BOARD OF WATER AND SOIL RESOURCES

DATE: September 29, 2020

TO: Northern Regional Committee

FROM: Ryan Hughes, Northern Region Manager

SUBJECT: October 7, 2020 Northern Regional Committee Meeting

The meeting will be conducted via conference call with the Committee. Committee Chair Rich Sve and I will be present in person in the Split Rock Conference Room located in the Lake County Service Center at 616 Third Avenue in Two Harbors, 55616.

All other Committee members should participate in the meeting via conference call.

The agenda includes one decision item; the Buffalo-Red River Comprehensive Watershed Management Plan developed through the One Watershed, One Plan program available at http://www.brrwd.org/project-post/one-watershed-one-plan/ and one consult item; the 2021 Committee meeting schedule.

Access to the conference call can be completed with the following information:

Dial-in #: 888-742-5095
Conference Code #: 630 678 8101

If you have any questions or concerns before or during the conference call please contact me via ryan.hughes@state.mn.us or text at 218-770-9687 or call at 218-770-9687.

CC: Brett Arne, BWSR (via email)
Henry Van Offelen, BWSR (via email)
Kevin Bigalke, BWSR (via email)
Julie Westerlund, BWSR (via email)
Annie Felix-Gerth, BWSR (via email)
Donna Caughey, BWSR (via email)

BWSR Northern Regional Committee Meeting
Split Rock River Conference Room
Lake County Service Center
616 Third Avenue
Two Harbors, MN 55616
October 7, 2020

Agenda

11:00 a.m. Call Meeting to Order

Chair Roll Call/Introductions

Approve Agenda

Approve August 5, 2020 Meeting Minutes

11:05 a.m. Public Comment Period (10-minute agenda time, two-minute limit/person)

11:10 a.m. Buffalo-Red River Comprehensive Watershed Management Plan
Decision Item

12:10 p.m. 2021 Meeting Schedule

12:20 p.m. Adjourn

(Agenda times are approximate)

A conference call has been scheduled for the meeting for anyone unable to attend in person. Access to the conference call can be completed with the following information:

Dial-in #: 888-742-5095

Conference Code #: 630 678 8101

For additional information, please contact Ryan Hughes, BWSR Northern Region Manager, at 218-770-9687 or ryan.hughes@state.mn.us.

BOARD OF WATER AND SOIL RESOURCES · NORTHERN REGIONAL COMMITTEE

Commissioners Office
Lake County Service Center
616 Third Avenue
Two Harbors, MN 55616
August 5, 2020

COMMITTEE MEMBERS PRESENT IN PERSON:
Rich Sve

COMMITTEE MEMBERS PRESENT VIA PHONE:
Gerald Van Amburg, Neil Peterson, Todd Holman, Jeff Berg, Nicole Blasing, Tom Schulz, Theresa Ebbenga

COMMITTEE MEMBERS ABSENT:
None

STAFF PRESENT IN PERSON:
Ryan Hughes

STAFF PRESENT IN PERSON VIA PHONE:
Pete Waller, Brad Wozney, Henry Van Offelen, Jeff Hrubes

OTHERS PRESENT VIA PHONE:
Micayla Lakey, Pomme de Terre; John Lindquist, Otter Tail County; Keith Swanson, Grant County; Rod Wenstrom, West Otter Tail SWCD; Joe Otto, Big Stone SWCD; Danny Tuckett, Big Stone County; Andy Rice, Douglas SWCD; Jared House, Grant SWCD; Greg Lillemon, Grant County; Brad Mergens, West Otter Tail SWCD; Ben Underhill, East Otter Tail/Wadena SWCD; Bill Kleindl, Stevens County; Matt Solemsaas, Stevens SWCD; Andy Albertsen, Swift SWCD; Lyle Dittman, East Otter Tail SWCD; Chuck Horsager, Wadena County; Darren Newville, East Otter Tail/Wadena SWCD; Chris LeClair, Otter Tail County; Anne Oldakowski, East Otter Tail/Wadena SWCD; Deanna Malone, Wadena County; Deja Anton, Todd SWCD; Moriya Rufer, Houston Engineering, Inc.

Chair Rich Sve called the meeting to order at 10:02am.

Chair Sve coordinate introduction and requested a roll call for Committee members present:

Committee Member	Yes	No	Abstain	Absent
Rich Sve	X			
Neil Peterson	X			
Gerald Van Amburg	X			
Todd Holman	X			
Tom Schulz	X			
Jeff Berg	X			
Theresa Ebbenga	X			
Nicole Blasing	X			

Motion by Neil Peterson, second by Jeff Berg, to approve the meeting agenda.

Committee Member	Yes	No	Abstain	Absent
Neil Peterson	X			
Gerald Van Amburg	X			
Todd Holman, Chair	X			
Tom Schulz	X			
Jeff Berg	X			
Theresa Ebbenga	X			
Nicole Blasing	X			

Motion by Jeff Berg, second by Neil Peterson, to approve the March 4, 2020 meeting minutes.

Committee Member	Yes	No	Abstain	Absent
Neil Peterson	X			
Gerald Van Amburg	X			
Todd Holman, Chair	X			
Tom Schulz	X			
Jeff Berg	X			
Theresa Ebbenga	X			
Nicole Blasing	X			

No public comments were received during the public comment period.

AGENDA ITEMS

Pomme de Terre River Watershed Comprehensive Watershed Management Plan
Pete Waller provided an overview of the planning process. Multiple members of the Pomme de Terre Planning Committee provided a presentation on the watershed management plan. Pete Waller discussed the draft Board Order and official letter and provided a recommendation of approval.

Motion by Neil Peterson, second by Nicole Blasing, to recommend approval of the Pomme de Terre River Watershed Comprehensive Watershed Management Plan.

Committee Member	Yes	No	Abstain	Absent
Neil Peterson	X			
Gerald Van Amburg	X			
Todd Holman, Chair	X			
Tom Schulz	X			
Jeff Berg	X			
Theresa Ebbenga	X			
Nicole Blasing	X			

Motion passed.

Redeye River Watershed Comprehensive Watershed Management Plan
Pete Waller provided an overview of the planning process. Ben Underhill provided a presentation on the watershed management plan. Pete Waller discussed the draft Board Order and official letter and provided a recommendation of approval.

Motion by Neil Peterson, second by Theresa Ebbenga, to recommend approval of the Redeye River Watershed Comprehensive Watershed Management Plan.

Committee Member	Yes	No	Abstain	Absent
Neil Peterson	X			
Gerald Van Amburg	X			
Todd Holman, Chair	X			
Tom Schulz	X			
Jeff Berg	X			
Theresa Ebbenga	X			
Nicole Blasing	X			

Motion passed.

Discuss future meetings: October 7, 2020 and December 2, 2020

Ryan Hughes discussed the potential for five comprehensive watershed management plans to be submitted before the end of the 2020 calendar year. In order to accommodate the number of plans a December 2, 2020, Northern Region Committee meeting was added to the schedule and discussed with the Committee.

Chair Rich Sve adjourned the meeting at 12:35pm.

BOARD OF WATER AND SOIL RESOURCES

Memorandum

Date: October 7, 2020

To: Northern Regional Committee

From: Brett Arne, Board Conservationist

Review of the Buffalo-Red River Watersheds Comprehensive Watershed Management Plan

The following memo outlines the BWSR staff review and recommendations for the Buffalo-Red River Watersheds Comprehensive Watershed Management Plan (Plan), developed through the One Watershed, One Plan program.

The Buffalo-Red River Watershed planning area was approved for a One Watershed, One Plan planning grant in 2017 and established a Memorandum of Agreement between the planning partners for the purposes of writing a Comprehensive Watershed Management Plan in March 2018. The partners include the counties of Becker, Clay, Otter Tail, Wilkin and the Soil and Water Conservation Districts of Becker, Clay, West Otter Tail, and Wilkin as well as the Buffalo-Red River Watershed District.

The following are selected highlights of the Plan:

The highlights of the Plan include:

- A thorough narrative description of the land and water resource features that shape the planning area and inform the broad priorities within the plan.
- A collection of 12 priority issues split between two distinct levels as selected by the group to focus efforts and define measurable goals.
- The plan includes focused priorities for nine (9) planning regions to ensure issue prioritization is specific to the needs of each geographical area.
- Each planning region has unique short and long-term goals and implementation schedules.
- The Prioritize, Target, and Measure Application (PMApp) was used to identify, prioritize, and target possible locations of upland structural projects and field management conservation practices in each specific planning region in the plan as the product of a separate Clean Water Fund grant.
- A thorough discussion of capital improvement projects within the watershed.
- A thorough discussion of regulatory and enforcement measures to meet the needs of county and watershed district obligations including shoreland management, public drainage, buffers, and land use planning to name a few.

The partnership held a 60-day review process that ended on August 3, 2020, and the required public hearing on September 16, 2020. The final draft of the Plan, a recording of the public hearing, and copies of all written

comments were submitted on September 18, 2020 to the state review agencies. The partnership has incorporated the majority of agency and public comments received throughout the Plan development process. Final comments and recommendations to approve have been received from MDA, MDH, DNR & MPCA.

Aaron Larsen, West Otter Tail SWCD, will be attending the Northern Regional Committee meeting to present an overview of Plan development and contents.

BWSR staff has completed its review and recommends approval of the Plan.

Enclosure

- Comprehensive Watershed Management Plan http://www.brrwd.org/project-post/one-watershed-one-plan/
- Location Map (see Figure 1-1: BRRW Plan Area in Plan)
- Draft Board Order
- Draft Official Letter to the Buffalo-Red River Watershed Policy Committee

APPENDIX A

Land and Water Resources Narrative

Buffalo-Red River Watershed
Comprehensive Watershed Management Plan

Buffalo – Red River One Watershed, One Plan

Land and Water Resources Narrative

Buffalo-Red River Watershed
Comprehensive Watershed Management Plan

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1. INTRODUCTION

The Buffalo-Red River Watershed (BRRW) One Watershed, One Plan (1W1P) area, located in northwest Minnesota, comprises an area of 1,785 square miles and mirrors the jurisdictional boundary of the Buffalo-Red River Watershed District. All or parts of two major (8-digit Hydrologic Unit Code, or HUC) watersheds (the Buffalo River, the Upper Red River) and one minor (10-digit HUC) watershed (the Otter Tail River downstream from Orwell Dam) are located within the legal boundary of the BRRW. Other watersheds bordering the BRRW are the Wild Rice River (north), Elm-Marsh River (northwest), upper Otter Tail River (east) and the Bois de Sioux (south). The western boundary is the Red River (**Figure 1**).

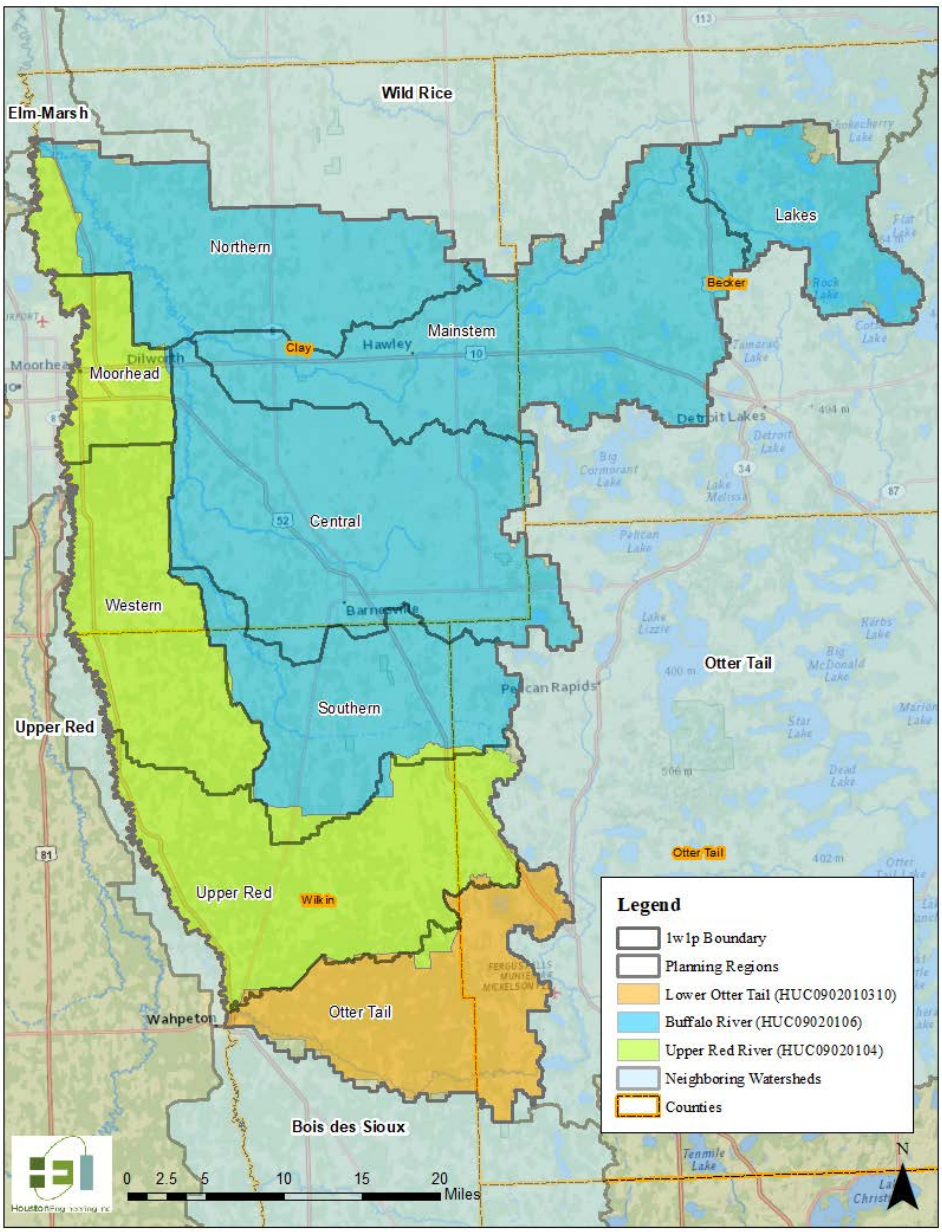

Figure 1: Watersheds within the BRRW 1W1P boundary and neighboring watersheds.

The BRRW 1W1P planning area is based on the legal boundary of the Buffalo-Red River Watershed District (BRRWD). The BRRWD and partner Local Governmental Units (LGUs) involved with water resource management, including the development of the BRRW 1W1P, determined to use this boundary as it has recently been updated to better match with the hydrology of the watershed. The BRRW plan area is comprised of nine distinct planning regions based on the planning regions established by the BRRWD (**Figure 1**). These planning regions account for regional variation within the plan area to allow for tailored management and planning at a more refined scale.

The 2016 Buffalo-Red River Watershed District Revised Comprehensive Management Plan forms the basis of this Land and Water Resources Narrative unless otherwise cited in-text.

2. ECOREGIONS

The BRRW transects three ecosystems, including the Lake Agassiz Plain, the North Central Hardwood forests, and the Northern Lakes and Forests (**Figure 2**). The majority of the BRRWD is in the Lake Agassiz Plain with a lesser area of North Central Hardwood forests. Less than 1% of the BRRWD is in the Northern Lakes and Forests ecoregion.

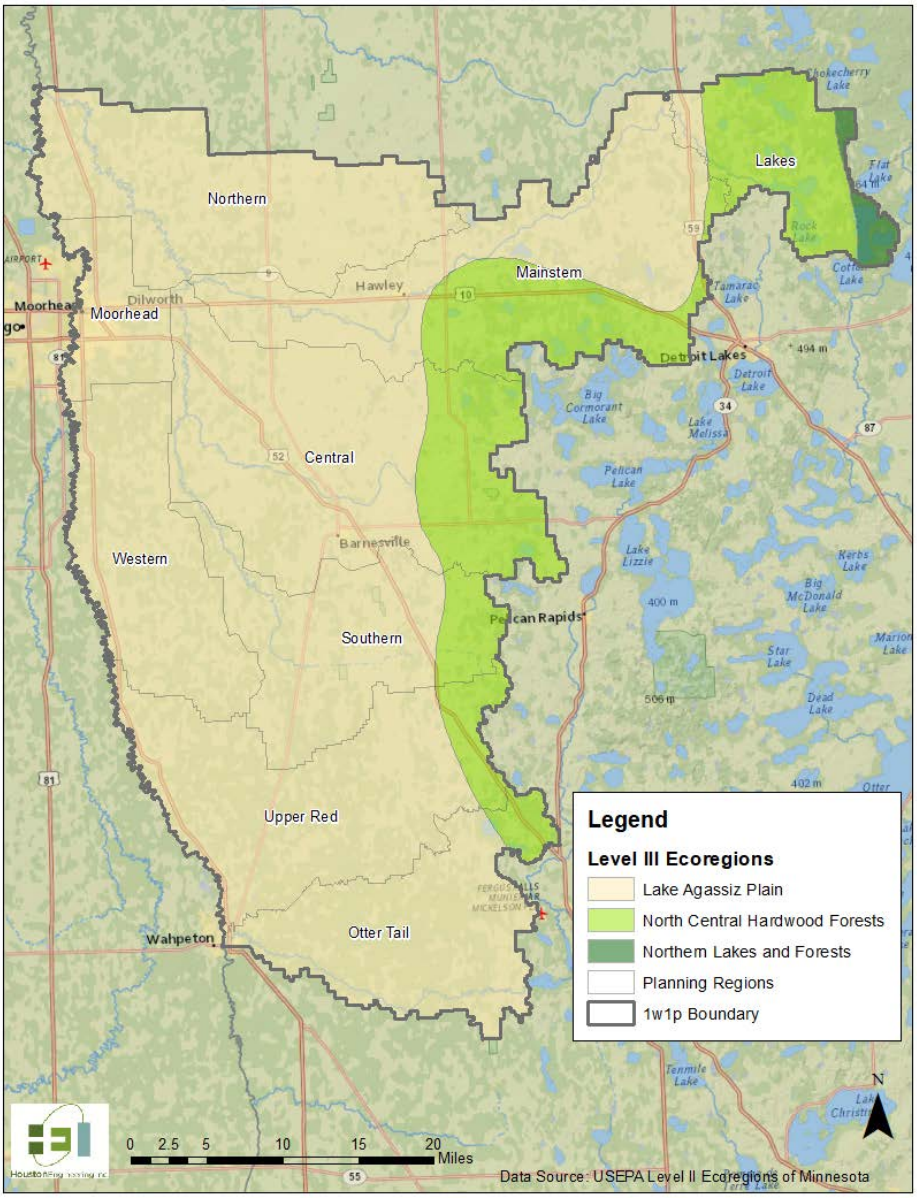

Figure 2: BRRW Ecoregions.

3. GEOLOGY, SOILS AND TOPOGRAPHY

The geology of the Red River Basin and the BRRW, as a microcosm, consists of glacial lake deposits, lake shore deposits, till and a small amount of ice-contact deposits overlying the bedrock. Bedrock in the east part of the basin consists of Precambrian, undifferentiated igneous, and metamorphic rock. Bedrock in the west part of the basin consists of a small band of Cretaceous, fine-grained sandstone and shell. Clay and silt lake deposits dominate the Lake Agassiz plain bordering the Red River of the North. A transition zone between the lake plain and the glacial moraine areas is formed by lake shore deposits, delta sand, and gravel (**Figure 3**).

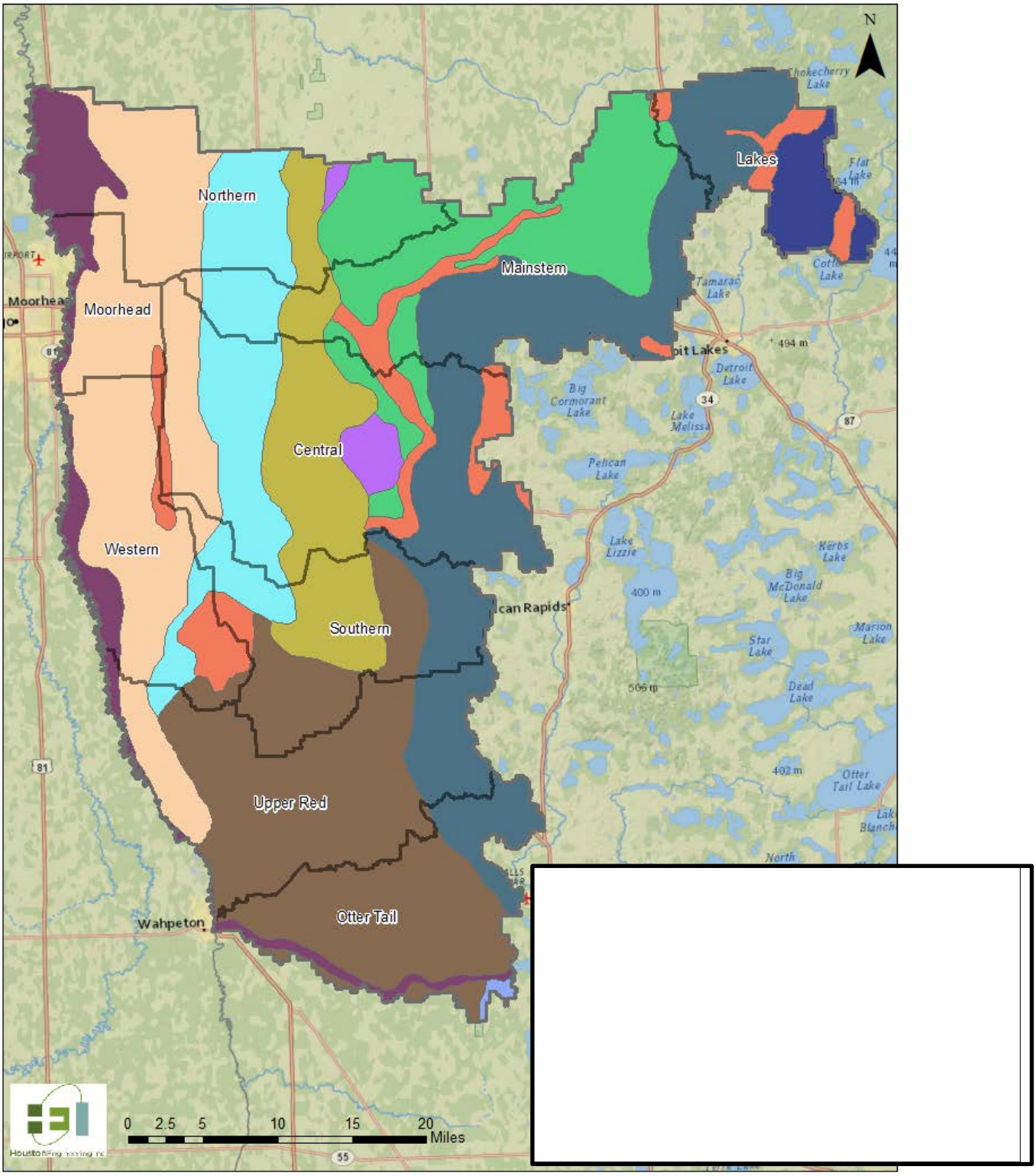

Figure 3: Quaternary Geology of the BRRW.

3.1 TOPOGRAPHY

The BRRW can be characterized by three physiographic regions extending from the west boundary to the east boundary: the glacial lake bed deposits, the beach ridge area, and the glacial moraine. Over 12,000 years ago, much of the BRRW was covered by Glacial Lake Agassiz. Lake Agassiz was formed by an accumulation of melt waters from the last receding glacier. The western portions of Clay and Wilkin Counties are located on this lake bed. The lake bed is characterized by flat, extremely level deposits of lake sediments reaching up to 80 feet in thickness. The beach ridge area runs along the boundary of old Glacial Lake Agassiz. The level of Lake Agassiz fluctuated through the centuries, with the fluctuations leaving their mark on the land in the form of beaches. The beach ridge physiographic region of the BRRW follows a north-south corridor approximately eight miles wide through the center of the BRRW on the east boundary of the lake plain. The glacial moraine area is east of the beach ridge physiographic region. The landscape of this region was formed by the soil, rocks and debris deposited by the glaciers. The glacial moraine area can be characterized as rolling prairie, with scattered areas of sharply rolling hills interspersed with lakes, ponds, wetlands, and bogs. All in all, elevation across the BRRW slopes from east to west, and ultimately drains to the Red River of the North (**Figure 4).**

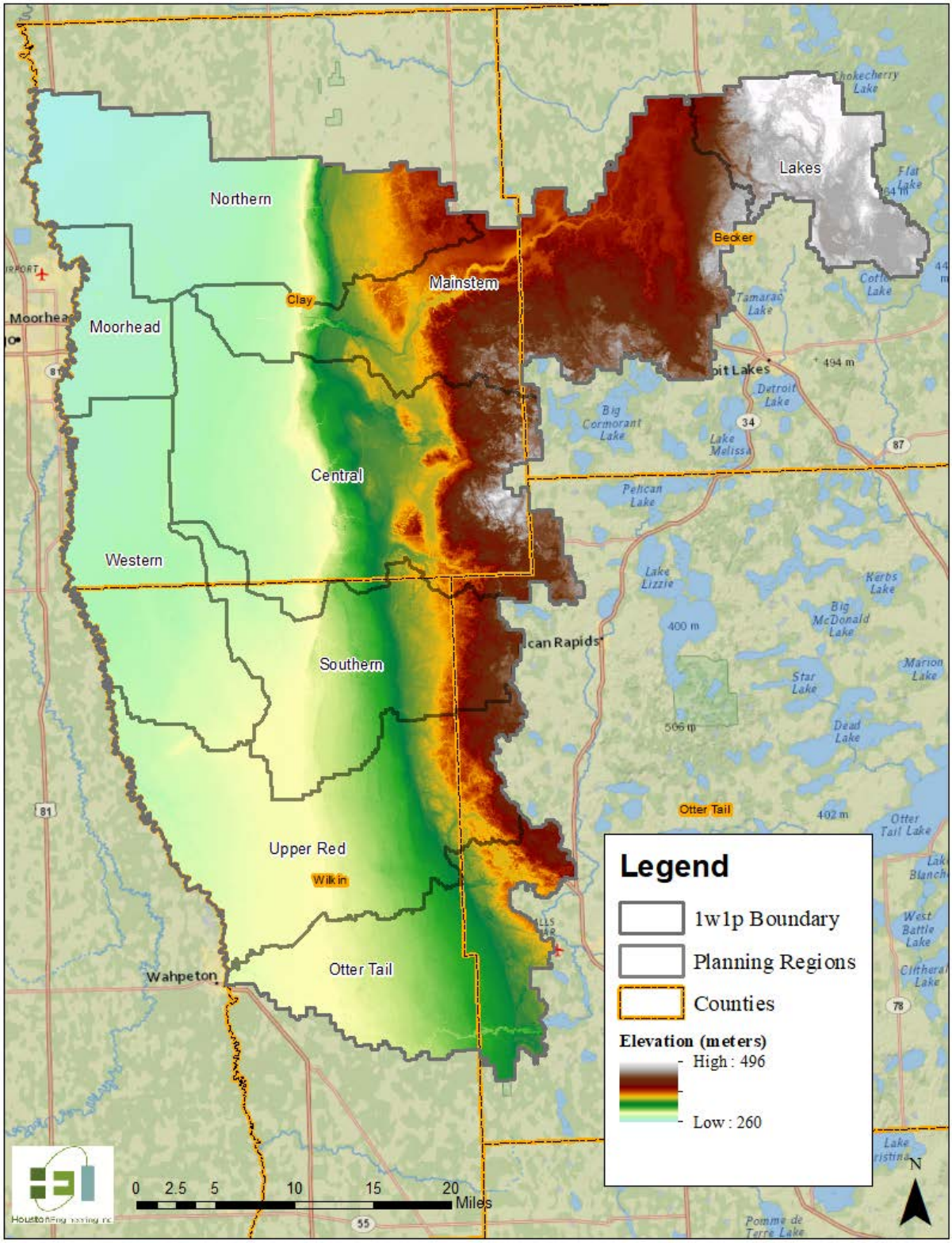

Figure 4: BRRW Topography.

3.2 SOILS

Like the three physiographic regions, there are three distinct soil groupings in the BRRW (**Figure 5**). The soils in the west tend to be clays of low permeability, with poor internal drainage, though very fertile for agriculture. The soils near and within the beach ridge area of the BRRW tend to be clay loams and sandy loams mixed with sands and gravels and include some moderately steep slopes. The soils of the moraine area are mostly clays and silts, and those areas of more irregular topography tend to have a loamy texture and be dark to moderately dark colored and poorly to well-drained. The glacial moraine upland area has nearly level to steep slopes and many wet areas and pocketed depressions.

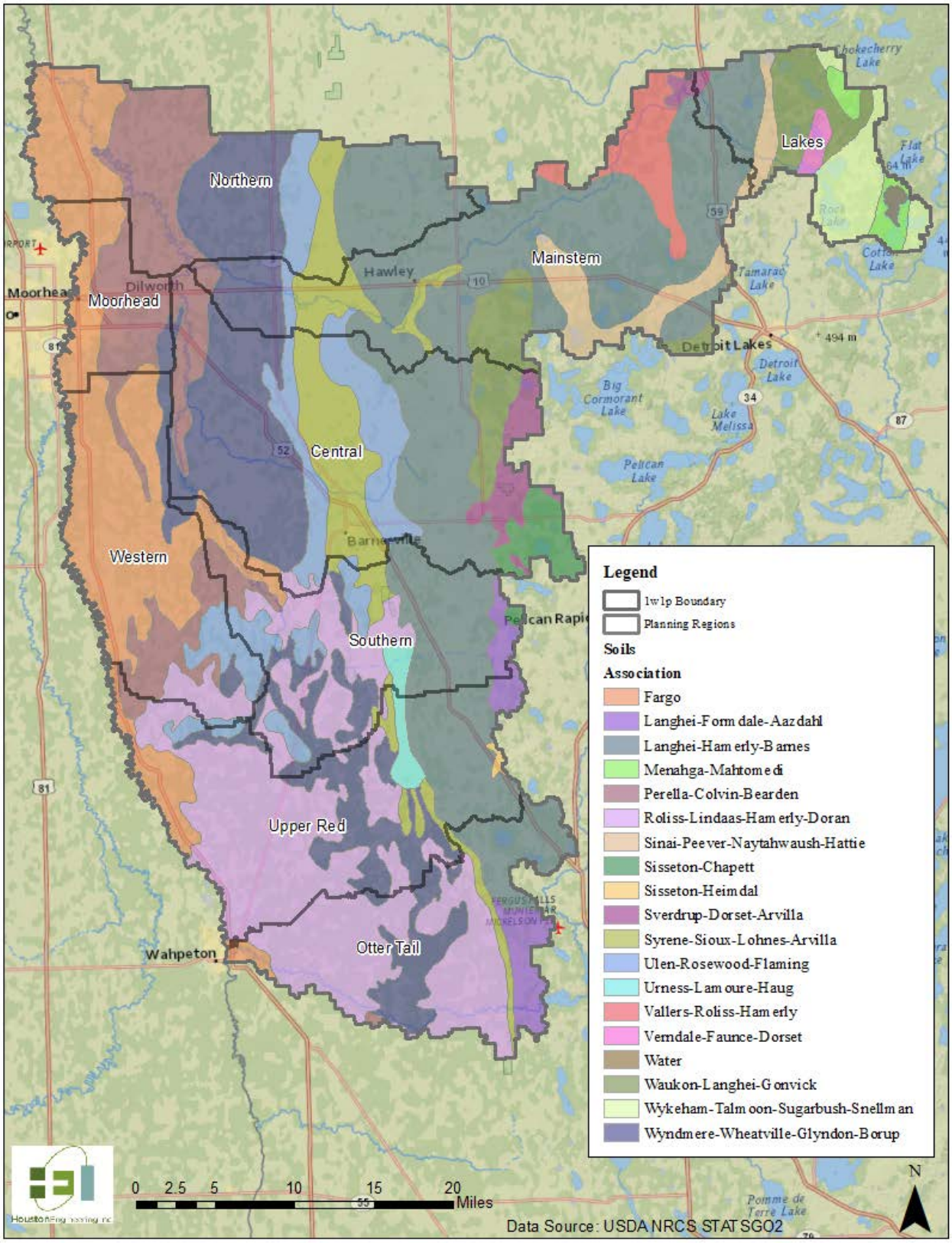

Figure 5: Soil Associations within the BRRW.

4. CLIMATE AND PRECIPITATION

The BRRW is located near the center of the North American continent. It has a continental climate, characterized by cold weather and reduced amounts of precipitation. The movement of cold, polar air masses into the area during the winter months result in very cold, dry weather. During the spring and summer, warm moist air from the Gulf of Mexico tends to dominate weather patterns. National Weather Service stations are located at the Cities of Campbell, Fergus Falls, Detroit Lakes, Ada, and Fargo, North Dakota. All of these weather stations are near to, but outside, the BRRW. Historic weather data indicates extreme variations in temperature and moderate precipitation. Based on historical information (1971-2000) for the Detroit Lakes station, the normal mean monthly temperatures vary from 6ºF to 69ºF, with a normal mean annual temperature of 41ºF. Temperatures have ranged from an extreme low of -53ºF to an extreme high of 107ºF. The growing season lasts about 121 days, with approximately 2,508 growing degree days during the year. Average annual precipitation for the BRRW is 26.36 inches. Approximately 69% of the precipitation occurs during the five-month growing season, which is May through September. Snowfall depth averages 45.3 inches per year.

5. LAND USE AND LAND COVER

Land use within the BRRW is mostly for agriculture, which has largely replaced the expansive prairies that existed prior to European settlement (**Figure 6**). Most of the agricultural activity occurs in the western and central portions of the BRRW (**Figure 7**). Areas in the eastern portion of the BRRW are mostly forested, with scattered lakes and wetland areas. Riparian zones along the Buffalo, Otter Tail, and Red Rivers also exist. Municipalities are scattered in the BRRW. The largest of these municipal areas is the City of Moorhead. Development pressure is moderate to intensive as farmland, timberland, and lakeshore is parceled out for residential and seasonal development.

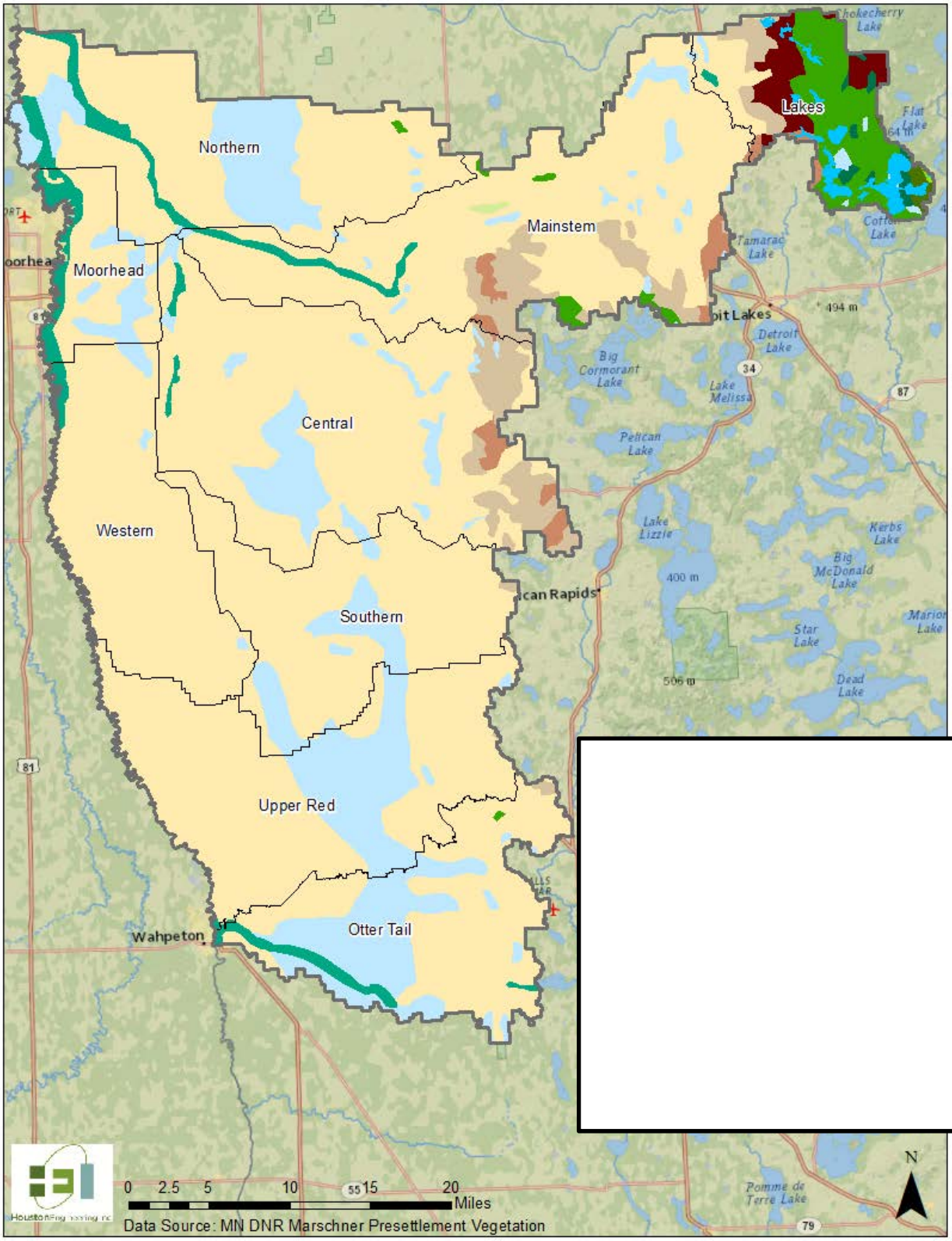

Figure 6: Pre-settlement Vegetation in the BRRW.

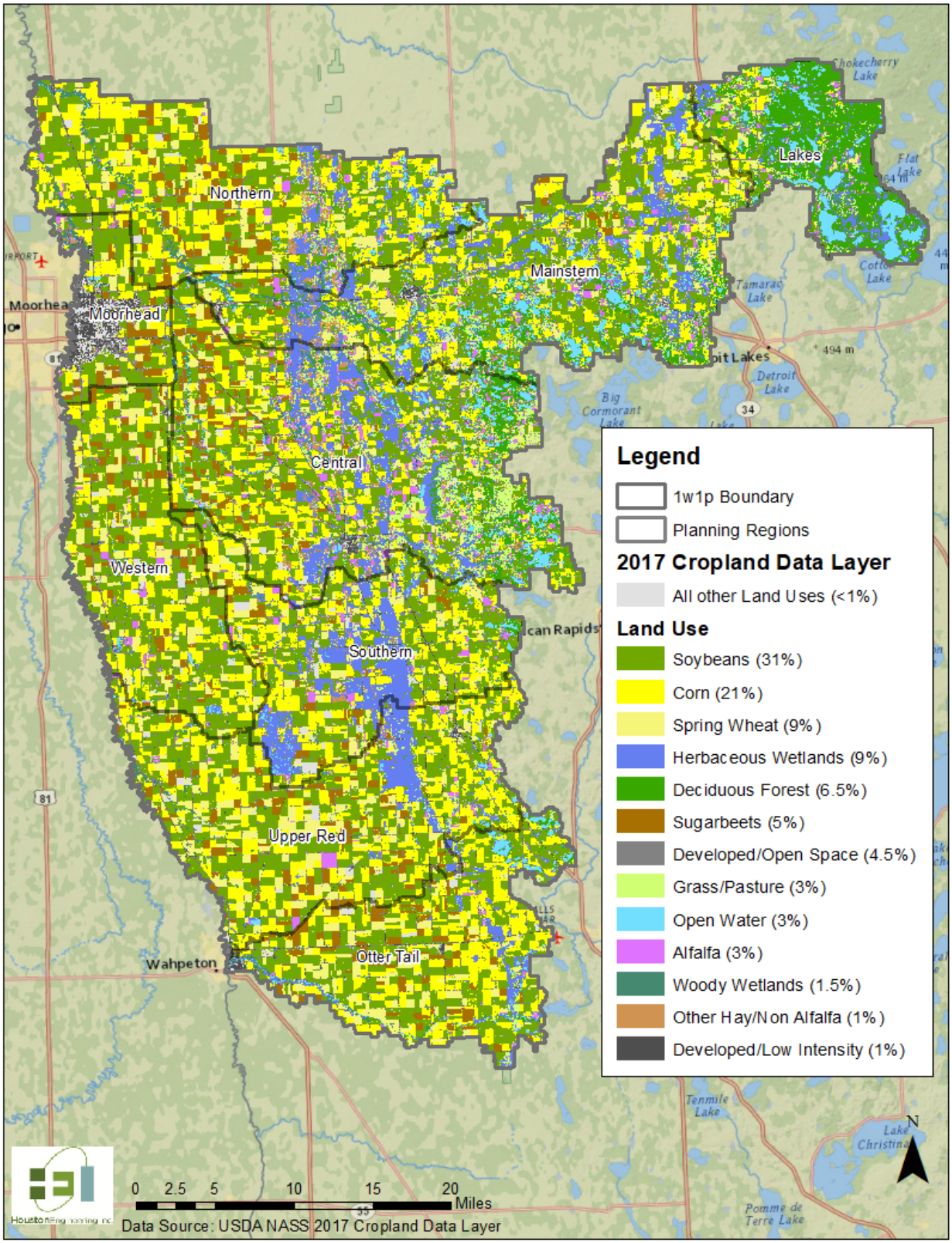

Figure 7: BRRW Land Use.

