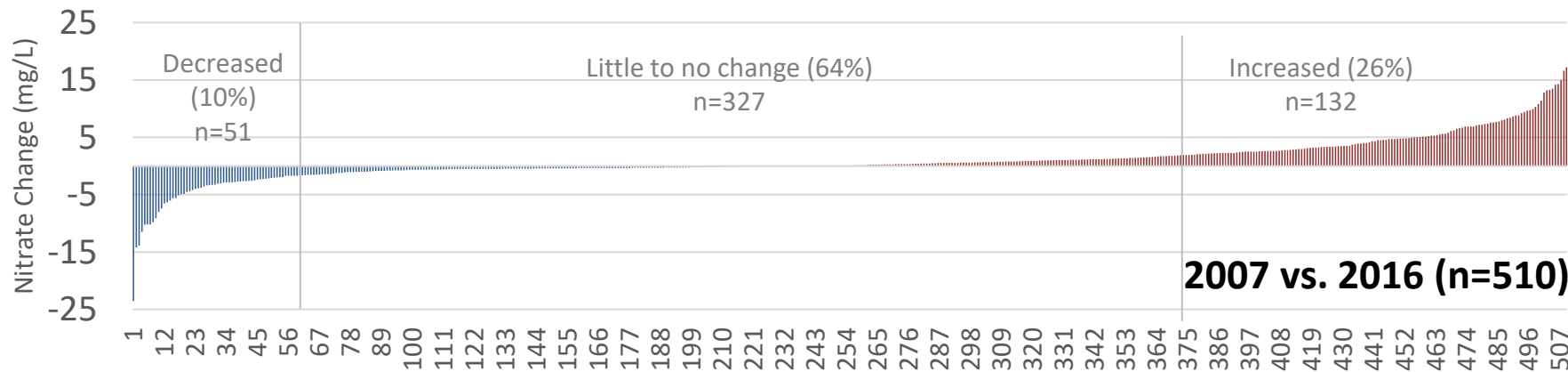
Water quality changes over time (1985, 2007, 2016)

All samples



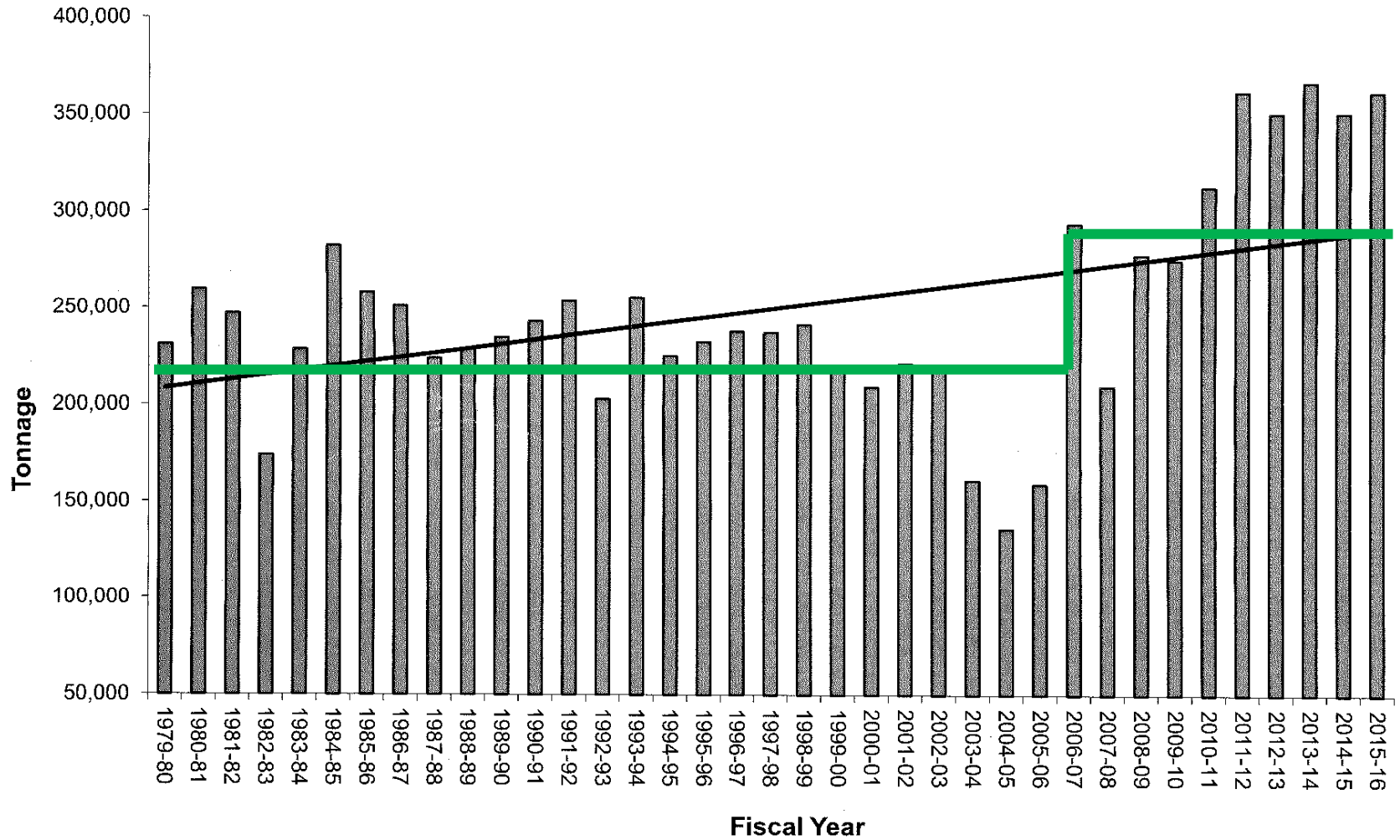
	n	Nitrate-Nitrogen (mg/L)					Chloride (mg/L)				
		Median	Mean	StDev	Min	Max	Median	Mean	StDev	Min	Max
1985	715	2.8	4.2	4.4	<0.1	28.0	6.8	10.7	13.7	<1	182
2007	800	3.5	4.7	4.8	<0.1	32.1	10.0	19.0	38.7	<1	858
2016	744	4.1	5.5	5.6	<0.1	34.9	13.5	27.6	69.6	0.5	1520

Comparing nitrate concentrations over time



Year	Nitrate Average (mg N/L)	Greater than
1985	4.2	11.3
2007	4.7	12.3
2016	5.5	18.3

Commercial Nitrogen Sold in Wisconsin



Additional Data on Nitrate Trends

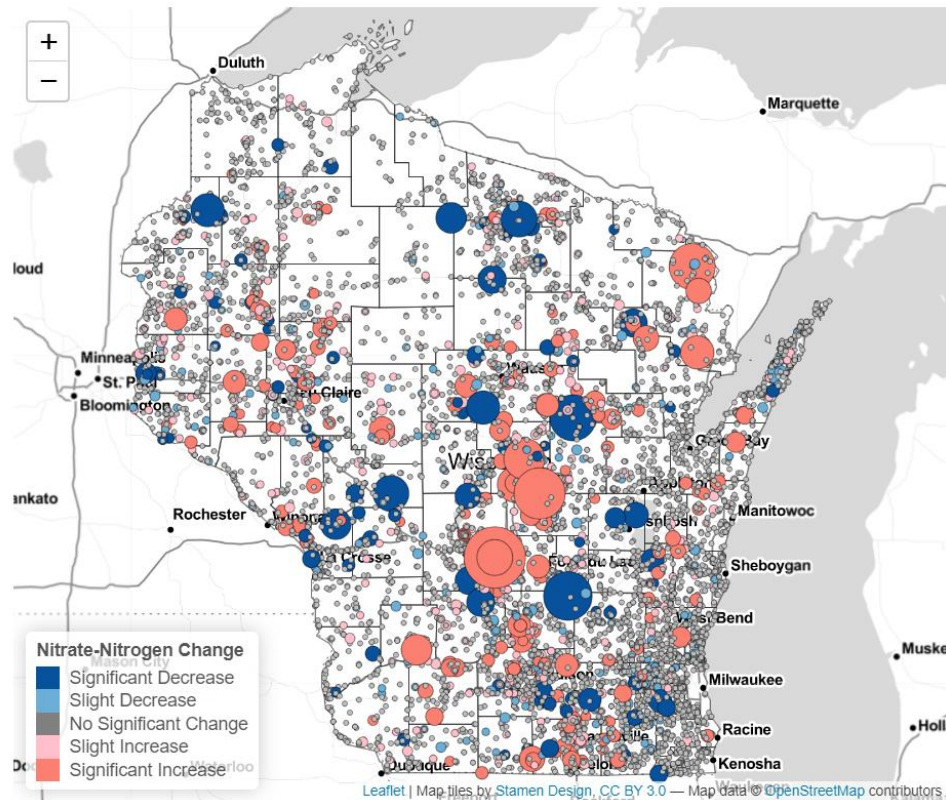
Nitrate in Wisconsin's Public Water Systems