6. SURFACE WATERS

6.1 HYDROLOGIC POSITION

Generally, catchments in the BRRW can be considered headwater catchments due to relatively small acreage of upstream contributing drainage. The Otter Tail River flows in a westerly direction through the Orwell Dam at the southeastern extent of the BRRW and continues west and north to the confluence with the Bois des Sioux River at Wahpeton-Breckenridge. The Red River of the North originates from the confluence of these two rivers and flows north. The South Branch of the Buffalo River originates in the Southern Planning Region and joins the Buffalo River at the north end of the Central Planning Region. The Buffalo River originates from Tamarack Lake in the Lakes Planning Region and flows 139 miles in a westerly direction to its confluence with the Red River near Georgetown, MN at the northwest corner of the BRRW. Contributing drainage from the BRRW comprises some of the most upstream portions of the Red River Basin, which flows to Lake Winnipeg, then the Nelson River, before reaching Hudson Bay in Manitoba, Canada.

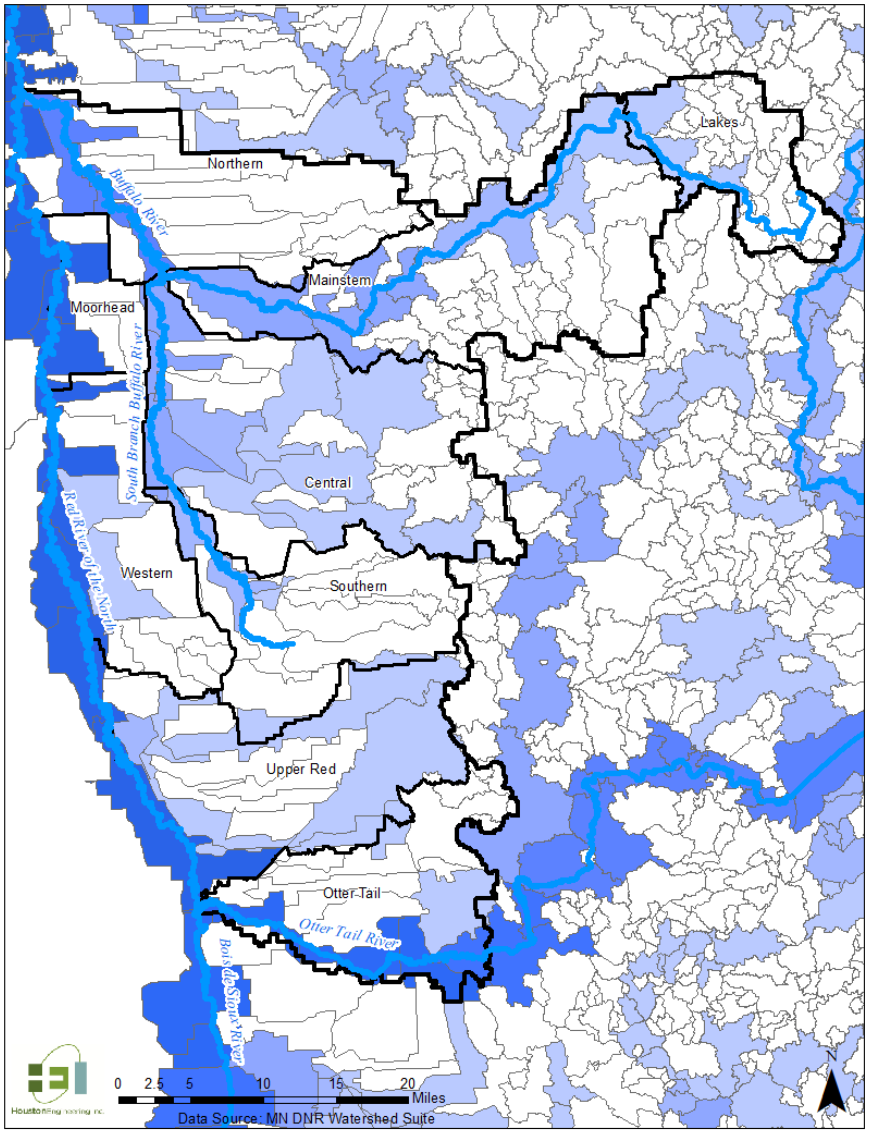

Figure 8: BRRW Hydrologic Position

6.2 STREAMS

The two branches of the Buffalo River traversing and draining the BRRW are the South Branch of the Buffalo River and the Buffalo River (**Figure 9**). The South Branch of the Buffalo River receives runoff from several important tributaries including Deerhorn Creek, Stony Creek, Hay Creek, and Whisky Creek. The watercourses consist of an intermingling of natural streams and public and private drainage systems. Most of the land traversed by the South Branch of the Buffalo River is characterized by low relief and is in agricultural production. The South Branch of the Buffalo River generally flows north to the Buffalo River. The Buffalo River flows generally to the west toward Lake Park and Hawley to the confluence with the South Branch of the Buffalo River, near Glyndon. The Buffalo River then flows in a northwesterly direction to the confluence with the Red River at Georgetown. Wolverton Creek is a relatively large area on the

western boundary of the BRRW and in the western portion of the BRRW, which flows directly to the Red River of the North, upstream from the Fargo-Moorhead Metropolitan Area (FMMA). The lower reach of the Otter Tail River flows generally west from Orwell Reservoir to its confluence with the Bois de Sioux River at the headwaters of the Red River. The Red River runs northerly and is the western boundary of the BRRW.

6.2.1 Water Quality

All streams within the BRRW are classified and assessed by the State of Minnesota (specifically the MPCA) relative to their beneficial uses and water quality (**Figure 9**). These uses include if stream water quality supports wildlife living in the streams (aquatic life), if stream water quality supports swimming, wading, and boating (aquatic recreation), and/or if water quality is sufficient to eat fish caught in streams and rivers (aquatic consumption) (MPCA, 2018). The protection of these uses is typically ensured by establishing water quality standards. These standards are generally numeric or narrative (i.e., describe a desired condition). Streams failing to attain the water quality standards and support their desired beneficial uses are considered "impaired". There are several streams within the BRRW that have been identified as being impaired by the MPCA. These are identified in **Figure 10**. The main stressor for riverine impairments is turbidity and excessive sediment. *E. coli* is also a prominent stressor for aquatic recreation impairments.

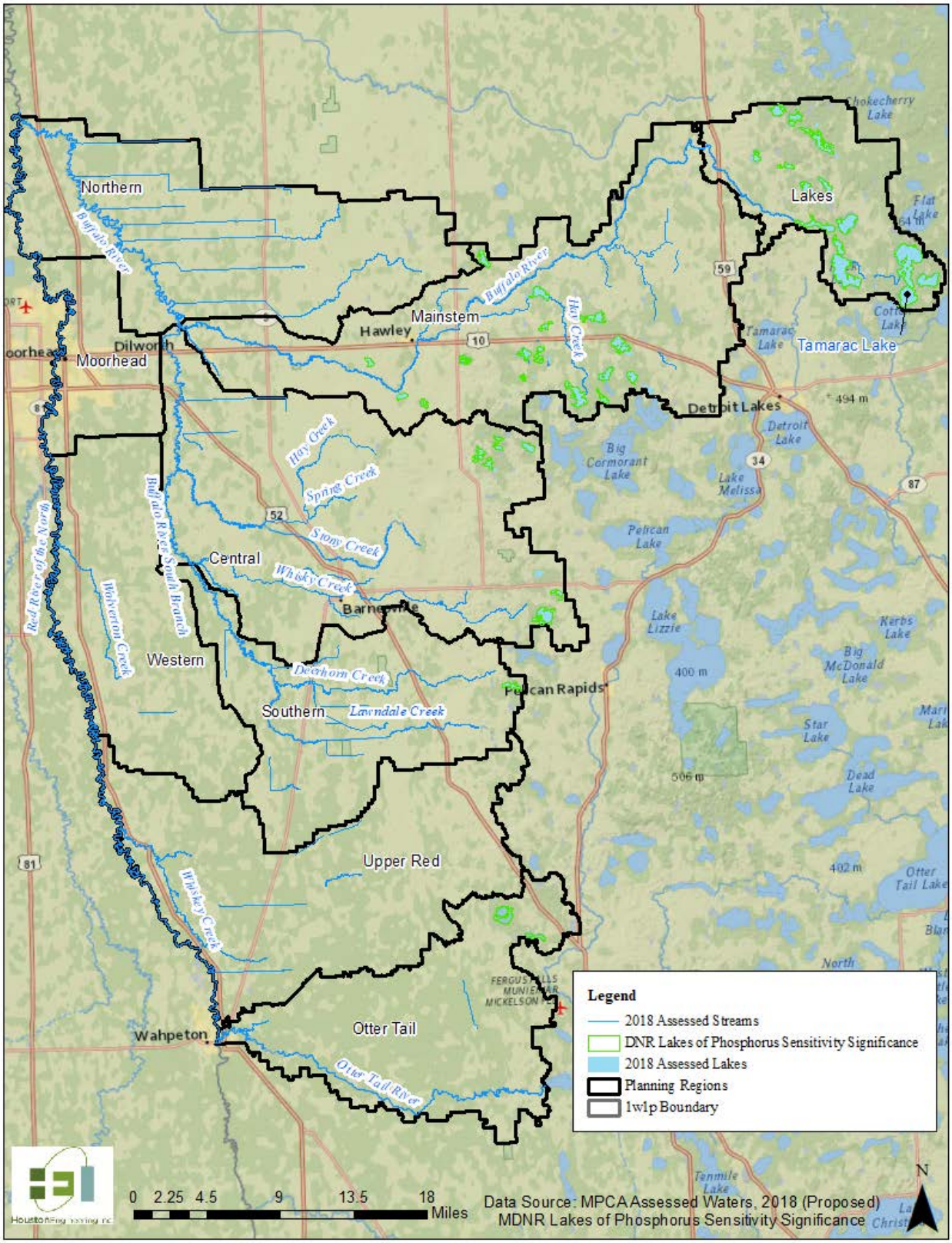

Figure 9: 2018 Assessed Waterbodies and MDNR Lakes of Phosphorus Sensitivity Significance in the BRRW.

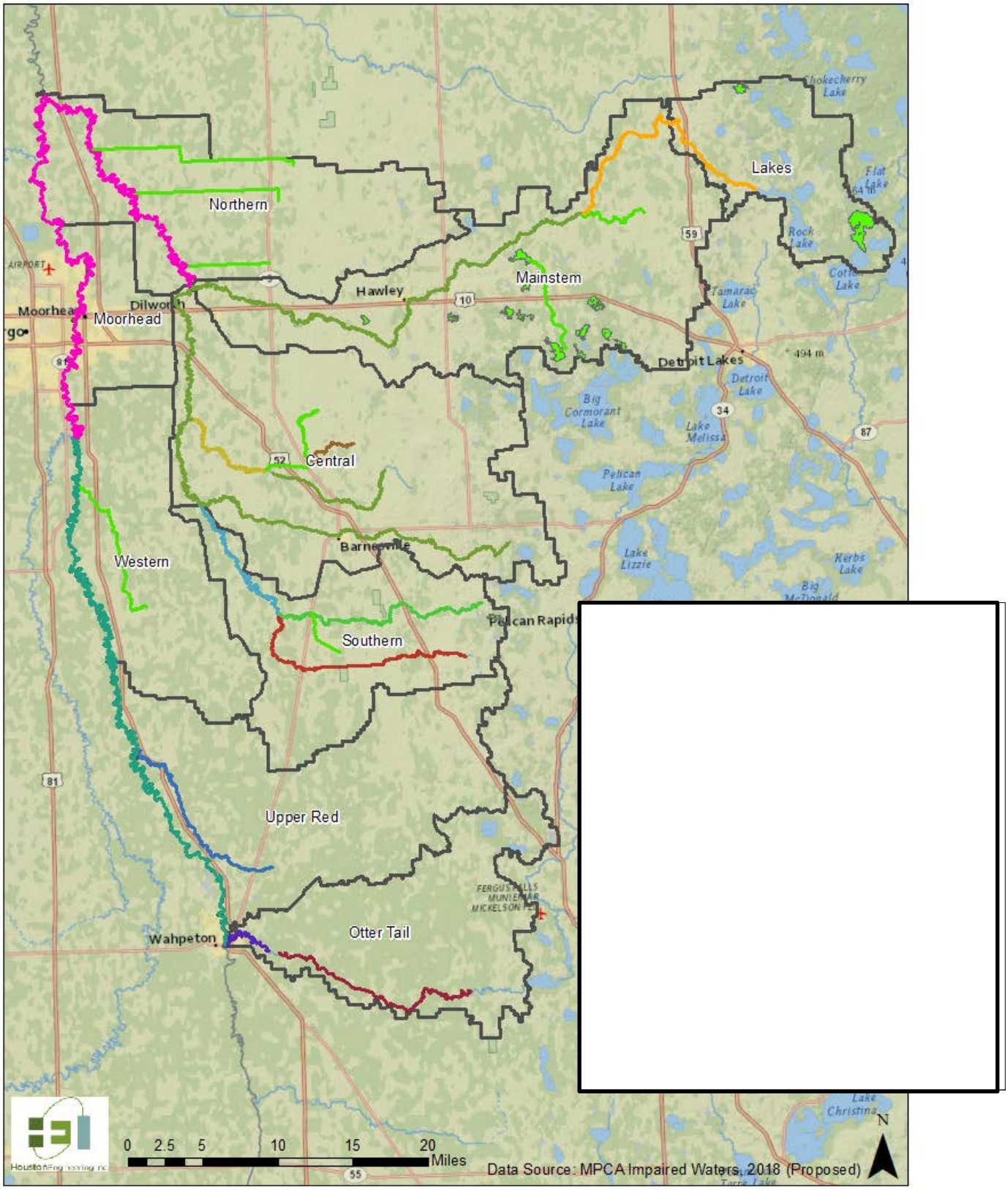

Figure 10: 2018 Proposed Impaired Waterbodies in the BRRW.

6.2.2 Water Quantity

Flood damage is one of the primary issues associated with surface waters in the Red River Valley area and the BRRW. Historically, flooding has caused a significant financial burden, particularly for the agricultural sector. Flooding is most severe in the western portion of the BRRW. Flooding results in financial damages as well as social and emotional damages that are more difficult to quantify. In general, the lake plain area is prone to flooding due to the flat landscape and channels that have relatively low capacities. The water from the portion of the watershed contributing to the lake plain area of the BRRW tends to release its runoff faster than the lake plain channels can carry it away. More recently, the BRRW has seen an increase in landlocked basin flooding in the beach ridge and morainal areas. **Figure 11** shows the Federal Emergency Management Area (FEMA) 100 and 500-year floodplains.

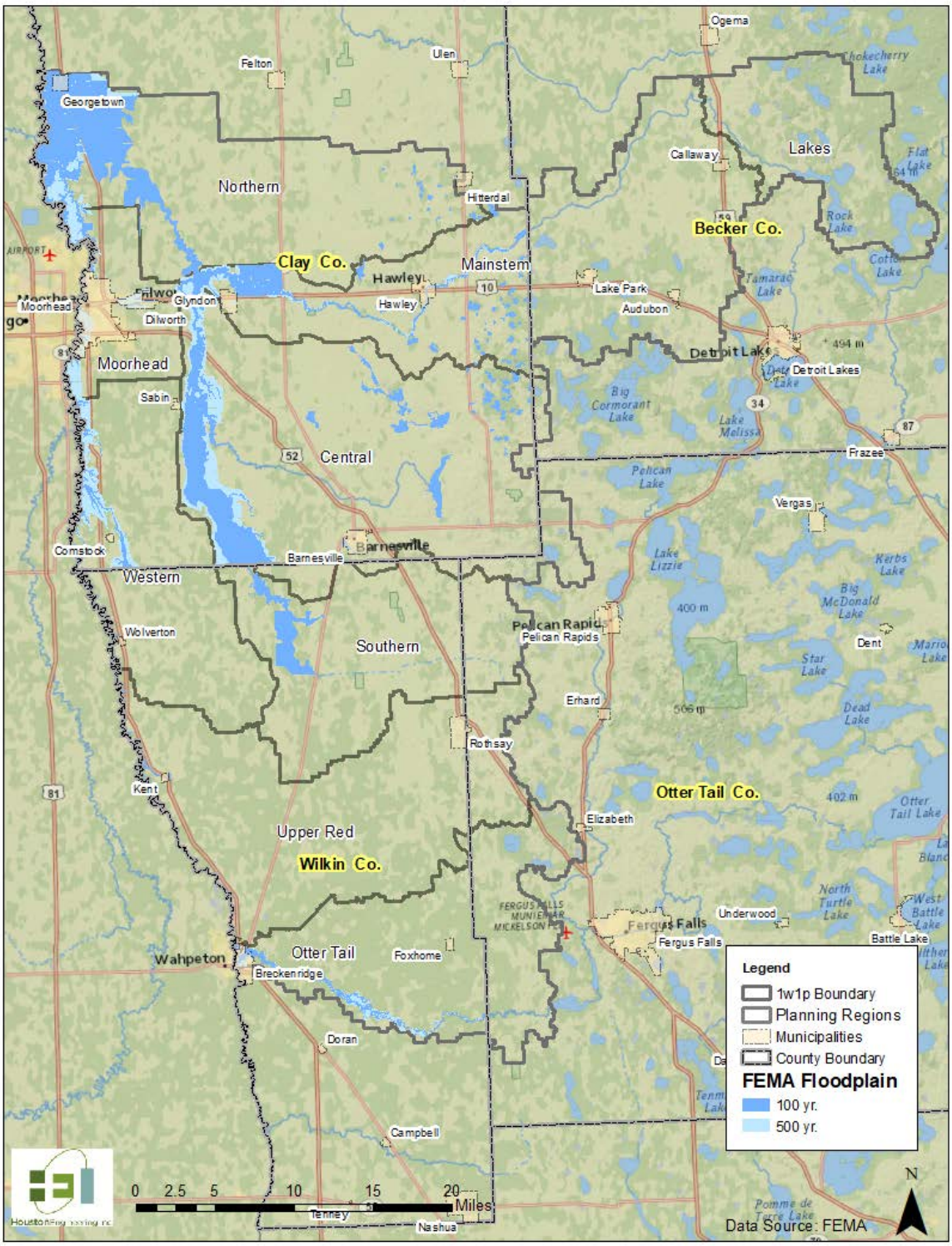

Figure 11: FEMA Floodplains in the BRRW.

6.3 LAKES

There are numerous lakes within the northeastern portion of the BRRW, at the headwaters of the Buffalo River, as well as in the general eastern portion (**Figure 9**). All of the lakes are essentially in Becker, Clay, and Otter Tail counties. The largest lake is Tamarac Lake, at 1,504 acres.

6.3.1 Water Quality

Similar to streams, lakes within the BRRW are also classified and assessed by the State of Minnesota (specifically the MPCA) relative to their beneficial uses and water quality (**Figure 9**). Additionally, the MDNR developed criteria to identify phosphorus sensitivity for lakes by predicting how much water clarity would be reduced with additional phosphorus loading to the lakes. A phosphorus sensitivity index was formulated to prioritize lakes relative to the MPCA's objective to protect high quality, unimpaired lakes at the greatest risk of becoming impaired (**Figure 9**).

Lake water quality is important to the residents of the BRRW. Area lakes are used for recreational opportunities, such as waterfowl hunting, fishing, and swimming. Many of these lakes also have homes along their shores, since they are a desirable place to recreate. Quality of lake water is, thus, important to the economic progress of the areas in the BRRW where many lakes are concentrated.

Increased demands on these water bodies, however, can lead to increased risk of water quality degradation. While there are varying degrees of reduced water quality, impacts can already be seen on some of the lakes in the BRRW. There are 17 lakes with nutrient impairments in the BRRW (**Figure 10**).

6.4 WETLANDS

Wetlands are common in the glacial moraine (Supraglacial Drift Complex) physiographic region, as well as in low areas between the beach ridges (**Figure 12**). These wetlands are either lacustrine, palustrine, or riverine types. At the present time, wetlands are virtually nonexistent in the lake plain (Lacustrine) physiographic region.

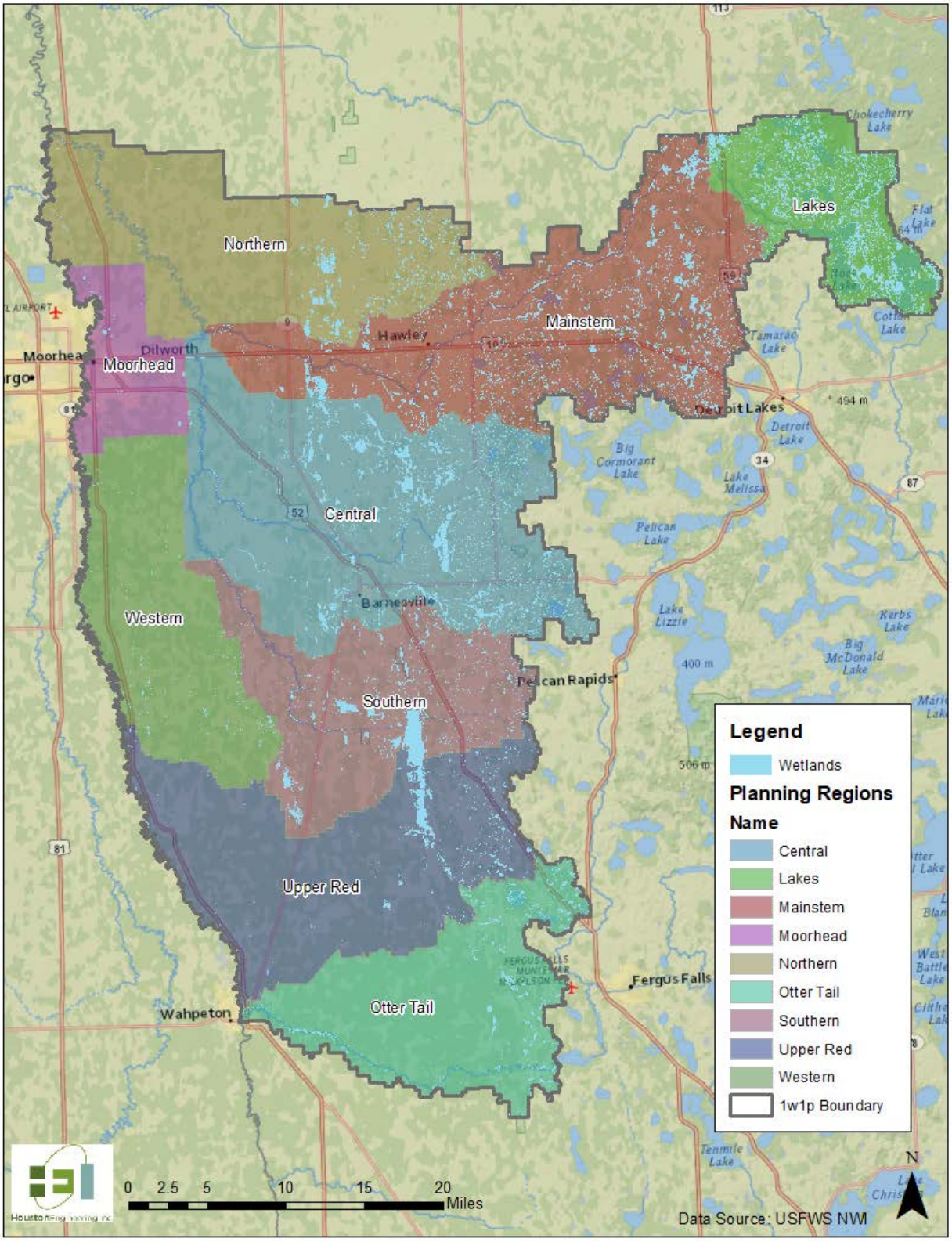

Figure 12: Wetlands in the BRRW.

6.5 Public Drainage Systems

There are numerous public and private drainage systems in the BRRW, specifically constructed since the early 1900's to provide agricultural drainage (**Figure 13**). The BRRWD has legal jurisdiction over all these ditch systems (except those in Otter Tail County), with the authority to approve proposed improvements to be made to the ditches. Most of these drainage systems are in the lake plain geomorphic region, since this area is flat, has poorly drained soils, and lacks a natural drainage network.

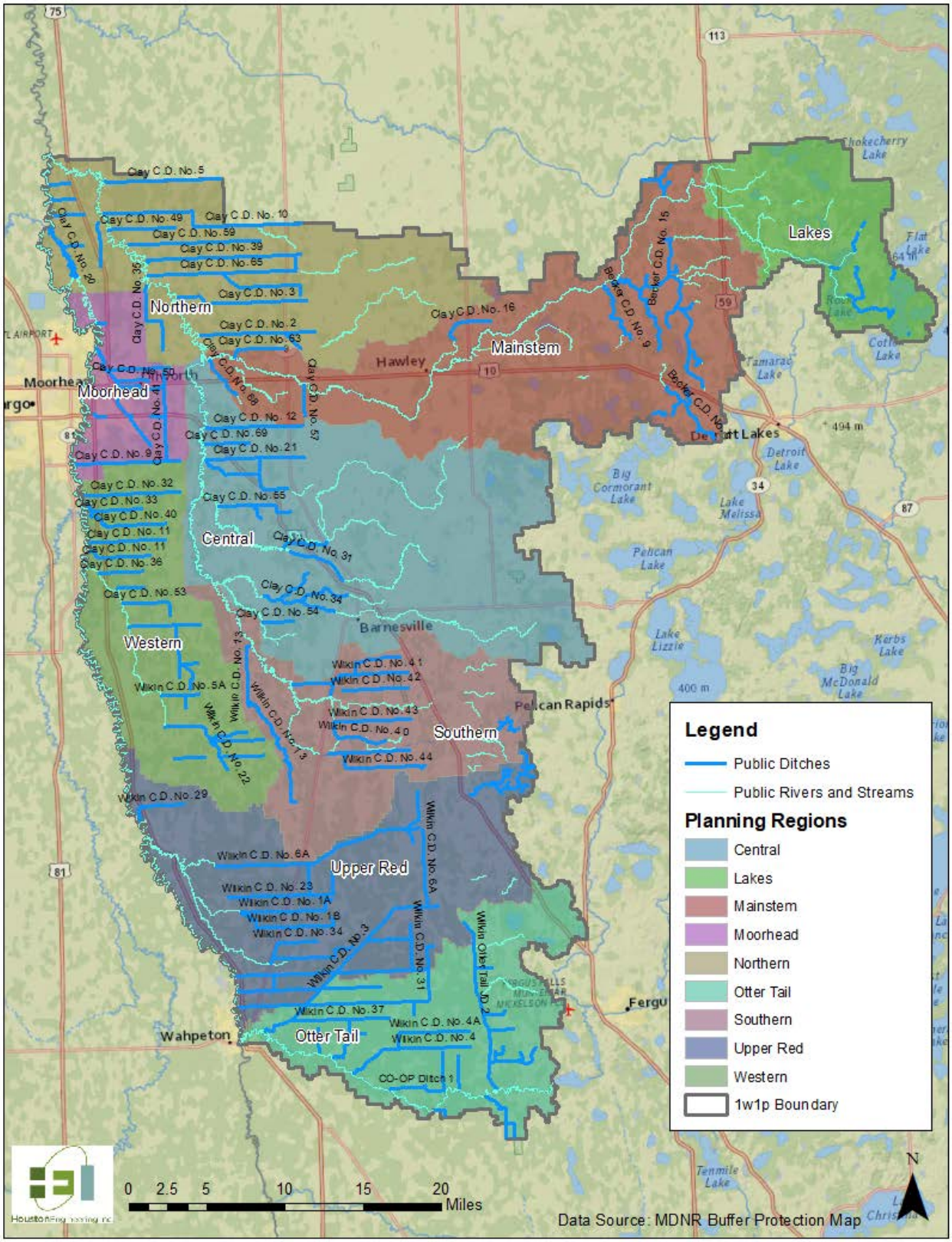

Figure 13: Public Ditch Systems in the BRRW.

6.6 Altered Hydrology

Altered hydrology is a term often referenced as a stressor for aquatic life impairments. Altered hydrology is commonly thought to be characterized by increases in peak discharge and runoff volume for a range of precipitation events, as compared to some historic or benchmark condition. Numerous studies have suggested that this hydrologic alteration is a result of some combination of climatic variation, land use/land cover changes, or other landscape scale changes. Aquatic habitat loss, increased streambank erosion and bank failure, and increased sediment levels are some of the suggested consequences of altered hydrology. Individually and collectively these are believed to lead to the impairment of aquatic life, exhibited by lower ecological diversity (Erickson, 2017).

Though no definitive benchmark or scientific consensus on metrics exists, the MPCA and MDNR qualitatively assess altered hydrology by whether or not a watercourse has been altered. Altered in this sense means channelized, ditched, or impounded. These alterations often reduce habitat complexity for aquatic life. The MPCA, in collaboration with MNGeo, developed a suite of Geographic Information Systems (GIS) methods for identifying altered hydrology statewide. **Figure 14** shows the results of this Minnesota Statewide Altered Watercourse Project.

In the BRRW, 52.3% (1,176 miles) of watercourses are altered, 0.4% (9 miles) are impounded, 27% (603 miles) are natural, and 20.3% (458 miles) have no definable channel. Most of the altered watercourses are the result of ditching in the lake plain and in the Otter Tail, Southern, and Upper Red Planning Regions. Significant amounts of altered watercourses are found in the upper reaches of the Mainstem Planning Region as well.

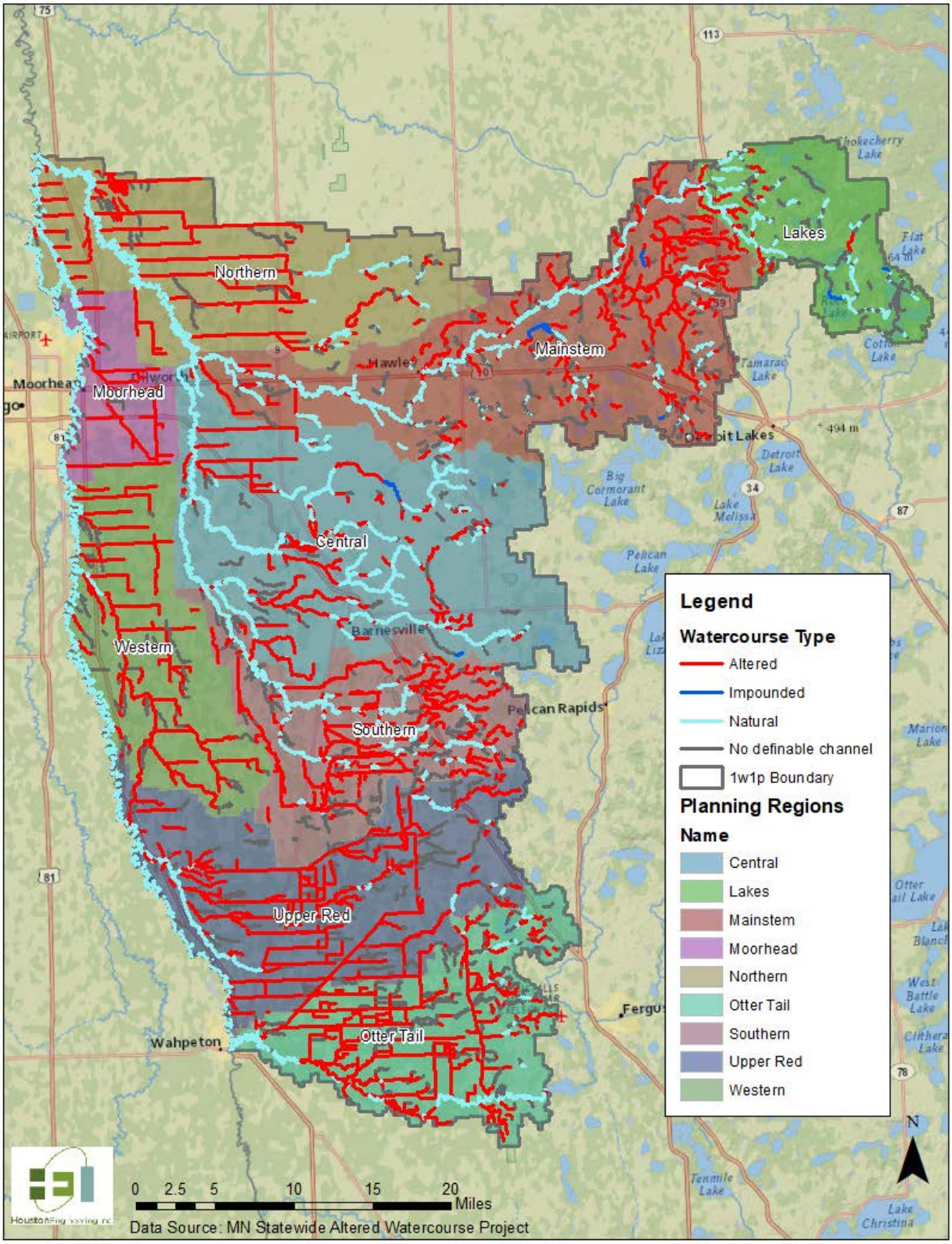

Figure 14: Altered and Natural Watercourses in the BRRW.

7. GROUNDWATER

The BRRW is located within the Western and Central Minnesota Groundwater Provinces. The Western province is comprised of clayey glacial drift overlying Cretaceous and Precambrian bedrock, which contain limited extents of sand and sandstone aquifers. The Central province contains sand aquifers in generally thick sandy and clayey glacial drift overlying Cretaceous and Precambrian bedrock. Aquifers are primarily in the beach ridge and lake plain areas (**Figure 15**). The major surficial aquifers are the Buffalo, Trojan, Wahpeton Buried Valley, and Pelican. The Buffalo aquifer is the most used aquifer system in the BRRW. There is also a system of deep aquifers in the BRRW, collectively known as the Cretaceous aquifer. The flow of these aquifer systems trends generally to the west and the Red River.

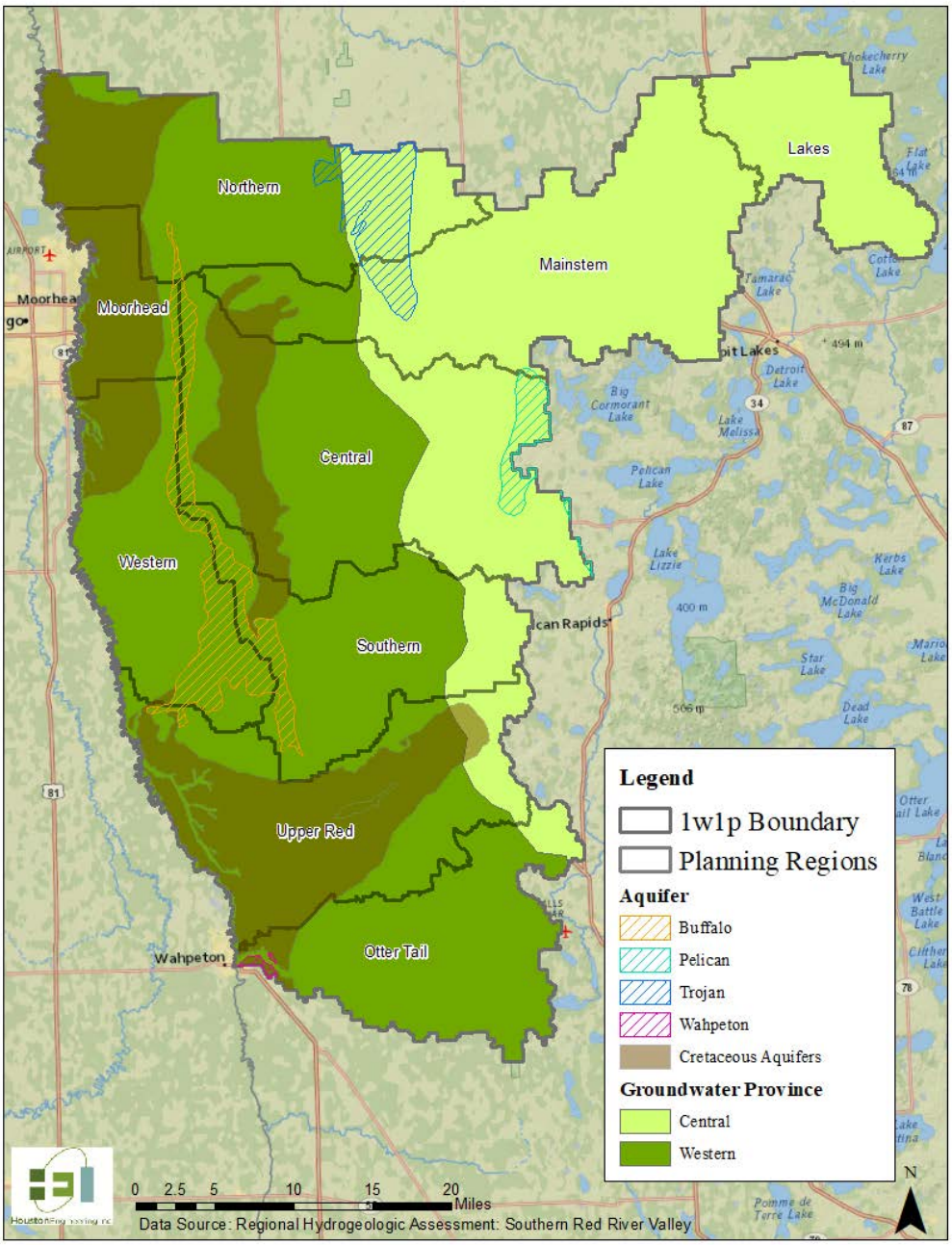

Figure 15: Groundwater Provinces and Major Aquifers in the BRRW.

7.1 Surface-Groundwater Interactions

A groundwater sensitivity study for shallow aquifers in the area was produced by the DNR, based upon the water table depths and soil textures (**Figure 16**). The beach ridge area has the highest sensitivity to pollution, followed by the glacial moraine area, and then the lake plain area. An exception to this is the area around the Buffalo aquifer, which is the principal source of groundwater supply for Moorhead, MN. Most of the moraine and beach ridge areas as well as the Buffalo aquifer in the BRRW are underlain by active near-surface groundwater systems. Most of the water in these systems is less than 50 years old

and interacts with processes occurring on the surface, including precipitation, runoff, evapotranspiration, interaction with lakes, rivers, and wetlands, and infiltration through the unsaturated zone. Inactive near-surface groundwater systems are found in the lake plain and scattered throughout the beach ridges and morainal areas. These systems may receive annual recharge, but water moves laterally, discharging into ditches, rivers, and streams. Though close to the surface, water in these systems is hundreds to thousands of years old.

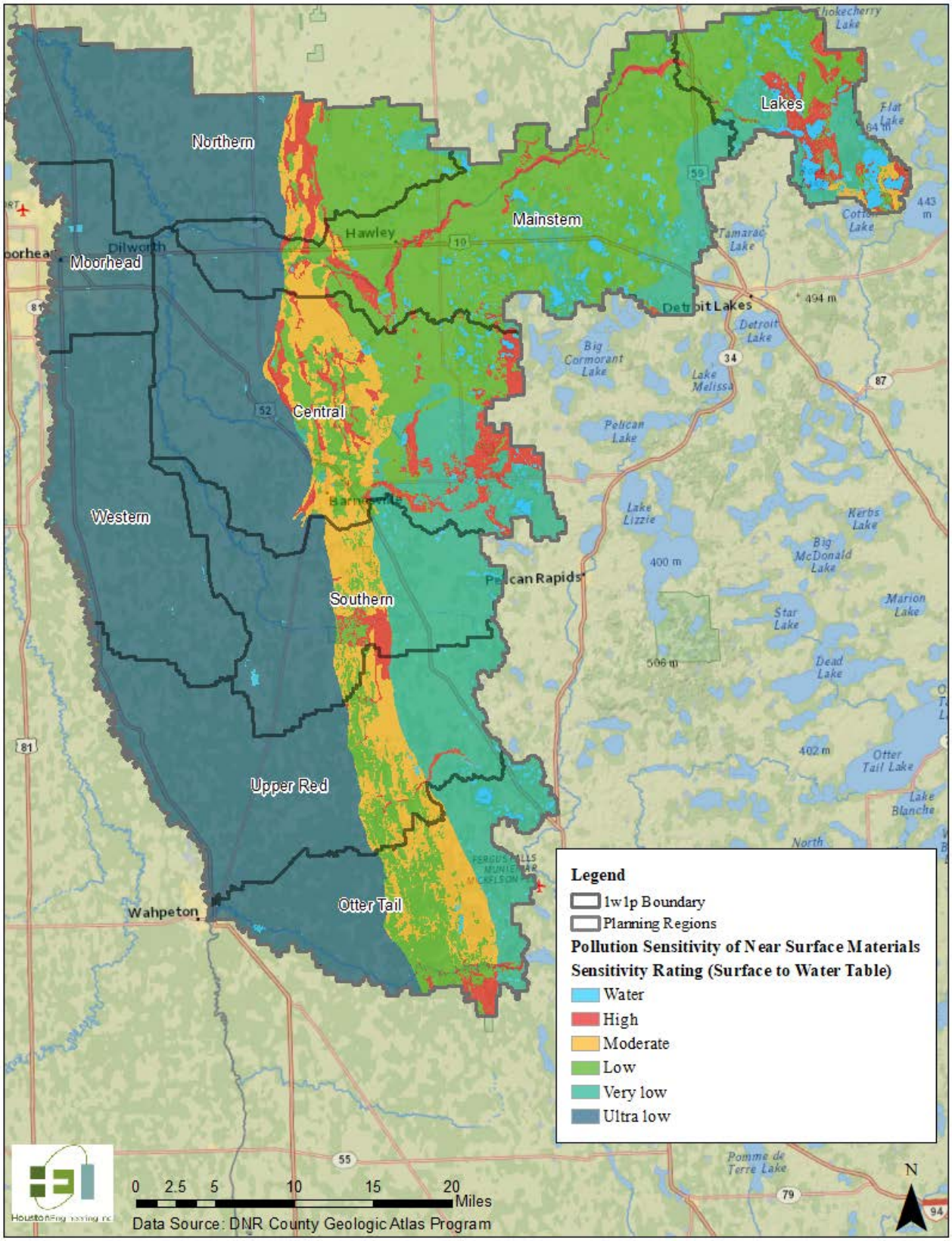

Figure 16: Groundwater Sensitivity in the BRRW.

7.2 WATER QUALITY

The Minnesota Department of Health (MDH) is the state agency tasked with the protection and regulation of ground and surface public drinking water supplies. To that end, in the Buffalo River watershed, the MDH is in the process of developing a Groundwater Restoration and Protection Strategies Report (GRAPs). Similar to the MPCA WRAPs, the GRAPs aims to integrate groundwater protection and restoration strategies into local water management planning. The Buffalo River watershed GRAPs is anticipated at the end of 2018.

Generally, groundwater quality in the BRRW is good. The main pollutant risks are arsenic, bacteria, and nitrates. **Figure 17** depicts arsenic concentrations in drinking water wells throughout the BRRW. Arsenic is a naturally occurring element that is detrimental to human health. Many wells across the watershed contain arsenic concentrations above the EPA standard of 10 micrograms per liter (ug/L).

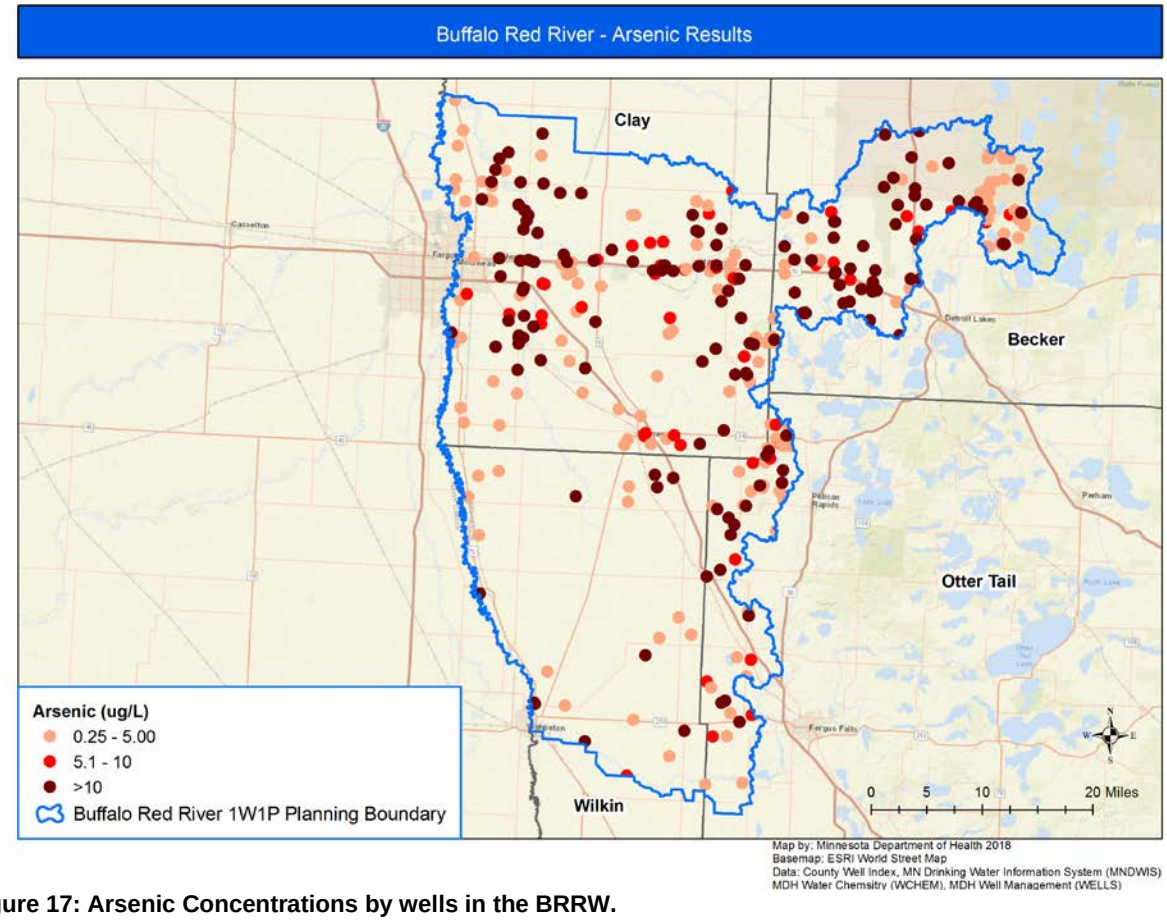

Figure 17: Arsenic Concentrations by wells in the BRRW.

Nitrate is another contaminant that poses a risk to human health, especially infants. Nitrate levels are typically well below the 10 mg/L EPA standard. Occurrence of the wells coincides with areas of low to moderate pollution sensitivity of near surface materials. Wells that exceed the standard are primarily in

the eastern extents of the BRRW, where pollution sensitivity is higher due to sandier soils and faster infiltration rates of surface water. **Figure 18** depicts nitrate concentrations of drinking water wells and coincidence with pollution sensitivity of near surface materials.

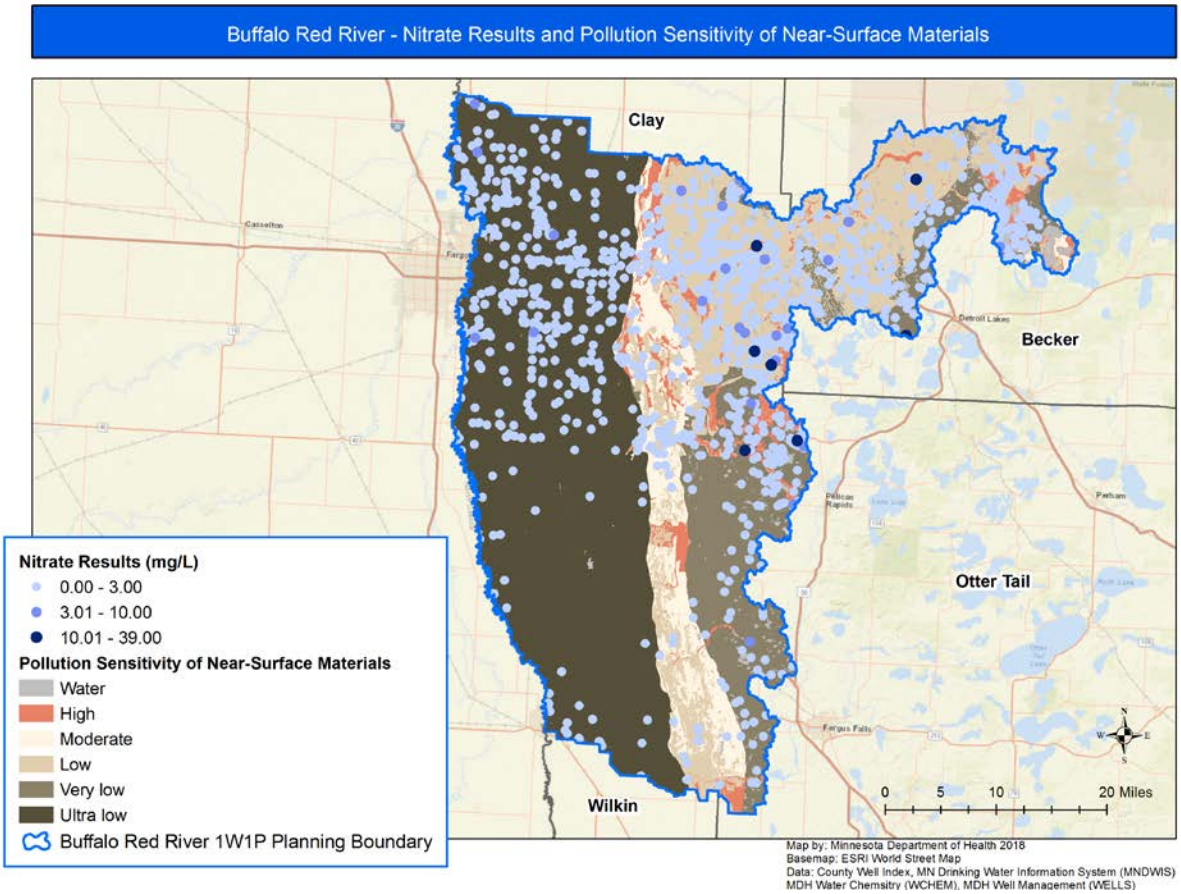

Figure 18: Nitrate Concentrations by wells in the BRRW.

8. WATER USE – SURFACE AND GROUNDWATER

Surface water and groundwater in the BRRW is used for municipal, industrial, and rural domestic water supplies. With the exception of Moorhead, public water supply systems in the BRRW are supplied from groundwater sources. The City of Moorhead also uses groundwater as a source for drinking water, but the largest source is from the Red River.

Wellhead protection is a way to prevent drinking water from becoming polluted by managing potential sources of contamination in the area that supplies water to a public well. The wellhead protection plan is a separate document from the source water assessment, and it is developed by the water system and its wellhead protection planning team. All groundwater-based community and nontransient noncommunity public water systems should have begun the wellhead protection planning process by 2006.

For communities with drinking water from surface water sources, a Source Water Management Area is often established. The City of Moorhead has completed a source water assessment that delineated three assessment areas. For emergency response (to address acute health issues) an inner source management area was defined to allow advance notice to the water plant operator for preparation of possible shutdown of the intake. For contaminants that are cumulative in their impact on drinking water users (chronic health issues), an outer source management area was delineated as an area that can be realistically managed so that positive results can be expected. The entire watershed is the remaining area that is managed for specifically identified source water concerns. For surface intakes, susceptibility is always high; for groundwater systems susceptibility can be high, medium or low depending on the protection that may exist due to soils and geology.

There are many agricultural users within the BRRW that draw water for irrigation purposes. The majority of this irrigation water is from groundwater sources. There are a few instances where some of the major streams in the BRRW, such as the Mainstem and South Branch of the Buffalo River, are used for irrigation. Water users that draw more than 10,000 gallons per day or 1 million gallons per year must obtain a permit from the MDNR. Water use sources, wellhead protection areas, and drinking water supply management areas are shown in **Figure 19**.

Figure 19: Ground and Surface Water Supply Uses in the BRRW.

9. STORMWATER AND POINT SOURCE MANAGEMENT

The National Pollutant Discharge Elimination System (NPDES) program is a nation-wide federal regulatory program stemming from the Clean Water Act. In Minnesota, this program is implemented by the MPCA. The NPDES program addresses point source discharges, including stormwater and related pollution, from various sources. The first phase of stormwater NPDES program (Phase I) focused on controlling pollution from industrial activities and included construction activities disturbing more than 5 acres and municipal separate storm sewer systems (MS4s) with populations greater than 100,000. NPDES permit sites are shown in **Figure 20**.

The second phase (Phase II) of this program, preliminarily initiated by the MPCA in 2003, was formalized in 2006. It built on Phase I by lowering the threshold for requiring stormwater permits for construction and municipal activities. The basis of the program is for permittees to complete a Storm Water Pollution Prevention Program (SWPPP). In all cases, BMPs are to be identified and implemented in order to minimize stormwater runoff impacts to receiving waters. The cities of Dilworth and Moorhead as well as Clay County are affected by this program. The BRRWD is also required to develop an SWPPP as it was identified in 2014 as an MS4 due to legal drainage flowing through the City of Moorhead. MS4s in the BRRW are shown in **Figure 20**.

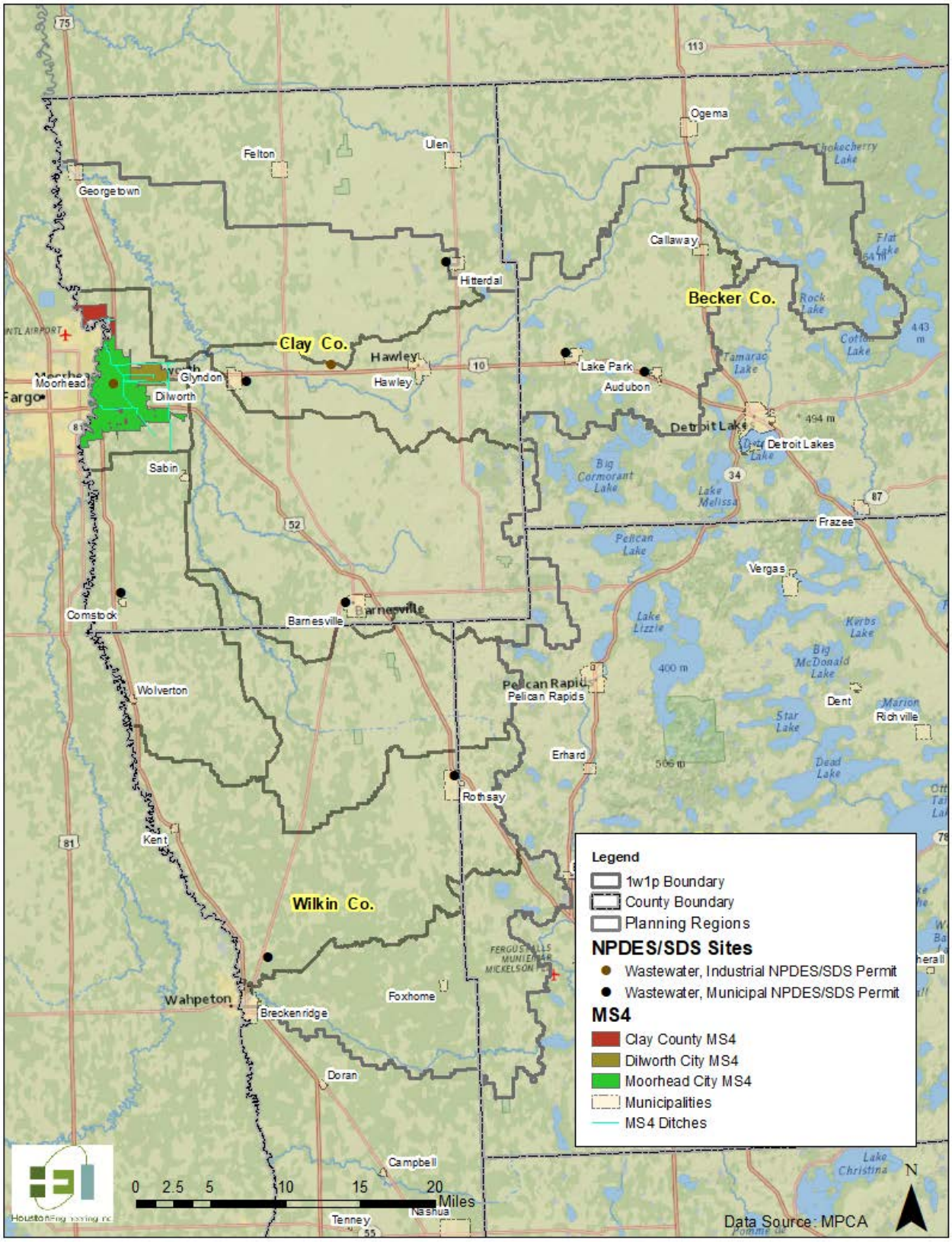

Figure 20: NPDES Sites and MS4s in the BRRW.

10. WATER-BASED RECREATION AREAS

Water-based recreation and tourism are important in the BRRW. The lakes area in the east provides opportunities for boating and fishing. Lake home development has grown considerably. Many recreational opportunities exist for hunting waterfowl in one of the many USFWS Waterfowl Production Areas (WPAs). Fishing opportunities exist in the lakes and the Otter Tail and Red Rivers for gamefish species. As designated state water trails, the Red River and Otter Tail River are also popular canoeing destinations. **Figure 21** depicts opportunities for water-based recreation in the BRRW.

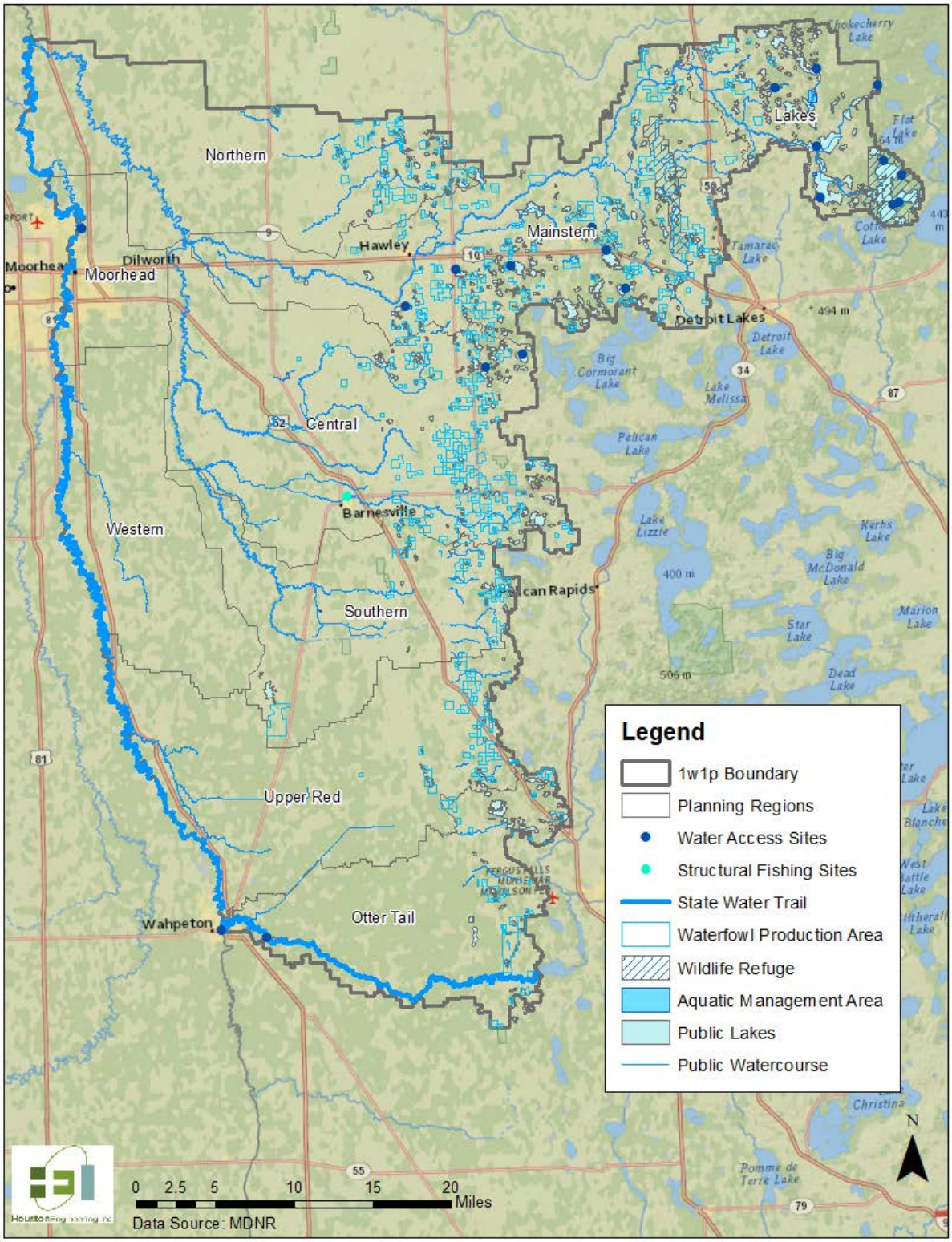

Figure 21: Water-based Recreation Areas in the BRRW.

11. FISH AND WILDLIFE HABITAT

Though land use in the BRRW is predominately agricultural, extents of prime fish and wildlife habitat can be found (**Figure 22**). The majority of the areas with biological significance, based on Minnesota County Biological Survey (MCBS) information, are in the central portion of the BRRW in the beach ridge geomorphic region due to the prairies, forests, and grasslands located there. There are a number of state-owned Wildlife Management Areas (WMAs) and federally controlled Waterfowl Production Areas (WPAs) throughout the BRRW. The BRRW also includes the Hamden Slough and Tamarac National Wildlife Refuges (NWR).

11.1 Rare and Endangered Species

Rare natural features (plants and animals) are scattered about the BRRW, but mostly focused in the key habitat areas previously discussed, and along water features (lakes, streams, and wetlands), and the riparian areas around these water features.

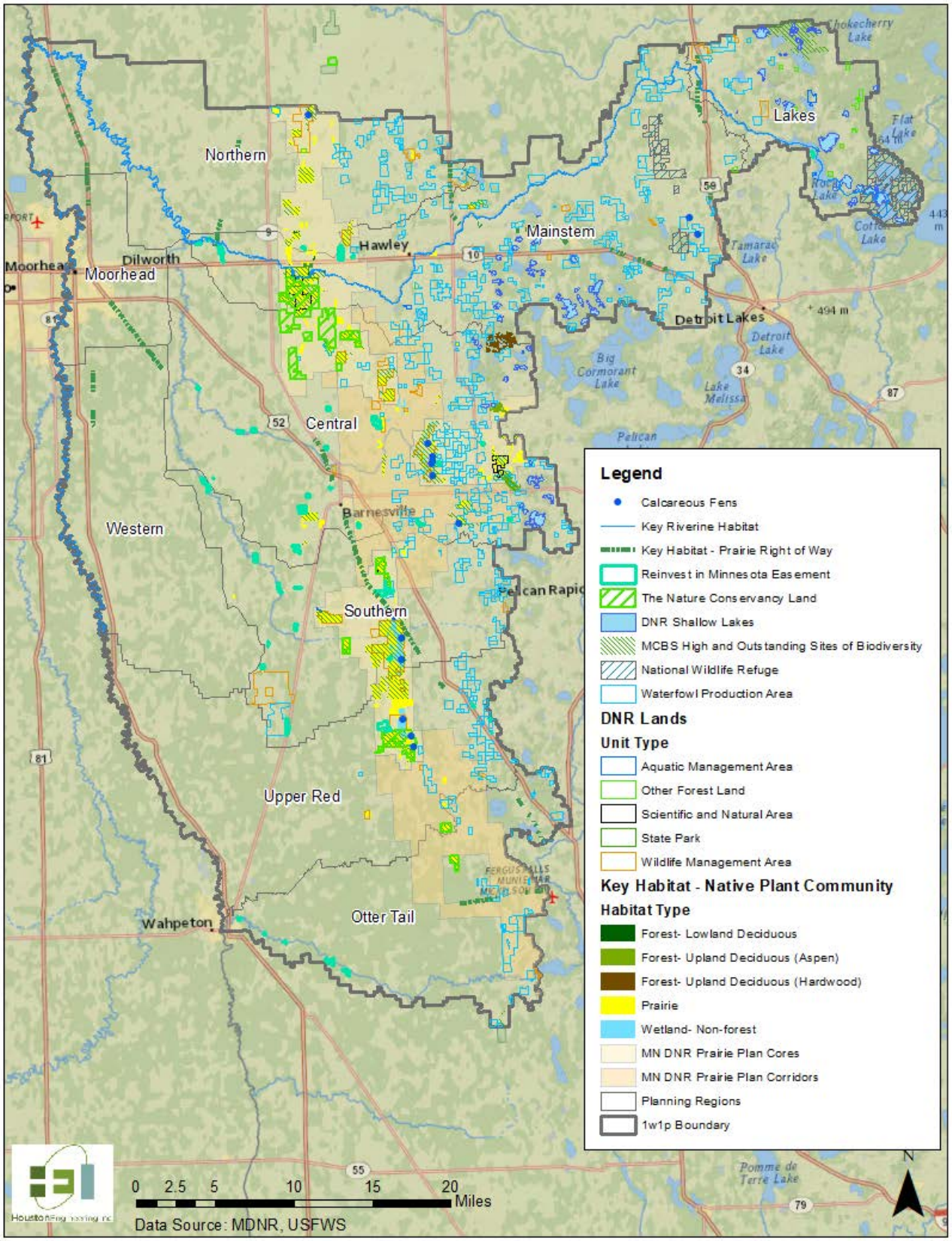

Figure 22: Fish and Wildlife Habitat in the BRRW.

12. SOCIOECONOMICS

12.1 Population and Trends

Population in the BRRW is concentrated primarily in the urban areas. The largest urban area is the City of Moorhead. The most recent population value (2010) for Moorhead is 38,065, which is up from 32,177 in 2000. In addition, population within rural areas has experienced a general decline since the 1960's, due to changes in farming practices and the difficulty of finding employment in small towns. Other areas of increasing growth within the BRRW are in the eastern region around the lakes. This is probably due to the increasing popularity of the lakes for vacation and retirement homes. Population increases are expected in the BRRW with most of future growth occurring in urban areas.

12.2 Economy and Trends

Agriculture, and its related economic activities, provides the primary force behind the economy of the BRRW. The farms throughout the District tend to be very large, concentrating on cash crops rather than on livestock production. Principal crops grown in the BRRW include small grain, soybeans, sunflowers, sugar beets, corn, and potatoes.

Stands of forest exist in the eastern portion of the BRRW. The White Earth State Forest is partly within the BRRW. An active harvest of timber for the pulp wood industry exists, and sawmills are operated on an all-season basis.

Processing and manufacturing industries are generally located in the BRRW's primary urban center - Moorhead. Moorhead's urban economy is dependent upon agriculture, for many of the businesses are concerned with either processing agricultural products or in selling equipment, seeds, and fertilizers to the farmers. Other industries in Moorhead include wholesale and retail trade, insurance and banking, construction, transportation, and communications, government, public utilities, health facilities, and education.

The education industry is especially important to Moorhead and the BRRW. Young people from all over the area are attracted by Minnesota State University - Moorhead, Concordia College, and the Moorhead Area Vocational Technical Institute. The economic effect of these institutions is noticeable.

12.3 Land Ownership and Trends

Land ownership in the BRRW follows land use and is approximately 94% private, with the largest landholdings in agriculture (**Figure 23**). Notable landowners include R.D. Offutt Company, FSD Partnership and The Nature Conservancy. Public lands comprise approximately 5% of the BRRW, with the US Fish and Wildlife Service holding significant tracts in WPAs and two wildlife refuges. The state of Minnesota also has a significant land investment in the form of WMAs and forest land. The White Earth Tribe has land (<1%) in the northeastern extent of the BRRW. As agriculture continues to be a primary

economic driver and urban, suburban and lakes country development increases, private ownership will likely continue to be the dominant ownership class in the BRRW.

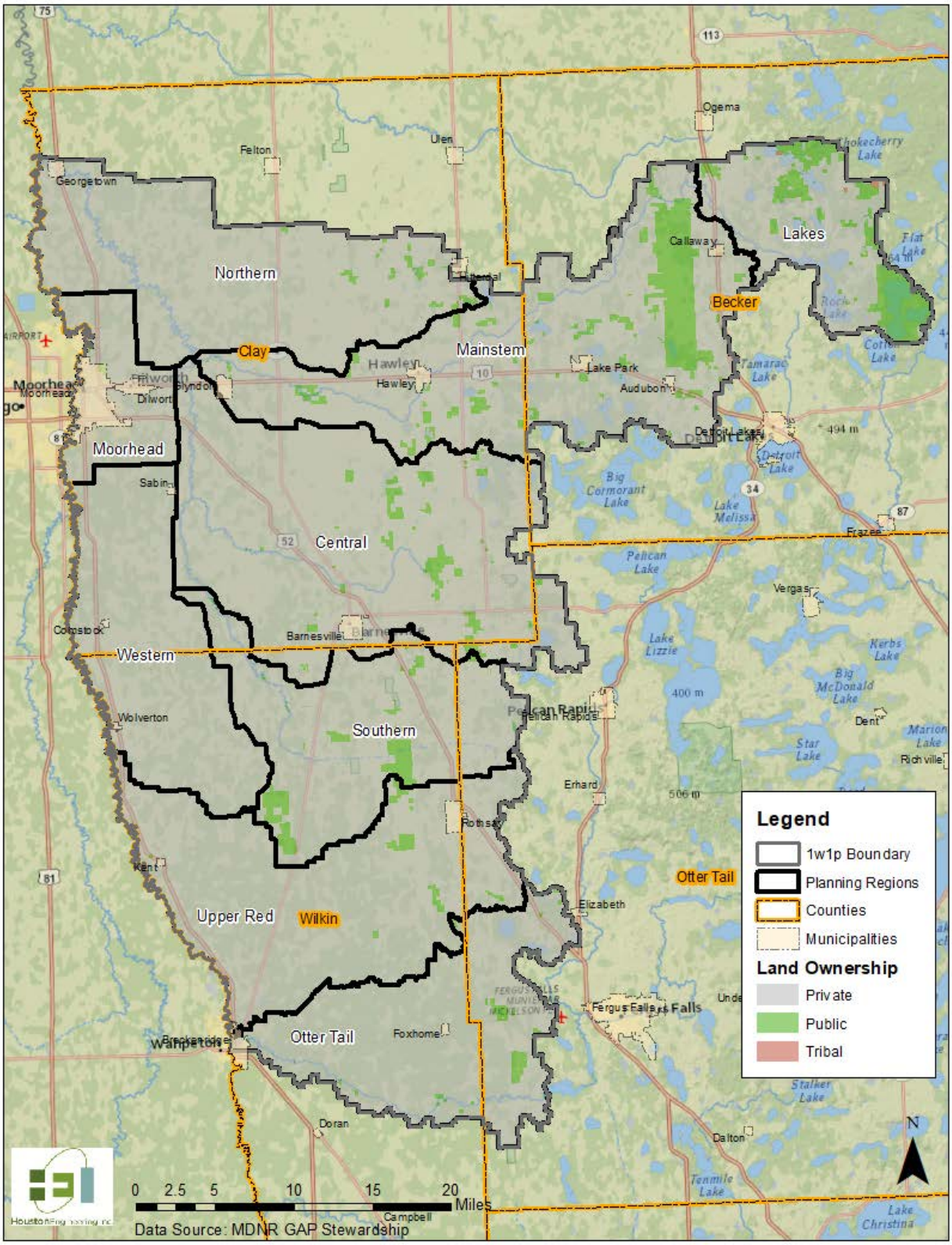

Figure 23: Land Ownership in the BRRW.

13. ADDITIONAL WATERSHED INFORMATION

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APPENDIX B

Planning Memorandum of Agreement

MEMORANDUM OF AGREEMENT

This agreement (Agreement) is made and entered into by and between:

The Counties of Becker, Clay, Otter Tail, and Wilkin by and through their respective County Board of Commissioners, and

The Becker, Clay, West Otter Tail and Wilkin Soil and Water Conservation Districts, by and through their respective Soil and Water Conservation District Board of Supervisors, and

The Buffalo-Red River Watershed District, by and through its respective Board of Managers,

Collectively referred to as the "Parties."

WHEREAS, the Counties of this Agreement are political subdivisions of the State of Minnesota, with authority to carry out environmental programs and land use controls, pursuant to Minnesota Statutes Chapter 375 and as otherwise provided by law; and

WHEREAS, the Soil and Water Conservation Districts (SWCDs) of this Agreement are political subdivisions of the State of Minnesota, with statutory authority to carry out erosion control and other soil and water conservation programs, pursuant to Minnesota Statutes Chapter 103C and as otherwise provided by law; and

WHEREAS, the Watershed District of this Agreement is a political subdivision of the State of Minnesota, with statutory authority to carry out conservation of the natural resources of the state by land use controls, flood control, and other conservation projects for the protection of the public health and welfare and the provident use of the natural resources, pursuant to Minnesota Statutes Chapters 103B, 103D and as otherwise provided by law; and

WHEREAS, the parties to this Agreement have a common interest and statutory authority to prepare, adopt, and assure implementation of a comprehensive watershed management plan in the Buffalo-Red River Watershed to conserve soil and water resources through the implementation of practices, programs, and regulatory controls that effectively control or prevent erosion, sedimentation, siltation and related pollution in order to preserve natural resources, ensure continued soil productivity, protect water quality, reduce damages caused by floods, preserve wildlife, protect the tax base, and protect public lands and waters; and

WHEREAS, with matters that relate to coordination of water management authorities pursuant to Minnesota Statutes Chapters 103B, 103C, and 103D with public drainage systems pursuant to Minnesota Statutes Chapter 103E, this Agreement does not change the rights or obligations of the public drainage system authorities.

WHEREAS, the Parties have formed this Agreement for the specific goal of developing a plan pursuant to Minnesota Statutes § 103B.801, Comprehensive Watershed Management Planning, also known as *One Watershed, One Plan*.

NOW, THEREFORE, the Parties hereto agree as follows:

1. **Purpose:** The Parties to this Agreement recognize the importance of partnerships to plan and implement protection and restoration efforts for the Buffalo-Red River Watershed (See Land Area as shown on map in Attachment A). The purpose of this Agreement is to collectively develop and adopt, as local

government units, a coordinated watershed management plan for implementation per the provisions of the Plan. Parties signing this agreement will be collectively referred to as Buffalo-Red 1W1P LGUs.

2. **Term:** This Agreement is effective upon signature of all Parties in consideration of the Board of Water and Soil Resources (BWSR) Operating Procedures for One Watershed, One Plan; and will remain in effect until adoption of the plan by all parties, unless canceled according to the provisions of this Agreement or earlier terminated by law.

3. **Adding Additional Parties:** A qualifying party desiring to become a member of this Agreement shall indicate its intent by adoption of a board resolution prior to *1/31/2018*. The party agrees to abide by the terms and conditions of the Agreement; including but not limited to the bylaws, policies and procedures adopted by the Policy Committee.

4. **Withdrawal of Parties:** A party desiring to leave the membership of this Agreement shall indicate its intent in writing to the Policy Committee in the form of an official board resolution. Notice must be made at least 30 days in advance of leaving the Agreement.

5. **General Provisions**:

    a. **Compliance with Laws/Standards:** The Parties agree to abide by all federal, state, and local laws; statutes, ordinances, rules and regulations now in effect or hereafter adopted pertaining to this Agreement or to the facilities, programs, and staff for which the Agreement is responsible.

    b. **Indemnification:** Each party to this Agreement shall be liable for the acts of its officers, employees or agents and the results thereof to the extent authorized or limited by law and shall not be responsible for the acts of any other party, its officers, employees or agents. The provisions of the Municipal Tort Claims Act, Minnesota Statute Chapter 466 and other applicable laws govern liability of the Parties. To the full extent permitted by law, actions by the Parties, their respective officers, employees, and agents pursuant to this Agreement are intended to be and shall be construed as a "cooperative activity." It is the intent of the Parties that they shall be deemed a "single governmental unit" for the purpose of liability, as set forth in Minnesota Statutes § 471.59, subd. 1a(a). For purposes of Minnesota Statutes § 471.59, subd. 1a(a) it is the intent of each party that this Agreement does not create any liability or exposure of one party for the acts or omissions of any other party.

    c. **Records Retention and Data Practices:** The Parties agree that records created pursuant to the terms of this Agreement will be retained in a manner that meets their respective entity's records retention schedules that have been reviewed and approved by the State in accordance with Minnesota Statutes § 138.17. The Parties further agree that records prepared or maintained in furtherance of the agreement shall be subject to the Minnesota Government Data Practices Act. At the time this agreement expires, all records will be turned over to the Buffalo-Red River Watershed District for continued retention.

    d. **Timeliness:** The Parties agree to perform obligations under this Agreement in a timely manner and keep each other informed about any delays that may occur.

e. **Extension:** The Parties may extend the termination date of this Agreement upon agreement by all Parties.

f. **Termination:** The Parties anticipate that this Agreement will remain in full force and effect through the term of the grant agreement with BWSR and until cancelled by all parties or until 1/31/2020 consistent with the term of the grant agreement, unless otherwise terminated in accordance with law or other provisions of the Agreement.

6. **Administration:**

a. **Establishment of Committees for Development of the Plan.** The Parties agree to designate one representative, who must be an elected or appointed member of the governing board, to a Policy Committee for development of the watershed-based plan and may appoint of one or more technical representatives to an Advisory Committee for development of the plan in consideration of the BWSR Operating Procedures for One Watershed, One Plan.

i. The Policy Committee will meet as needed to decide on the content of the plan, serve as a liaison to their respective boards, and act on behalf of their Board. Each representative shall have one vote.

ii. Each governing board may choose one alternate to serve on the Policy Committee as needed in the absence of the designated member.

iii. The Policy Committee will establish bylaws within 90 days of execution of this document to describe the functions and operations of the committee(s).

iv. The Advisory Committee will meet monthly or as needed to assist and provide technical support and make recommendations to the Policy Committee on the development and content of the plan. Members of the Advisory Committee may not be a current board member of any of the Parties.

b. **Submittal of the Plan.** The Policy Committee will recommend the plan to the Parties of this agreement. The Policy Committee will be responsible for initiating a formal review process for the watershed-based plan conforming to Minnesota Statutes Chapters 103B and 103D, including public hearings. Upon completion of local review and comment, and approval of the plan for submittal by each party, the Policy Committee will submit the watershed-based plan jointly to BWSR for review and approval.

c. **Adoption of the Plan.** The Parties agree to adopt and begin implementation of the plan within 120 days of receiving notice of state approval, and provide notice of plan adoption pursuant to Minnesota Statutes Chapters 103B and 103D.

7. **Fiscal Agent:** Buffalo-Red River Watershed District will act as the fiscal agent for the purposes of this Agreement and agrees to:

a. Accept all responsibilities associated with the implementation of the BWSR grant agreement for developing a watershed-based plan.

b. Perform financial transactions as part of grant agreement and contract implementation.

c. Annually provide a full and complete audit report.

d. Provide the Policy Committee and other applicable committees and the grant administrator with the records necessary to describe the financial condition of the BWSR grant agreement.

e. Retain fiscal records consistent with the agent's records retention schedule until termination of the agreement (at that time, records will be turned over to Buffalo-Red River Watershed District.

8. **Grant Administration**: Buffalo-Red River Watershed District will act as the grant administrator for the purposes of this Agreement and agrees to provide the following services:

   a. Accept all day-to-day responsibilities associated with the implementation of the BWSR grant agreement for developing a watershed-based plan, including being the primary BWSR contact for the *One Watershed, One Plan* Grant Agreement and being responsible for BWSR reporting requirements associated with the grant agreement.

   b. Provide the Policy Committee with the records necessary to describe the planning condition of the BWSR grant agreement.