Map Type

Individual Wells

Variable:

Nitrate Trend



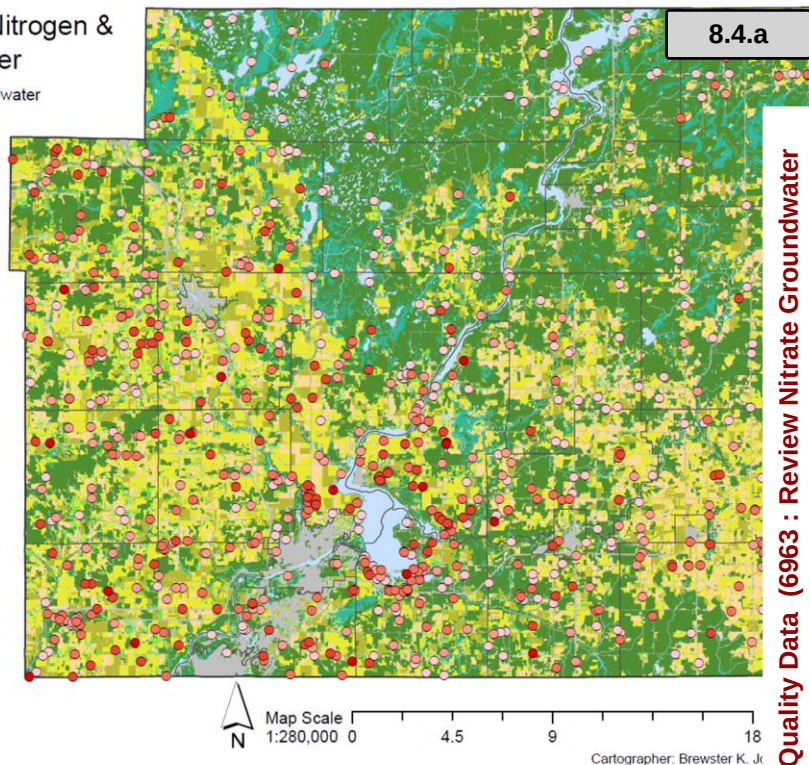
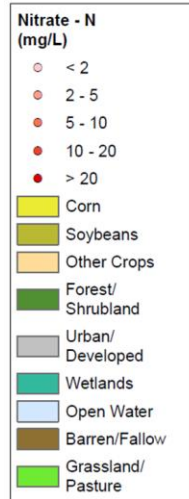
CHIPPEWA County
 Mean Nitrate-Nitrogen Level (mg/L):
 Number of Wells: 192
 Significant Decrease: 3
 Slight Decrease: 6
 No Significant Change: 159
 Slight Increase: 14
 Significant Increase: 10
 Wells Increasing (%): 12
 Wells Decreasing (%): 5
 Wells No Trend (%): 83

Chippewa County: Nitrate by % Agriculture



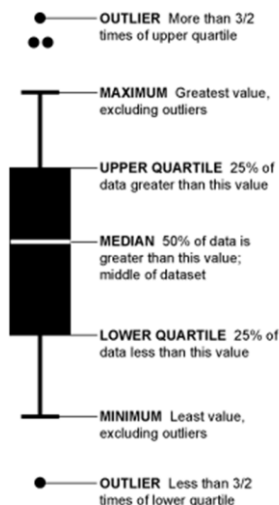
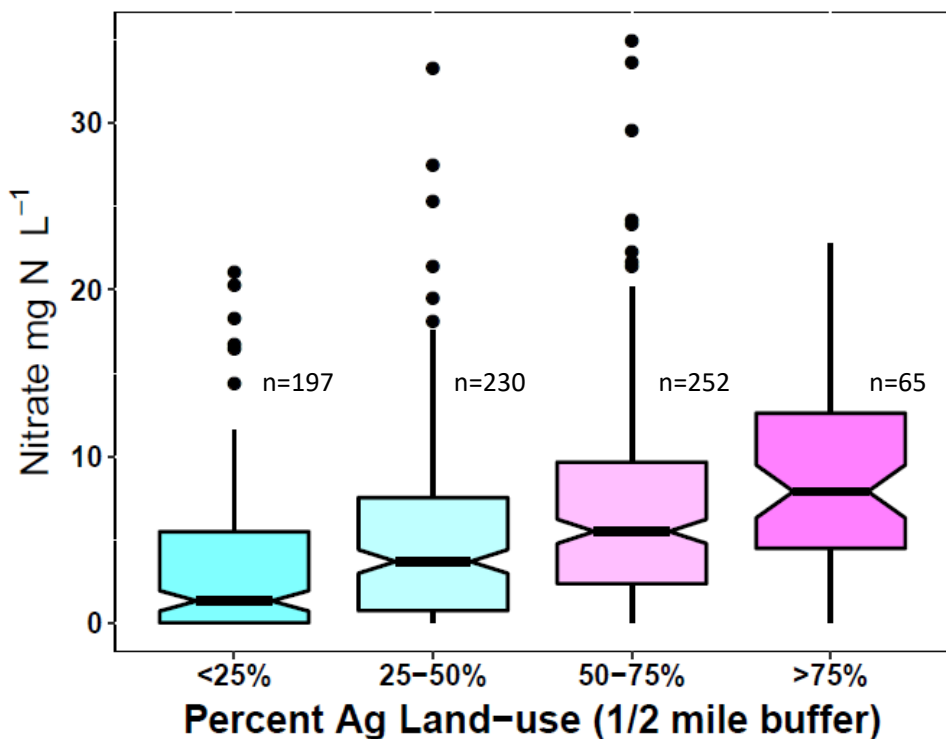
2016 Nitrate - Nitrogen & 2015 Land Cover

Chippewa County Groundwater
Quality Inventory 2016
Chippewa County, WI



8.4.a

Attachment: Overview of Groundwater Quality Data (6963 : Review Nitrate Groundwater



<https://flowingdata.com/2008/02/15/how-to-read-and-use-a-box-and-whisker-plot/>

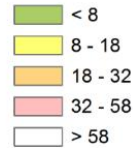
Packet Pg. 85

2016 Chippewa Well Water Quality Inventory

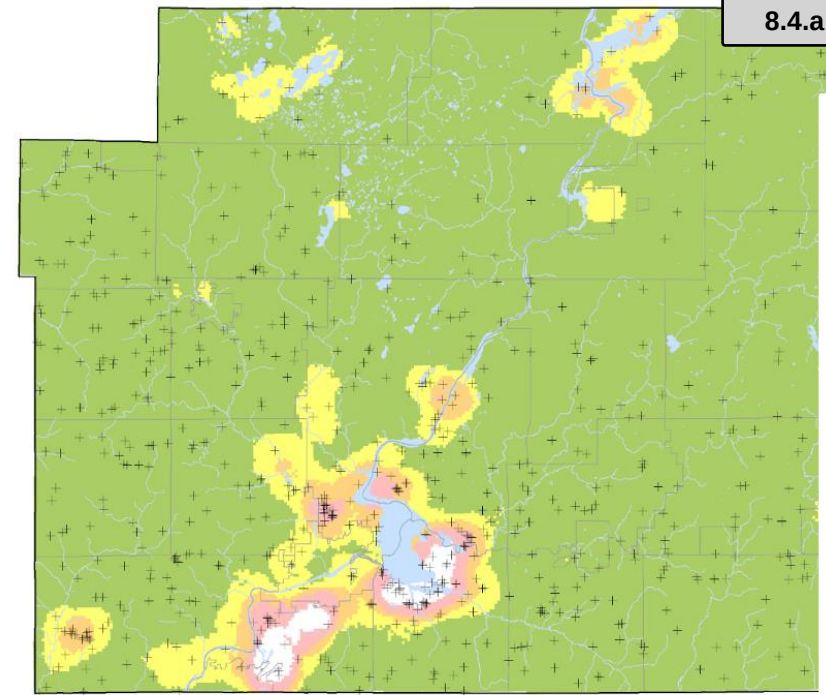
Chippewa County: Nitrate and septic system density



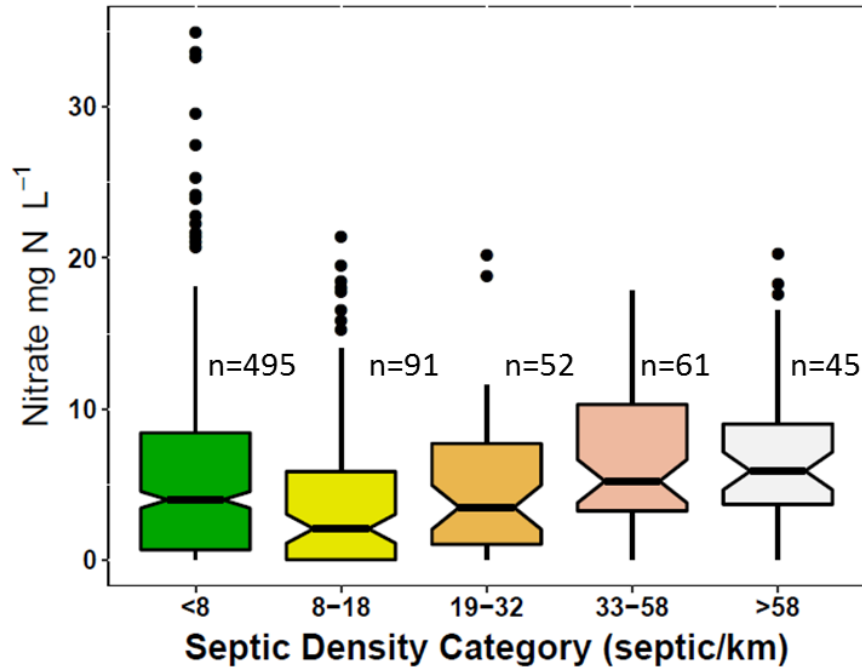
WELL
DENSITY
(#/km)



+ 2016 Well
Sample



0 4.5 9 18 Miles



<https://flowingdata.com/2008/02/15/how-to-read-and-use-a-box-and-whisker-plot/>

8.4.a

Attachment: Overview of Groundwater Quality Data (6963 : Review Nitrate Groundwater

Packet Pg. 86

2016 Chippewa Well Water Quality Inventory

Chippewa Groundwater Quality Index

2019, 2020, 2021

GOAL: To learn how well water quality changes over time

Is well water quality getting better, worse, or staying the same?

If changing, what can we learn about where and why

This project works best when:

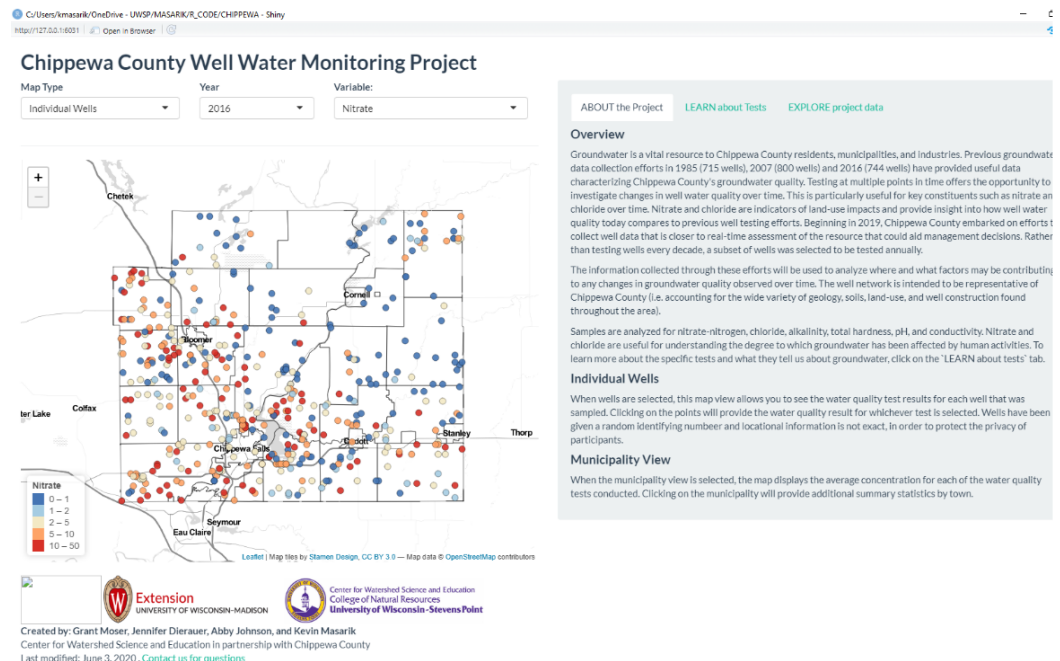
- Wells are representative of diverse geology and land use
- The same wells are sampled every year



Chippewa Well Water Quality Dashboard

Beginning in 2019, annual well testing of up to 210 wells

- Sample from each stratum (Cambrian, Meltwater Stream Sediment, Glacial)
- Wells with known well construction
- 4-5 years is minimum length of record to calculate statistically significant trend

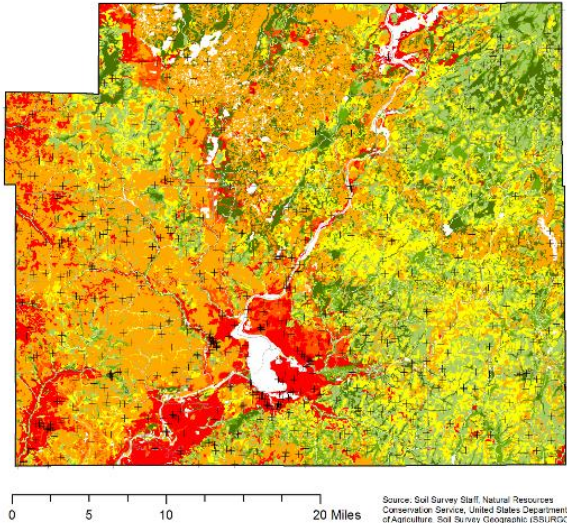


Predictive Model for Nitrate

SOIL DRAINAGE CLASSIFICATION

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained

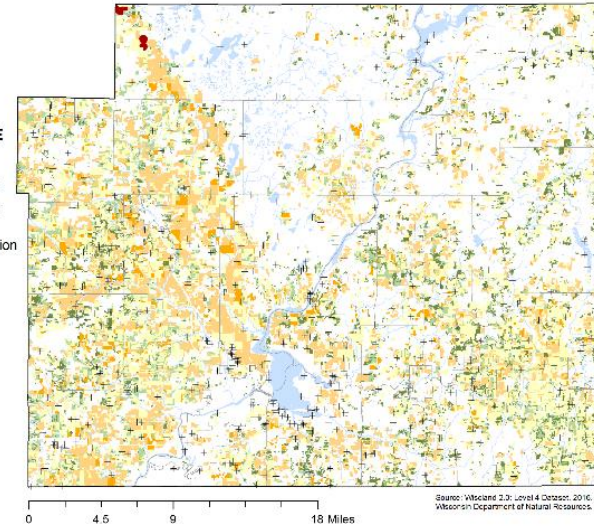
2016 Well Sample



AGRICULTURE CATEGORY

- Cash Grain
- Continuous Corn
- Dairy Rotation
- Potato/Vegetable
- Hay
- Pasture