9. **Authorized Representatives:** The following persons will be the primary contacts for all matters concerning this Agreement:

Becker County
Barry Nelson
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12972 Co Hwy 11
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bknelso@co.becker.mn.us

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Clay SWCD
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randyschellack@yahoo.com

Otter Tail County (alternate)
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County Commissioner
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Telephone: 218-770-8864
jmlind@prtel.com

West Otter Tail SWCD (alternate)
Julian Sjostrom
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Telephone: 218-863-7785
jasjos@loretel.net

Becker SWCD (Alternate)
Travis Schaver
District Supervisor
11720 CO RD 146
Lake Park, MN 56554-9662
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Travisschaver@yahoo.com

Buffalo-Red River Watershed District (alternate)
Peter Fjestad
Vice Chair
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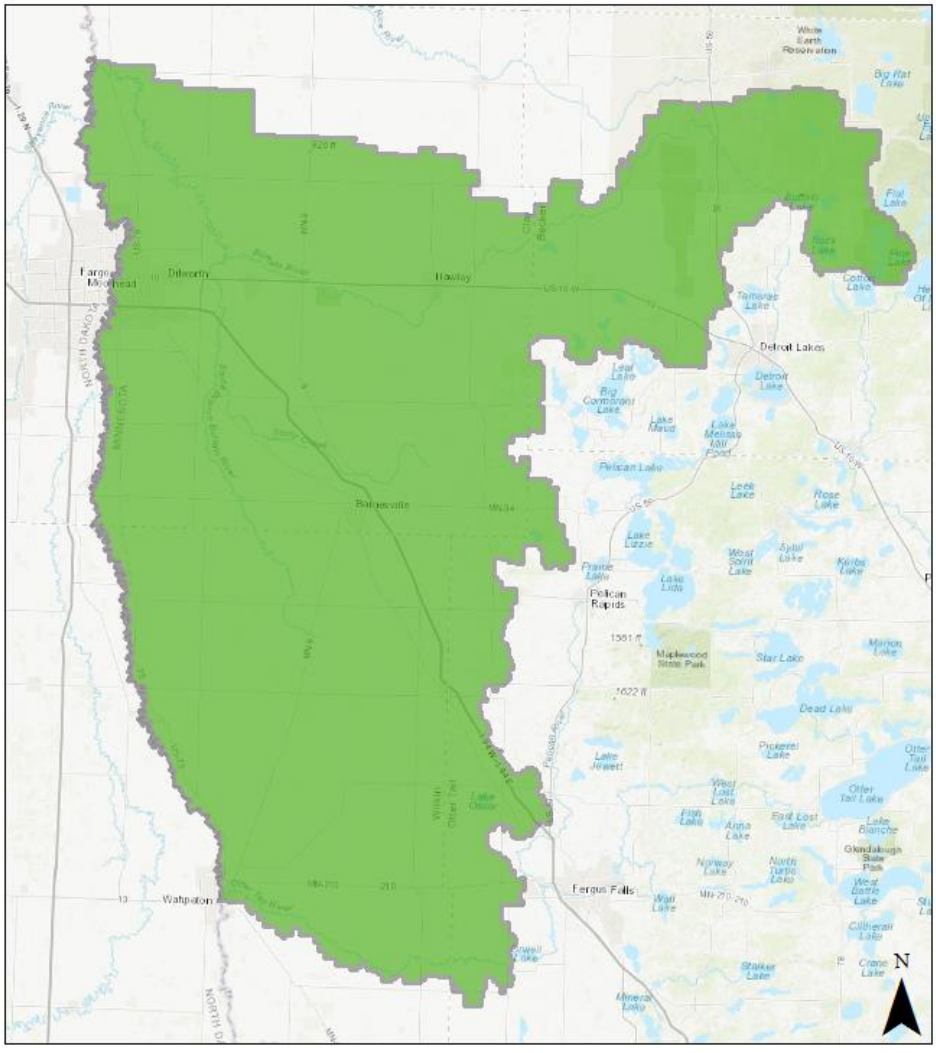
Fergus Falls, MN 56537
Telephone: 218-731-4630
pfjestad@prtel.com

Attachment A



0 3.75 7.5 15 22.5 30 Miles

Buffalo-Red River 1W1P Planning Boundary

Attachment B

Scope of Services Provided by

Buffalo-Red River Watershed District

The Buffalo-Red River Watershed District will have the following duties:

1. Identifying potential contracted service providers for process facilitation, plan writing, GIS, mapping, data analysis, monitoring activities, or any other technical services needed throughout the process.

2. Ensure that goals, objectives, and action items of the plan produced are prioritized, targeted, and measurable.

3. Assist with data compilation, meeting facilitation, and plan writing.

4. Upon review and approval by the Policy Committee, establishing and managing contracted services for above mentioned activities.

5. Coordination of Policy Committee meetings, including establishing date, location, time, and any necessary accommodations such as refreshments.

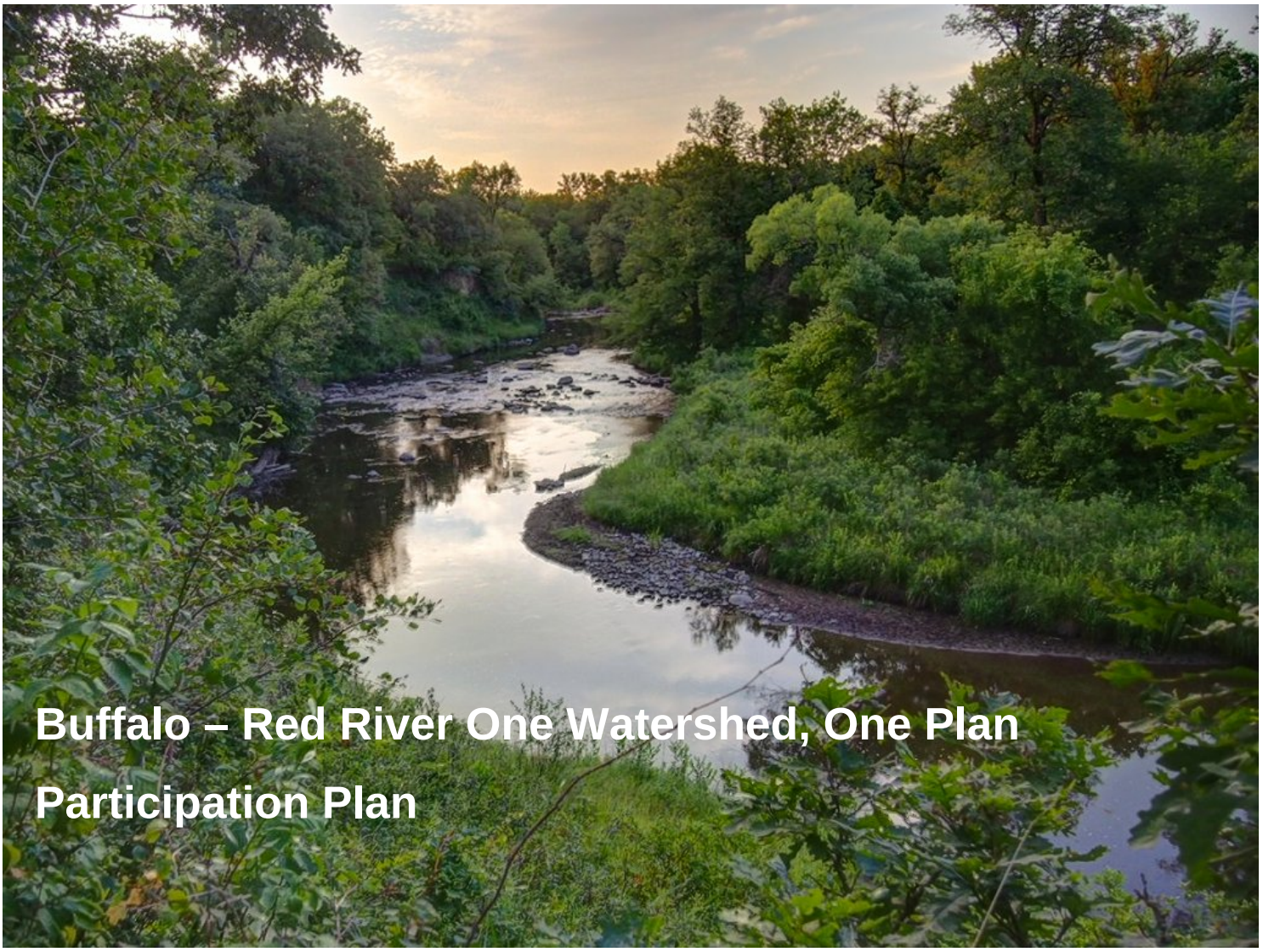
6. Coordination and facilitation of Advisory Committee meetings including establishing date, location, time, space, technology needs, and any necessary accommodations such as refreshments.

7. Coordination of public meetings as required by Minnesota Statutes Chapter 103B and 103D as part of the formal review process for the watershed-based plan, including establishing date, location, time, technology needs, presenters, and any necessary accommodations such as refreshments.

8. Administration of the grant with BWSR for the purposes of developing a watershed-based plan, including reporting, process oversight, consistent planning and update meetings with BWSR staff, and overall coordination of the process.

APPENDIX C

BRRW 1W1P Participation Plan



Buffalo – Red River One Watershed, One Plan

Participation Plan

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Acronyms and Abbreviations List

1W1P	One Watershed, One Plan
BWSR	Board of Water and Soil Resources
BRRW	Buffalo - Red River Watershed
COE	Corps of Engineers
DNR	Department of Natural Resources
MDA	Minnesota Department of Agriculture
MDH	Minnesota Department of Health
MPCA	Minnesota Pollution Control Agency
NRCS	Natural Resource Conservation Service
SWCD	Soil & Water Conservation District
TNC	The Nature Conservancy
WD	Watershed District

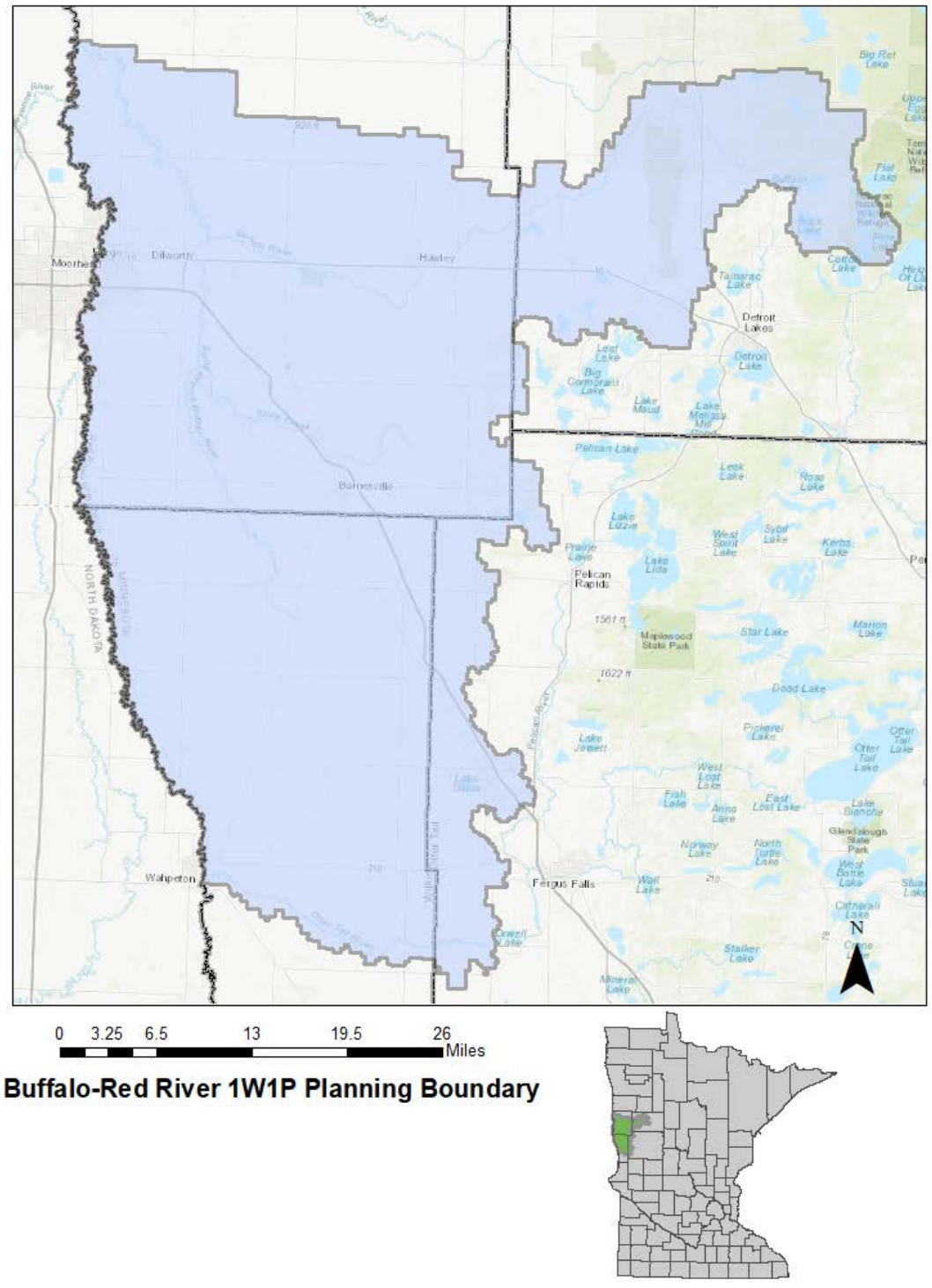
1 BACKGROUND

The Counties of Becker, Clay, Otter Tail and Wilkin (Counties), by and through their respective County Board of Commissioners, and the Becker, Clay, West Otter Tail and Wilkin Soil and Water Conservation Districts (SWCDs), by and through their respective SWCD Board of Supervisors, and the Buffalo – Red River Watershed District (WD), by and through its respective Board of Managers were selected in the 2017 planning year by the Minnesota Board of Water and Soil Resources (BWSR), to complete a One Watershed One Plan (1W1P). Collectively, the parties are called the "Buffalo – Red River LGUs" (hereafter referred to as the "LGUs"). The LGUs recognized the importance of partnerships to plan and implement protection and restoration efforts for the Buffalo - Red River Watershed. The Buffalo - Red River Watershed 1W1P planning area is shown in **Figure 1**.

The LGUs are responsible for preparing a Comprehensive Watershed Management Plan (Plan) under the 1W1P effort. The members of the LGUs share an interest in and the statutory authority to prepare, adopt, and assure implementation of a Plan for the Buffalo - Red River Watershed.

This document describes the participation process for developing the Plan.

Figure 1. Buffalo - Red River Watershed 1W1P Location.



2 AUDIENCE & ROLES

One of the Guiding Principles of 1W1P is that the process "must involve a broad range of Stakeholders to ensure an integrated approach to watershed management." A Stakeholder is defined as a party (person or group) who holds a vested interest in the outcome of the planning process. The primary outcome resulting from the Plan will be a targeted implementation plan, focused on the implementation of specific best management practices, capital improvement projects, educational and outreach programs, monitoring activities, and regulatory controls. A variety of Stakeholders may be directly or indirectly affected.

Participants in the planning process are comprised of several potential target audiences or groups and collectively represent the Stakeholders. The groups and their respective planning roles are described in the following sections.

2.1 Policy Committee

The primary role of the Policy Committee is to collectively develop and adopt, as local government units, a coordinated watershed management plan pertaining to the area within the Buffalo - Red River Watershed. Bylaws have been adopted to guide the decision-making process, leadership, and direction of process for the Policy Committee. Expectations are that the Policy Committee will review and approve a draft of the plan outline, review and approve information about the priority resources, concerns and issues affecting the plan area, and review and approve the Plan. An additional expectation is that members of the Policy Committee will engage in constructive discussion and debate about issues addressed by the Plan and provide consensus direction on plan development matters, to the Planning Team. The Policy Committee will also review and approve membership on the Advisory Committee. Meeting commitments for the Policy Committee are expected to be every other month. The Policy Committee has additional obligations as described by The Memorandum of Agreement executed by the LGUs.

2.2 Advisory Committee

Membership on the Advisory Committee may consist of members from the Planning Team, other local government staff, the state's main water agencies and/or plan review agencies, the general public, trade organizations, nonprofit organizations, and special interest groups. Leaders within the local community are valued members of the Advisory Committee. Membership to the Advisory Committee is reviewed and approved by the Policy Committee.

The purpose of an Advisory Committee is to make recommendations on the Plan and the targeted implementation schedule to the Policy Committee, including identification of priority resources, concerns,

and issues affecting the plan area. Expectations are that members of the Advisory Committee will communicate Plan related activities to their respective organizations. Advisory Committee members are expected to communicate practical concerns during the plan development process and to assist the Policy Committee in ensuring a credible Plan development process. Meeting commitments for Advisory Committee members are expected to be every other month or when subject matter expertise is warranted.

Each state or federal agency or organization participating on the Advisory Committee shall designate one lead representative and one designated alternate. An agency's or organization's guidance, input, and decisions shall be communicated through the lead representative or designated alternative. The lead agency or organization representative is expected to coordinate information flow and communication within their agency or organization.

2.3 Planning Team

The Planning Team is comprised of local SWCD and Watershed District staff for the purposes of logistical and day-to-day decision-making in the planning process. The Planning Team includes the consultant and BWSR Board Conservationist who are also responsible for assembling the draft and final Plan. Members of the Planning Team are responsible for providing information needed for the planning process, reviewing and accepting draft plan related information, and assisting in Plan development. Identifying priority resources, concerns, and issues for their specific county is also the responsibility of the Planning Team. Meeting expectations for the Planning Team are monthly and as needed to maintain pace of progress for plan development.

2.4 General Public

Various public meetings and hearings will be completed as part of the Plan development process. The general public is expected to be an important Stakeholder group. Input from the public meetings will be used to ensure a complete list of priority issues is developed. The role of the general public is expected to include identifying issues affecting resources. The public will be engaged to rank concerns establishing a "public priority" rank. An additional role for the general public is expected to include review of and discussion about the targeted implementation schedule and ability to achieve the measurable goals.

3 INTENT FOR STAKEHOLDER INVOLVEMENT

The principal intent of involving stakeholders during the planning process is to discover what's happening in the watershed, what is important to Stakeholders, and build acceptance of the Plan and the recommended solutions described by the targeted implementation schedule. Acceptance is critical because LGUs are focused on actively utilizing their Plan to implement projects and programs within the

Buffalo – Red River Watershed. Successful implementation will depend highly on the degree to which the Stakeholders believe their concerns, issues, or expectations are addressed within the Plan.

The LGUs intend for the Stakeholder involvement process to be active, genuine, and credible. To that end, the Stakeholder groups will be involved early in the planning process and will remain engaged through plan completion. Input provided by Stakeholders is intended to help ensure the comprehensiveness of the Plan and validate the implementation priorities of the LGUs and Stakeholders.

4 TOOLS FOR STAKEHOLDER INVOLVEMENT

The LGUs expect to use several tools to involve Stakeholders. These tools include:

- Informing the stakeholders of status and progress by posting information on a website, including document drafts as they become available;
- Convening meetings and workshops with Stakeholders at key milestones to discuss relevant content and obtain input; and
- Use of existing "standing" committees within each county, including local water plan advisory committees. These committees tend to include broad representation.

BWSR has developed guidance for agency comments for the 1W1P planning process that is applicable to all stakeholder groups participating in plan development (See table below for BWSR guidance on providing comments). This guidance is available at http://www.bwsr.state.mn.us/planning/1W1P/Best_Practices_for_Agency_Comments_on_Water_Plans.pdf

Practical and Valuable Comments	Less Valuable Comments
The following types of comments can be very valuable to the planning effort: ■ Feedback on the legality or statutory authority of a proposed action or strategy in a plan, and/or consistency with an agency rule or policy ■ Identification of opportunities for agency collaboration, including when an agency might be willing to lead and/or funds are available through the agency to accomplish a strategy or action ■ Identification of alternative methods to identify or accomplish a goal ■ Identification of data not reviewed or properly considered, or data that may validate a potential concern or issue ■ Work that can or will be done in the future to improve the plan	The following types of comments are less valuable to the planning process: ■ Individual comments that have not been vetted or delivered as an agency perspective ■ Comments that question a method without suggestions for an alternative method ■ Editorial comments, especially in early working drafts of plans, unless the text is unclear

There are many methods for conveying information and communicating messages. This Stakeholder Participation Plan will utilize a variety of tools as appropriate and beneficial for sharing progress and soliciting input. Information about the planning process can be obtained from the Buffalo – Red River Watershed 1W1P website at http://www.brrwd.org/project-post/one-watershed-one-plan/.

5 CONDUCT

The conduct of members of the various Stakeholder Groups —how the committees function and affect the process—will be based on the overall intent of building acceptance of the Plan through a credible yet timely process. Where appropriate, the LGUs will strive to achieve consensus on Plan related matters. However, because of the diversity of issues and range of resources, full agreement between or among all Stakeholders is not realistic or expected. Within the Policy Committee, bylaws specify voting (Article V). The ultimate responsibility for the content of the Plan rests with the Policy Committee. Participants are expected to act in a professional, constructive, and contributory manner. Members failing to act in good faith during the planning process can be removed from the Advisory Committee by consensus of the Policy Committee.

6 STAKEHOLDER LIST

6.1 Policy Committee Members

The Policy Committee Members, their affiliation, and contact information are listed in **Table 1**.

Table 1. Policy Committee Members

Name	Organization	Role	Address	City/State/Zip	Phone	e-mail
Lyle Hovland	Wilkin County	Chair	1353 310th Ave	Rothsay, MN 56579-2563	218-867-2563	ldkhovland@telnet.net
Jerome Flottemesch	Becker SWCD	Vice – Chair	20235 Co Hwy 11	Callaway, MN 56521	218-375-2141	fmesch@tvutel.com
Paul Krabbenhoft	Clay SWCD	Secretary	1119 25th Ave S	Moorhead, MN 56560	701-799-0369	pkrabbenhoft@gmail.com
Barry Nelson	Becker County	Primary	12972 Co Hwy 11	Audubon, MN 56511	218-439-3275	bknelso@co.becker.mn.us
Jenny Mongeau	Clay County	Primary	4886 110th Ave S	Moorhead, MN 56560-7726	701-238-2987	jenny.mongeau@co.clay.mn.us
Wayne Johnson	Otter Tail County	Primary	38992 183rd Ave	Pelican Rapids, MN 56572	218-863-3373	waynejohnsonotc@outlook.com
Rick Drevlow	West Otter Tail SWCD	Primary	13502 330th St	Rothsay, MN 56579	218-867-2149	drevlowre@gmail.com
Ross Aigner	Wilkin SWCD	Primary	1689 160th Ave	Wolverton, MN 56594	218-995-2173	edward@wtc-mail.net
Jay Leitch	BRRWD	Primary	1313 40th Ave N	Moorhead, MN 56560	218-236-7659	jay.leitch@ndsu.edu
Frank Gross	Clay County	Alternate	505 3rd St NE	Dilworth, MN 56529	218-790-0287	lavonne.frank.gross@gmail.com
Randy Schellack	Clay SWCD	Alternate	13077 70th Ave S	Glyndon, MN 56547	701-238-8121	randyschellack@yahoo.com
John Lindquist	Otter Tail County	Alternate	29807 147th St	Dalton, MN 56324	218-770-8864	jmlind@prtel.com
Julian Sjostrom	West Otter Tail County SWCD	Alternate	17890 Co Hwy 28	Pelican Rapids, MN 56572	218-863-7785	jasjos@loretel.net
Travis Schauer	Becker SWCD	Alternate	11720 Co Rd 146	Lake Park, MN 56554-9662	218-238-5077	travisschauer@yahoo.com
Peter Fjestad	BRRWD	Alternate	26563 130th Ave	Fergus Falls, MN 56537	218-731-4630	pfjestad@prtel.com

6.2 Advisory Committee Members

The Advisory Committee Members, their affiliation, and contact information are listed in **Table 2**. The Advisory Committee is comprised of technical representatives from local, federal and state agencies, non-governmental organizations, industry and citizens who reside in the watershed. Members of the Policy Committee and Planning Team can participate in the Advisory Committee process.

Table 2. Advisory Committee Members

Name	Affiliation	Address	City/State/Zip	Phone	E-mail
Annette Drewes	DNR	2532 Hannah Ave	Bemidji, MN 56601	218-308-2468	annette.drewes@state.mn.us
Michael Sharp	MPCA	714 Lake Ave Suite 220	Detroit Lakes, MN 56501	218-846-8103	michael.sharp@state.mn.us
Ryan Lemickson Aicam Laacouri (alt.)	MDA		Glenwood, MN	320-634-7350 651-201-6487	ryan.lemickson@state.mn.us aicam.laacouri@state.mn.us
George Minerich	MDH	3333 West Division St. Ste. 212	Saint Cloud, MN 56301	320-223-7314	george.minerich@state.mn.us
Erik Jones	HEI	1401 21st Ave N	Fargo, ND 58102	701-499-2055	ejones@houstoneng.com
Shawn May	USFWS	1732 N Tower Rd	Detroit Lakes, MN 56501	218-847-4431	shawn_may@fws.gov
Chad Raitz	USFWS	18965 Co Hwy 82	Fergus Falls, MN 56537	218-739-2291	chad_raitz@fws.gov
Ed Musielewicz	NRCS	809 8th St SE	Detroit Lakes, MN 56501	218-847-9393 ext. 112	ed.musielewicz@mn.usda.gov
Rodger Hemphill	DNR	14583 Co Hwy 19	Detroit Lakes, MN 56501-7121	218-846-8484	rodger.hemphill@state.mn.us

Nicholas Brown	DNR			218-739-7576 ext. 244	Nicholas.Brown@state.mn.us
Lynn Foss	Water Resource Technician Clay SWCD	1615 30th Ave S	Moorhead, MN 56560	218-287-2255 ext. 3485	lynn.foss@mn.nacdnet.net
Tony Nelson	Pheasants Forever	1615 30th Ave S	Moorhead, MN 56560	218-287-2255 ext.3475	tnelson@pheasantsforever.org
Brian Winter	TNC	15336 28th Ave S	Glyndon, MN 56547-9561	218-498-2679	bwinter@tnc.org
Jay Nord	MN Wheat Growers/Citizen				
Gerald Nordick	Citizen				Gerald.Nordick@plantpioneer.com
Wayne Brendemuhl	Citizen				wcbrendemuhl@hotmail.com
John Evert	Citizen				
Chuck Anderson	Citizen				tlca13919@gmail.com
Charles Piekarski	Citizen				
James Grier	Citizen (Central PR)	17648 57th AVE N	Hawley, MN 56599	701-205-7247	James.grier@ndsu.edu
Jill Wilkey	River Keepers	628 18th AVE E	West Fargo, ND 58078	701-306-1209	Jill.wilkey@outlook.com
Phil Doll	Private Lands Biologist, Becker SWCD	809 8th ST SE	Detroit Lakes, MN 56501	218-846-7360	Phil.doll@mn.nacdnet.net
Jim Lahn	Area Certification Specialist East Otter Tail SWCD/Department of Ag	801 Jenny AVE, Suite 2	Perham, MN 56573	218-457-0250	James.lahn@eot.mnswcd.org
Craig Jarnot	COE Biologist	4111 Technology Dr NW #295	Bemidji, MN 56601	218-444-6381	Craig.L.Jarnot@usace.army.mil
Marshall Johnson	Audubon Dakota	118 Broadway N #512	Fargo, ND 58102	701-298-3373	mejohnson@audubon.org

Sarah Hewitt	Audubon Dakota	118 Broadway N #512	Fargo, ND 58102	701-298-3373	shewitt@audubon.org
John Lindstrom	Ducks Unlimited	22274 615 Ave	Litchfield, MN 55355	320-693-2849 ext. 108	jlindstrom@ducks.org
Bob Zimmerman	City of Moorhead	500 Center Ave	Moorhead, MN 56561-0779	218-299-5390	bob.zimmerman@ci.moorhead.mn.us
Christine Holland	Riverkeepers	1120 28th Ave N Suite B	Fargo, ND 58102	701-235-2895	christine@riverkeepers.org
Nicole Frank	MN Corn Growers Assoc.			320-583-7525	nfrank@mncorn.org

6.3 Planning Team Members

The Planning Team Members, their affiliation, and contact information are listed in **Table 3**.

Table 3. Planning Team Members.

Name	Affiliation	Address	City/State/Zip	Phone	e-mail
Peter Mead	Becker SWCD	809 8th St SE	Detroit Lakes, MN 56501	218-846-7360	pemead@co.becker.mn.us
Kevin Kassenborg	Clay SWCD	1615 30th Ave S	Moorhead, MN 56560	218-287-2255	kevin.kassenborg@clay.mnswcd.org
Brad Mergens	West Otter Tail SWCD	506 Western Ave	Fergus Falls, MN 56537	218-739-4694 ext. 3240	brad.mergens@wot.mnswcd.org
Don Bajumpaa	Wilkin SWCD	1150 Hwy 75 N	Breckenridge, MN 56520	218-643-2933	dbajumpaa@co.wilkin.mn.us
Brett Arne	BWSR	26624 N Tower Rd	Detroit Lakes, MN 56501	218-846-8424	brett.arne@state.mn.us
Henry Van Offelen	BWSR	26624 N Tower Rd	Detroit Lakes, MN 56501	218-846-8406	henry.van.offelen@state.mn.us
Bruce Albright	BRRWD	1303 4th Ave NE PO Box 341	Barnesville, MN 56514	218-354-7710	balbright@brrwd.org

Rachel Olm	Houston Engineering, Inc.	6901 E Fish Lake Rd Suite 140	Maple Grove, MN 55369	763-493-6694	rolm@houstoneng.com
Matt Jacobson	Houston Engineering, Inc.	1401 21st Ave N	Fargo, ND 58102	701-499-9470	mjacobson@houstoneng.com

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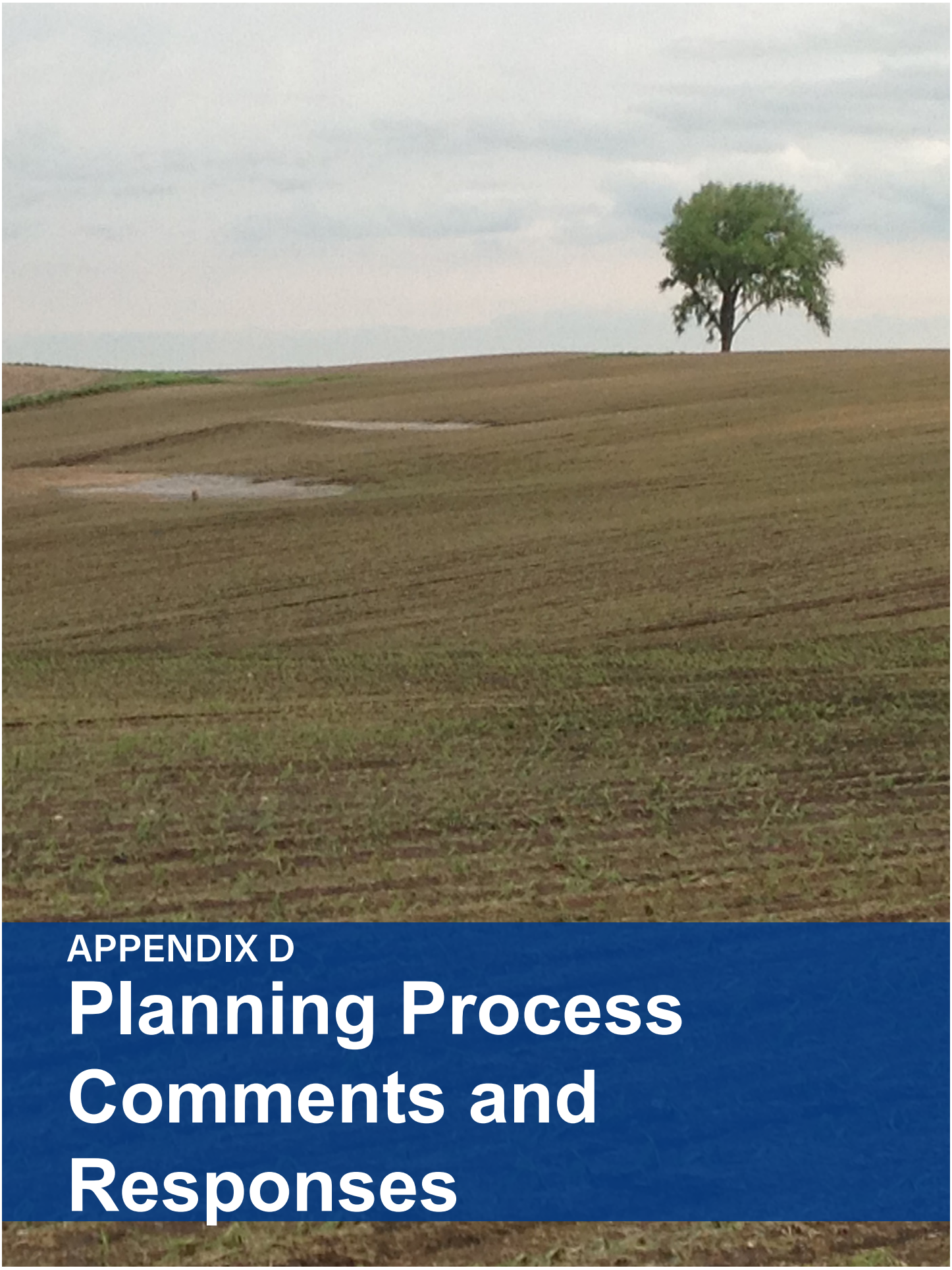


APPENDIX D

Planning Process Comments and Responses

APPENDIX E

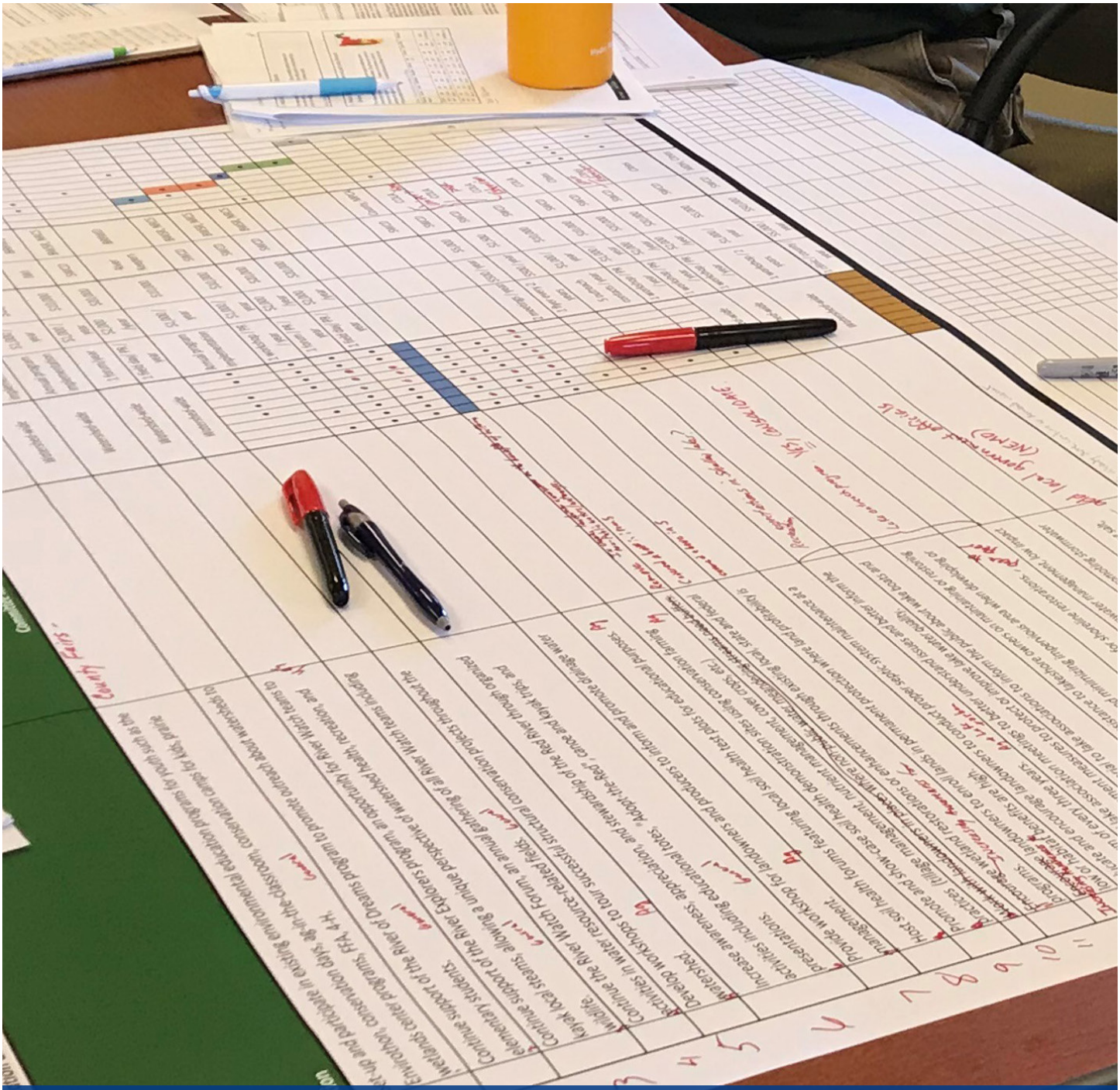
Original Issue List

Original Issues Table			
Issue #	**Issue*** **	**Planning Region Focus****	**Resource Concern**
1	SW.1.1 Erosion and sedimentation and their impacts on agricultural drainage system stability and performance.	Watershed-wide	**SW.1 Agricultural Drainage Systems**
2	SW.1.2 The need for the redetermination of benefits on many agricultural drainage systems.	Watershed-wide	
3	SW.1.3 On-going maintenance and restoration of degraded agricultural drainage systems and the need to prioritize the utilization of multipurpose drainage management.	Watershed-wide	
4	SW.2.1 Elevated concentrations of nutrients approaching (protection) or exceeding (restoration) water quality standards for aquatic life and aquatic recreation, which can lead to water quality impairments.	Central; Lakes; Mainstem; Northern; Otter Tail; Southern; Upper Red	**SW.2 Lakes**
5	SW.2.2 Elevated concentrations of Mercury approaching (protection) or exceeding (restoration) water quality standards which can lead to aquatic consumption impairments	Central; Lakes; Mainstem; Northern; Otter Tail; Southern; Upper Red	
6	SW.2.3 Failing SSTS and their impacts on excess nutrient loadings to lakes.	Lakes; Mainstem; Southern	
7	SW.2.4 Erosion and sedimentation and their impacts on shoreland stability and surface water quality.	Central; Lakes; Mainstem; Northern; Otter Tail; Southern; Upper Red	
8	SW.3.1 Elevated concentrations of suspended solids, and sediment approaching (protection) or exceeding (restoration) water quality standards for aquatic life, which can lead to aquatic life impairments.	Watershed-wide	**SW.3 Rivers and Streams**
9	SW.3.2 Elevated concentrations of nutrients approaching (protection) or exceeding (restoration) water quality standards for aquatic life, which can lead to aquatic life impairments.	Watershed-wide	
10	SW.3.3 Elevated concentrations of bacteria approaching (protection) or exceeding (restoration) water quality standards which can lead to aquatic recreation impairments.	Watershed-wide	
11	SW.3.4 Reduced concentrations of dissolved oxygen approaching (protection) or below (restoration) tolerable levels that can affect the diversity of quality of aquatic life.	Watershed-wide	
12	SW.3.5 Elevated concentrations of Mercury approaching (protection) or exceeding (restoration) water quality standards which can lead to aquatic consumption impairments.	Watershed-wide	
13	SW.3.6 Erosion and sedimentation and their impacts on river and stream channel stability and surface water quality.	Watershed-wide	
14	SW.3.7 Elevated concentrations of PCBs which can lead to aquatic consumption impairments	Watershed-wide	
15	SW.3.8 Elevated concentrations of arsenic approaching (protection) or exceeding (restoration) water quality standards which can lead to aquatic consumption impairments.	Otter Tail; Upper Red; Western	
16	SW.4.1 Protection of wetlands in areas with high relative percentages of permanent grassland and publicly protected lands.	Central; Mainstem; Northern; Southern; Upper Red	**SW.4 Wetlands**
17	SW.4.2 The need for protection of wetlands from indirect impacts such as altered hydrology, increased pollutant loadings, and encroachment.	Central, Lakes; Mainstem	
18	SW.5.1 Increased surface runoff contributing to flood conditions.	Watershed-wide	**SW.5 Surface Runoff**
19	SW.5.2 The need for increased water storage in municipalities, shoreland areas, and small developments to improve water quality and increase resiliency to extreme weather events.	Central; Lakes; Mainstem	
20	GW.1.1 Elevated levels of nitrate-nitrogen approaching (protection) or exceeding (restoration) drinking water standard that can result in implications to human health and treatment costs for community, municipal, and individual wells.	Central; Mainstem; Otter Tail; Southern	**GW.1 Potable Water Quality**
21	GW.1.2 Elevated levels of arsenic in groundwater, and the implications to human health	Central; Mainstem; Moorhead; Northern; Southern; Otter Tail; Upper Red; Western	
22	GW.1.3 Underground storage tanks and their potential to contaminate groundwater.	Central; Mainstem; Northern; Southern; Western	
23	GW.2.1 Potential droughts will place additional demands on domestic water supply.	Watershed-wide	**GW.2 Water Quantity**
24	GW.2.2 Impacts of agricultural irrigation such as increased demand for groundwater supplies and irrigation-induced soil and water quality degradation.	Central; Lakes; Mainstem; Otter Tail; Southern; Upper Red	
25	GW.2.3 Growing trend of ethanol production may stress ground and surface water supplies during periods of drought.	Watershed-wide	
26	GW.2.4 Gravel mining and its impacts on groundwater recharge.	Mainstem; Northern	
27	GW.2.5 Limited amount and extent of aquifers in the watershed to supply groundwater.	Watershed-wide	
28	FWH.1.1 Lack of hydrologic connectivity as the primary stressor on bio-impaired surface waters.	Central; Lakes; Mainstem; Southern	**FW.1 Aquatic Habitat**
29	FWH.1.2 Altered hydrology: Loss of natural storage, channelization and ditching, landuse changes, and tiling contributing to increased stream flashiness, erosion, and sedimentation and is a stressor on aquatic life.	Watershed-wide	
30	FWH.1.3 Lack of in-stream habitat as a primary stressor on bio-impaired surface waters.	Upper Red	
31	FWH.1.4 The need for continued aquatic invasive species (AIS) prevention in undisturbed ecosystems and management in disturbed ecosystems.	Central; Lakes; Mainstem; Otter Tail; Southern; Upper Red	
32	FWH.2.1 The need for continued protection, restoration and enhancement of high quality or sensitive natural resource areas.	Central; Northern; Otter Tail; Southern Upper Red	**FW.2 Terrestrial Habitat**
33	FWH.2.2 The need for a continuous habitat corridor from the southern to northern extents of the watershed.	Central; Mainstem; Northern; Southern; Upper Red	
34	FWH.2.3 Inadequate riparian cover and connectivity and its impact on terrestrial species habitat.	Central; Northern; Southern; Western	
35	FWH.2.4 The need to create habitat and restore native vegetation in low-lying areas.	Otter Tail; Upper Red	
36	FWH.2.5 Loss of CRP land and its impact on habitat and water quality.	Watershed-wide	
37	FWH.2.6 Gravel mining and its impact on critical habitat in the Agassiz Beach Ridge.	Central; Mainstem; Northern; Southern; Otter Tail; Western; Upper Red	
38	FWH.2.7 Invasive species and their impacts on high quality areas of native vegetation.	Central	
39	LKB.1.1 The need for greater understanding and awareness of water issues, like drainage, erosion, fertilizer use, prescription and non-prescription drug disposal, and household hazardous waste disposal, by the general public.	Watershed-wide	