2016 Well Sample



Original Fit 5

#-----

Call:

```
lm(formula = NITRATE_SQRT ~ CORN_CASH + DAIRY + HAY + RLTIME_DNS +
    Weighted.Average.Rank, data = chippewa_combined)
```

Residuals:

Min	1Q	Median	3Q	Max
-2.6939	-0.7798	-0.0012	0.7205	3.9679

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	0.21229	0.21826	0.973	0.3310
CORN_CASH	2.71980	0.27606	9.852	< 2e-16 ***
DAIRY	1.64863	0.28357	5.814	9.09e-09 ***
HAY	2.43170	0.49096	4.953	9.07e-07 ***
RLTIME_DNS	1.39460	0.32025	4.355	1.52e-05 ***
Weighted.Average.Rank	0.11734	0.05018	2.338	0.0196 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.12 on 738 degrees of freedom

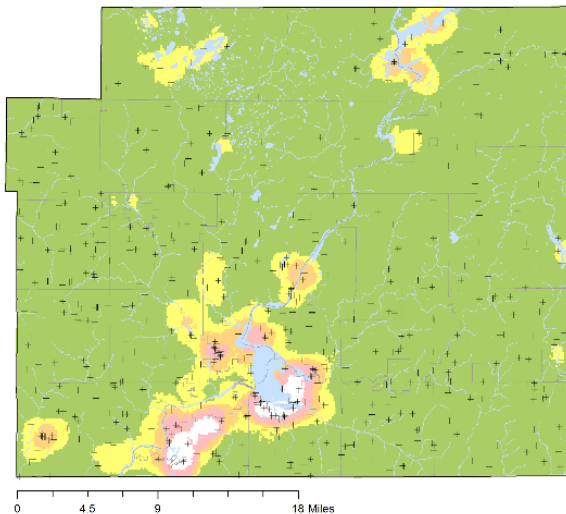
Multiple R-squared: 0.2161, Adjusted R-squared: 0.2108

F-statistic: 40.68 on 5 and 738 DF, p-value: < 2.2e-16

WELL DENSITY (#/km)

- < 8
- 8 - 18
- 18 - 32
- 32 - 58
- > 58

2016 Well Sample

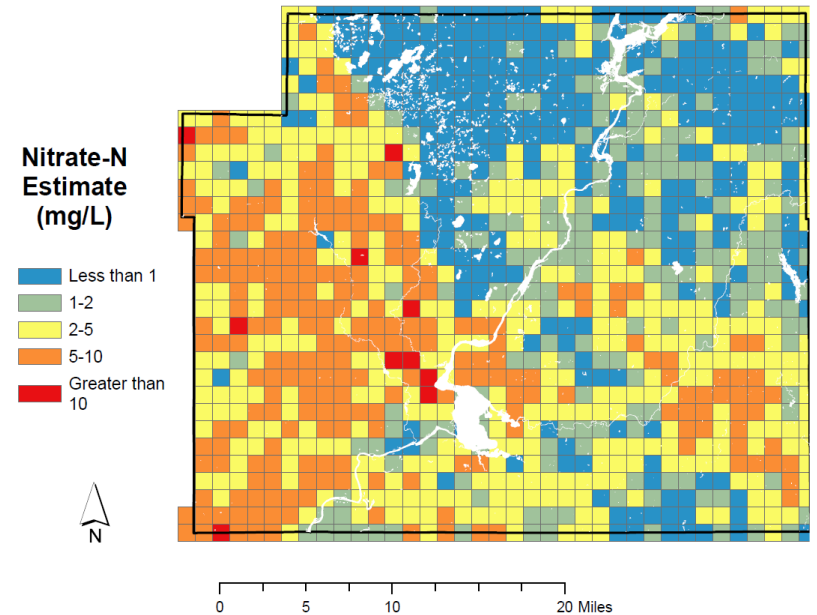


2022 Chippewa Nitrate Sampling Project

A total of 200 private wells from grids with a predicted nitrate-N concentration greater than 5 mg/L will be selected for sampling

- Well depth will be a consideration to ensure adequate representation from different aquifer units (i.e. sand/gravel, Mt. Simon, etc.).
- 200 wells will be analyzed for nitrate, chloride, pH, conductivity, hardness, alkalinity
- 50 Nitrate Source Analysis (i.e. agricultural & wastewater traces)
- 50 Neonicotinoid analysis
- 25 PFAS Samples

Chippewa Predicted Nitrate-N Concentration





Legend

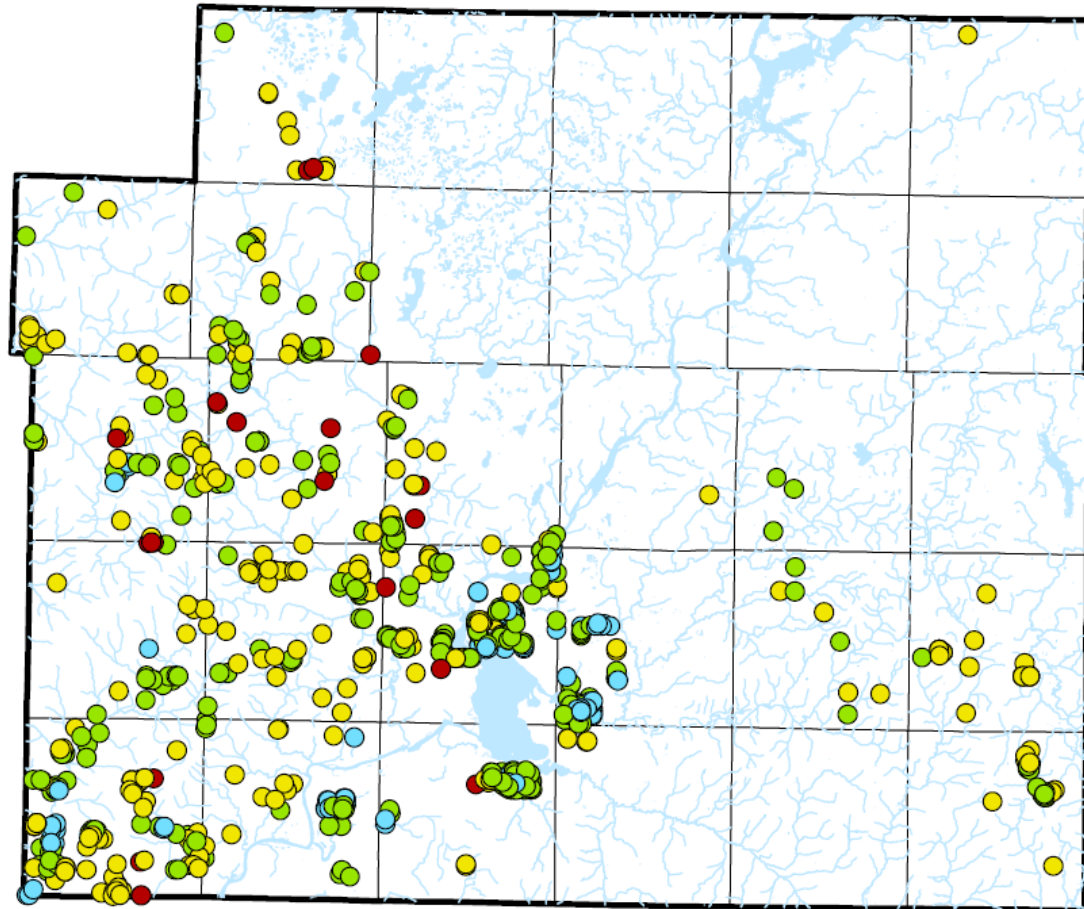
Predicted Nitrogen

-  0 - 2.0
-  2.01 - 5.00
-  5.01 - 10.00
-  >10

 Waterbodies

 Chippewa County Municipal Boundaries

0 3.75 7.5 15 Miles



Long-term nitrogen reduction strategies for agricultural areas

	Practice	Details	% Nitrate-N Reduction (StDev)	Reduction potential		Uncertainty
Good	Timing	Fall to Spring Pre-plant	6 (25)	Low		High
		Spring pre-plant/sidedress 40-60 split compared to fall applied	5 (28)	Low		High
		Sidedress – Soil test based compared to pre-plant	7 (37)	Low		High
	Nitrification Inhibitor	Nitrapyrin – Fall – Compared to applied w/out nitrapyrin	9 (19)	Low		Medium
Better	Cover Crops	Rye	31 (29)	Medium		Medium
		Oat	28 (2)	Medium		Medium
	Perennial	Biofuel Crops (ex. switchgrass, miscanthus)	72 (23)	High		Medium
		Conservation Reserve Program	85 (9)	High		Low
Best	Extended Rotations	At least 2 years of alfalfa or other perennial crops in a 4 or 5 year rotation	42 (12)	Med-High		Low

[Iowa Nutrient Reduction Strategy, 2014](#)

Kevin Masarik
kmasarik@uwsp.edu
 715-346-4276



Center for Watershed Science and Education
 College of Natural Resources
University of Wisconsin-Stevens Point



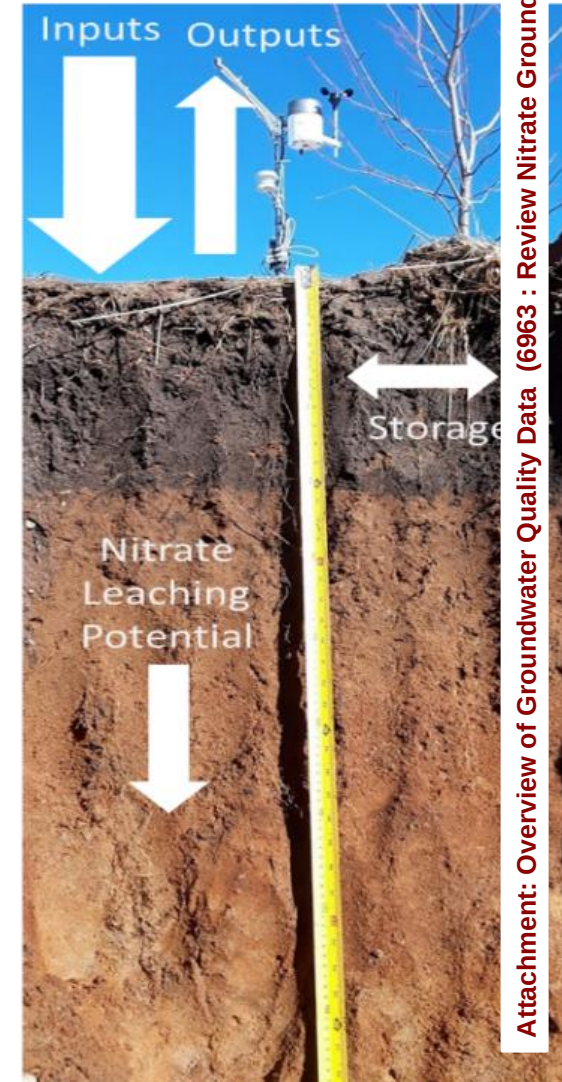
Extension
 UNIVERSITY OF WISCONSIN-MADISON

Attachment: Overview of Groundwater Quality Data (6963 : Review Nitrate Groundwater

Our nitrate opportunities:

The top foot

- Fertilizer at the right rate, time, source, place will maximize profitability and minimize excessive losses of nitrogen to groundwater; *additional practices are needed to improve water quality in areas with susceptible soils and geology*
- *You may not need as much nitrogen fertilizer as you think*, conduct your own on-farm rate trials to develop customized fertilizer response curves for your farm
- Utilize conservation incentive programs to take marginal land or underperforming parts of fields out of production
- Diversify cropping systems to include less nitrogen intensive crops in the rotation
- Encourage the use of cover crops, perennial cropping systems, or managed grazing to reduce nitrate losses to groundwater



Attachment: Overview of Groundwater Quality Data (6963 : Review Nitrate Groundwater

Nitrogen budget for potato under various scenarios

$$\text{N Inputs} - \text{N Outputs} - \text{N Storage} = \text{Leachable N}$$

		Inputs			Outputs		Storage	
Crop	Yield (per acre)	Fertilizer	Irrigation	Precip+ Deposition	Harvest Yield N	Misc. losses	Change in N	Leachable Nitrogen
		-----lbs nitrogen per acre-----						
Potato	424 cwt	220-300	41 ^a	8	170	30-37	0	72-144
Potato	300-500 cwt	260	41 ^a	8	120-200	33.4	0	158-78
Potato	424 cwt	260	20 ^b -61 ^c	8	170	33.4	0	88-128
Potato	424 cwt	260	11 ^d -68 ^e	8	170	33.4	0	79-135

^aAssumes 10 inches of irrigation water containing 18 mg/L nitrate-nitrogen.

^bAssumes 5 inches of irrigation water containing 18 mg/L nitrate-nitrogen.

^cAssumes 15 inches of irrigation water containing 18mg/L nitrate-nitrogen.

^dAssumes 10 inches of irrigation water containing 5 mg/L nitrate-nitrogen.

^eAssumes 10 inches of irrigation water containing 30 mg/L nitrate-nitrogen.

For irrigation water containing 18 mg/L nitrate-nitrogen, each inch applied contains 4.1 lbs N/acre.