40	LKB.1.2 The efficient and effective use of fertilizers and pesticides and its impact on surface and groundwater quality.	Watershed-wide	**LKB.1 Public Knowledge of and Behavior Relative to Water Issues**
41	LKB.1.3 Landowner awareness and understanding of Best Management Practices (BMPs) for erosion mitigation.	Central	
42	LKB.1.4 Disposal of solid waste, household hazardous waste, and prescription and non-prescription drugs and their effects on surface water quality.	Central; Lakes; Mainstem	
43	LKB.2.1 The need for continuation and ongoing expansion of water quality, stage, and flow monitoring of surface waters.	Watershed-wide	**LKB.2 Monitoring and Data Collection**
44	LKB.2.2 Lack of high-quality digital elevation data.	Watershed-wide	
45	LKB.2.3 The need for expanded monitoring of lakes through Lake Associations and the MPCA Citizen Lake Monitoring Program.	Central; Lakes; Mainstem; Otter Tail; Southern	
46	LKB.2.4 The need for the regular assessment and monitoring of groundwater quality and quantity	Central; Lakes; Mainstem; Otter Tail; Southern; Upper Red	
47	MCF.1.1 The need for sustainable approach to planning and management of groundwater resources.	Watershed-wide	**1. Planning and Coordination**
48	MCF.1.2 The need for sound floodplain management in accordance with Flood Damage Reduction principles due to increased frequency and severity of flooding.	Watershed-wide	
49	MCF.1.3 Need to update floodplain maps and zoning areas to reflect most recent Flood Insurance Rate Maps.	Central; Moorhead; Northern; Southern; Otter Tail; Upper Red	
50	MCF.1.4 The need for increased coordination on Flood Damage Reduction goals.	Southern	
51	MCF.1.5 The need for water level management to mitigate impacts to shoreland in lakes and closed basin areas.	Central; Lakes; Mainstem; Otter Tail; Southern; Upper Red	
52	MCF.1.6 Lack of funding to implement programs of common good to make improvements and manage water resources effectively.	Watershed-wide	
53	MCF.1.7 Coordination is needed among LGUs administering the Wetland Conservation Act.	Watershed-wide	
54	MCF.1.8 Coordination is needed among entities designated as owners or operators of Municipal Separate Storm Sewer Systems (MS4).	Watershed-wide	
55	MCF.1.9 A low supply of wetland bank credits may result in replacement for wetland impacts to be exported outside the watershed, reducing the ability of basic landscape function.	Watershed-wide	
56	LDLS.1.1 Stormwater and its impacts on urban flooding.	Mainstem; Moorhead	**LDLS.1 Urban Landscapes**
57	LDLS.1.2 The need to preserve the riparian corridor in urban areas for flood mitigation and habitat preservation.	Moorhead	
58	LDLS.1.3 Stormwater runoff draining directly into surface waters due to increased amounts of impervious surfaces and its impact on water quality.	Central; Lakes; Mainstem; Otter Tail; Southern; Upper Red	
59	LDLS.1.4 The need to prioritize protection of the surface water assessment area for the City of Moorhead.	Moorhead	
60	LDLS.1.5 The need for mosquito control in urban areas.	Moorhead	
61	LDLS.2.1 Decreased soil health and its impact on agricultural productivity and water holding capacity.	Watershed-wide	**LDLS.2 Rural Landscapes**
62	LDLS.2.2 Erosion and Sedimentation: Increased sheet, rill, concentrated flow, and wind erosion, and its impact on agricultural productivity, surface water quality, and deposits in drainage systems	Watershed-wide	
63	LDLS.2.4 Landuse changes as a result of higher commodity prices sustained over a long period of time, exurban development, increases in irrigated agricultural production and its impacts on runoff and erosion.	Watershed-wide	
64	LDLS.2.5 Failing Subsurface Sewage Treatment Systems (SSTS) and their potential to contaminate groundwater, degrade surface waters, and pose serious health risks.	Watershed-wide	
65	LDLS.2.6 The efficient and safe application and disposal of manure from animal operations such as feedlots, and its impact on surface and ground water quality.	Central; Lakes; Mainstem	
66	LDLS.2.7 Direct access of cattle to Buffalo River tributaries is causing loss of habitat, increased nutrient concentrations, and increased fine sediment transport that disrupt habitat for fish and macroinvertebrates.	Central; Lakes; Mainstem; Northern; Southern	
67	LDLS.2.8 The efficient and effective use of fertilizers and pesticides and its impact on surface and groundwater quality.	Central; Lakes; Mainstem	
68	LDLS.2.9 Commercial/factory farming and its impact on surface water quality.	Central; Northern	
69	LDLS.3.1 Shoreland development pressures leading to increased sediment and nutrient loadings, habitat loss, wetland loss, and degradation.	Watershed-wide	**LDLS.3 Shoreland and Riparian Areas**
70	LDLS.3.2 The need for updated shoreland rules and enforcement of existing regulations.	Central; Otter Tail; Southern; Upper Red	
71	LDLS.3.3 The need to increase shoreline vegetation and un-mowed vegetative buffers around lakes to promote fish habitat, water quality, and water clarity.	Central; Lakes; Mainstem; Northern; Otter Tail; Southern; Upper Red	
72	LDLS.3.4 The need to protect, restore, and enhance wild rice habitat for cultural, economic, and wildlife benefit.	Lakes	
73	LDLS.3.5 The need to increase recreational access to lakes, rivers, and streams.	Lakes; Mainstem; Moorhead; Northern; Western	

***Issues refined to planning regions based on Local Water Plans and MPCA Watershed Approach Documents using the nine Buffalo-Red River Watershed District Planning Regions.*

**** Extreme weather events, in the form of prolonged drought, severe rain and snow events, sustained high winds, tornados, and frequent, severe flooding, is a key issue cited in local water plans and MPCA approach documents. Due to the influence of climate and weather on virtually all aspects of water resource management, extreme weather events should be considered an overarching issue with respect to the issues identified above.*



APPENDIX F

Public Comments During Public Kickoff Meeting

Comments Received during Public Kickoff Meeting

Comment #	Planning Region	Comment	Related Issue	Emerging Issue
1	N/A	Ditch 16 is over 5 miles long, drains 5-6,000 acres, the suitable outlet is in my farm - flooding. State law states before ditch is build, a suitable outlet must be Then the five miles of ditch was cut to grde, with the understanding at the infor meeting that the ditch go to the river. The ditch was cut to grade, but not extendd to the river. To top things off the first culvert is 4 feet in diameter, then two four footers, then choked down to a 42 inch so our township road washes out frequently and watershed does not clean sediment out of the ditch so the road washes out that much more frequently.	1; 5	N/A
2	Mainstem	Weed Growth in Lake 15 & Parke Twp.	16;17	Water Coming into Lake 15 via Long Lake from turtle. The watershed is really from Turtle towards Cormorant Lakes!
3		Runoff from farm land NW area of Lake 15. How do we get embankments installed?	6;7	
4		N/A	N/A	
5	N/A	Flood Damge	10	N/A
6	N/A	Sediment in Ditches and Stream	1;2;5	N/A
7	Central	Water Issues Barnesville Twp. Sec. 33 and DNR Ditch that follow which hasn't been cleaned out or maintained in forever.	1	If you have good management in place KEEP IT.
8	N/A	Flood control on agricultural land.	10	Transition planning for new leadership.
9		Pollution from soil and chemical runoff.	5;6;7	Maintaining citizen support of watershed plans and actions.
10		Issue 1	N/A	Reconsidering rejoining the Red Board.
11		Issue 10		
12		Issue 20		
13	Moorhead	Flood damage reduction/flood mitigation in urban areas.	10	Increasing magnitude/frequency of very instense precipitation events.
14		Water Quality - particularly (N & P).	6;7	
15	Mainstem	Stakke Lake - Water Clarity and Environment.	3;5;6;7;14	Drain tile diverting normal runoff from lakes to other locations.
16		Stakke Lake - Drainage - How to maintain water level with a drainage only lake.	N/A	
17	Otter Tail	Sediment filling the mouth of the Breckenridge Diversion.	1;5	N/A
18	N/A	Uncontrolled drainage from land (free flowing form Ag land into ditches). I see too much silt erosion.	1;5	

APPENDIX G

Technical Resources Reviewed

Anderson, Pam. Minnesota Pollution Control Agency (MPCA), 2012. Assessment Report of Selected Lakes within the Buffalo River Watershed Red River of the North Basin. https://www.pca.state.mn.us/sites/default/files/wq-ws3-09020106.pdf

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Bayerl Water Resources, 2014. Otter Tail County Local Water Management Plan: 2009-2019: Amended 2014. https://eotswcd.fatcow.com/EOT/Documents/Plans/OTC%20Water%20Plan%20Update.pdf

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Buffalo – Red River Watershed District (BRRWD), June 2016. Draft Buffalo – Red River Revised Watershed Management Plan.

Clay Soil and Water Conservation District (SWCD), May 2017. Clay County Local Water Management Plan: 2017-2026. http://claycountymn.gov/DocumentCenter/View/5492/Clay-County-LWMP-2017-2026-?bidId=

Houston Engineering, Inc. (HEI), 2011a. Lake Conditions Report: Buffalo River Watershed. https://www.pca.state.mn.us/sites/default/files/wq-iw5-06p1.pdf

Houston Engineering, Inc. (HEI), 2011b. Watershed Conditions Report Addendum: Buffalo River Watershed. https://www.pca.state.mn.us/sites/default/files/wq-iw5-06p2.pdf

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Houston Engineering, Inc. (HEI), 2018. Managing Excess Water and Sustainable, Productive Agriculture.

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Minnesota Department of Health (MDH), 2019. Buffalo Red River Watershed (BRRW) Groundwater Restoration and Protection Strategies Report. https://www.health.state.mn.us/communities/environment/water/docs/cwf/grapsbrrw.pdf

Minnesota Department of Natural Resources (DNR), 2015a. Watershed Report Card: Buffalo River. http://files.dnr.state.mn.us/natural_resources/water/watersheds/tool/watersheds/ReportCard_Major_58.pdf

Minnesota Department of Natural Resources (DNR), 2015b. Watershed Report Card: Otter Tail River. http://files.dnr.state.mn.us/natural_resources/water/watersheds/tool/watersheds/ReportCard_Major_56.pdf

Minnesota Department of Natural Resources (DNR), 2015c. Watershed Report Card: Upper Red River of the North. http://files.dnr.state.mn.us/natural_resources/water/watersheds/tool/watersheds/ReportCard_Major_57.pdf

Minnesota Department of Natural Resources (DNR), 2017a. Watershed Context Report: Buffalo River. http://files.dnr.state.mn.us/natural_resources/water/watersheds/tool/watersheds/context_report_major_58.pdf

Minnesota Department of Natural Resources (DNR), 2017b. Watershed Context Report: Otter Tail River. http://files.dnr.state.mn.us/natural_resources/water/watersheds/tool/watersheds/context_report_major_56.pdf

Minnesota Department of Natural Resources (DNR), 2017c. Watershed Context Report: Upper Red River of the North. http://files.dnr.state.mn.us/natural_resources/water/watersheds/tool/watersheds/context_report_major_57.pdf

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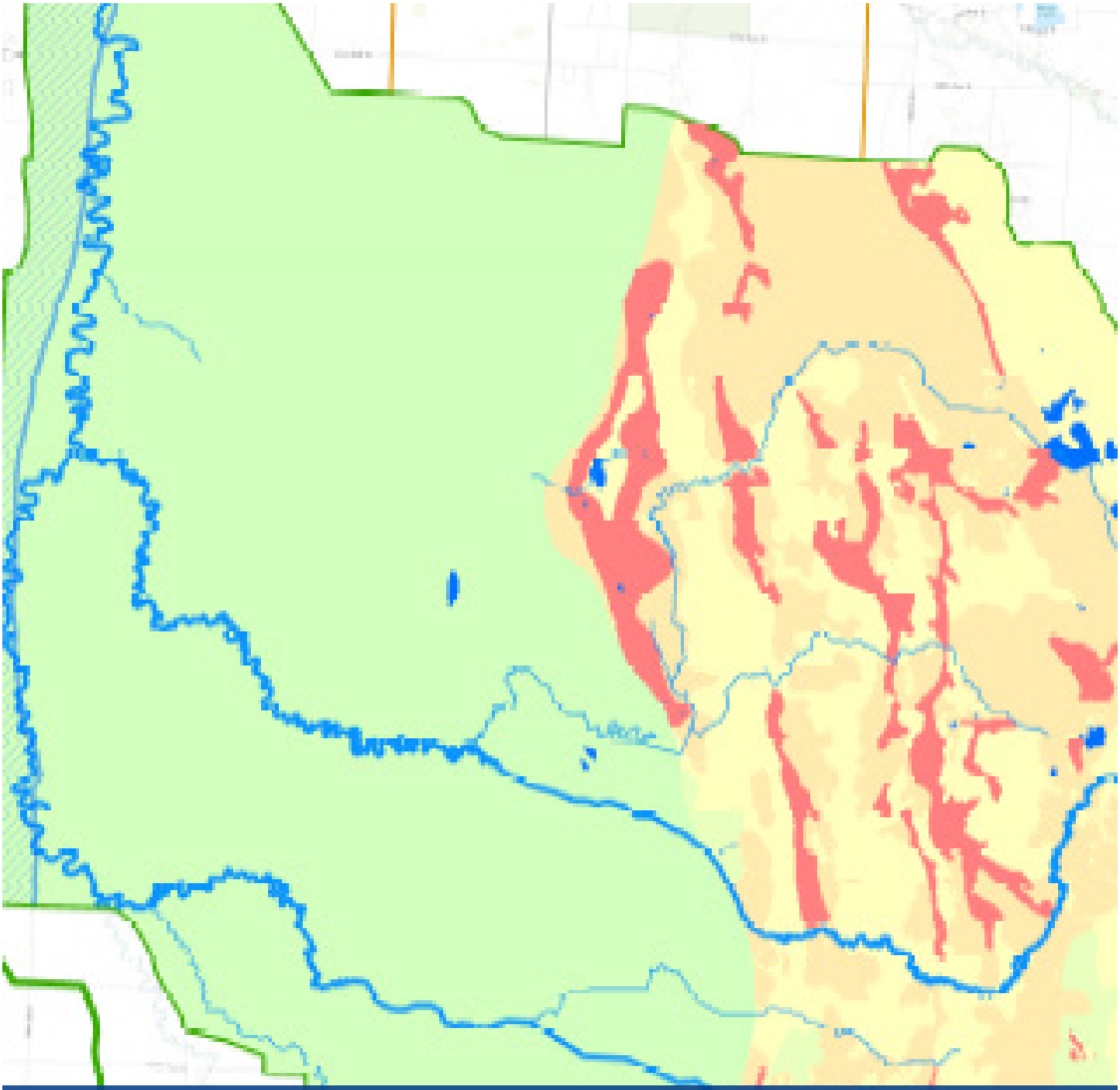
Minnesota Pollution Control Agency (MPCA), 2016c. Buffalo River Watershed Total Maximum Daily Load Report. https://www.pca.state.mn.us/sites/default/files/wq-iw5-06e.pdf

Minnesota Pollution Control Agency (MPCA), 2017a. Upper Red River of the North Watershed Total Maximum Daily Load Report. https://www.pca.state.mn.us/sites/default/files/wq-iw5-09e.pdf

Minnesota Pollution Control Agency (MPCA), 2017b. Upper Red River of the North Watershed Restoration and Protection Strategy Report. https://www.pca.state.mn.us/sites/default/files/wq-ws4-36a.pdf

Wilkin Soil and Water Conservation District (SWCD), 2008. Wilkin County Local Water Management Plan: 2008-2017. https://www.co.wilkin.mn.us/vertical/sites/%7B6E7AB7CB-4769-4357-B6C8-90E546FFE488%7D/uploads/Wilkin_County_water_plan.pdf



APPENDIX H

Geospatial Prioritization Criteria

Geospatial Prioritization Criteria Methods

This comprehensive plan deals with a wide variety of issues that vary in importance geographically. To assist in planning and implementation efforts, the Buffalo-Red River Watershed (BRRW) Planning Team developed geospatial prioritization criteria at two different scales for two different purposes.

1. **Planning region scale**: Prioritize measurable goals by planning region to identify broad focus areas. These maps appear in *Section 3: Measurable Goals.*
2. **Subwatershed (HUC-12) scale**: Prioritize and target where to begin work, aimed at addressing the comprehensive range of issues in this plan. These maps appear in *Section 4: Implementation Schedule*.

The geospatial prioritization criteria encompassed the most pertinent factors used when prioritizing issues and resource concerns for protection and restoration. The criteria were organized by measurable goal. Criteria were not meant to be comprehensive representations of the issues impacting resource concerns and goals but were meant to be simple representations using the best available geospatial data.

Prioritization criteria and goals are shown in **Table 1**. Composite ranks considering all measurable goals were displayed at the subwatershed scale, relative to other subwatersheds in a planning region using the 'Weighting Factor for Final Composite Ranking' shown in **Table 1**. The composite factors were developed based on the final scoring of issues by public vote during the kickoff meetings as well as the Policy, Advisory, and Planning Team member votes. Figures displaying the final composite HUC-12 ranks can be found for each planning region in their respective implementation profile. In each of these maps, high priority subwatersheds are colored using the following scale:

1) High priority: Top 33%
2) Medium priority: Top 33% - Bottom 33%
3) Low priority: Bottom 33%

This information was compiled in a geographic information systems (GIS) feature class and provided to the Planning Team. A summary of the attributes in that feature class is provided in **Table 2**.

Table 1: Geospatial prioritization criteria developed for planning regions and subwatersheds (HUC-12) in the Buffalo-Red River Watershed

Scale		Composite Ranking Category	Sediment	Hydrology / Flooding	Streambank / Channel	Soil Health	Phosphorus	Wetlands / Uplands	Dissolved Oxygen	Bacteria	Ditch Stability	Lake Shoreland
Planning Region	*Subwatershed (HUC 12)*	Prioritization Criteria (weighted evenly across criteria within goal)	Sediment yield [tons/ac/yr] Length of nearly or barely impaired stream reaches	Floodplain acreage Length of streams with altered hydrology stressor	Length of "restore channel" miles	Acreage of critical risk areas	TP yield [lbs/ac/yr] Length of nearly or barely impaired stream reaches TP lakes	Prairie Plan Core Areas Prairie Plan Corridors	Impaired stream miles	Length of nearly or barely impaired stream reaches	Unstable ditch length	Prioritized lake resources
		Priority	A	A	A	A	A	B	B	B	B	B
		Voting Result (Percentile Rank)	1.0	1.0*	0.9	0.9	0.9	0.8	0.7	0.6	0.6	0.3
		Weighting Factor for Final Composite Ranking	**14%**	**13%**	**12%**	**11%**	**10%**	**8%**	**7%**	**6%**	**6%**	**5%**

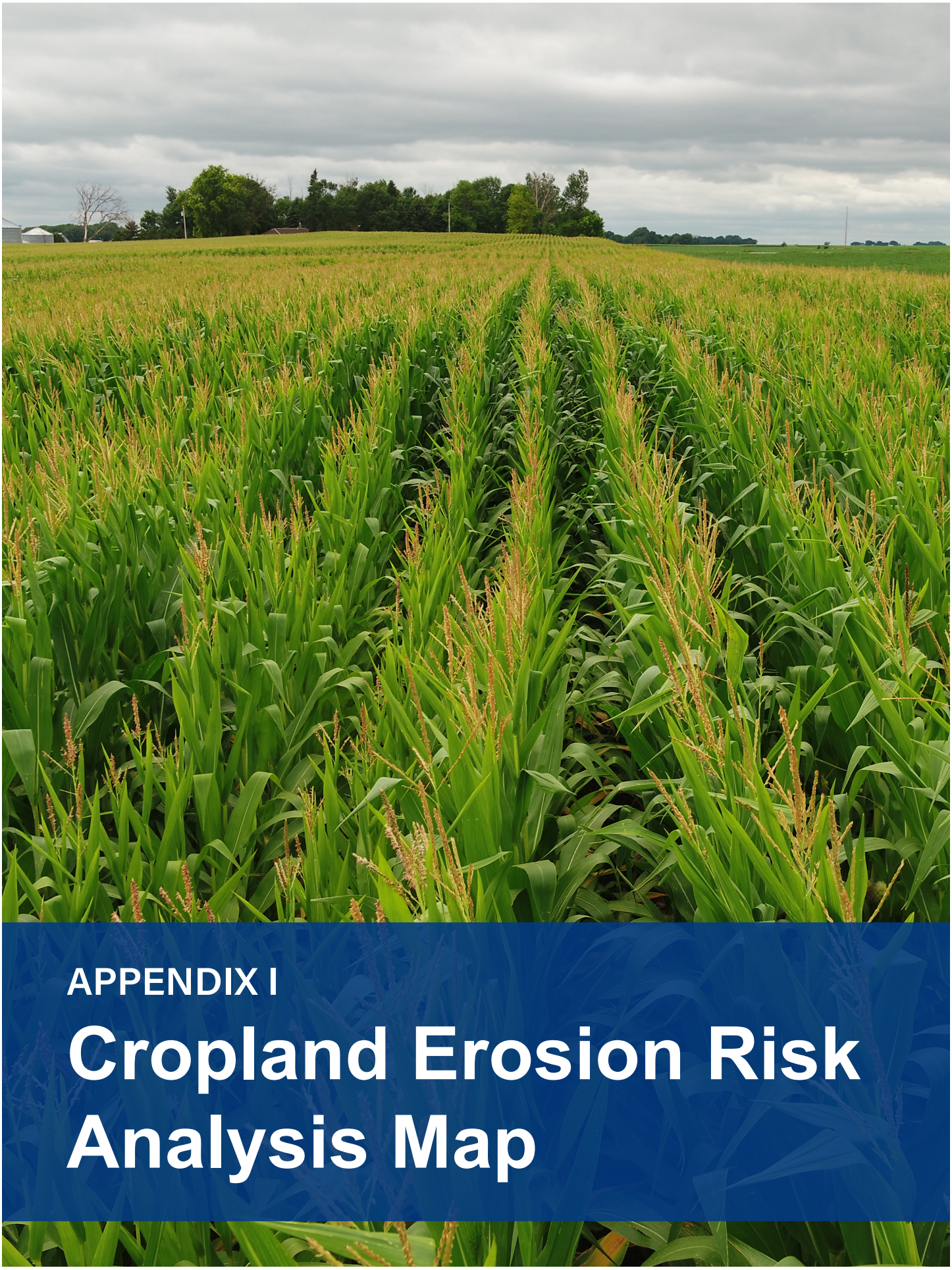
* Highest ranking issue (altered hydrology) used for voting result
No criteria for groundwater goal, as focus is watershed-wide

Table 2: Attribute catalog developed for the final 12-digit hydrologic unit code (HUC-12) implementation prioritization feature class.

Measurable Goal	Priority Level	Field Name	Field Type	Alias
N/A	N/A	AreaAcres	Float	HUC12/Planning Region Acreage
N/A	N/A	Stream_Miles	Float	Total Stream Miles
N/A	N/A	HUC12s_in_Planning_Region	Short Integer	HUC12 Count
Sediment	A	SedLoad	Float	PR Sediment Load [tons/yr]
Sediment	A	SedYield	Float	PR Sediment Yield [tons/acre/year]
Sediment	A	SedYield_Rank	Short Integer	Ranking of composite PR yield
Sediment	A	TSS_RestProt_Mi	Float	Miles of Low Restoration Effort/TIR/PIR Streams for TSS
Sediment	A	TSS_Pct_RestProt	Float	Percent of Low Restoration Effort/TIR/PIR Streams for TSS
Sediment	A	TSS_RestProt_Rank	Short Integer	Rank of percent of Low Restoration Effort/TIR/PIR Streams for TSS within PR
Sediment	A	Sed_CompValue	Float	Sediment Comp Value
Sediment	A	Sed_CompRank	Short Integer	Sediment Comp Rank
Hydrology / Flooding	A	FldPlain_Total_Acre	Float	Acres within 100- and 500-year floodplain
Hydrology / Flooding	A	Pct_Total_FldPlain	Float	Percent of PR within 100- and 500-year floodplain
Hydrology / Flooding	A	Rank_Pct_FldPlain	Short Integer	Rank of PRs by percent area within floodplain
Hydrology / Flooding	A	alt_hyd_stressor	Short Integer	Presence of Altered Hydrology Stressor Impairment
Hydrology / Flooding	A	AltHyd_CompValue	Float	Altered Hydrology Comp Value
Hydrology / Flooding	A	AltHyd_Rank	Short Integer	Altered Hydrology Comp Rank
Streambank / Channel	A	Restore_Ditch_Miles	Double	Miles of “restore channel” boxes from AIG
Streambank / Channel	A	RestoreDitch_normArea	Double	Miles of “restore channel” normalized by PR area
Streambank / Channel	A	RestoreDitch_Rank	Short Integer	Rank of “restore channel”
Phosphorus	A	TPLoad	Float	PR TP Load [lbs/yr]
Phosphorus	A	TPYield	Float	PR TP Yield [lbs/acre/year]
Phosphorus	A	TPYield_Rank	Short Integer	Ranking of composite PR yield
Phosphorus	A	TP_RestProt_Mi	Float	Miles of Low Restoration Effort/TIR/PIR Streams for TP
Phosphorus	A	TP_Pct_RestProt	Float	Percent of Low Restoration Effort/TIR/PIR Streams for TP
Phosphorus	A	TP_RestProt_Rank	Short Integer	Rank of percent of Low Restoration Effort/TIR/PIR Streams for TP within PR
Phosphorus	A	TP_Lakes_Rank	Short Integer	Rank of Low Effort Lake presence
Phosphorus	A	TP_CompValue	Float	Sediment Comp Value
Phosphorus	A	TP_CompRank	Short Integer	Sediment Comp Rank
Soil Health	A	CropErosion_Acre	Float	Acres of cropland with high wind erosion risk AND Top 25%

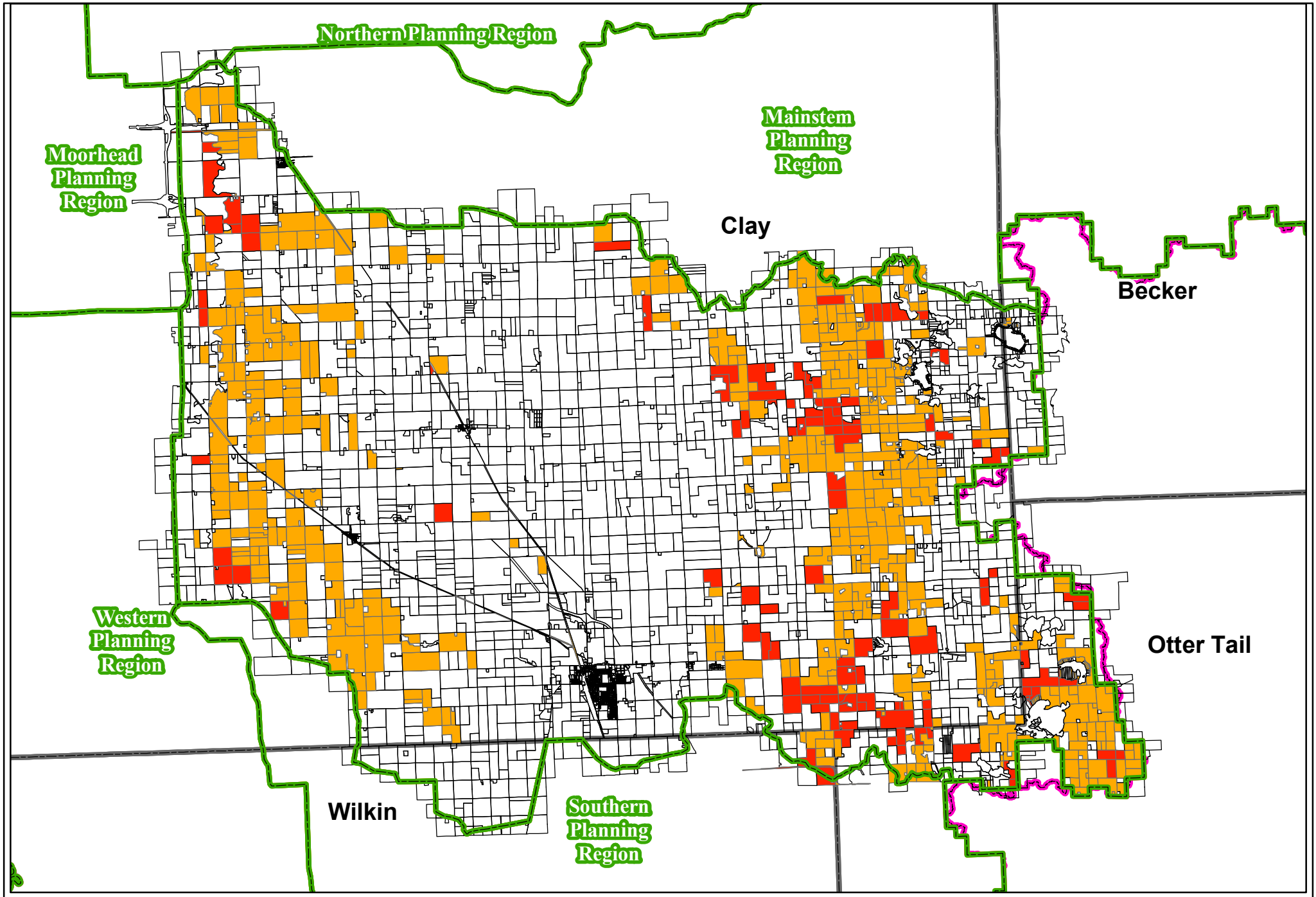
Measurable Goal	Priority Level	Field Name	Field Type	Alias
Soil Health	A	CropErosion_Pct	Float	Acres of cropland with high wind erosion risk AND Top 25% normalized by PR acre
Soil Health	A	CropErosion_Rank	Short Integer	Rank of cropland with high wind erosion risk AND Top 25% within PRs
Wetlands / Uplands	B	Prairie_Core_Acre	Float	Acres of Prairie Core within PR
Wetlands / Uplands	B	Pct_Prairie_Core	Float	Percent of Acres of Prairie Core within PR
Wetlands / Uplands	B	Rank_Prairie_Core	Short Integer	Rank of PRs by percent of acres of Prairie Core within PR (All PRs with 0 acres ranked '9')
Wetlands / Uplands	B	Prairie_Corridor_Acre	Float	Acres of Prairie Corridor within PR
Wetlands / Uplands	B	Pct_Prairie_Corridor	Float	Percent of Acres of Prairie Corridor within PR
Wetlands / Uplands	B	Rank_Prairie_Corridor	Short Integer	Rank of PRs by percent of acres of Prairie Corridor within PR (All PRs with 0 acres ranked '9')
Wetlands / Uplands	B	CompValue_WetUplands	Float	Composite value for Wetlands/Uplands goal
Wetlands / Uplands	B	CompRank_WetUplands	Short Integer	Ranking of composite value for Wetlands/Uplands goal
Dissolved Oxygen	B	DO_Impaired	Short Integer	Presence of DO Impairments
Bacteria	B	Ecoli_RestProt_Mi	Float	Miles of Low Restoration Effort/TIR/PIR Streams for bacteria
Bacteria	B	Ecoli_Pct_RestProt	Float	Percent of Low Restoration Effort/TIR/PIR Streams for bacteria
Bacteria	B	Ecoli_RestProt_Rank	Short Integer	Rank of percent of Low Restoration Effort/TIR/PIR Streams for bacteria within PR
Bacteria	B	Bacteria_CompValue	Float	Bacteria Comp Value
Bacteria	B	Bacteria_CompRank	Short Integer	Bacteria Comp Rank
Ditch Stability	B	DitchMiles	Float	Total Ditch Miles
Ditch Stability	B	UnstableDitchMiles	Float	Total Unstable Ditch Miles
Ditch Stability	B	UnstableDitchRank	Short Integer	Rank of Unstable Ditch Miles
Ditch Stability	B	PctUnstable	Float	Percent Unstable Ditch Miles
Ditch Stability	B	UnstblDitchToArea	Float	Unstable Ditch Miles per HUC12 Acre
Ditch Stability	B	DitchToAreaRank	Short Integer	Rank of Unstable Ditch Miles per HUC12 Acre
Ditch Stability	B	PctUnstableDitchRank	Short Integer	Rank of Percent of Unstable Ditch Miles
Ditch Stability	B	UnstableOutlets	Short Integer	Count of Unstable Ditch Outlets
Ditch Stability	B	UnstableOutletsRank	Short Integer	Rank of Number of Unstable Ditch Outlets
Ditch Stability	B	PctUnstableOutlets	Float	Unstable Outlets Divided by Total Ditch Miles
Ditch Stability	B	OutletsRank	Short Integer	Rank of Percent of Unstable Ditch Outlets
Ditch Stability	B	CompDitchValue	Float	Composite Value for Unstable Ditches and Outlets
Ditch Stability	B	CompDitchRank	Short Integer	Rank of Composite Ditch Value

Measurable Goal	Priority Level	Field Name	Field Type	Alias
Ditch Stability	B	NonNormDitchComp	Float	Composite Value for Non-Normalized Unstable Ditches and Outlets
Ditch Stability	B	NonNormDitchRank	Short Integer	Rank of Non-Normalized Composite Ditch Value
Ditch Stability	B	AreaNormDitchComp	Float	Composite Value for Area-Normalized Unstable Ditches and Outlets
Ditch Stability	B	AreaNormDitchCompRank	Short Integer	Rank for Area-Normalized Unstable Ditches and Outlets
Lake Shoreland	B	LakeStable_Rank	Short Integer	Rank of Lake Shore Stability
		Total_CompValue	Double	Composite Value
		Total_CompRank	Short Integer	Composite Rank



APPENDIX I

Cropland Erosion Risk Analysis Map


Northern Planning Region
Moorhead Planning Region
Mainstem Planning Region
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Otter Tail
Western Planning Region
Wilkin
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Counties
Parcels
Sediment (tons/yr/acre), Wind Erosion
Top 25%, Wind Erosion
Top 25%, NO Wind Erosion
Central Planning Region
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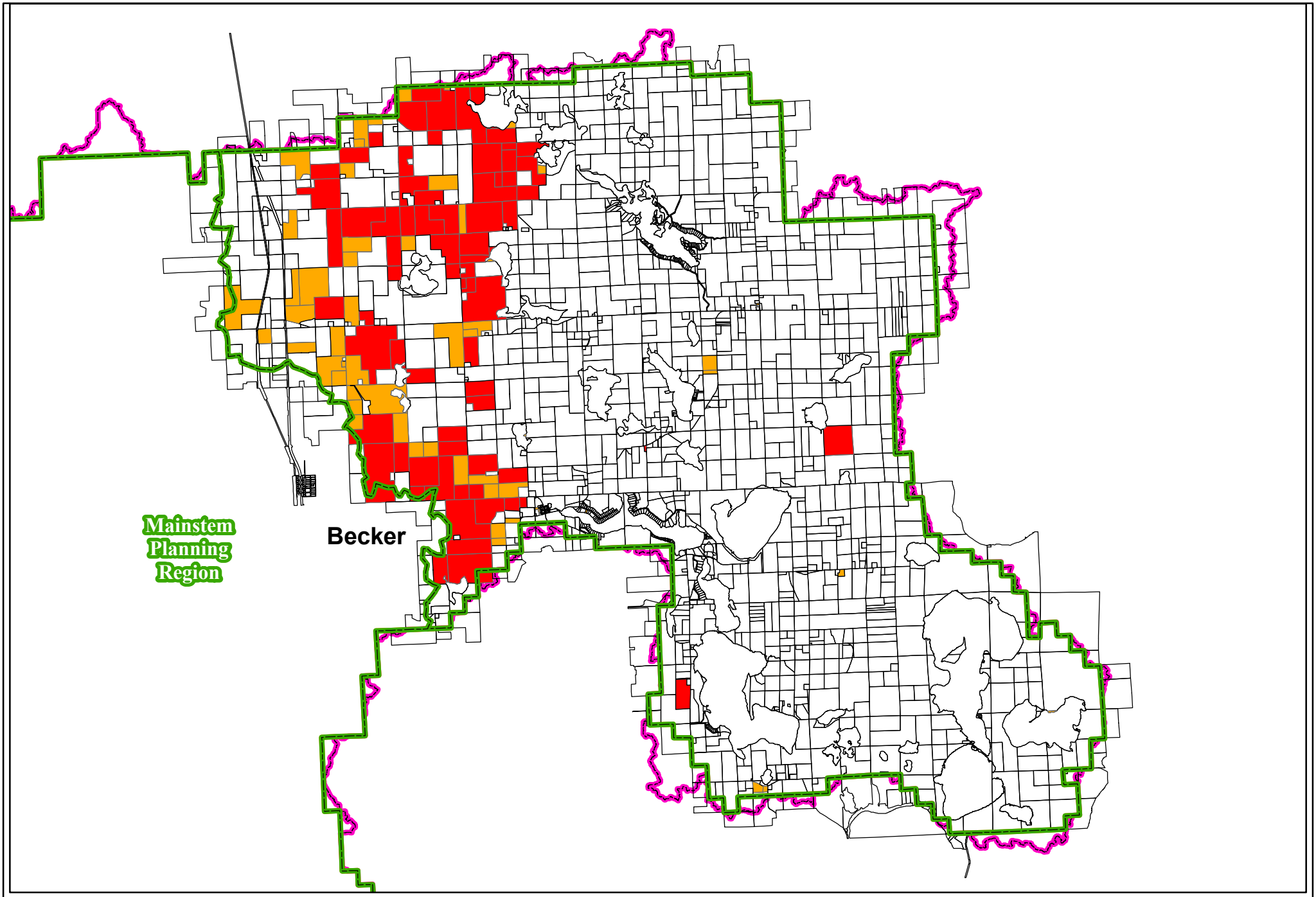

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Sediment (tons/yr/acre), Wind Erosion