Nitrogen budget for common crops

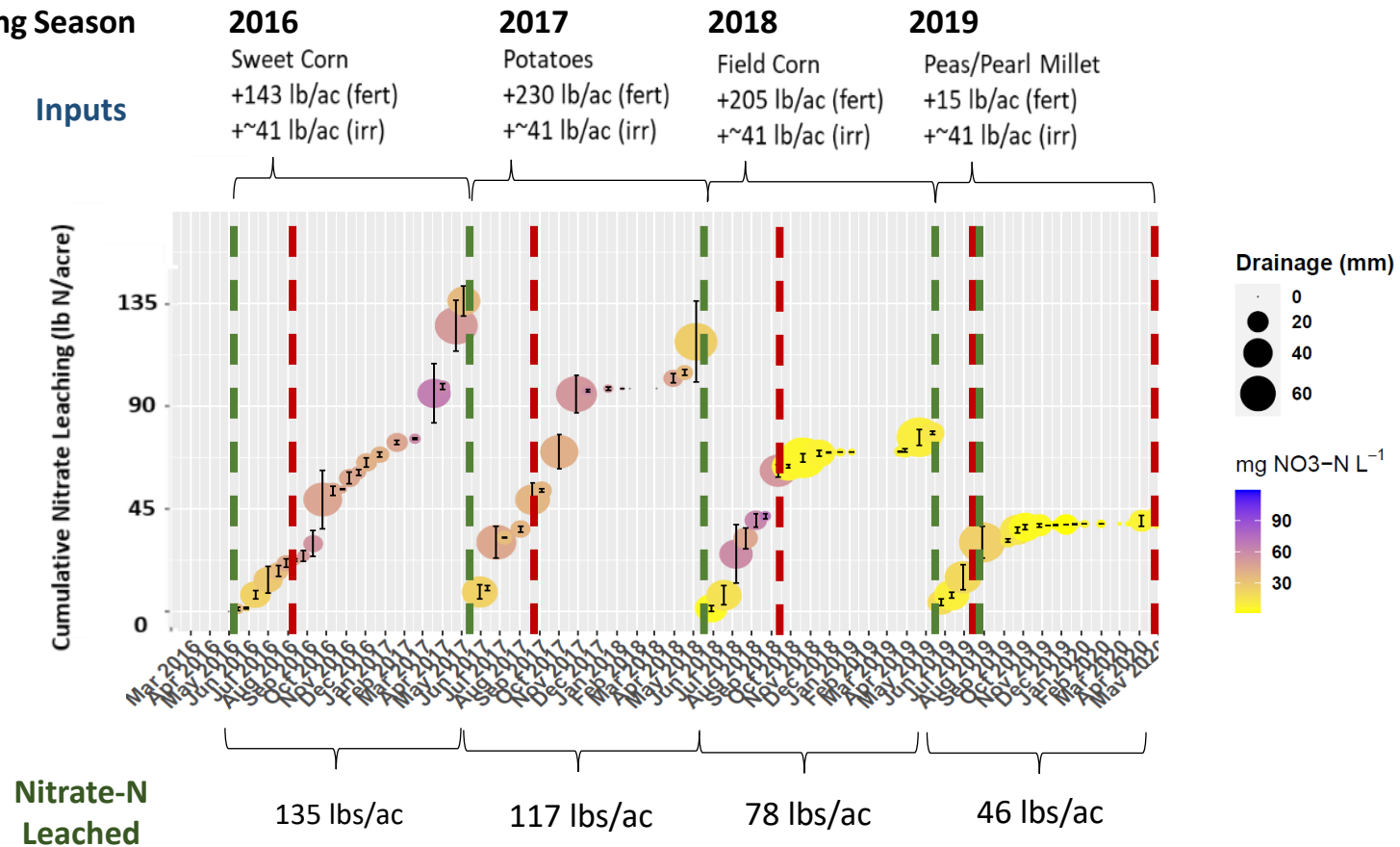
$$\text{N Inputs} - \text{N Outputs} - \text{N Storage} = \text{Leachable N}$$

		Inputs			Outputs		Storage	
Crop	Yield (per acre)	Fertilizer	Irrigation ¹	Precip+ Deposition	Harvest Yield N	Misc. losses	Change in N	Leachable Nitrogen
		-----lbs nitrogen per acre-----						
Potato	424 cwt	220-300	41	8	170	30-37	0	72-144
Sweet Corn	8.5 ton	130-170	41	8	73	22-25	0	86-123
Field Corn	204 bu	180-240	41	8	149	26-32	0	56-110
Carrots	27 ton	100-140	41	8	97	19-23	0	35-71
Snap Beans ²	8 ton	40-80	41	8	62	14-17	0	15-51

¹Assumes 10 inches of irrigation water containing 18 mg/L nitrate-nitrogen. At this concentration each inch of irrigation water contains 4.1 lbs N/acre.

²Non-nodulating

Measuring nitrate leaching below an irrigated field in the Central Sands



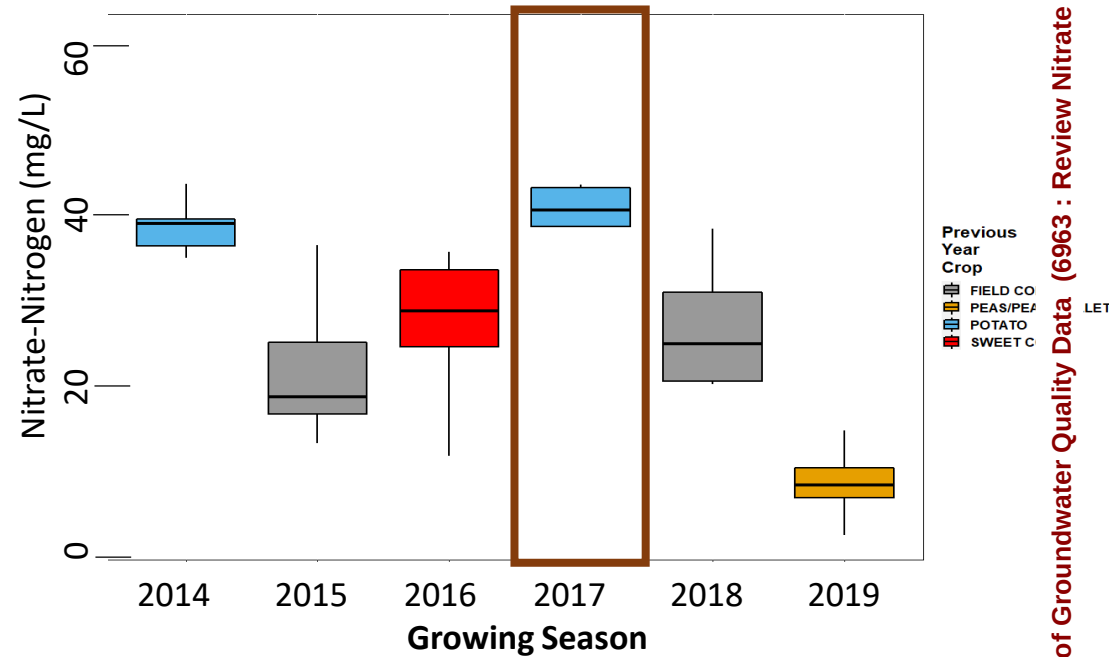
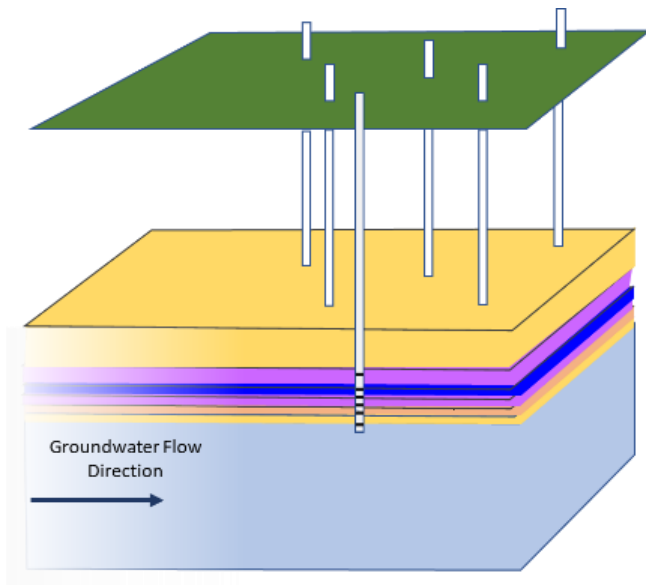
(Preliminary data manuscript in preparation, Masarik & Kuc

Estimating groundwater nitrate-nitrogen concentration

	Nitrate-Nitrogen Concentration (mg/L)									
	1	2	3	4	5	10	15	20	30	40
Water in inches	lbs of Nitrogen per acre									
1	0.2	0.5	0.7	0.9	1.1	2.3	3.4	4.5	6.8	9.0
2	0.5	0.9	1.4	1.8	2.3	4.5	6.8	9.0	13.6	18.1
3	0.7	1.4	2.0	2.7	3.4	6.8	10.2	13.6	20.4	27.1
4	0.9	1.8	2.7	3.6	4.5	9.0	13.6	18.1	27.1	36.2
5	1.1	2.3	3.4	4.5	5.7	11.3	17.0	22.6	33.9	45.2
6	1.4	2.7	4.1	5.4	6.8	13.6	20.4	27.1	40.7	54.3
7	1.6	3.2	4.7	6.3	7.9	15.8	23.7	31.7	47.5	63.3
8	1.8	3.6	5.4	7.2	9.0	18.1	27.1	36.2	54.3	72.4
9	2.0	4.1	6.1	8.1	10.2	20.4	30.5	40.7	61.1	81.4
10	2.3	4.5	6.8	9.0	11.3	22.6	33.9	45.2	67.8	90.5
11	2.5	5.0	7.5	10.0	12.4	24.9	37.3	49.8	74.6	99.5
12	2.7	5.4	8.1	10.9	13.6	27.1	40.7	54.3	81.4	107.5
13	2.9	5.9	8.8	11.8	14.7	29.4	44.1	58.8	88.2	117.6
14	3.2	6.3	9.5	12.7	15.8	31.7	47.5	63.3	95.0	126.6
15	3.4	6.8	10.2	13.6	17.0	33.9	50.9	67.8	101.8	135.7

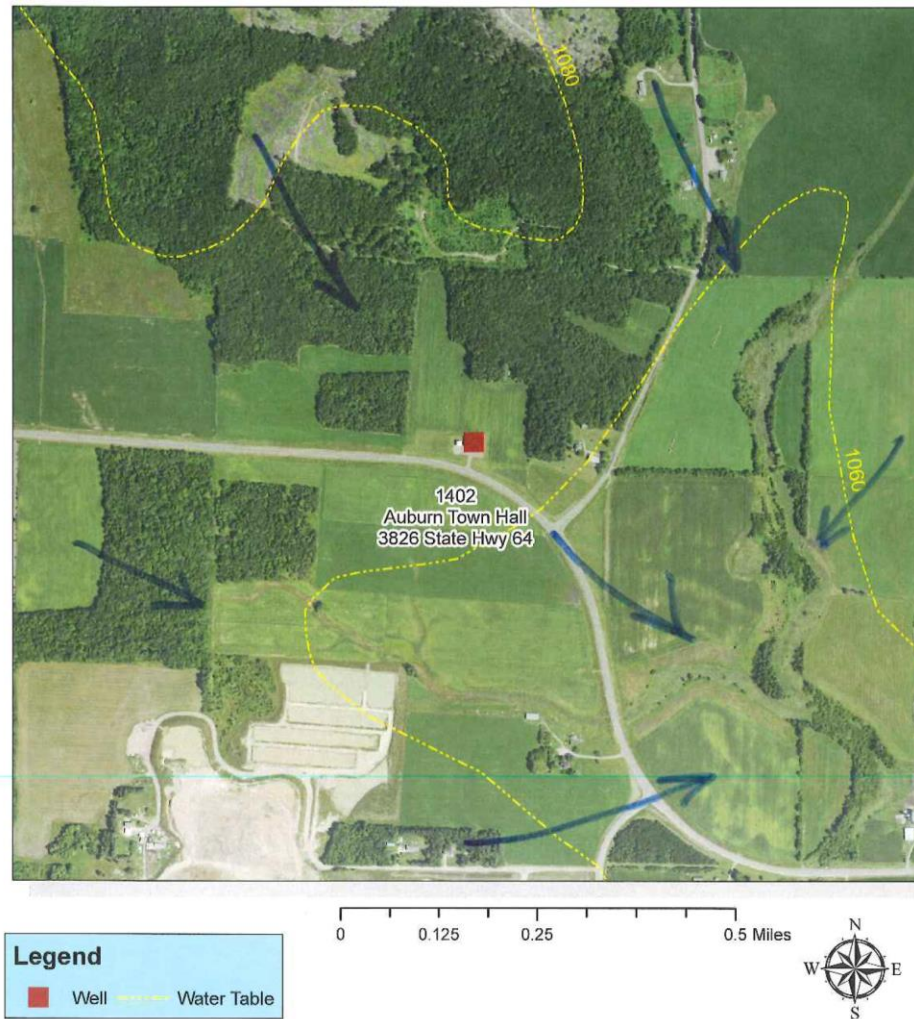
Groundwater
recharge
measured
by
lysimeters

Measuring groundwater quality below an irrigated field in the Central Sands



(Preliminary data manuscript in preparation, Masarik & Kuc

General Groundwater Flow Direction

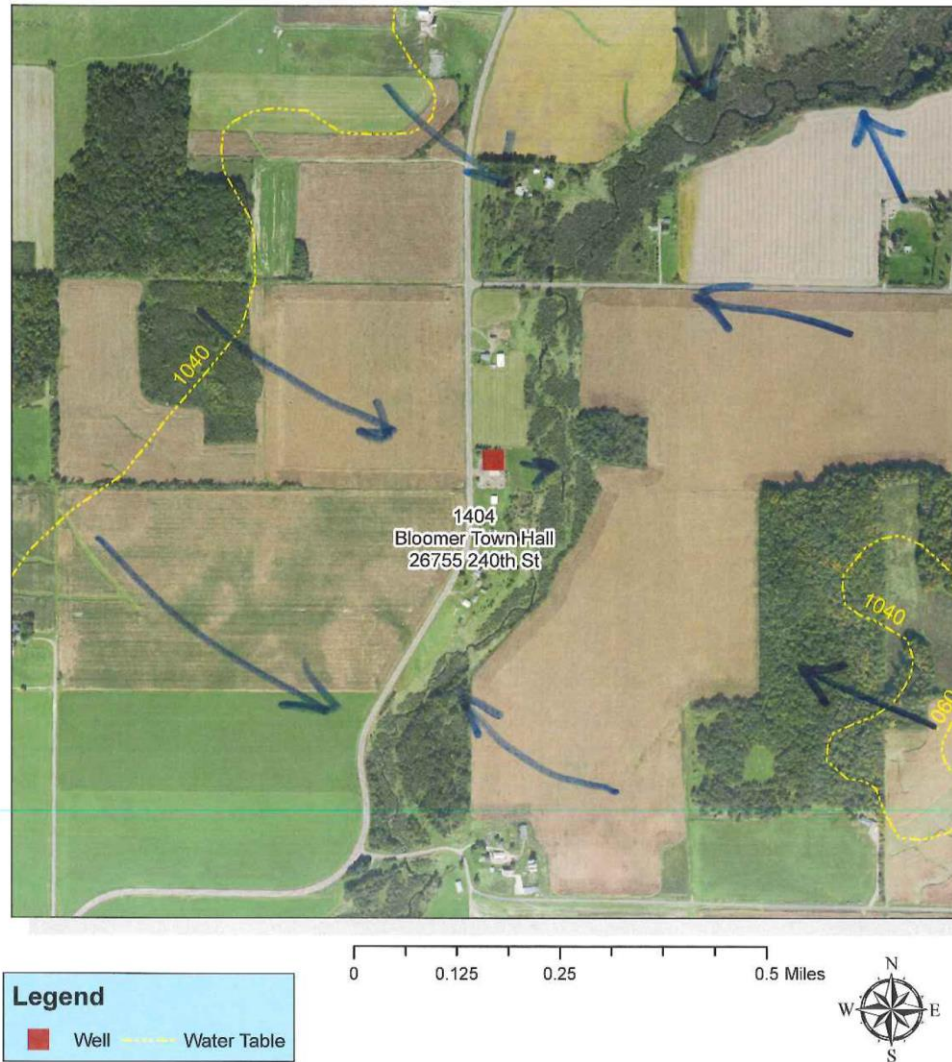


The black arrows show generalized groundwater flow direction in the area near your well. Groundwater flows perpendicular to the groundwater elevation lines and moves from high areas (hills) to low areas (streams, rivers). In general, residential wells impacted by land use are usually the result of those activities occurring within a roughly 1/2 mile distance from a well.

Disclaimer: This map is for educational purposes only. Groundwater flow is a best guess based on currently available information.