Top 25%, Wind Erosion
Top 25%, NO Wind Erosion

Lakes Planning Region

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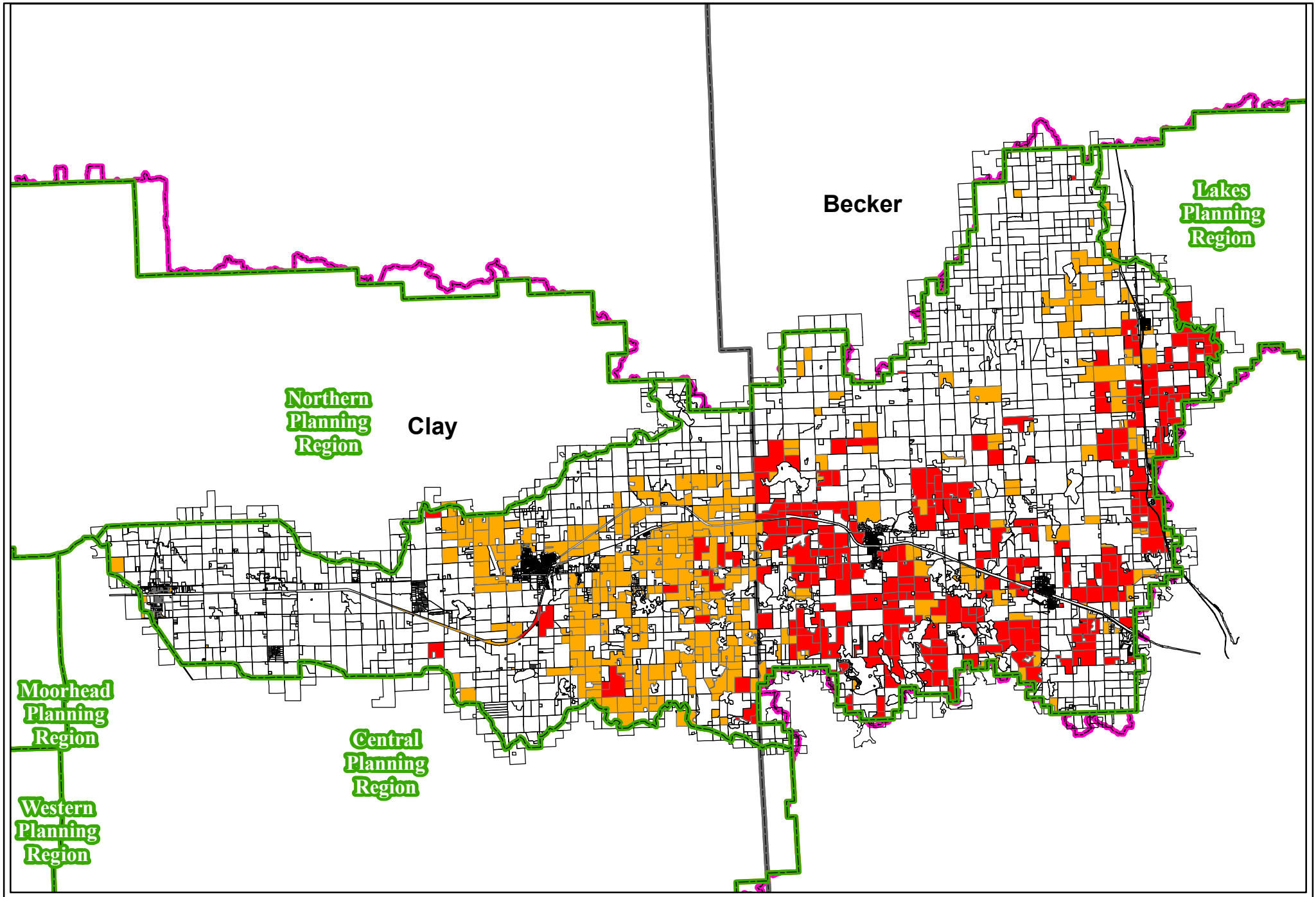
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Top 25%, NO Wind Erosion
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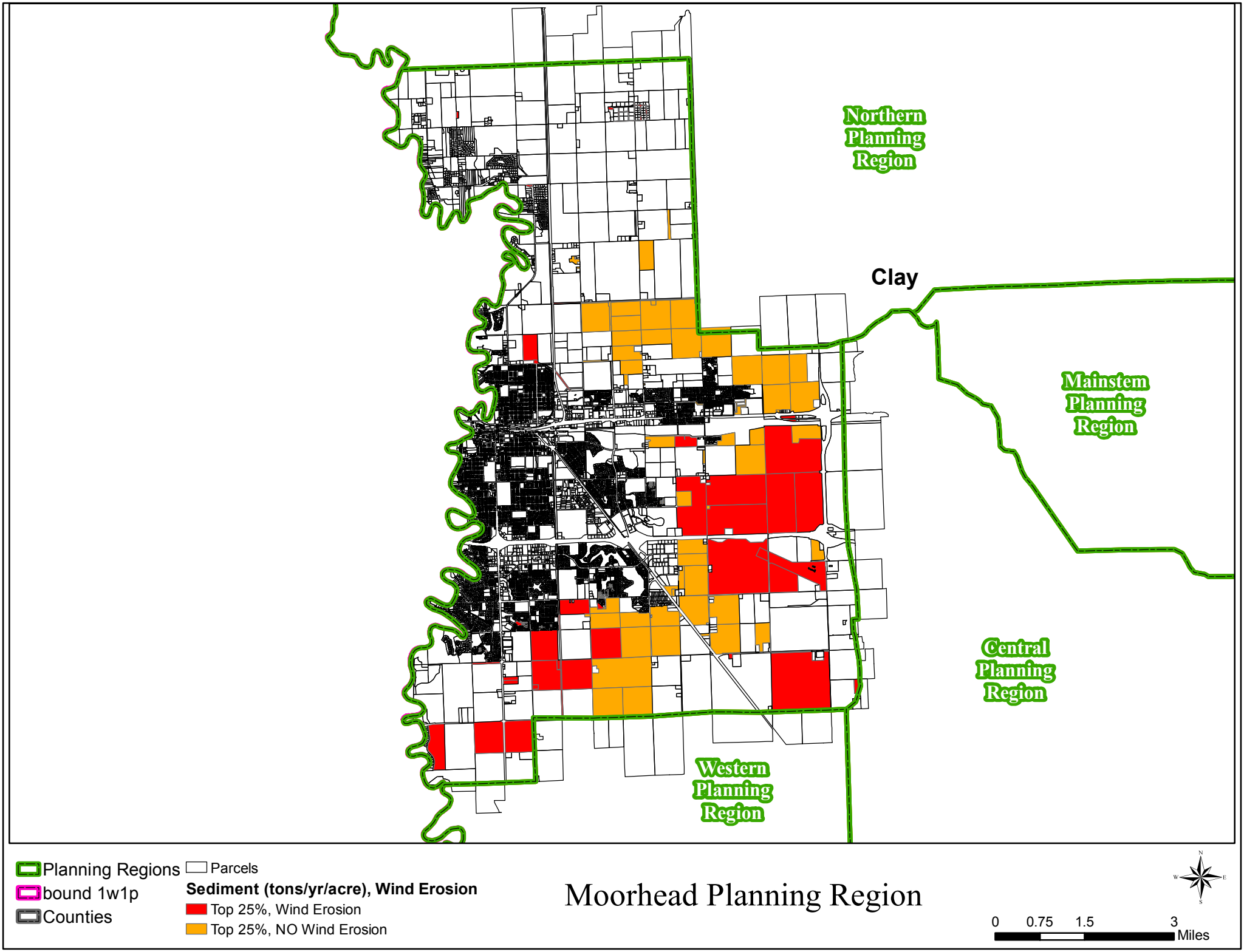
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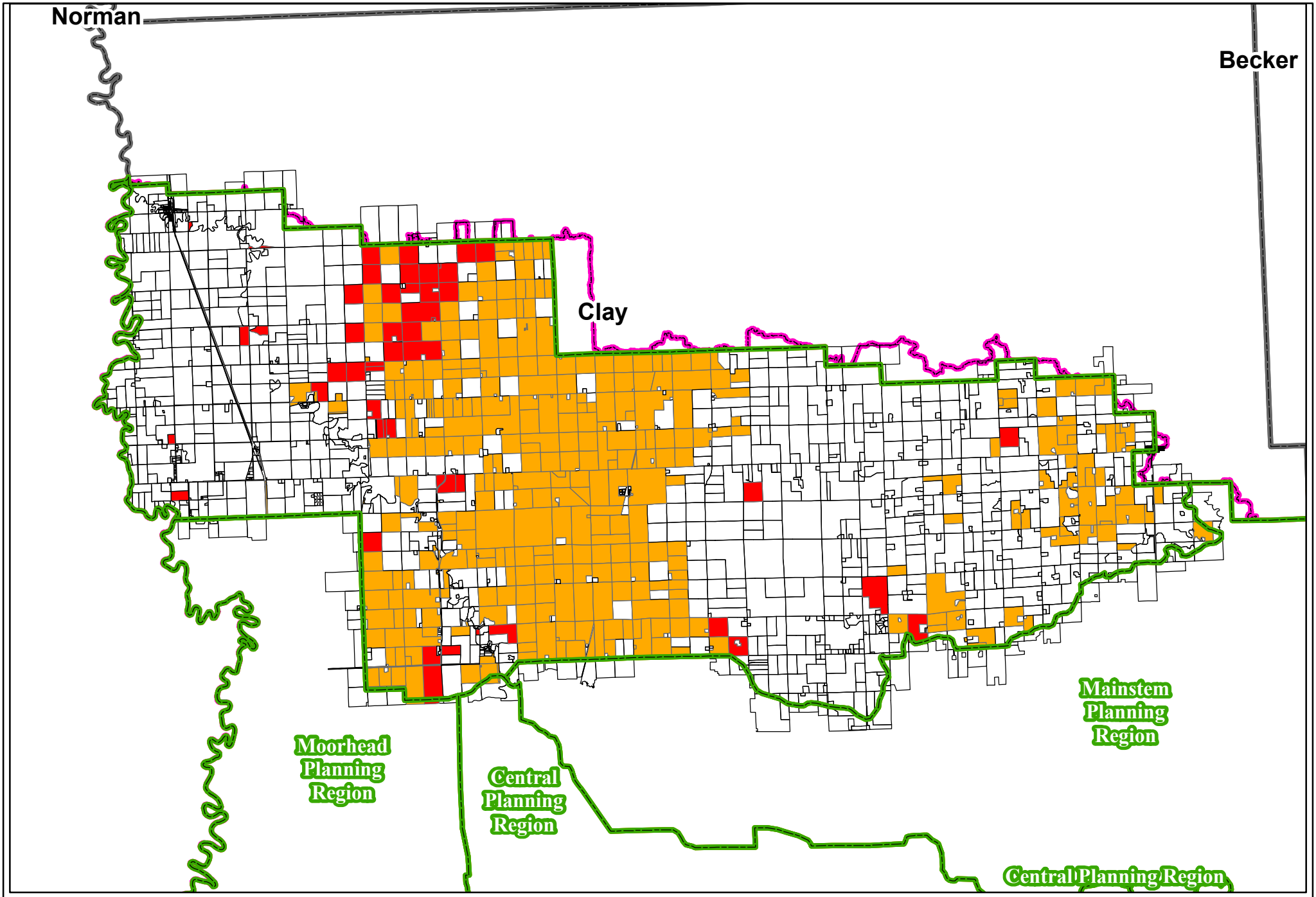
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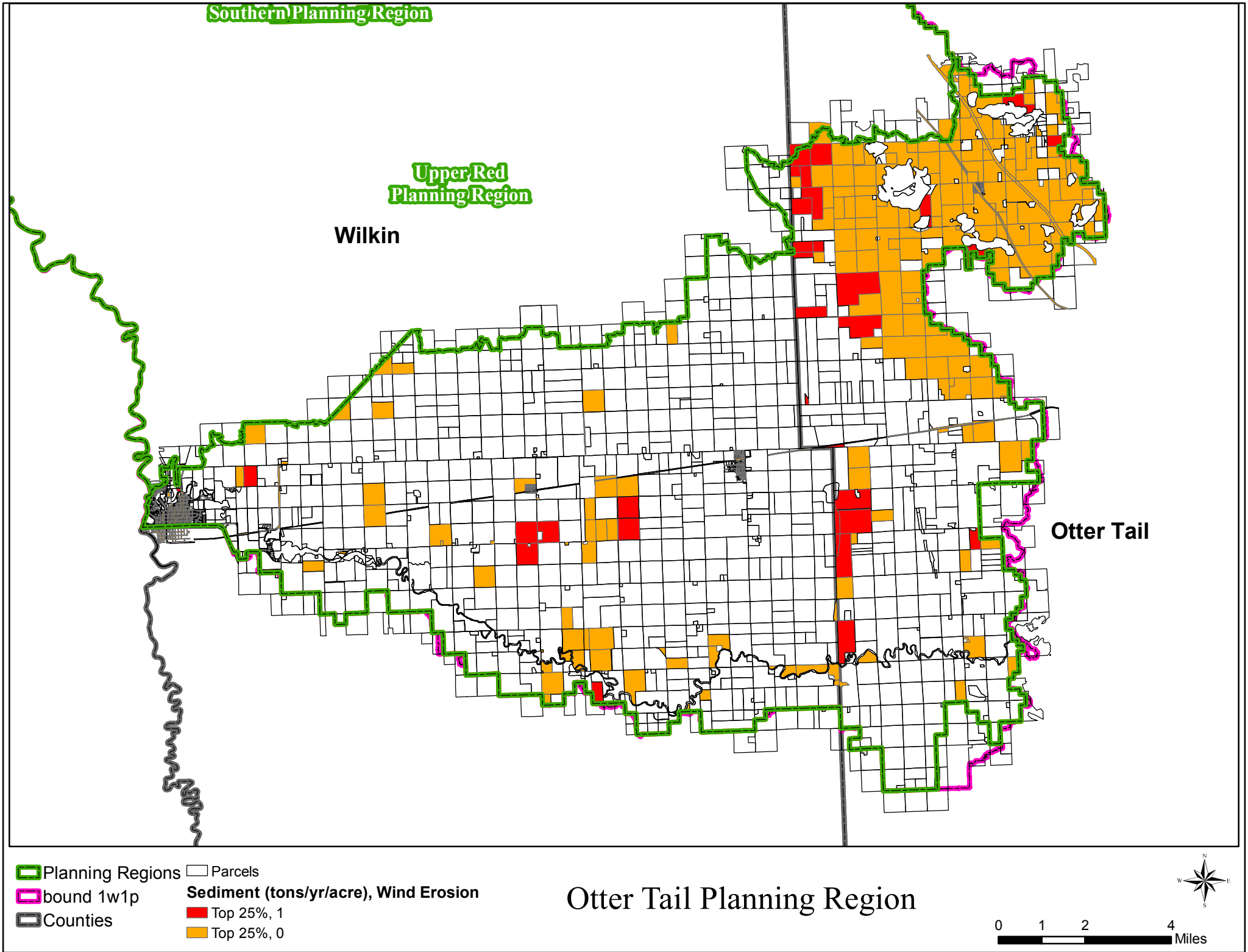
Southern Planning Region
Upper Red Planning Region
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Sediment (tons/yr/acre), Wind Erosion
Top 25%, 1
Top 25%, 0
Otter Tail Planning Region
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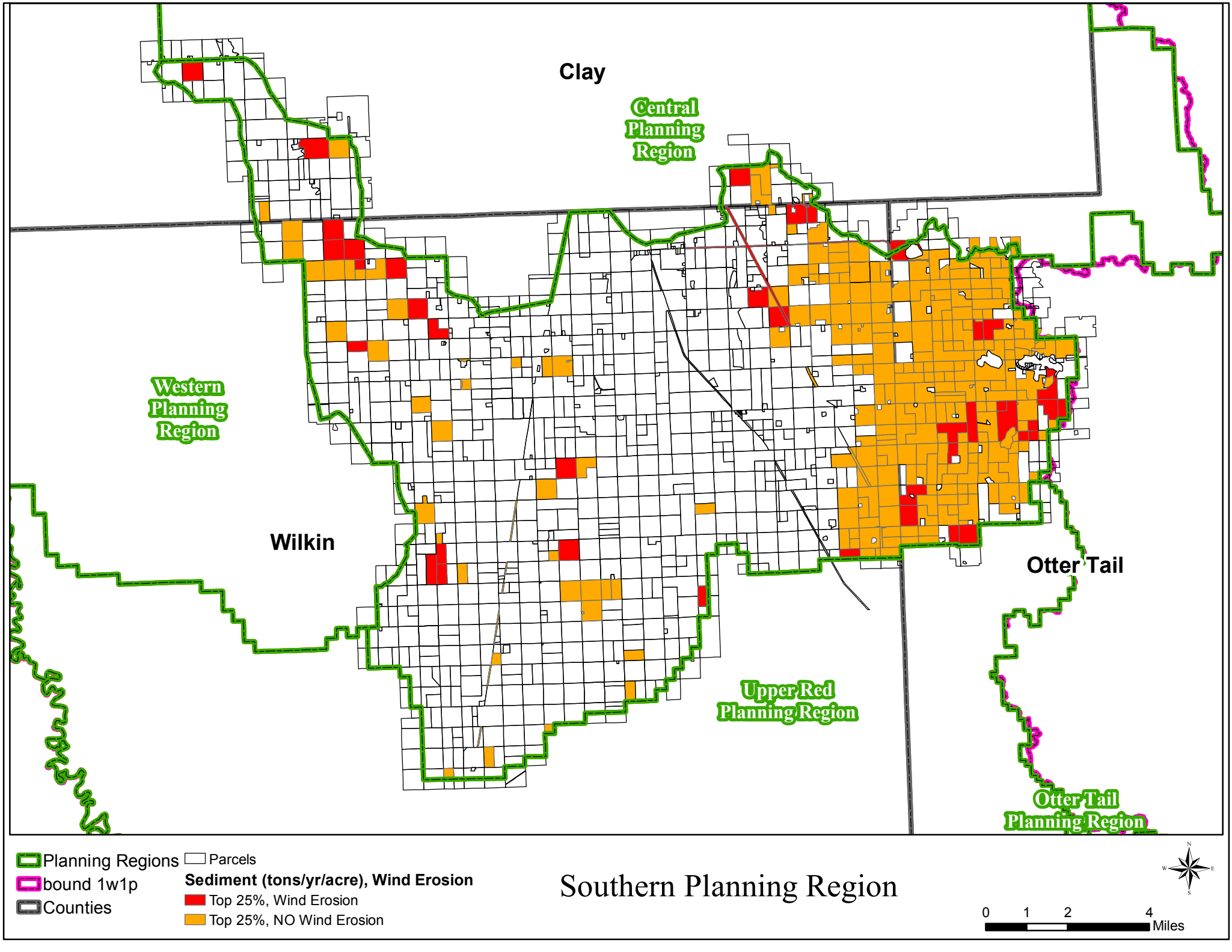
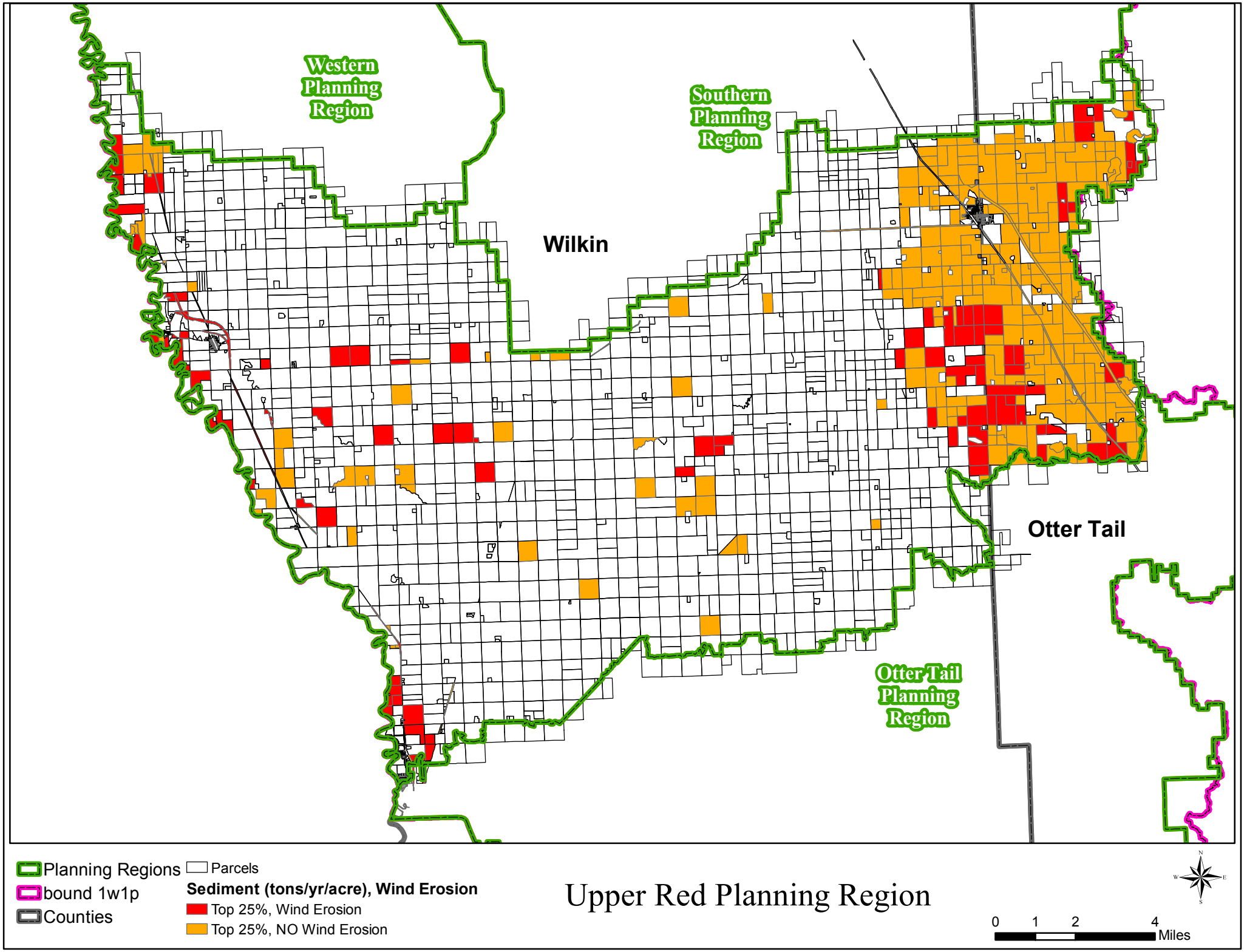

Clay
Central Planning Region
Western Planning Region
Wilkin
Otter Tail
Upper Red Planning Region
Otter Tail Planning Region
Planning Regions
bound 1w1p
Counties
Parcels
Sediment (tons/yr/acre), Wind Erosion
Top 25%, Wind Erosion
Top 25%, NO Wind Erosion
Southern Planning Region
0 1 2 4
Miles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Counties
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Sediment (tons/yr/acre), Wind Erosion
Top 25%, Wind Erosion
Top 25%, NO Wind Erosion
Upper Red Planning Region
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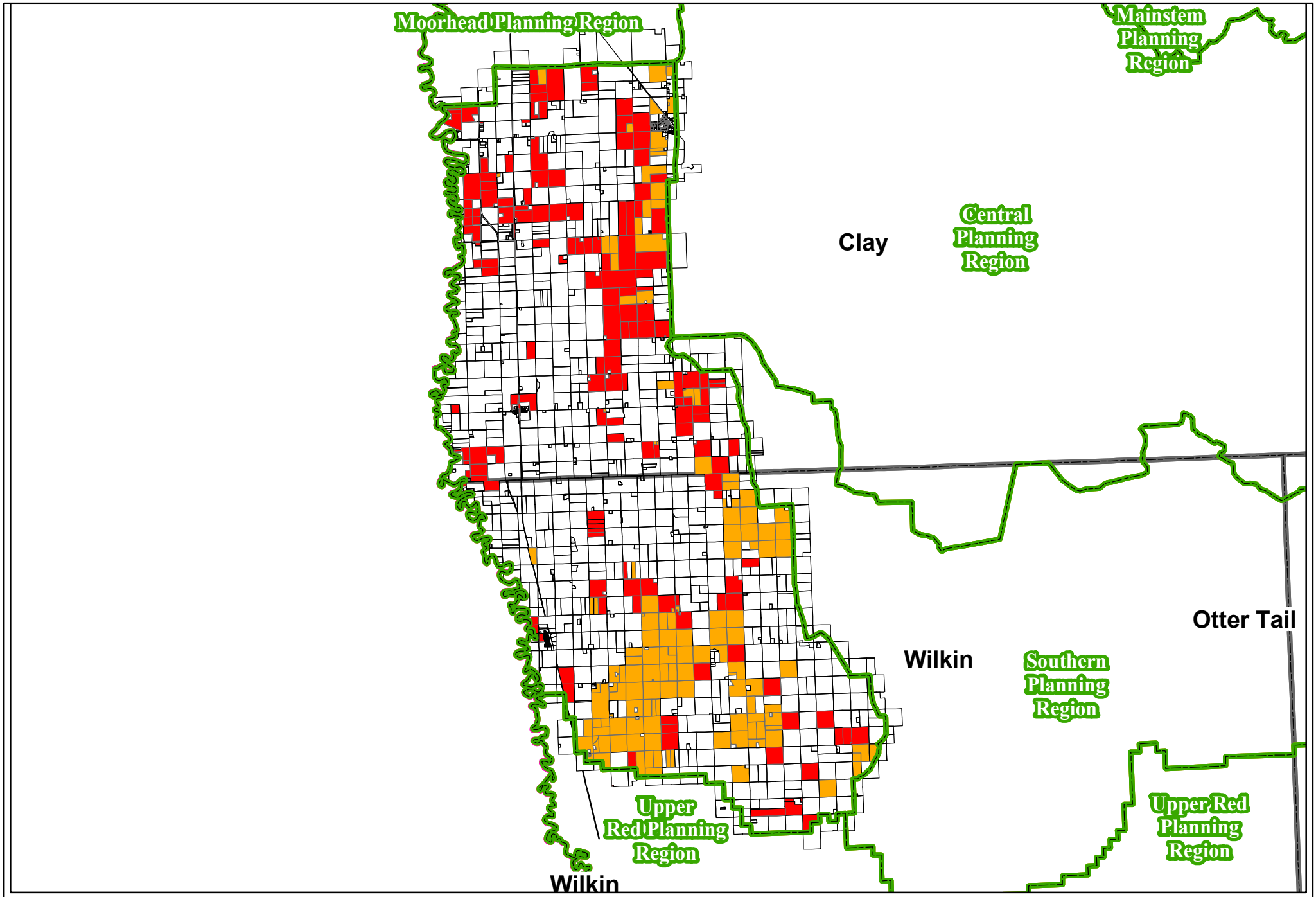
Moorhead Planning Region
Mainstem Planning Region
Central Planning Region
Clay
Otter Tail
Wilkin
Southern Planning Region
Upper Red Planning Region
Upper Red Planning Region
Wilkin
Planning Regions
bound 1w1p
Counties
Parcels
Sediment (tons/yr/acre), Wind Erosion
Top 25%, Wind Erosion
Top 25%, NO Wind Erosion
Western Planning Region
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W
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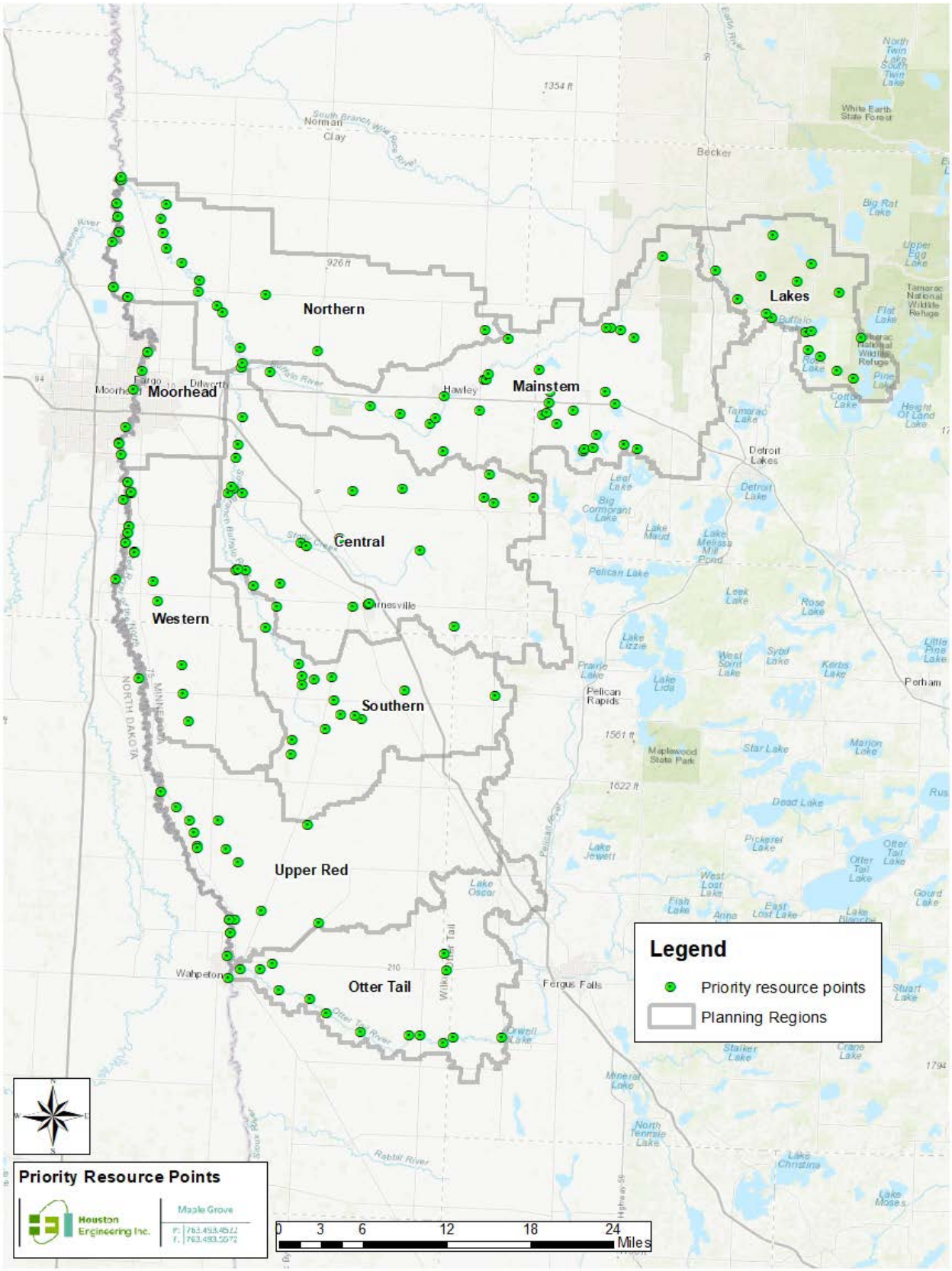
APPENDIX J

BRRW Priority Resource Points

Figure J-1: Priority resource point locations within the Buffalo-Red River Watershed



APPENDIX K

BRRW Rules

Buffalo-Red River

Rules

2019

Watershed District

Approved July 8, 2019

BUFFALO-RED RIVER WATERSHED DISTRICT

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When adopted, these Rules will amend the previous BRRWD Rules dated May 21, 1979.

Approved and signed this 8th day of July, 2019.

John E Hanson

John E. Hanson, Secretary

SECTION 1 - INTRODUCTION AND GENERAL POLICY

1.1 The Rules of the Buffalo-Red River Watershed District (BRRWD) are to accomplish the purposes of *Minnesota Statute, Chapter 103D* and *Minnesota Statute Chapter 103E,* as applicable, and the authority of the Managers therein described. These Rules are deemed necessary to implement and make more specific the law administered by them.

1.2 If any part of these Rules is for any reason held to be invalid, such decision shall not affect the validity of the remaining rules.

1.3 Changes to these Rules may be made by the Managers. Any interested person may petition the Managers for a change in these Rules.

1.4 If any rule is inconsistent with the provisions of *Minnesota Statutes, Chapter 103D, Chapter 103E,* or other applicable law, the provisions of said *Chapter l03D* or other applicable law shall govern.

1.5 The Managers accept the responsibility with which they are charged as a governing body. While the Managers have no intention to usurp the authority or responsibilities of other agencies or governing bodies, neither will they shirk their responsibilities. The Managers will cooperate to the fullest extent feasible with persons, groups, state and federal agencies and other governing bodies regarding said Rules.

1.6 Through these Rules, the Managers do not intend to divest any persons of any rights without due process and just compensation for any taking.

1.7 It is the intention of the BRRWD to manage the waters and related resources within the District in a provident and orderly manner so as to safeguard and assure the general welfare and public health for the benefit of present and future residents.

SECTION 2 - DEFINITIONS

For the purposes of these Rules, certain words and terms are defined as follows. In the absence of a definition hereinafter, the definitions established for the State of Minnesota by statute or by case law shall apply to these Rules unless clearly in conflict, clearly inapplicable, or unless the context makes such meaning unacceptable thereto:

100-YEAR FLOODPLAIN shall mean the beds proper and the area adjoining a wetland, lake, or watercourse which have been or hereafter may be covered by the base flood or the flood having a one percent chance of being equaled or exceeded in any given year.

ADMINISTRATOR shall be the person currently designated by the Board of Managers, BRRWD, for running the Watershed office.

BEST MANAGEMENT PRACTICES or **BMPs** prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating practices, and practices to control site runoff, spillage, or leaks, sludge or water disposal, or drainage from materials storage. ***They are practices that are capable of protecting the environment while considering economic factors, availability, and their technical feasibility to implement and effectiveness.***

BOARD OR BOARD OF MANAGERS shall mean the Board of Managers of the BRRWD.

BRRWD shall mean the Buffalo-Red River Watershed District.

BUFFER means an area consisting of perennial vegetation, excluding invasive plants and noxious weeds, adjacent to all bodies of water within the State and that protects the water resources of the State from runoff pollution; stabilizes soils, shores, and banks; and protects or provides riparian corridors.

BUFFER LAW shall mean *Minnesota Statutes §103F.48*, or as amended.

BWSR shall mean the Minnesota Board of Water and Soil Resources.

COMMISSIONER shall mean Commissioner of the Minnesota Department of Natural Resources.

CONTAMINANT is a polluting or poisonous substance that makes something impure.

CULTIVATION FARMING shall mean practices that disturb vegetation roots and soil structure, or involve vegetation cutting or harvesting that impairs the viability of perennial vegetation.

DEPARTMENT OF NATURAL RESOURCES or **DNR** shall mean the Minnesota Department of Natural Resources.

DESILTATION BASIN, SEDIMENT BASIN, OR STRUCTURE shall mean any pond, depression, structure, or other device which creates or stores water by detaining or slowing the outflow of the water by natural or artificial means.

DIKE shall mean a bank or mound of earth or other materials that is built to control water and, especially, to protect an area from flooding or to hold water onto others.

DOMESTIC WATER USE shall mean the use of water for common household or farm use.

DRAINAGE AUTHORITY shall mean the public body having jurisdiction over a drainage system under *Minnesota Statutes Chapter 103E*.

DOWNSTREAM for the purposes of the Rules shall mean an area or areas within the Watershed District situated or moving in the direction in which a stream or river flows.

DRAINAGEWAY shall mean any natural or artificial channel which provides a course for the flow of water, whether that flow is continuous or intermittent.

FSA shall mean a Farm Service Agency.

FLOOD is an overflow of water that inundates land that is usually dry.

GENERAL WELFARE shall include the safety or well-being of the general public or benefit the inhabitants of the District. General welfare shall by synonymous with "Public Welfare" or "Public Benefit".

GOVERNMENTAL SUBDIVISION shall mean any legally constituted political subdivision having the powers of establishing governing policies, the authority to levy taxes, and having duly elected officials which form a governing body. Such governmental subdivisions (or governmental units) for the purposes of this definition shall include only the United States of America, the State of Minnesota, the Counties of Clay, Becker, Otter Tail, and Wilkin, and various cities, school districts, and townships or portions thereof that lie within the Watershed District.

GOVERNMENTAL AGENCY shall mean any legally constituted non-elected body performing in an advisory or support capacity to a duly elected governmental subdivision. Examples of such agencies shall include, but not necessarily be limited to are the United States Department of Agriculture, the Minnesota Board of Water and Soil Resources, the Minnesota Department of Natural Resources, and the Minnesota Pollution Control Agency.

IMPROVE shall have the meaning set forth in *Minnesota Statues 103E.215, Subdivision 2*, which states that improvement means the tiling, enlarging, extending, straightening, or deepening of an established and constructed drainage system including construction of ditches to reline or replace tile and construction of tile to replace a ditch for any public or private system.

IRRIGATION is the application of controlled amounts of water for plants at needed intervals.

LANDFORMING shall mean changing any of the natural features of the earth's surface and the reshaping of surface topography to planned grades.

LEGAL DITCH shall mean a ditch established under *M.S. 103E* of the State of Minnesota, and means a Watershed, County, or Judicial drainage system.

MANAGERS shall be the Board of Managers, BRRWD, acting as a Board and not as individuals, unless specifically stated to the contrary.

MAINTENANCE as referred to for dikes, drainage ditches, and sewers shall mean restoring the system as near as practicable to its original condition or as subsequently improved.

MS4 shall be the abbreviation for Municipal Separate Storm Sewer Systems.

NORMAL HIGH-WATER MARK is a term used in reference to the Buffer Rule and means a mark delineating the highest water level that has been maintained for a sufficient period of time to leave evidence upon the landscape. Commonly, it is that point where the natural vegetation changes from predominantly hydrophytic to predominantly terrestrial.

NRCS shall mean U.S. Department of Agriculture, Natural Resources Conservation Service.

ORDINARY HIGH WATER MARK means a mark delineating the highest water level that has been maintained for a sufficient period of time to leave evidence upon the landscape. Commonly, it is that point where the natural vegetation changes from predominantly hydrophytic to predominantly terrestrial. In areas where the ordinary high water mark is not evident, setbacks shall be measured from the top of the bank of the river channel. A channel is a natural or artificial depression of perceptible extent, with definite bed and banks to confine and conduct flowing water either continuously or periodically.

ONE WATERSHED, ONE PLAN (1W1P) is a program through BWSR that supports partnerships of local governments in developing prioritized, targeted, and measurable implementation plans, pursuant to *Minnesota Statutes Chapter 103B.801*. Plans created through the 1W1P program area called Comprehensive Watershed Management Plans (CWMP) and are defined and described in *103B.801*. Once developed and adopted, a CWMP, as per *103B.802, Subd. 2 (6)* "serve as a substitute for a comprehensive plan, local water management plan, a watershed management plan developed or amended, and adopted, according to this *Chapter* or *Chapters 103C or 103D."*

OPERATOR shall mean a party other than a landowner that directly or indirectly controls the condition of land subject to various District and State laws under the Rule.

PARCEL in real estate, a lot or plot is a tract or parcel of land owned or meant to be owned by some owner(s).

PERMIT, DNR shall be the permit document issued by the DNR for the purpose of permitting an applicant or permit holder to perform work in the public waters of the State and, in particular, in the public waters of the Watershed District.

PERMIT, WATERSHED DISTRICT shall be the permit document issued by the Watershed District for the purposes of permitting the applicant or permit holder to perform work or maintain improvements in the District.

PERSON shall mean any individual, firm, partnership, association, corporation, or limited liability company but does not include public or governmental subdivisions.

PLAN is a map, drawing, report, aerial photograph with annotation, or other similar supportive data for proposed works.

PLANNING REGIONS deal with the placement of land-use activities, infrastructure, and settlement growth across a large area of land. Specific to the BRRWD, there are nine planning regions in the current 1W1P.

PLAT is a map, drawn to scale, showing the ownership divisions of a piece of land.

POLLUTANT means a chemical or substance for which a health risk has been adopted. *Minnesota Statutes §103H.005, Subd. 11.*

PONDING AREA shall mean any natural or artificial depression capable of retaining or detaining runoff waters and may be either permanent or intermittent.

PRIVATE DRAINAGE SYSTEM means an individual or mutually agreed upon drainage system on private lands.

PUBLIC CORPORATION means a county, town, school district, or a political division or subdivision of the State.

PUBLIC HEALTH means the general sanitary conditions of the District.

PUBLIC WATER as defined at *Minnesota Statutes §103G.005, Subd. 15*, and included within the public waters inventory as provided in *Minnesota Statutes §103G.201*.

RECONSIDERATION means the act of considering something again; review.

RESERVOIR means natural or artificial lake, storage pond, or impoundment created using a dam or lock to store water.

RETENTION BASIN OR STRUCTURE shall mean any pond, depression, structure, or other device, either natural or man-made, that is able to retain surface runoff waters because of its configuration.

RIGHT-OF-WAY (R/W) shall mean the legal right, established by usage or grant, to pass along a specific route through grounds or property belonging to another. Such as "road" R/W.

RIPARIAN AREA is a vegetated ecosystem along a water body through which energy, materials, and water pass. Riparian areas characteristically have a high water table and are subject to periodic flooding and influence from the adjacent water body. These systems encompass wetlands, uplands, or some combination of these two landforms.

SHORELAND shall mean land located within the following distances from public waters:

One thousand (1,000) feet from an ordinary high water mark of a lake, pond, or flowage as defined per *Minnesota Statues §103G.*

Three hundred (300) feet from a river or stream.

SHORELAND STANDARDS pertain to local shoreland standards as approved by the Commissioner or, absent such standards, the shoreland model standards and criteria adopted pursuant to *Minnesota Statutes §103F.211*.

STORM SEWER shall mean a series of pipes installed for the specific purpose of transporting surface and/or underground waters from one location to another and said system need not be continuously constructed only of pipe, but may include reaches of flumes, spillways, or open channels.

STORMWATER POLLUTION PREVENTION PLAN or **SWPPP** is a stormwater erosion and sediment control plan, that, when implemented, will decrease soil erosion and offsite nonpoint pollution. It involves both temporary and permanent controls and must be incorporated into the construction grading plans for the project.

STRUCTURE shall mean an above-ground building or other improvement that has substantial man-made features.

SWCD shall mean Soil and Water Conservation District.

TILE DRAINAGE shall mean an agricultural practice that removes excess water from soil subsurface using buried, perforated tile.

TRACT an expanse or area of land or water.

UPSTREAM for the purpose of the Rules shall mean an area or areas within the Watershed District situated or moving in the opposite direction from that in which a stream or river flows; nearer to source.

USFWS shall mean the United States Fish and Wildlife Service

WATERSHED DISTRICT shall mean the legally established agency named and referred to as the Buffalo-Red River Watershed District, when the first letters are capitalized. When the word "district" appears without capitalization, it shall mean the lands contained within the boundary of the governmental unit, the Buffalo-Red River Watershed District, as established by the Minnesota Board of Water and Soil Resources in accordance with *M.S. 103D*. See www.brrwd.org for a map of the District.

WETLANDS as defined by regulatory programs that have their own specific regulatory definition of wetlands. However, generally speaking, wetlands are identified by three factors:

1) **SOILS.** Wetlands have mostly hydric soils. These are soils that developed in wet conditions.

2) **HYDROLOGY.** Wetlands have standing water or saturated soil for at least part of the growing season.

3) **VEGETATION.** Wetlands have vegetation adapted to wet soil conditions.

Wetlands are classified into different types. There are two main classification systems in use in Minnesota regulatory programs:

Circular 39. The *Circular 39* system, developed by the U.S. Fish and Wildlife Service in 1956, divides wetlands in Minnesota into eight types. See "Wetlands in Minnesota"

(https://bwsr.state.mn.us/sites/default/files/2018-12/WETLANDS_delin_Circular_39_MN.pdf). See also *Minn. Stat. §103G.005, Subd. 17b.*

Cowardin et al. The Cowardin classification, developed by the U.S. Fish and Wildlife Service in 1979, can be used to classify sub-portions of a wetland. See Lewis M. Cowardin et al., *Classification of Wetlands and Deepwater Habitats of the United States, U.S. Fish and Wildlife Service* (1979).

(https://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf).

WETLAND DELINEATION is a determination of the regulatory jurisdictional boundary of a wetland. Under the *Minnesota Wetland Conservation Act* and the Corps of Engineers Section 404 Program,

delineations are conducted using the 1987 United States Army Corps of Engineers *Wetland Delineation Manual* and applicable regional supplements.

> See
> https://www.lrh.usace.army.mil/Portals/38/docs/USACE%2087%20Wetland%20Delineation%20Manual.pdf
> https://www.usace.army.mil/missions/civilworks/regulatoryprogramandpermits/reg_supp.aspx

Delineations using this manual are prepared based on field work, taking into account the three parameters of soils, hydrology, and vegetation.

Under the DNR Public Waters Permit Program, the jurisdictional boundary of a wetland is the Ordinary High-Water Level (OHWL). Information on determining the OHWL can be found in "*Guidelines for Ordinary High-Water Level (OHWL) Determinations*," Minn. Department of Natural Resources (1993).

> See https://files.dnr.state.mn.us/waters/surfacewater_section/hydrographics/ohwl.pdf

WORK is exertion or effort directed to produce or accomplish something.

WORKS is used to describe construction or engineering projects.

"SHALL" & "MAY" as used in these Rules shall be construed to indicate a mandatory and a permissive state or condition, respectively.

SECTION 3 - PERMITING PROCEDURES, FEES AND FINANCIAL ASSURANCES

3.1 **POLICY.** The District's permit requirements are not intended to delay or inhibit development. Rather permits are needed so that the Managers are kept informed of planned projects, can advise and in some cases, provide assistance, and can ensure that land disturbing activity and development occurs in an orderly manner and in accordance with the current *Revised Watershed Management Plan* (*RWMP*) or the *One Watershed, One Plan (1W1P)* for the District. All interpretations of these Rules and permit decisions under these Rules will incorporate and be consistent with District purposes set forth in *Minnesota Statutes, §103D.201*.

3.2 **PERMIT REQUIREMENT.** Any person or agency of the State of Minnesota or political subdivision undertaking an activity for which a permit is required by the District Rules must first submit a permit application. The application must be submitted on the form provided by the District or the substantial equivalent and must include all exhibits required by the applicable District rule(s). Application forms are available on the District's website at http://www.brrwd.org/permits.

A. The BRRWD is subject to *M.S. 15.99,* time deadlines for Agency actions.

B. All permits, when issued, shall be officially acknowledged as approved by the Board of Managers or their designee(s).

C. No works, use, or activities requiring a permit shall be commenced prior to the issuance of a permit.

D. Permit application forms may be completed and filed at the District's office at 1303 4th AVE NE, Barnesville, MN, on the BRRWD's website at http://www.brrwd.org/, or mailed to: Buffalo-Red River Watershed District, PO Box 341, Barnesville, MN 56514.

E. Permits must be on file at the District's office at least ten (10) days prior to the regular semimonthly meeting to be considered at that meeting.

F. Application for a permit will be acted upon within sixty (60) days from the date the Managers receive the application, or otherwise handled in accordance with *M.S. 15.99*.

G. A plat or drawing shall accompany the application. The Managers may request additional information

H. Applicant will be notified of the date the permit will be on the BRRWD meeting agenda. Applicant has the opportunity, but not the obligation, to explain and encourage approval of the permit. Any opponents will be afforded an opportunity to voice concerns at the board meeting when the permit is considered or to submit concerns in writing to the Board before the meeting.

I. Work performed within the MS4 boundary, as shown on the BRRWD's website at www.brrwd.org, will be required to follow the procedures set forth in **SECTION 9 - MS4 REGULATIONS**.

J. The Board of Managers will make permit decisions, except as may be delegated to staff or the District engineer by written resolution. The Board will review a staff permit decision on the applicant's request. The District may approve or deny an application and may impose reasonable

conditions on approval. Conditions may include, consistent with the Rules, requirements for financial assurances and maintenance agreements or declarations, and may require that these documents be properly executed or recorded before permit issuance.

K. A permit is valid for one (1) year from the date the permit is approved, with or without conditions, unless specified otherwise or unless the permit is suspended or revoked. Any infrastructure constructed with a permit can be maintained beyond one year without renewal of the permit. But if any additional work is to be conducted outside the scope of the original approved permit, another permit or a renewal must be requested. The Board of Managers can delegate to BRRWD Staff the ability to renew or extend permits beyond one (1) year.

L. To renew or transfer a permit, the permittee must notify the District in writing prior to the permit expiration date and provide an explanation for the renewal or transfer request. The District may impose different or additional conditions on a renewal or deny the renewal in the event of a material change in circumstances, except that on the first renewal, a permit will not be subject to additional or different requirements solely because of a change in District Rules. New or revised rule requirements will not be imposed on renewal of a permit where the permittee has made substantial progress toward completion of the permitted work. If the activities subject to the permit have not substantially commenced, no more than one renewal may be granted. An applicant wishing to continue to pursue a project for which permit approval has expired must reapply for a permit from the District and pay the applicable fees.

M. A permittee may assign a permit to another party only upon approval of the District, provided:

1) the proposed assignee agrees in writing to assume responsibility for compliance with all terms, conditions, and obligations of the permit as issued;

2) there are no pending violations of the permit or conditions of approval;

3) the proposed assignee has provided any required financial assurance deemed necessary by the District to secure performance of the permit; and

4) the District may impose different or additional conditions on the transfer of a permit or deny the transfer if the proposed transferee has not demonstrated the ability to perform the work under the terms of the permit as issued. Permit transfer does not extend the permit term. The District may suspend or revoke a permit issued under these Rules if the permit is issued based on incorrect information supplied to the District by the applicant.

N. The Managers can further require, as a condition of a permit, that they be notified when the permitted activity is completed.

O. A permit applicant consents to entry and inspection of the subject property by the District and its authorized agents at reasonable times as necessary to evaluate the permit application or determine compliance with the requirements of a District permit or rule(s).

P. A District permit is permissive. Obtaining a permit from the District does not relieve the applicant from responsibility to comply with any procedures or approvals that may be required by *Minnesota Statutes Chapter 103D* or *Chapter 103E* or other drainage laws, nor does it relieve the applicant from responsibility for obtaining authorizations required, if any, by other regulatory bodies or property owners where the activity occurs.

Q. Approval of a permit for one component of a project shall not be deemed a waiver by the District of the right to take enforcement on any other illegal or non-conforming aspects of an applicant's work or project. The scope of the permit approval is limited to the scope of the specific activity requested in the permit application.

3.3 **GENERAL PERMITS.** The District may issue district-wide general permits, approving certain routine activities or specific classes of projects where a standard design has been approved by the District, as long as the work is conducted in compliance with applicable District rule requirements.

A. Each district-wide permit will be subject to such specific requirements as the Board may establish.

B. The BRRWD will hold a hearing before any district-wide permit is issued or renewed.

3.4 A Board of Manager's decision is deemed their final decision, unless, within 5 days of the Decision, the applicant requests reconsideration of the decision by the Board. To request reconsideration, the applicant must file at the District's office a *Request for Reconsideration* on a form provided by the District including a written description of what aspect of the decision should be reconsidered and written information underscoring why the decision should be reconsidered. The Board will consider whether to grant the Request for Reconsideration at the next meeting. If the Board elects to allow reconsideration and set another opportunity for the applicant to present evidence to the Board, the permit will be deemed denied, unless overturned by the Board at a hearing within 60 days of approving the Request for Reconsideration, for the purposes of *Minnesota Statutes §15.99.*

A. The District will give the applicant due notice of when the Board of Managers will reconsider the permit decision. The District will not take longer than 60 days from its receipt of the Notice of Reconsideration to issue a final decision including reconsideration, unless a further extension is approved by the applicant, or is permissible under *Minnesota Statutes §15.99,* i.e., if more information is timely requested by the District on the reconsideration, then the 60 days starts over per *Minn. Stat. §15.99* upon receipt of such information.

B. District costs incurred for reconsideration are permit administration costs for which an applicant may be responsible under Section 3.5 of this Rule.

3.5 **PERMIT FEE.** The District may charge applicants a permit fee in accordance with State law and a schedule maintained by the Board of Managers to ensure that permit fees cover the District's actual costs of administrating and enforcing permits. Fees will also cover actual costs related to field inspections, legal, or engineering costs of permitted projects, such as investigation of the area affected by the proposed activity, analysis of the proposed activity, services of consultants and any required monitoring of the proposed activity. Costs of monitoring an activity authorized by permit may be charged and collected as necessary after issuance of the permit. The fee provided for in this Rule will not be charged to any agency of the United States or of any governmental unit or political subdivision of the State of Minnesota.

3.6 **"AFTER THE FACT" PERMIT.** An "After The Fact" permit may be considered by the District and granted to an individual, if the "After The Fact" permit submission is the first submission provided to the District by said person or entity for the work that has been done. If a person or entity has had a prior warning given to them in regard to their failure to follow the permitting rule requirements, a $500.00 late filing fee may be assessed against said person or entity for the "After The Fact" permit submission. Said late filing fee assessment is in addition to any other conditions or requirements that may be ordered by the District in regard to repair or restoration of non-permitted work by said persons or entity in regard to

an approval or disapproval of an "After The Fact" permit application. In addition to the remedies provided in *Minnesota Statute 103D.545* and other remedies provided for in these Rules, in those instances where work has been performed before a permit has been approved, the District may require that the property be returned to its original condition before consideration of the "After The Fact" permit application. The District may also require the applicant to pay actual engineering and attorney's fees, allowed by law, incurred by the District in dealing with the un-permitted work.

3.7 **FINANCIAL ASSURANCE.** The Managers, at their discretion, may require an applicant to file a bond, letter of credit, or other escrow deposit in a form approved by the District as a condition of permit issuance. The amount of the financial assurance required will be set in accordance with a schedule established and maintained by the Board of Managers by resolution. When the permitted activities are certified as having been completed in compliance with the District permit and Rules, the financial assurance will be released.

A. If the District determines that the permitted activities have not been completed in compliance with the permit and District Rules, the Board of Managers may determine that the assurance is forfeited, and the District may use the funds to take such actions the District deems necessary to bring the subject property into compliance with the permit and District Rules, to prevent or mitigate harm to protected resources or other property, to abate or restore damages, or otherwise to ensure conditions in compliance with an applicable District permit and/or the District Rules. If financial assurance funds prove insufficient to complete the necessary work, the District may complete the work and assess the permit holder and/or property owner for any excess costs.

B. No financial assurance will be required of any agency of the United States or of any governmental unit or political subdivision of the State of Minnesota. The District may require that the District be named as a beneficiary in the financial assurance of the agency's contractor.

SECTION 4 - SURFACE DRAINAGE AND FLOOD MITIGATION

4.1 **POLICY.** It is the policy of the Board of Managers to promote the use of the waters and related resources within the District in a provident and orderly manner to improve the general welfare and public health for the benefit of the District's present and future residents. Further, it is the policy of the Board of Managers to regulate new construction, improvement, repair, and maintenance of legal and private drainage ways for the following purposes:

A. To preserve the capacities of drainage systems;

B. To improve water quality and prevent localized flooding;

C. To prevent the loss of drainage capacity;

D. To avoid drainage conditions that cause, or aggravate, erosion or sedimentation of downstream drainageways or water bodies; and

E. To ensure that parties responsible for accumulation of debris, soil, and sediment in drainageways maintain those drainageways.

F. Every person shall use their land reasonably in disposing of surface water and may use a natural drainageway for all the surface water that would naturally drain there but may not burden a lower landowner with more water than is reasonable under the circumstances. Surface water shall not be artificially removed from the upper land to and across lower land without adequate provision being made on the lower land for its passage, nor shall the natural flow of surface water be obstructed so as to cause an overflow onto the property of others without just compensation paid to the impacted landowners for any necessary flowage easements.

4.2 **REGULATION.** The District's legal authorities allow the Board to control waterways, impoundments and drainage systems within the watershed and the discretion to issue permits for or engage in enforcement actions against the activities identified herein:

A. No person or public corporation shall allow an artificially or naturally created obstruction on their property to impede the flowage within a waterway or cause an impoundment to be created on adjoining property without a permit from the District.

B. No person or public corporation shall cut an artificial drainage way across a subwatershed without a permit from the District.

C. No person or public corporation shall divert or cast water by any artificial means into any legal drainage system from lands not assessed to said drainage system without complying with the proper statutory procedure and securing a permit from the District.

D. No landowner, occupant, contractor, or equipment operator shall undertake to construct or improve any private drainage system that has the effect of draining an area in excess of a five (5) acre watershed without obtaining a permit from the District. Existing field drains may be cleaned but may not be deepened or enlarged without a permit.

E. No person or public corporation shall construct, alter, repair to other than the original design and function, or remove any dike without a permit from the Board of Managers.

F. Repairs of an emergency nature to restore a dike system to its original configuration shall not require a permit; however, the Board of Managers shall be notified of the proposed work prior to the commencement thereof and the reasons necessitating the emergency action.

G. No person or public corporation shall undertake the construction, removal, or abandonment of any reservoir for the impoundment of water without a permit from the District; nor shall any works be done which would alter the effectiveness of a reservoir without a permit from the District.

H. No landowner, occupant, contractor, or equipment operator shall undertake landforming, which is the reshaping of surface topography on a given tract of land without a permit from the District.

I. Any parcel subdivision not covered by existing county flood plain regulations that includes land abutting upon any lake or stream within the District or which includes any land within a floodplain within the BRRWD shall be submitted to the Managers for their approval to insure the protection of the bed, banks and shore of said lakes or streams from improper encroachment for the purpose of preventing erosion, pollution, and alleviating damage by flooding.

J. To control and alleviate soil erosion and siltation of watercourses of the District;

   1) All watercourses therein shall be constructed with a side slope as determined by proper engineering practice, so as to reasonably minimize soil slippage erosion, giving due consideration to the intended capacity of the watercourse, its depth, width and elevation, and the character of the soils through which the drain passes.

   2) Water inlets, culvert openings and bridge approaches shall have adequate shoulder and bank protection in order to minimize soil erosion. Plans and specifications relating to matters covered in this section shall be submitted to the Managers for their consideration prior to construction and installation of any of the foregoing works.

K. No landowner or occupant shall destroy all, or any portion, of the required sixteen and one-half foot (16.5') grass strip on ditch systems where they have previously been established. Where grass strips have been partially or completely destroyed, landowners will be required to restore the destroyed area to the original specifications at their own expense. If not restored, after receiving proper notice with a reasonable, attainable restoration date, the necessary work will be performed by the District and the costs subsequently billed to or collected with the landowner's real estate taxes in the following year.

L. In the interest of sanitation and public health and to prevent the pollution of waters of the District, all septic tanks and drain fields which outlet directly or indirectly into the waters of the District shall be constructed and maintained in accordance with the rules and recommendations of the State Board of Health and the Minnesota Pollution Control Agency. No septic tank or other waste disposal facility shall outlet into any project, river, stream or public or private drainage system except as authorized by permits of the State Board of Health, Minnesota Pollution Control Agency, and/or the BRRWD. No refuse, garbage or noxious materials may be dumped in or within fifty feet (50') of any project, river, stream or public or private drainage system within the District or be placed in such a manner as to be potentially cast into these same systems by flowing water.

M. In order to maintain beneficial use, no wetland may be filled or drained without a permit from

the District. Wetland activities may also be subject to the Minnesota Wetland Conservation Act and a variety of other local, state, and federal regulations.

N. No repair or alternation of any legal drainage system shall be done without a permit from the District. Copies of plans and specifications for the repair or alteration of any legal drainage system shall be submitted and approved by the Managers before construction may begin. Repairs of an emergency nature on a legal drainage system by a political subdivision may be undertaken without a permit; however, the District must be notified of the proposed work and a reason given for the emergency nature of the action.

O. No construction of new, or improvements, to existing private drainage systems shall be undertaken without first filing plans and specifications with a permit application and being authorized by the receipt of an approved permit for the intended work from the District.

P. No irrigation project, public or private, serving an area in excess of five (5) acres, shall be constructed without a permit from the District.

Q. The requirements of these Rules are in addition to other applicable laws and procedures, including those of *Minnesota Statutes Chapter 103E*. These Rules are to provide for management of waters in the public interest and does not displace in whole or part any private legal rights a property owner or other person may have with respect to the use and drainage of waters.

R. A copy of all permits prepared for the Department of Natural Resources to appropriate waters of the State for irrigation and other purposes shall be forwarded to the Board of Managers for comment.

S. No installation or alteration of drainage structures, which will increase the capacity of the structure, shall be undertaken by anyone without a permit from the Board of Managers. Flap gates, where installed, shall typically remain closed, unless operated in accordance with a plan approved by the BRRWD.

T. A contractor or equipment operator is responsible to ascertain whether a permit is required by these Rules and, if so, that it has been obtained. Failure of a contractor or equipment operator to verify the existence of a permit will subject that contractor or operator to civil fines, remediation costs, injunctive relief, potential litigation, and criminal penalties.

U. The sections above notwithstanding, no permit from the District is required:

1) To perform maintenance on an existing drainage way or field drain, so long as the work does not remove clay or virgin soils or alter the original alignment, depth, or cross-section of the drainage way;

2) To repair or replace up to 50 lineal feet of tile within a private drainage way without altering the system invert;

3) To disturb surface soils in the course of ordinary cultivation or other agricultural activity; or

4) To replace an existing drainage structure (culvert) with the same size structure at the original elevation provided it has been deemed adequate.

SECTION 5 - SUBSURFACE TILE DRAINAGE

5.1 **POLICY.** The Board of Managers encourages practices for the sound construction and management of subsurface tile drainage systems in order to minimize downstream flooding and to optimize water storage and agricultural productivity.

5.2 **REGULATION.** No person shall install, alter, or construct any subsurface tile drainage system without obtaining a permit from the Watershed District.

5.3 **STANDARD CONDITIONS.** Any subsurface tile permit issued by the Watershed District will be subject to the following conditions unless specifically noted on the permit approval.

A. Applicant is responsible to contact and coordinate any tile project with all local, state, and federal agencies to ensure approval/clearance regarding any potential wetland issues (and with the USFWS for installation of tile on any parcel that is under easement from the USFWS).

B. Applicant is responsible to obtain approval from an affected road authority (township, county, state) for any work in the road R/W and other drainage authorities for outlets to any legal ditch not under BRRWD jurisdiction.

C. Applicant is responsible for adequate erosion control measures at the outlet of a tile system. This should include the installation of riprap or other protection measures at pump outlets as appropriate. It will remain the responsibility of the applicant to maintain this protection. If erosion anywhere in the tile system causes the tile to be exposed, the Applicant or landowner can be ordered to repair erosion, reinstall tile, or remove tile.

D. Applicant is responsible to ensure that all gravity outlets be installed above (however not more than 2-ft) the elevation of the original design gradeline of a receiving ditch or channel.

E. Applicant is responsible to ensure that the pump(s) not be operated during freezing conditions to cause downstream icing conditions.

F. Pumps and other associated pipes installed above ground will not block vehicle traffic on the R/W of ditch systems or public roads.

G. Applicant is responsible to ensure that all disturbed areas in ditch or road R/W's are restored and reseeded to preexisting conditions.

H. Pattern-tiled fields 40-acres and larger shall include a control structure or pump station at its outlet.

I. Pump stations or other tile control structures, shall not be placed within the R/W of legal ditch systems, or within a distance determined as follows: 6 times the depth of the ditch (measured from top of the spoilbank elevation to the bottom of ditch) from the fieldside bottom the of the ditch, unless approved in writing by the BRRWD. For example, if the vertical depth measured from top of spoilbank elevation to bottom of ditch is 8-ft, the pump station shall not be located within 48-ft from the fieldside bottom of the ditch, or within the existing R/W, whichever is greater. If these standards are not followed at time of installation, applicant agrees to relocate said facilities at their expense should future ditch repairs or improvements require said relocation.

J. The BRRWD shall require that tile system out flows for those systems capable of being regulated be stopped during periods of flooding within the BRRWD. Systems with control structures or pumps shall be considered tile systems capable of being regulated. The National Weather Service (NWS) does probabilistic flood predictions leading up to the flood. It will not be until they get to their deterministic predictions that we can make a determination as to whether the flood will be above or below flood stage. **Those deterministic predictions for United States Geological Survey (USGS) gaging station locations typically come out about 2 weeks prior to the crest at each station**.

1) For areas contributing to the Otter Tail River at Wahpeton/Breckenridge:

If the NWS flood forecast is predicting a crest in excess of **Moderate** flood stage (13.0 feet) at USGS Gaging Station 05051500 RED RIVER OF THE NORTH **AT WAHPETON, ND,** a tile outlet within this gauging station's drainage area will remain closed until:

(a) Water at the USGS Gaging Station 05046475 OTTER TAIL RIVER DIVERSION AT BRECKENRIDGE, MN has crested and is receding;

(b) Water at the USGS Gaging Station 05051500 RED RIVER OF THE NORTH AT WAHPETON, ND has crested and is receding; and

(c) Local runoff has peaked and there is no immediate threat to downstream properties

USGS Gaging Station on the Diversion at Breckenridge:
https://waterdata.usgs.gov/nwis/dv?referred_module=sw&site_no=05046475
USGS Gaging Station Red River at Wahpeton:
https://waterdata.usgs.gov/nwis/dv?referred_module=sw&site_no=05051500

Note: The 13.0-foot Moderate flood stage has been exceeded 24 times from 1942 to 2014 (73 years).

If the NWS flood forecast is predicting a crest below **Moderate** flood stage (13.0 feet) at USGS Gaging Station 05051500 RED RIVER OF THE NORTH AT WAHPETON, ND, a tile outlet structure within this gauging station's drainage area will remain closed until:

(a) Otter Tail River in Breckenridge (11th Street) is receding; and

(b) Local runoff has peaked and there is no immediate threat to downstream properties.

2) For areas Downstream of Wahpeton/Breckenridge and Upstream of Hickson/Fargo:

If the NWS flood forecast is predicting a crest in excess of **Major** flood stage (30.0 feet) at USGS Gaging Station 05054000 RED RIVER OF THE NORTH AT FARGO, ND, a tile outlet structure as noted above will remain closed until:

(a) Water at the USGS Gaging Station 0505152130 RED RIVER OF THE NORTH AT ENLOE, ND has crested and is receding;

(b) Water at the USGS Gaging Station 05051522 RED RIVER OF THE NORTH AT HICKSON, ND has crested and is receding; and

(c) Local runoff has peaked and there is no immediate threat to downstream properties.

USGS Gaging Station Red River at Enloe:
https://waterdata.usgs.gov/nwis/dv?referred_module=sw&site_no=0505152130
USGS Gaging Station Red River at Hickson:
https://waterdata.usgs.gov/nwis/dv?referred_module=sw&site_no=05051522
USGS Gaging Station Red River at Fargo:
https://waterdata.usgs.gov/nwis/dv?referred_module=sw&site_no=05054000

Note: The 30.0-foot Major flood stage has been exceeded 19 times recorded from 1897 to 2014 (117 years).

If the NWS flood forecast is predicting a crest below **Major** flood stage (30.0 feet) at USGS Gaging Station 05054000 RED RIVER OF THE NORTH AT FARGO, ND, a tile outlet structure will remain closed until:

Local runoff has peaked and there is no immediate threat to downstream properties.

3) For areas Upstream of Fargo:

If the NWS flood forecast is predicting a crest in excess of **Major** flood stage (30.0 feet) at USGS Gaging Station 05054000 RED RIVER OF THE NORTH AT FARGO, ND, a tile outlet structure will remain closed until:

(a) Water at the USGS Gaging Station 05054000 RED RIVER OF THE NORTH AT FARGO, ND has crested and is receding, and

(b) Local runoff has peaked and there is no immediate threat to downstream properties.

USGS Gaging Station Red River at Fargo:
https://waterdata.usgs.gov/nwis/dv?referred_module=sw&site_no=05054000

If the NWS flood forecast is predicting a crest below **Major** flood stage (30.0 feet) at USGS Gaging Station 05054000 RED RIVER OF THE NORTH AT FARGO, ND, a tile outlet structure will remain closed until:

Local runoff has peaked and there is no immediate threat to downstream properties.

4) For areas Upstream of Sabin:

If the NWS flood forecast is predicting a crest in excess of **Moderate** flood stage (15.0 feet) at USGS Gaging Station 05061500 BUFFALO RIVER SOUTH BRANCH AT SABIN, MN, a tile outlet structure will remain closed until:

(a) Water at the USGS Gaging Station 05061500 BUFFALO RIVER SOUTH BRANCH AT SABIN, MN has crested and is receding, and

(b) Water at the USGS Gaging Station 05062000 BUFFALO RIVER NEAR DILWORTH, MN has crested and is receding, and

(c) Local runoff has peaked and there is no immediate threat to downstream properties

USGS Gaging Station South Branch of the Buffalo River at Sabin, MN:
https://waterdata.usgs.gov/mn/nwis/inventory/?site_no=05061500

USGS Gaging Station Buffalo River near Dilworth, MN:
https://waterdata.usgs.gov/mn/nwis/inventory/?site_no=05062000

Note: The 15.0 flood stage (Moderate) has been exceeded 19 times from 1945 to 2014 (70 years).

If the NWS flood forecast is predicting a crest below **Moderate** flood stage (15.0 feet) at USGS Gaging Station 05061500 BUFFALO RIVER SOUTH BRANCH AT SABIN, MN, a tile outlet structure will remain closed until:

Local runoff has peaked and there is no immediate threat to downstream properties.

5) For areas Upstream of Hawley:

If the NWS flood forecast is predicting a crest in excess of **Moderate** flood stage (9.0 feet) at USGS Gaging Station 05061000 BUFFALO RIVER NEAR HAWLEY, MN, a tile outlet structure will remain closed until:

(a) Water at the USGS Gaging Station 05061000 BUFFALO RIVER NEAR HAWLEY, MN has crested and is on the decline; and

(b) Water at the USGS Gaging Station 05062000 BUFFALO RIVER NEAR DILWORTH, MN has crested and is receding;

(c) Local runoff has peaked and there is no immediate threat to downstream properties

USGS Gaging Station Buffalo River near Hawley, MN:
https://waterdata.usgs.gov/mn/nwis/inventory/?site_no=05061000

USGS Gaging Station Buffalo River near Dilworth, MN:
https://waterdata.usgs.gov/mn/nwis/inventory/?site_no=05062000

Note: The 9.0 flood stage (moderate) has been exceeded 20 times from 1945 to 2014 (70 years).

If the NWS flood forecast is predicting a crest below **Moderate** flood stage (9.0 feet) at USGS Gaging Station 05061000 BUFFALO RIVER NEAR HAWLEY, MN, a tile outlet structure will remain closed until:

Local runoff has peaked and there is no immediate threat to downstream properties.

6) <u>For areas Upstream of Dilworth</u>:

If the NWS flood forecast is predicting a crest in excess of **<u>Moderate</u>** flood stage (20.0 feet Note: Breakouts occur at Gage Height 21) at USGS Gaging Station 05062000 BUFFALO RIVER NEAR DILWORTH, MN, a tile outlet structure will remain closed until:

(a) Water at the USGS Gaging Station 05062000 BUFFALO RIVER NEAR DILWORTH, MN has crested and is receding, and

(b) Local runoff has peaked and there is no immediate threat to downstream properties

USGS Gaging Station Buffalo River near Dilworth, MN:
https://waterdata.usgs.gov/mn/nwis/inventory/?site_no=05062000
Note: The 20.0 flood stage (moderate) has been exceeded 22 times from 1931 to present (84 years).

If the NWS flood forecast is predicting a crest below **<u>Moderate</u>** flood stage (20.0 feet) at 05062000 BUFFALO RIVER NEAR DILWORTH, MN, a tile outlet structure will remain closed until:

Local runoff has peaked and there is no immediate threat to downstream properties.

7) <u>For areas Downstream of Fargo</u>:

If the NWS flood forecast is predicting a crest in excess of **<u>Major</u>** flood stage (30.0 feet) at USGS Gaging Station 05054000 RED RIVER OF THE NORTH AT FARGO, ND, a tile outlet structure will remain closed until:

(a) Water at the USGS Gaging Station 05054000 RED RIVER OF THE NORTH AT FARGO, ND has crested and is on the decline;

(b) The Red River near Georgetown is receding; and

(c) Local runoff has peaked and there is no immediate threat to downstream properties.

USGS Gaging Station Red River at Fargo:
https://waterdata.usgs.gov/nwis/dv?referred_module=sw&site_no=05054000

If the NWS flood forecast is predicting a crest below **<u>Major</u>** flood stage (30.0 feet) at USGS Gaging Station 05054000 RED RIVER OF THE NORTH AT FARGO, ND, a tile outlet structure will remain closed until:

Local runoff has peaked and there is no immediate threat to downstream properties.

During periods of flooding, please monitor the BRRWD's website at www.brrwd.org. The BRRWD will monitor runoff and precipitation amounts by planning regions and may temporarily issue a "no pumping" regulation when conditions dictate. It is the tile owner's responsibility to monitor the website for compliance.

5.4 Where possible, the BRRWD strongly encourages the use of Drainage Water Management (DWM) on pattern tile systems to provide multiple resource benefits. Funding assistance for DWM may be available from local, state, and federal agencies.

SECTION 6 - ALTERATION OF NATURAL DRAINAGEWAYS AND WETLANDS

6.1 **POLICY.** Management of natural drainageways, lakes, and wetlands should be done in such a manner so as to reduce their deterioration and to maximize their value for the general welfare of the District.

6.2 **REGULATION.**

A. No artificial change may be made in the beds, banks, or shores of natural drainageways, lakes or regulated wetlands without a permit from the District, or any other local, state, and federal applicable agencies.

B. To prevent obstructions in the natural drainageways, landowners shall remove any trees cut along the banks of natural waterways. No wastes shall be disposed of directly or indirectly into the drainageways.

C. Excavations, grading, or filling near any natural drainageway, lake, or wetland shall be done in a manner to minimize detrimental effects. A permit is required from the District for construction activities involving any drainageway, lake, or regulated wetland. This is not to be construed to include maintenance of roadways.

D. Any work in public waters of the State requires a permit from the MN DNR, *Minnesota Statutes §105.42*.

SECTION 7 - MUNICIPAL DRAINAGE

7.1 **POLICY.** In order to reduce sediment transport, municipal stormwater drainage shall be discharged through wetlands, retention basins, or other treatment facilities, where feasible, prior to release into the receiving bodies of public waters. Maximum utilization will be made of temporary storage areas or retention basins throughout developing areas to maximize upstream storage and to reduce peak discharge flows, erosion damage, and storm sewer construction costs. Open drainage ditches shall make maximum use of vegetation to reduce channel erosion.

7.2 **REGULATION.**

A. Copies of current ordinances relating to surface water drainage for municipalities within the District shall be filed with the Managers.

B. Municipalities having populations greater than 1000 persons shall prepare a municipal drainage plan for management and transport of surface waters resulting from urban development. The drainage plan will include an inventory of all existing surface water removal installations, together with recommended improvements for a planning period of not less than 20 years. This drainage plan will address utilization of wetlands, low land areas, land use, floodwater detention, sediment control, stormwater pollution, and the maintenance of public ditches and water courses owned and operated by the municipality. The drainage plan shall also address removal of stormwater from land whose character may be changed by future development over the study period.

C. All projects affecting runoff shall require a permit from the Board of Managers. Maintenance of existing facilities, as defined in these Rules, shall not require a permit. Installation of interior drainage facilities for previously developed areas will not require a permit provided the area drained is not greater than 5 acres.

SECTION 8 - MS4 REGULATIONS

8.1 **POLICY.** The BRRWD is designated as a small Municipal Separate Storm Sewer Systems (MS4) owner; therefore, the BRRWD is required to obtain coverage from the Minnesota Pollution Control Agency (MPCA) to discharge stormwater within an urbanized area. Work performed within the MS4 boundary will require regulations set forth in this section to be followed. The MS4 boundary can be found on the BRRWD's website at http://www.brrwd.org/.

8.2 **REQUIREMENT.** Terms of this section will be enforced when construction activities including, but not limited to, clearing and grubbing, grading, excavation, and demolition, occur within the MS4 boundary and:

A. Result in land disturbance of one (1) acre or more, or

B. Result in land disturbance less than one (1) acre but part of a larger project disturbing one (1) acre or more.

8.3 **REGULATIONS.**

A. No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater.

B. Work performed within the City of Moorhead, MN MS4 boundary, shall follow the stormwater ordinance set forth by the City of Moorhead, MN.

C. Work performed within the City of Dilworth, MN MS4 boundary, shall follow the stormwater ordinance set forth by the City of Dilworth, MN.

D. Work performed within the Clay County, MN MS4 boundary, shall follow the stormwater ordinance set forth by Clay County, MN.

8.4 **CONSTRUCTION SITE STORMWATER RUNOFF CONTROL.**

A. Site plans and a Stormwater Pollution Prevention Plan (SWPPP) must be submitted to the BRRWD for review and approval, prior to the start of the construction activity. Site plans and the SWPPP must be kept up to date.

B. All exposed soil areas within construction activities must be stabilized to limit soil erosion but in no case, later than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased.

C. All nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs within twenty-four (24) hours after discovery, or as soon as field conditions allow.

D. Where water from ten (10) or more acres of disturbed soil drains to a common location, a temporary sediment basin must be provided to contain runoff before it leaves the construction site or enters surface waters. A temporary sediment basin may be converted to a permanent basin

after construction is complete. The temporary basin is no longer required when permanent cover has reduced the acreage of disturbed soil to less than ten (10) acres draining to a common location.

8.5 POST CONSTRUCTION STORMWATER MANAGEMENT.

A. Site plans with post-construction stormwater management BMPs must be submitted to the BRRWD for review and approval, prior to the start of the construction activity.

B. Where a project's ultimate development replaces vegetated and/or other pervious surfaces with one (1) or more acres of impervious surface, the project must be designed so that the water quantity volume of one (1) inch of runoff from the new impervious surfaces created by the project is retained on site and not discharged to a surface water, subject to, and in compliance with, the limitations and exceptions within the Minnesota Pollution Control Agency MS4 permit.

C. Final stabilization is complete when all the following requirements are met:

1) All soil disturbing activities at the site have been completed and all soils are stabilized by a uniform perennial vegetative cover with a density of 70 percent of its expected final growth density over the entire pervious surface area, or other equivalent means necessary to prevent erosive conditions.

2) The permanent stormwater management system is constructed and is operating as designed. Temporary or permanent sedimentation basins that are to be used as permanent water quality management basins have been cleaned of any accumulated sediment. All sediment has been removed from conveyance systems and ditches are stabilized with permanent cover.

3) All temporary synthetic and structural erosion prevention and sediment control BMPs (such as silt fence) have been removed. BMPs designed to decompose on site (such as some compost logs) may be left in place.

4) For construction projects on agricultural land, the disturbed land has been returned to its preconstruction agricultural use.

SECTION 9 – BUFFER RULE FOR WD 103E SYSTEMS

9.1 **POLICY.** It is the policy of the Board of Managers to:

A. Provide public drainage system ditches with vegetated buffers and water quality practices to achieve the following purposes:

1) Protect state water resources from erosion and runoff pollution; and

2) Stabilize soils, and banks.

B. Coordinate closely with the District's landowners, SWCD's and counties, and utilize local knowledge and data, to achieve the stated purposes in a collaborative, effective and cost- efficient manner.

C. Integrate District authorities under *Minnesota Statutes §§103D.341, 103E.021,* and *103F.48* to provide for clear procedures to achieve the purposes of the rule.

D. Implement and enforce buffers through the use of Drainage Law (*Minnesota Statutes §§103E.021* and *103E.351*) and when that cannot be accomplished through the use of Administrative Penalty Order (APO) powers granted through *Minnesota Statutes §103F.48*.

9.2 **DATA SHARING/MANAGEMENT.**

A. The District may enter into arrangements with an SWCD, a county, BWSR or other parties with respect to the creation and maintenance of, and access to, data concerning buffers and alternative practices under this rule.

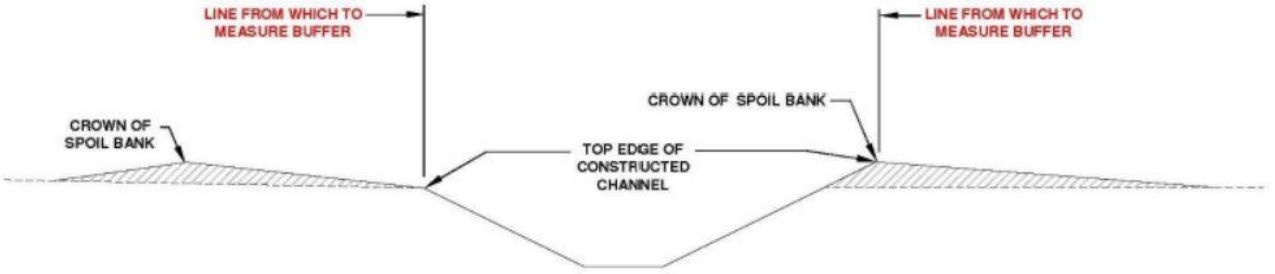
B. The District will manage all such data in accordance with the *Minnesota Data Practices Act* and any other applicable laws.

9.3 **VEGETATED BUFFER REQUIREMENT.**

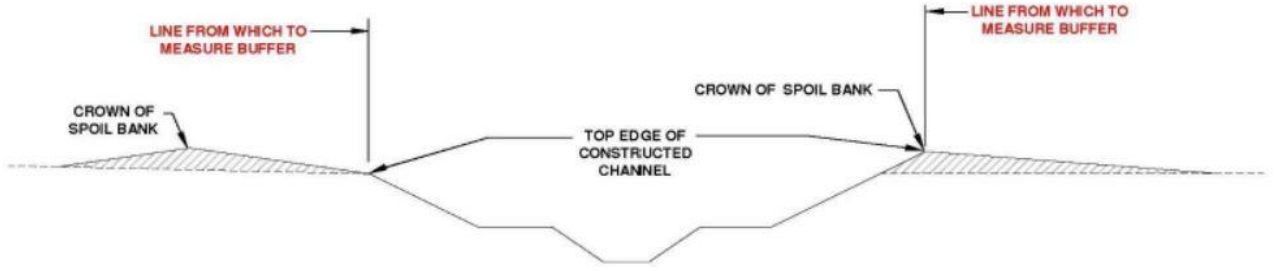
A. Except as Subsection 9.3C may apply, a landowner must maintain a buffer on land that is adjacent to a public drainage system ditch identified and mapped on the buffer protection map established and maintained by the Commissioner pursuant to the *Buffer Rule*.

1) For a public drainage system ditch, the buffer must be of a 16.5-foot minimum width. This rule does not apply to the portion of public drainage systems consisting of subsurface tile.

2) The buffer is measured from the top or crown of bank. Where there is no defined bank, measurement will be from the normal water level. The District will determine normal water level in accordance with BWSR guidance. For a public drainage system, the District will determine top or crown of bank in the same manner as for measuring the perennially vegetated strip under *Minnesota Statutes §103E.021*. See illustration below:



BUFFER LAW AND DRAINAGE LAW
SINGLE - STAGE PUBLIC DRAINAGE DITCH



BUFFER LAW AND DRAINAGE LAW
TWO - STAGE PUBLIC DRAINAGE DITCH

3) A buffer may not be used for cultivation farming, but may be grazed, mowed, hayed, or otherwise harvested, provided perennial vegetation is maintained.

B. The requirement of Section 9.3A applies to all public drainage ditches within its boundary for which it is the drainage authority.

C. The requirement of Section 9.3A does not apply to land that is:

1) Enrolled in the federal Conservation Reserve Program;

2) Used as a public or private water access or recreational use area including stairways, landings, picnic areas, access paths, beach, and watercraft access areas, provided the area in such use is limited to what is permitted under shoreland standards or, if no specific standard is prescribed, what is reasonably necessary;

3) Used as the site of a water-oriented structure in conformance with shoreland standards or, if no specific standard is prescribed, what is reasonably necessary;

4) Covered by a road, trail, building or other structure;

5) Regulated by a national pollutant discharge elimination system/state disposal system

(NPDES/SDS) municipal separate storm sewer system, construction or industrial permit under *Minnesota Rules, Chapter 7090*, and the adjacent waterbody is provided riparian protection;

6) Part of a water-inundation cropping system; or

7) In a temporary non-vegetated condition due to drainage tile installation and maintenance, alfalfa or other perennial crop or plant seeding, or a construction or conservation project authorized by a federal, state, or local government unit.

9.4 DRAINAGE SYSTEM ACQUISITION AND COMPENSATION FOR BUFFER

A. In accordance with *Minnesota Statutes §103F.48, Subd. 10(b)*, a landowner owning land within the benefited area of, and adjacent to, a public drainage ditch may request that the District, as the drainage authority, acquire and provide compensation for the buffer strip required under this rule.