Cartography by Sean Piette

General Groundwater Flow Direction



The black arrows show generalized groundwater flow direction in the area near your well. Groundwater flows perpendicular to the groundwater elevation lines and moves from high areas (hills) to low areas (streams, rivers). In general, residential wells impacted by land use are usually the result of those activities occurring within a roughly 1/2 mile distance from a well.

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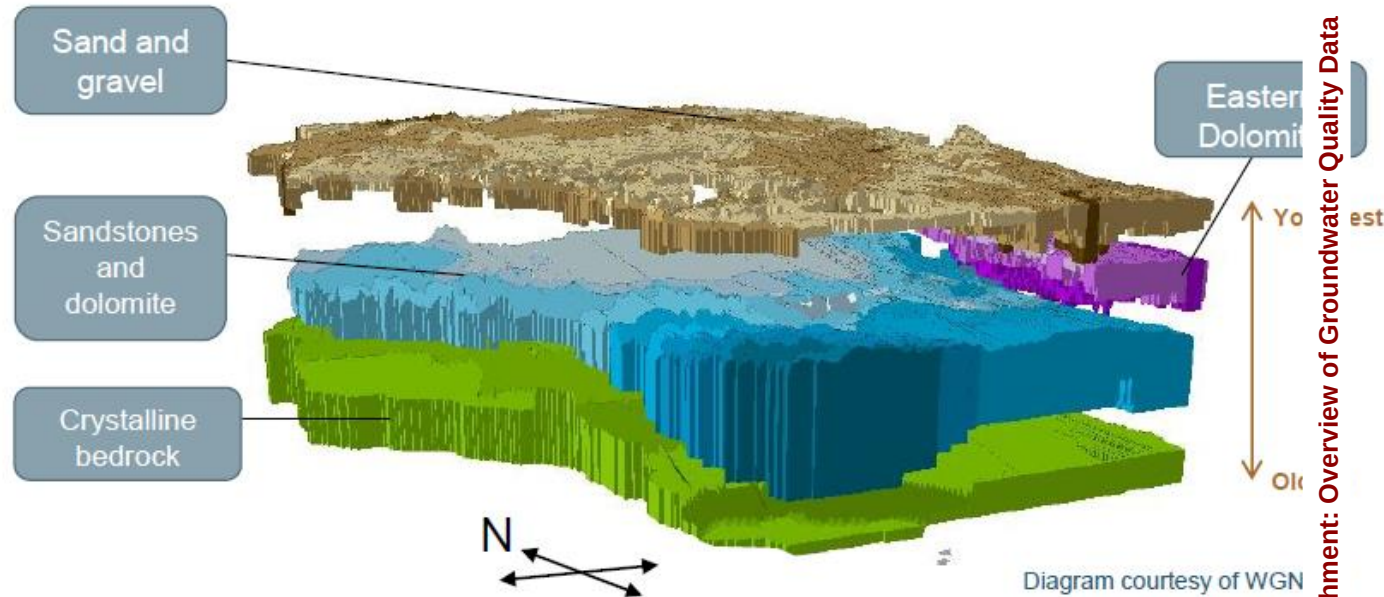
Cartography by Sean Piette

Aquifers: Our groundwater storage units

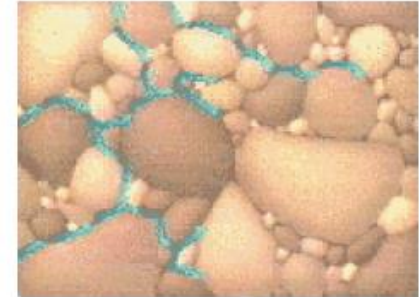
Aquifers are geologic formations that store and transmit groundwater.

The aquifer properties determine how quickly groundwater flows, how much water an aquifer can hold and how easily groundwater can become contaminated. Some aquifers may also contain naturally occurring elements that make water unsafe.

Wisconsin's geology is like a layered cake. Underneath all of Wisconsin lies the Crystalline bedrock which does not hold much water. Think of this layer like the foundation of your house. All groundwater sits on top of this foundation. Groundwater is stored in the various **sandstone**, **dolomite** and **sand/gravel** aquifers above the **crystalline bedrock** layer. The layers are arranged in the order which they formed, oldest on the bottom and youngest on top.



Water and contaminants can move quickly through cracks and fractures.



Water moving through tiny spaces in between sand particles or sandstone moves slower and allows for filtration of some contaminants.

LCFM 5/16/22

LCFM Brainstorm Ideas on How to Utilize ARPA Funds on Groundwater Issue

1. Outreach in High Nitrate Area
 - a. Fact Sheet on Issue(s): groundwater and geology, human and livestock health, N sources, septic management, ag land management, well construction, treatments, etc
 - b. Fact Sheet on water testing availability
 - c. Informational meetings in watershed
 - d. Compile top 3 NPM / UWEX factsheets on N BMPs relative to minimizing leaching + local cover letter from UWEX and LCFM; sent to farmers and local CCAs
 - e. Create Farmer Led Watershed Group in the Sensitive Area: Focus on (corn, 4R, manure, crediting) N management, cycling and budgets to monitor amount supplied vs amount removed vs amount remaining after harvest. Awareness of crop managed and harvested vs amount N subject to post season leaching below root zone.
2. Utilizing Partners
 - a. UW Extension
 - i. Jerry Clark (Chippewa County)
 - ii. Kolby Grint (Nutrient and Pest Management)
 - iii. Dan Zerr (Natural Resources Educator).
 - iv. John Exo (Ag Water Quality Program).
 - b. UW Madison Agronomy – Dr. Chris Kucharic : cropping system ecology, climate change, water quality, carbon mgmt.
 - c. Regional Planning
3. Funding Options
 - a. Fully fund household nitrate tests (\$30/test x @167/Township = \$5000/Township)
 - i. Assessing all wells in the area that have been tested
 1. % of total wells in the area
 - ii. Increase # of wells tested to increase visibility of the issue
 1. Testing blitz
 - b. Cover Crop Programs – especially with focus on living roots after main crop to cycle up left-over N. Cover on corn silage land immediately after harvest on permeable soils (sandy loams, sandstone geology, etc).
 - c. Lawns to legumes
 - d. Fund well repairs/improvements
 - e. Fund septic repairs/improvements
 - f. Soil N testing
 - g. Manure analysis
 - h. Incentive to delay fall manure applications until soil cools
 - i. NMPs
 - j. Specific fall manure management plans within permeable soil neighborhoods
 - k. Irrigation well water NO₃- testing
 - l. Variable Rate infrastructure

4. Additional Studies
 - a. Risk Factor Assessment – Joel Stodyk
 - b. Expand Source Testing for multiple seasons
 - c. Flow study to determine source area for High Nitrate Areas
 - i. In-depth analysis on land use practices in the source areas
 - ii. To assess if contaminated area is growing
 - d. Expand Nitrate Testing
 - i. To assess if levels are going up or down
 - e. Grassland 2.0 study – multi-participant farmer, researcher, agency, public & private group that promotes and delivers tech and I+E relative to grassland, grazing, resource quality and soil health. Chris Kucharik participates.
 - f. Areawide Nitrate Use Assessment
 - i. Types and amounts of N used
 - g. Demo Farms
5. Regulation
 - a. Fully enforce NR 151 Performance Standards in High Nitrate Area
 - b. Adopt Minnesota Nitrate rule
 - c. Manure spreading prohibition on frozen or snow-covered grounds
6. Communitywide Solutions
 - a. Rural Water Supply Districts
 - i. Kansas
 - ii. Feasibility Study
 - b. Community Digester
 - c. Augment water supply options
 - i. Stipend for bottle water purchases
 - ii. Water refill stations
 - iii. Rebate on RO
 - iv. Collect RO supplier list
 - d. Manure Trading
 - i. Connecting areas with too much manure to areas utilizing chemical fertilizer
 - e. Green Farmer Certification
 - i. Rewards for Green certification
 - ii. Whole farm assessment
 - iii. Plans to come into compliance