1) The request may be made to use *Minnesota Statutes §103E.021, Subd. 6*, or by petition pursuant to *Minnesota Statutes §103E.715, Subd. 1*.

2) The decision on the request is within the judgment and discretion of the District, unless the request concerns a buffer strip mandated by *Minnesota Statutes §103E.021*.

3) If the request is granted or the petition proceeds, the requirements of the buffer strip and the compensation to be paid for its incorporation into the drainage system will be determined in accordance with the statutes referenced in Paragraph 9.4A.1, and associated procedures. When the order establishing or incorporating the buffer strip is final, the buffer strip will become a part of the drainage system and thereafter managed by the District in accordance with *Minnesota Drainage Law*.

4) On a public drainage ditch, which is also a public water subject to a 50-foot average buffer, the drainage system will be required to acquire only the first 16.5 feet of the buffer.

B. The District, on its own initiative pursuant to *Minnesota Statutes §§103F.48* and *103E.021*, may acquire and provide compensation for buffer strips required under this rule on individual or multiple properties along a public drainage system.

C. The District's decision to grant or deny a request under Section 9.4 is not subject to appeal. A determination as to compensation or another term of the order may be appealed as provided for under the drainage code.

D. Section 9.4 supplements, and does not displace, the terms of *Minnesota Statutes Chapter 103E* requiring or providing for drainage system establishment and acquisition of vegetated buffer strips along public ditches.

9.5 ACTION FOR COMPLIANCE

A. When the District observes potential non-compliance or receives a third-party complaint from a private individual or entity, or from another public agency (such as the SWCD), it will determine the appropriate course of action to confirm compliance status. This may include communication

with the landowner or his/her agents or operators, communication with the shoreland management authority, inspection, or other appropriate steps necessary to verify the compliance status of the parcel. On the basis of this coordination, the SWCD may issue a notification of noncompliance to the District. If the SWCD does not transmit such a notification, the District will not pursue a compliance or enforcement action under *Minnesota Statutes §103F.48* but may pursue such an action under the authority of *Minnesota Statutes §§103E.021, 103D.545,* and *103D.551* and Section 9.6.

B. On receipt of an SWCD notification of noncompliance, or if acting solely under authority of *Minnesota Statutes §§103E.021* or *103D*, the District will determine first whether sufficient public drainage system easement exists to establish the required vegetative buffer. If sufficient easement <u>does not</u> exist, the District will attempt to acquire the necessary easements through incremental buffer establishment provided in *§103E.021, Subd. 6* or through a redetermination of benefits provided in *Minnesota Statutes §103E.351* and will establish the required buffers. The establishment of the required buffers will occur within 12 months of the determination that inadequate easement exists, and no more than 18 months from the receipt of a SWCD notification of noncompliance or the Watershed District decision to establish the required buffers. If sufficient easement does not exist and the District is unable to acquire the necessary easements through incremental buffer establishment provided in *§103E.021, Subd. 6* or through a redetermination of benefits, or if sufficient easement <u>does</u> exist and an established buffer has been adversely altered, the District will issue a corrective action list and practical schedule for compliance to landowner. The District may inspect the property and will consult with the SWCD, review available information, and exercise its technical judgment to determine appropriate and sufficient corrective action and a practical schedule for such action. The District will maintain a record establishing the basis for the corrective action that it requires.

1) The District will issue the corrective action list and schedule to the landowner of record. The landowner may be the subject of enforcement liabilities under Subsections 9.6A and 9.6B. The District may deliver or transmit the list and schedule by any means reasonably determined to reach the responsible party or parties and will document receipt. However, a failure to document receipt will not preclude the District from demonstrating receipt or knowledge in an enforcement proceeding under Section 9.6.

2) The corrective action list and schedule will identify the parcel of record to which it pertains and the portion of that tract that is alleged to be noncompliant. It will describe corrective actions to be taken, a schedule of intermediate or final dates for correction, a compliance standard against which it will judge the corrective action, and a statement that failure to respond to this list and schedule will result in an enforcement action. The District will provide a copy of the list and schedule to the BWSR.

3) In addition, at any time a responsible party may supply information in support of a request to modify a corrective action or the schedule for its performance. On the basis of any such submittal or at its own discretion, the District may modify the corrective action list or schedule and deliver or transmit the modified list and schedule in accordance with Paragraph 9.5B.1, or it may advise the landowner in writing that it is not pursuing further compliance action.

4) The corrective action list and schedule for compliance may be modified in accordance with Subsection 9.5B, to extend the compliance timeline for a modification that imposes a substantial new action or accelerates the completion date for an action.

5) At any time after the District has issued the list and schedule, a landowner, or authorized agent or operator of a landowner, may request that the SWCD issue a validation of compliance with respect to property for which the list and schedule has been issued. Upon the District's receipt of the validation: (a) the list and schedule will be deemed withdrawn for the purpose of Subsection 9.6B, and the subject property will not be subject to enforcement under that subsection; and (b) the subject property will not be subject to enforcement under Subsection 9.6A.

6) A corrective action list and schedule are not considered a final decision subject to appeal. An objection to a finding of noncompliance, or to any specified corrective action or its schedule, is reserved to the responsible party and may be addressed in an enforcement proceeding under Section 9.6.

9.6 ENFORCEMENT

A. Under authority of *Minnesota Statutes §§103E.021, 103D.545*, and *103D.551*, the District may seek remedies for noncompliance with Section 9.3 against any responsible party including but not limited to: (a) reimbursement of District compliance costs under *Minnesota Statutes §§103D.345* and *103E.021* and/or an escrow for same; (b) administrative compliance order; (c) district court remedy including injunction, restoration or abatement order, authorization for District entry and/or order for cost recovery; and (d) referral to county attorney for criminal misdemeanor prosecution.

B. In instances where existing vegetation on the ditch buffer easement has been adversely altered and has not been restored, the District may collect compliance expenses in accordance with *Minnesota Statutes §§103E.021* from a landowner for noncompliance with the corrective action list and schedule, as provided under Paragraphs 9.5B.1 and 9.6B.2 The District will restore any adversely altered buffer and charge the landowner for the cost of the restoration if the landowner does not meet the requirements of the corrective action list and schedule.

C. In instances where a ditch buffer easement cannot be established in a timely manner, the District may issue an administrative order imposing a monetary penalty against a landowner for noncompliance with the corrective action list and schedule, as provided under Paragraphs 9.6C.1 and 9.6C.2. The penalty will continue to accrue until the noncompliance is corrected as provided in the corrective action list and schedule.

1) The penalty for a landowner on a single parcel that previously has not received an APO issued by the District shall be:

a) $0 for 11 months after issuance of the corrective action list and schedule;

b) $50 to $200 per parcel per month for the first six (6) months (180 days) following the time period in (a); and

c) $200 to $500 per parcel per month after six (6) months (180 days) following the time period in (b).

2) The penalty for a landowner on a single parcel that previously has received an APO issued by the District shall be:

a) $50 to $200 per parcel per day for 180 days after issuance of the corrective action list and schedule; and
b) $200 to $500 per parcel per day after 180 days following the time period in (a).

D. The administrative order will state:

1) The facts constituting a violation of the buffer requirements;

2) The statute and/or rule that has been violated;

3) Prior efforts to work with the landowner to resolve the violation;

4) For an APO, the amount of the penalty to be imposed, the date the penalty will begin to accrue, and the date when payment of the penalty is due; and

5) The right of the responsible party to appeal the order.

6) A copy of the APO must be sent to the SWCD and BWSR.

E. An administrative order under Subsection 9.6A or 9.6C will be issued after a compliance hearing before the District Board of Managers. The landowner and any other responsible parties will receive written notice at least two weeks in advance of the hearing with a statement of the facts alleged to constitute noncompliance and a copy or internet link to the written record on which District staff intends to rely, which may be supplemented at the hearing. A responsible party may be represented by counsel, may present and question witnesses, and may present evidence and testimony to the Board of Managers. The District will make a written or recorded record of the hearing.

F. After a hearing noticed and held for consideration of an administrative penalty or other administrative order, the Board of Managers may issue findings and an order imposing any authorized remedy or remedies.

1) The amount of an administrative penalty will be based on considerations including the extent, gravity and willfulness of the noncompliance; its financial benefit to the responsible party; the extent of the responsible party's diligence in addressing it; any noncompliance history; the public costs incurred to address the noncompliance; and other factors as justice may require.

2) The Board of Managers' findings and order will be delivered or transmitted to the landowner and other responsible parties. An APO may be appealed to the BWSR in accordance with *Minnesota Statutes §103F.48, Subd. 9*, and will become final as provided therein. The District may enforce the order in accordance with *Minnesota Statutes §116.072, Subd. 9*. Other remedies imposed by administrative order may be appealed in accordance with *Minnesota Statutes §103D.537*.

3) The Board of Managers may forgive an administrative penalty, or any part thereof, on the basis of diligent correction of noncompliance following issuance of the findings and order and such other factors as the Board finds relevant.

G. Absent a timely appeal pursuant to Paragraph 9.6F2, an administrative penalty is due and payable to the District as specified in the APO.

H. A landowner agent or operator may not remove or willfully degrade, wholly or partially, a riparian buffer, unless the agent or operator has obtained a signed statement from the landowner stating that written permission for the work has been granted by the District or that the buffer is not required as indicated in a validation of compliance issued by the SWCD.

I. Nothing within this rule diminishes or otherwise alters the District's authority under *Minnesota Statutes, Chapter 103E* with respect to any public drainage system for which it is the drainage authority, or any buffer strip that is an element of that system.

9.7 EFFECT OF RULE

A. If any section, provision, or portion of this rule is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of the rule is not affected thereby.

B. Any provision of this rule, and any amendment to it, that concerns District authority under *Minnesota Statutes §103F.48* is not effective until an adequacy determination has been issued by BWSR. Authority exercised under *Minnesota Statutes Chapter 103D* and *103E* does not require a BWSR adequacy determination.

SECTION 10 - RELATED ORDINANCES

10.1 **POLICY.** The Managers will cooperate with public corporations and state and federal agencies in the application of ordinances and/or rules concerning water and related resources within the District.

10.2 **REGULATION.**

A. In the interest of public health and to prevent pollution of the waters of the District, the applicable ordinances and rules of the appropriate county and state agencies regarding the disposal of wastes, are by reference hereby adopted as rules of the District within the limits of statutory authority granted to the Watershed Districts.

B. Copies of proposed county, municipal, and/or town ordinances relating to surface water drainage, land use zoning, shoreland regulations and flood plain zoning, as applied to changes within the flood plain shall be submitted to the District thirty (30) days prior to the first public hearing date for review and comment.

C. Ordinances relating to surface water drainage, land use zoning, shoreland regulation and flood plain zoning shall be submitted to the District within forty-five (45) days after passage.

D. "Rules" by the Board of Water and Soil Resources (BWSR) governing the implementation of the 1991 Minnesota "Wetland" law are hereby adopted by reference for the purposes of carrying out duties as may be directed by cooperating county boards.

E. The Board of Managers will endeavor to inform and assist any resident of the District with regard to filing necessary applications for State and Federal permits for projects approved by the Board of Managers.

SECTION 11 - ENFORCEMENT

11.1 **MANNER OF ENFORCEMENT.** In the event of a violation, or potential violation, of a District Rule, permit, order or stipulation, or a provision of *Minnesota Statutes, Chapters 103D* and *103E*, the District may take action to prevent, correct or remedy the violation or any harm to water resources resulting from it. Enforcement action includes but is not limited to, injunction; action to compel performance, abatement, or restoration; and prosecution as a criminal misdemeanor in accordance with *Minnesota Statutes §§103D.545* and *103D.551*.

11.2 **INVESTIGATION OF NONCOMPLIANCE.** The District's authorized representatives may enter and inspect a property in the Watershed to determine the existence of a violation or potential violation as described in Section 11.1, above.

11.3 **ADMINISTRATIVE COMPLIANCE ORDER.** The District may issue a preliminary compliance order without notice or hearing when it finds a violation or potential violation as described in Section 11.1, above, and that the violation or potential violation presents a serious threat of adverse effect on water resources. A preliminary compliance order may require that the property owner or responsible contractor cease the land-disturbing activity; apply for an after-the-fact permit; and take corrective or restorative action. A preliminary compliance order is not effective for more than ten days. The Board of Managers by resolution may delegate to District staff the authority to issue preliminary compliance orders.

11.4 **BOARD HEARING.** After due notice and a hearing at which evidence may be presented, the Board of Managers shall make findings. If the Board finds a violation as described in Section 11.1, above, it may issue a compliance order of indefinite duration that may require the property owner or responsible contractor to cease land-disturbing activity; apply for an after-the-fact permit; take corrective or restorative action; reimburse the District for costs under *Minnesota Statutes §103D.545, Subd. 2*; and/or be subject to any other remedy within the District's authority. A compliance order may supersede a preliminary order or may be issued without a prior preliminary order.

11.5 **LIABILITY FOR ENFORCEMENT COSTS.** To the extent provided for by *Minnesota Statutes § 103D.545, Subd. 2*, a property owner or responsible contractor is liable for investigation and response costs incurred by the District under this rule, including but not limited to the costs to inspect and monitor compliance, engineering and other technical analyses costs, legal fees and costs, and administrative expenses.

11.6 **CONTRACTOR LIABILITY.** Any individual, firm, corporation, partnership, association, or other legal entity contracting to perform work subject to one or more District Rules will be responsible to ascertain that the necessary permit has been obtained and that the work complies with the permit, rules and statutes and any applicable District orders or stipulations. A contractor that, itself or through a subcontractor, engages in an activity constituting a violation or potential violation under Section 11.1, above, is a responsible contractor for purposes of this rule.

APPENDIX L

Funding Authorities

Local Funding Authorities

Purpose: *This table provides an overview of Minnesota statutes and laws that provide authorities to local governments to fund water management projects, to be used by local governments while exploring funding options for locally funded water projects. Does not include fees, fines, or wetland banking, grants, etc. This is not a legal document and should not be considered comprehensive, complete, or authoritative.*

note: "metro" refers to Anoka, Carver, Dakota, Hennepin, Ramsey, and Washington counties or watershed organizations in the 7-county metro area.

Citation	Applies to	Summary *(please see details in the full text of each provision)*
§40A.152	Counties (metro)	Money from the county conservation account (see chapter 287) must be spent by the county to reimburse the county and taxing jurisdictions within the county for revenue lost under the conservation tax credit under §273.119 or the valuation of agricultural preserves under §473H.10. Money remaining in the account after reimbursement may be spent on: 1) agricultural land preservation and conservation planning and implementation of official controls under this chapter or chapter 473H; 2) soil conservation activities and enforcement of soil loss ordinances; 3) incentives for landowners who create exclusive agricultural use zones; 4) payments to municipalities within the county for the purposes of clauses 1-3.
§103B.241	Watershed districts & watershed management organizations (metro)	May levy a tax to pay for plan preparation costs & projects in the adopted plan necessary to implement the Metropolitan Water Management Program.
§103B.245	Watershed districts & watershed management organizations (metro)	May establish a watershed management tax district within the watershed to pay the costs of: planning required under §§103B.231 and 103B.235, the capital costs of water management facilities described in the capital improvement program of the plans, and normal & routine maintenance of the facilities.
§103B.251	Watershed districts & watershed management organizations (metro), counties	May certify for payment by the county all or any part of the cost of a capital improvement contained in the capital improvement program of plans developed in accordance with §103B.231. Counties may issue general obligation bonds to pay all or part of the cost of project. The county may pay the principal and interest on the bonds by levying a tax on all property located in the watershed or subwatershed in which the bonds are issued. Loans from counties to watershed districts for the purposes of implementing this section are not subject to the loan limit set forth in §103D.335.

Citation	Applies to	Summary *(please see details in the full text of each provision)*
§103B.331 Subdivisions 3 & 4	Counties	(3) May charge users for services provided by the county necessary to implement the local water management plan.
		(4) May establish one or more special taxing districts within the county and issue bonds to finance capital improvements under the Comprehensive Local Water Management Act. After adoption of the resolution, a county may annually levy a tax on all taxable property in the district.
§103B.335	Counties, municipalities, or townships	May levy a tax to implement the Comprehensive Local Water Management Act or a comprehensive watershed management plan (§103B.3363). A county may levy amounts needed to pay the reasonable costs to SWCDs and WDs of administering and implementing priority programs identified in an approved & adopted plan or comprehensive watershed management plan.
§103B.555 Subdivisions 1 & 3	Counties	(1) May establish a Lake Improvement District and impose service charges on the users of lake improvement district services within the district. May levy an ad valorem tax solely on property within the lake improvement district for projects of special benefit to the district; may impose or issue any combination of service charges, special assessments, obligations, and taxes.
		(3) A tax under Subd. 1 may be in addition to amounts levied on all taxable property in the county for the same/similar purposes.
§103C.331 Subdivision 16	County boards on behalf of soil and water conservation districts	May levy an annual tax on all taxable real property in the district for the amount that the board determines is necessary to meet the requirements of the district.
§103D.335	Watershed districts	A watershed district has the power to incur debts, liabilities, and obligations and to provide for assessments and to issue certificates, warrants, and bonds.
§103D.601	Watershed districts	May set up special taxing districts via petition to conduct larger, Capital Improvement Projects (CIP). The costs to the affected parties cannot exceed $750,000.
§103D.615	Watershed districts	May declare an emergency and order that work be done without a contract. The cost of work undertaken without a contract may be assessed against benefitted properties or raised by an ad valorem tax levy if the cost is not more than 25% of the most recent administrative ad valorem levy and the work is found to be of common benefit to the watershed district.

Citation	Applies to	Summary *(please see details in the full text of each provision)*
§103D.729	Watershed districts	May establish a water management district or districts in the territory within the watershed to collect revenues and pay the costs of projects initiated under §§103B.231, 103D.601, 103D.605, 103D.611, or 103D.730. (Guidelines for creating water management districts)
§103D.901	Watershed districts	County auditors assess the amount specified in an assessment statement filed by managers. The county may issue bonds (§103E.635). An assessment may not be levied against a benefited property in excess of the amount of benefits received.
§103D.905 Subdivisions 2,3, 7-9	Watershed districts	Established funds for watershed districts (not a complete list – see full statute language): **Organizational expense fund** - consisting of an ad valorem tax levy, shall be used for organizational expenses and preparation of the watershed management plan for projects. **General fund** - consisting of an ad valorem tax levy, shall be used for general administrative expenses and for the construction or implementation and maintenance of projects of common benefit to the watershed district. May levy a tax not to exceed 0.00798 percent of estimated market value to pay the cost attributable to projects initiated by petition. **Repair and maintenance funds** - established under §103D.631, Subd. 2. **Survey and data acquisition fund** - consists of the proceeds of a property tax that can be levied only once every 5 years and may not exceed 0.02418 percent of estimated market value. **Project tax levy** - a WD may levy a tax: 1. To pay the costs of projects undertaken by the WD which are to be funded, in whole or in part, with the proceeds of grants or construction or implementation loans under the Clean Water Partnership Law; 2. To pay the principal of, or premium or administrative surcharge (if any), and interest on, the bonds and notes issued by the WD pursuant to §103F.725; 3. To repay the construction or implementation loans under the Clean Water Partnership Law.
§103E.011 Subdivision 5	Drainage authorities	A drainage authority can accept and use external sources of funds together with assessments from benefited landowners in the watershed of the drainage system for the purposes of flood control, wetland restoration, or water quality improvements.
§103E.015 Subdivision 1a	Drainage authorities	When planning a "drainage project" or petitioned repair, the drainage authority must investigate the potential use of external sources of funding, including early coordination for funding and technical assistance with other applicable local government units.
§103E.601 §103E.635 §103E.641	Drainage authorities	Funding of all costs for constructed "**drainage projects"** are apportioned to benefited properties within the drainage system pro rata on the basis of the benefits determined (§103E.601). After the contract for the construction of a drainage project is awarded, the board of an affected county may issue bonds of the county

Citation	Applies to	Summary *(please see details in the full text of each provision)*
		in an amount necessary to pay the cost of establishing and constructing the drainage project. (§103E.635). Drainage authorities may issue drainage funding bonds (§103E.641).
§103E.728 §103E.731 §103E.735	Drainage authorities	Costs for drainage system **repairs** are apportioned pro rata on all benefited properties of record. The drainage authority may charge an additional assessment on property that is in violation of §103E.021 (ditch buffers) or a county soil loss ordinance (§103E.728). If there is not enough money in the drainage system account to make a repair, the board shall assess the costs of the repairs on all property and entities that have been assessed benefits for the drainage system (§103E.731). To create a repair fund for a drainage system to be used only for repairs, the drainage authority may apportion and assess an amount against all property and entities benefited by the drainage system, including property not originally assessed and subsequently found to be benefited according to law. (§103E.735).
Chapter 287	Counties	Counties participating in the agricultural land preservation program impose a fee of $5 per transaction on the recording or registration of a mortgage or deed that is subject to tax under §§287.05 and 287.21.
Chapter 365A	Towns	Townships may create subordinate service districts with special taxing authority. Requires a petition signed by at least 50 percent of the property owners in the part of the town proposed for the subordinate service district.
§373.475	Counties	A county board must deposit the money received from the sale of land under Laws 1998, chapter 389, article 16, section 31, subd. 3, into an environmental trust fund. The county board may spend interest earned on the principal only for purposes related to the improvement of natural resources.
Chapter 429	Municipalities	May levy special assessments against properties benefitting from special services (including curbs, gutters and storm sewer, sanitary sewers, holding ponds, and treatment plants).
§444.075	Municipalities	May collect stormwater utility fees to build, repair, operate & maintain stormwater management systems.
§462.358 Subdivision 2b(c)	Municipalities	May accept a cash fee for lots created in a subdivision or redevelopment that will be served by municipal sanitary sewer and water service or community septic and private wells. May charge dedication fees for the acquisition and development or improvement of wetlands and open space based on an approved parks and open space plan.
M. L. 1998, Chapter 389 Article 3, Section 29	Red River Watershed Management Board	Watershed Districts that are members of the Red River Watershed Management Board may levy an ad valorem tax not to exceed 0.04836 percent of the taxable market value of all property within their district. This levy is in excess of levies authorized by §103D.905.

Response to Comments - BRRW Comprehensive Watershed Management Plan

KEY

Material Comments represent changes in material and content of the plan.

Editorial Comments represent spelling, grammatical, clarification, or visual issues with graphics.

Note Generally consist of a statement expressing a perspective.

Commenter	Comment #	Section	Specific	Comment	Material	Editorial	Note	Plan Change Made (Yes/No)	Comment Response / Action
Formal 60-Day Review Comments									
BWSR	General	General	General	BWSR staff submitted numerous initial comments for priorities to include in the plan. After review of the plan, and in consideration of the submitted agency priorities, we would commend the group for either discussing and/or including all of the submitted priorities into the plan.			x	N	Noted, with thanks.
BWSR	General	General	General	Plan Content Requirements version 1.0 requires a statement of purpose or mission behind the undertaking of this planning effort, and that statement should be located within the Executive Summary section of the plan. Though, a purpose could be inferred by piecing together text from the section, there is no clearly defined purpose or mission given at the onset of the Executive Summary or in the introduction. Please add a clear statement of purpose or mission to ensure compliance with BWSR Plan Content Requirements.	x			Y	Purpose added to the executive summary as provided in BWSR Comment #8.
BWSR	1	ES	Exec Summary ES-1	Suggest using different language. 1W1P is a program, it doesn't define an area of planning. It does suggest a boundary but that should be the "watershed planning area"		x		Y	Revised as suggested.
BWSR	2	ES	Exec Summary ES-1	perhaps add the phrase "geographically defined" for context		x		Y	Revised as suggested.
BWSR	3	ES	Exec Summary ES-1	Just an odd sentence structure. The partnership was memorialized via a MOA, not the LGUs themselves		x		Y	Revised to "The BRRW 1W1P LGUs partnership was developed under a Memorandum of Agreement (MOA)"
BWSR	4	ES	Exec Summary ES-2	the intent is implied, the group needs to have a stated purpose here.	x			Y	See response to BWSR Comment #8
BWSR	5	ES	Exec Summary ES-2	Obviously this is discussed later on, but perhaps give a quick summary of what A vs B vs C distinction means.		x		Y	Key added to define priority levels.
BWSR	6	ES	Exec Summary ES-6	Would be nice to see a quick definition here, like "map based prioritization technique. Basic, but better than routing to a footnote with a URL.		x		Y	Revised to include tool language and web link as suggested.
BWSR	7	1	Intro	similar to exec summary comment about the 1W1P area vs "planning area" or "watershed planning area"		x		Y	Revised to "watershed planning area" as suggested.
BWSR	8	ES	Exec Summary ES-1	The Buffalo Red Comprehensive Watershed plan was developed out of a statewide program known as the one Watershed One Plan Program authorized by statute (103B.801). It represents an effort to develop a single, concise, and coordinated approach to watershed management. This plan consolidates policies, programs and implementation strategies from existing data, studies and plans, and incorporates input from multiple planning partners to provide a single plan for management of the watershed. Previously, numerous county and watershed district plans were developed for different areas of this watershed with little attention paid to coordination at the watershed scale. This Plans purpose is to build on existing plans and information to develop goals and targeted and measurable implementation actions to better manage water resources in this watershed	x			Y	Purpose added to the executive summary as provided.
BWSR	9	1	1-1	change to "what remains today in watersheds within the Red River Basin are areas of the lake bottom, a series of beach ridges and moraine areas."		x		Y	Revised as suggested.
BWSR	10	1	Intro 1-4	Inconsistency referring to plan area, there is both BRRW plan area and BRRW 1W1P plan area, BRRW plan boundary.		x		Y	Revised to "BRRW plan area" throughout document.
BWSR	11	1	intro 1-4	sentence refers to "lakes and closed basins". Are closed basins wetlands and if they're closed what is their hydrologic influence?		x		Y	Revised to "lakes" to remove unnecessary confusion.
BWSR	12	1	Intro 1-5	Another 1W1P program vs product comment		x		Y	Revised as suggested.
BWSR	13	1	Intro 1-6	says "plan is organized into 5 plan sections", but 6 plan sections are bulleted.		x		Y	Revised to read 6 sections.
BWSR	14	2	pg2-1	should we include wildlife in there or is that		x		N	Wildlife is included within the habitat issues.
BWSR	15	2	pg 2-1	Seems like an odd term to use here.		x		Y	Revised to "review."
BWSR	16	2	pg 2-3	"fixing" generally denotes something is broken. Even restoration isn't really fixing issues on a large scale, to address or focus on addressing the issues would be better		x		Y	Revised to "the plan will focus on addressing Priority Level A..."
BWSR	17	2	pg 2-20	I think this is supposed to be the WD but it's not really clear.		x		Y	Language will be revised to reference the partnership group.
BWSR	18	2	pg 2-20	Just not sure if this word is needed in the description of the targeted implementation schedule. Sort of gives the illusion that implementation before wasn't coherent.		x		Y	"Coherent" removed from sentence.
BWSR	19	2	2-2	suggest change to consolidated or merged		x		Y	"Collapsed" revised to "consolidated."
BWSR	20	2	2-16	suggest a figure should be added to this section that clearly shows that runoff and precipitation trends are increasing in the watershed. DNR staff have developed a graph that puts both of these on one figure. sentence at end of paragraph "Trends of increased annual precipitation and increase annual runoff in this watershed have occurred in this watershed (Figure x).	x			Y	Data added.
BWSR	21	2	2-16	add "chlorides and other salts" to list		x		Y	Revised as suggested.
BWSR	22	2	2-18	replace picture with black tile or of active tile installation		x		Y	Removed picture.
BWSR	23	2	2-18	Suggest deleting this sentence and saying something more along the lines of "While tile drainage has benefits to agricultural production it also affects water quality and hydrology. These effects depend on a variety of factors and can be both positive and negative. Generally, tile tends to reduce the potential for phosphorus loading but increase nitrogen loading (Blann) .....BTSAC study sentence.	x			Y	Language revised as suggested.

Commenter	Comment #	Section	Specific	Comment	Material	Editorial	Note	Plan Change Made (Yes/No)	Comment Response / Action
BWSR	24	2	2-18	should be spelled out "advisory committee". Regarding BTSAC		x		Y	"Advisory Committee" spelled out as suggested.
BWSR	25	2	2-18	Suggest adding sentence that list the number of residents on private wells and that the x# residents of Moorhead rely on both surface and groundwater for drinking water.	x			Y	Added population of Moorhead-Dilworth to provide magnitude of DW need.
BWSR	26	2	2-19	Suggest reworking the second sentence and the next one as follows: "A period of prolonged drought could impact agriculture and the ability of the City of Moorhead to provide drinking water. A drought would put increased demands on groundwater for irrigation for agriculture. At the same time, the demand for groundwater-based drinking water would increase in the City of Moorhead. Recent monitoring of groundwater levels suggests that water levels in the Buffalo aquifer have started to decline (GRAPS 2019). The conflict between the needs for agricultural irrigation and drinking water for the City of Moorhead is an emerging issue that the City of Moorhead, agricultural producers, and DNR will have to address through permitting authorities and more detailed drinking water planning.	x			Y	Text added as suggested.
BWSR	27	2	2-20	Suggest plainly stating something like "Additional funding will be needed to achieve the goals set forth in this plan"	x			Y	Text revised as suggested.
BWSR	28	2	2-20	should be statute		x		Y	Changed to "statute."
BWSR	29	2	2-22	this section no longer seems current, right? Isn't their a proposed new EPA rule? Maybe simplify this and just refer to EPA website? May also want to say that State laws and ongoing discussions for the State of Minnesota to assume Section 404 of CW act. https://bwsr.state.mn.us/404-assumption	x			Y	Section revised as suggested.
BWSR	30	3	Section 3, 3-5	Is altered hydrology only characterized by increases? I think it would be more accurate to describe it as changes to peak discharge and runoff volume and timing		x		Y	Revised as suggested.
BWSR	31	3	pg 3-8	looks like the terms "upland grassland" "grassland" and "prairie" are all used interchangeably.		x		Y	Revised to just "wetland" and "grassland."
BWSR	32	3	pg 3-12	I think this is supposed Planning Team. ?		x		Y	Correct, revised to "PT" for Planning Team
BWSR	33	3	3-13	delete. Replace with the saame sentences that start the emerging issues section related to groundwater.	x			Y	Revised as suggested.
BWSR	34	3	3-13	local intities, including the City of Moorhead,.....	x			Y	Revised as suggested.
BWSR	35	4	4-2	change to "... from other sources such as competitive grants, federal programs, legislative bonding and appropriations, etc." could also add e.g Outdoor Heritage Funds. or E.g. RCPP as examples	x			Y	Revised as suggested.
BWSR	36	5	5-1	remove extra word "and" after tillage.		x		Y	Revised as suggested.
BWSR	37	5	5-2	is this going to be called a planning group? Suggest use of term "implementation group" or team instead. Planning will be over name of group should be different.	x			N	Group will be called Planning Team
BWSR	38	5	5-5	Consider changing title of section (5.2.1) to "multipurpose drainage". Are there plans to do any coordination / alignment of drainage funds (103E) with level 2 funding. I think so and if so, it should be stated here. "Where possible, level 2 or other competitive grants (level 3) will be used to build multipurpose drainage projects that incorporate elements such as side inlet and other features to meet plan goals."	x			Y	Incorporate MPD into the verbiage. Add language: "Where possible, level 2 or other competitive grants (level 3) will be used to build multipurpose drainage projects that incorporate elements such as side inlet and other features to meet plan goals."
BWSR	39	5	5-5	add "in priority areas" to end of sentence. Could also be added to header name.		x		Y	Revised as suggested.
BWSR	40	5	Section 5 pg 5-9	I think its supposed to be 14 feet		x		Y	Revised as suggested.
BWSR	41	5	pg 5-12	says statue instead of statute		x		Y	Changed to "statute."
BWSR	42	6	6-1, 6-2	Suggest addition of these sentences at begining of section for additional context. "Watershed districts can establish water management districts (WMD) to fund projects under current law (103D). These WMDs must be included in watershed plans adopted by watershed districts. Move the stuff related to charge amounts to the end of this section and move up the stuff that describes the WMD and the process.	x			Y	Text added and rearranged as suggested.
BWSR	43	6	6-10	As I read this section this is about "Implementation Roles and procedures "	x			Y	Header changed as suggested.
DNR	1	2	pg 2-19	We suggest reworking the second sentence and the next one as follows: "A period of prolonged drought could impact agriculture and the ability of the City of Moorhead to provide drinking water. A drought would put increased demands on groundwater for irrigation for agriculture. At the same time, the demand for groundwater-based drinking water would increase in the City of Moorhead. Recent monitoring of groundwater levels suggests that water levels in the Buffalo aquifer have started to decline (GRAPS 2019). The conflict between the needs for agricultural irrigation and drinking water for the City of Moorhead is an emerging issue that the City of Moorhead, agricultural producers, and DNR will have to address through permitting authorities and more detailed drinking water planning. (also see comment for page. 4-5 on this topic)	x			Y	Revised as suggested, and per BWSR Comment # 26
DNR	2	2	pgs. 2-8, 2-9, 2-12	Impaired for nutrient lakes are difficult to identify. On the three maps I could only distinguish 3 lakes (at 200% increase), although "There are 15 nutrient (phosphorous) impairments for lakes in the watershed..." (pg. 3-4). Perhaps a change in symbology? Also, both the surface water maps and the habitat and recreation maps are difficult to read at the size they are provided.		x		Y	Lakes changed to a darker blue.
DNR	3	3	pg. 3-4	On that same page (3-4) there are listed 10 priority lakes, but I can't find where those lakes are in regards to planning regions, or whether they are part of the impaired list. Perhaps listing them within their watershed below? Or placing them on the map on that page? The surface waters maps are unreadable for lakes. In addition, the only practices/goals set for this issue are PTMApp designated (as far as I can tell). Are there no other actions that will be brought to draw attention to impaired lakes?	x			N	All prioritized resources are shown by planning region in Section 4. Other actions for Education and Outreach, Data Collection, Regulatory, and Projects and Practices accrue benefits to phosphorus reduction dn lake shoreland goals. See the Implementation Schedule for a dot in the "Phosphorus" and "Lake Shoreland" columns.

Commenter	Comment #	Section	Specific	Comment	Material	Editorial	Note	Plan Change Made (Yes/No)	Comment Response / Action
DNR	4	4	pg. 4-4	"Develop and implement a lake outreach program.." Only Lakes is designated as the Focus Area. There are 10 priority lakes identified under Phosphorous that would benefit as well from this. **Add Mainstem to Focus Area**?	x			Y	Mainstem added to focus planning region.
DNR	5	4	pg. 4-5	**4th from bottom** - "Continue to conduct lake assessments to gain and assess valuable data…." - DNR should be added as a listed partner. Also, wouldn't Mainstem also be a focus area with the identified 10 priority lakes? **Bottom action:** "Review and coordinate with the City of Moorhead area to better understand use and resource availability of the Buffalo Aquifer." Discussions are already taking place - this is an emerging issue that may warrant an earlier implementation. A long-term goal, based on further study, may be to set a threshold level for the Buffalo Aquifer.	x			Y	Move dates to the first two timeline boxes.
DNR	6	4	pg. 4-6	Considering the drinking water issues in Moorhead, moving the addition of observation wells for groundwater into a higher level may be something to consider for the Moorhead planning region. DNR is working with the city of Moorhead to try and expand monitoring near their well fields currently.	x			N	Due to funding policy, this cannot be in Level 2
DNR	7	4	pg. 4-8	Last Activity in table: "Implementin-lake practices (e.g. alum, drawdowns, fish management) for lakes with high internal phosphorus loading." DNR listed as lead. This entire activity should be deleted. Does not meet the definition for Capital Improvements in Section 5, nor does it show up in phosphorous issue. Phosphorous listed lakes are primarily within the Mainstem subwatershed, yet only the Lakes planning area is identified.	x			Y	Revise language to "New control structures at the outlet of the lake to manage water levels. "
DNR	8	4	pg. 4-32	Page highlights that the planning area includes the Rothsay and Manston Wildlife Management Areas, and that Wetlands are a high priority. Would be helpful if the map that identified Priority Resources (on right) would show the Wildlife Managemente Areas. Building on habitat areas is a multiple benefit for water quality and wildlife habitat.	x			N	Maps summarize areas prioritized in Section 3 by goal. WMAs were not prioritized for protection or restoration in Section 3 Wetlands / Uplands goal.
DNR	9	4	pgs. 4-39, 4-36, 4-33, 4-30, 4-27, 4-21	Maps on right with targeted practices do not show county lines.		x		Y	Maps revised to show county lines.
DNR	10	4	pg. 4-35	Appears that a priority ditch in lower left hand corner is covered up by legend.		x		Y	Legend moved to show ditch.
MDA	1	3	PG. 3-13. Measurable Goal: Groundwater.	The third paragraph discusses pursuing actions to reduce the risk of groundwater contamination, focusing efforts to areas covered by Drinking Water Supply Management Areas (DWSMAs) and the Buffalo Aquifer. The Measurable Goal table on the bottom relates to the watershed wide goal. o It could be useful and a more precise metric to state the total acres of DWSMAs, and vulnerable acres of the Buffalo Aquifer, in the watershed that local entities will focus their efforts on in this plan. As implementation progresses, it can be documented how many practices, acres, rain gardens, and sealed wells are located specifically in DWSMAs and the Buffalo Aquifer.	x			Y	Added to metric: Implementation will be tracked relative to projects completed in the DWSMAs and the Buffalo Aquifer individually as well.
MDA	2	4	PG. 4.5. Provide citizens water well test kits to monitor....	The MDA is listed as the lead; however, it may be best suited to consult with the MDH on sampling needs and testing requirements for bacteria, arsenic, or other concerns. MDA can assist with nitrate well water testing, nitrate clinics, irrigation water nitrate crediting, and could be listed as a partner for the other contaminants.	x			Y	Lead role changed to MDH.
MDA	3	General	General	See comment letter for research results and implementation programs relative to implementation efforts			x	N	Information noted for use in implementation, with thanks.
MDH	1	2	2	MDH requests clarification for activities. MN Statutes indicate that drinking water protection be identified in the plan. Source Water Protection is a more commonly used term to address Drinking Water Protection. In the plan Groundwater is commonly used term to discuss Source Water Protection. For Example Page ES-3 States under Priority level B, “Groundwater – The need to prioritize protection of surface water and groundwater drinking water supplies.” It would be correctly classified as Source Water Protection not Groundwater. This again found on Page 2-4. Ground Water is also used to describe activities on implementation tables. MDH requests that the plan be changed to use the term Source Water Protection when the generic term “Groundwater” is used to describe protecting drinking water.		x		Y	Changed page ES-3, 2-4, 3-13 to say "Groundwater / Source Water Protection "For purposes of this plan, "Groundwater" include source water protection.
MDH	2	2	2	MDH concurs with BWSR and requests the plan consider amending Page 2-19, Section 2.3.1.7, first paragraph, second sentence to: "A period of prolonged drought could impact agriculture and the ability of the City of Moorhead to provide drinking water. A drought would put increased demands on groundwater for irrigation for agriculture. At the same time, the demand for groundwater-based drinking water would increase in the City of Moorhead. Recent monitoring of groundwater levels suggests that water levels in the Buffalo aquifer have started to decline (GRAPS 2019). The conflict between the needs for agricultural irrigation and drinking water for the City of Moorhead is an emerging issue that the City of Moorhead, agricultural producers, and DNR will have to address through permitting authorities and more detailed drinking water planning.	x			Y	Revised as suggested, and per BWSR Comment # 26

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MDH	3	2	2	MDH requests the following be added to the Emerging Concerns Section - MDH, along with the City of Moorhead, is working on amending the city's Source Water Assessment report. This document will address chemical contaminants, land use, and potential contaminant sources within the watershed, and will delineate the areas of most concern in proximity with the intake. Upon completion, the city will be able to use the collected information for creating a Surface Water Intake Protection Plan that will outline implementation efforts the city and local partners can collaborate on. The Source Water Assessment is expected to be completed in spring of 2021. Surface Water Intake Protection Plan to begin in summer of 2021.	x			Y	Add emerging issues: Other Plans - This is a working plan that will accommodate additional information in the future. New local or regional plans will be addressed. For example, The Moorhead Source Water Intake….
MDH	4	LWRN	LWRN	Appendix A, Pages 33 and 34 summarize the current MDH Source Water Assessment (SWA) for the City of Moorhead. The SWA offers more information and maps that are useful in understanding surface water protection impacting the City of Moorhead. MDH requests that the SWA document be attached included in the plan Appendix.			x	Y	Reference to SWA added to document.
MDH	5	4	4	MDH requests the addition of an Implementation Action to the plan: Buffalo Red 1W1P Implementation Committee or the Buffalo Red River Watershed District will support and provide a representative to actively cooperate with the development of a Source Water Assessment and Surface Water Intake Protection Plan for the City of Moorhead.	x			Y	Combine with action item: "Review and coordinate with the City of Moorhead area to better understand use and resource availability of the Buffalo Aquifer."
MPCA	1	General	General	MPCA staff support the use of Minnesota's 2018 Impaired Waters List for identifying impaired waters in the draft Plan, as the MPCA's draft 2020 Impaired Waters List has not yet been submitted for review and approval by the U.S. Environmental Protection Agency. Please note for future reference that, upon approval, the draft 2020 Impaired Waters List will include newly identified impaired waters in the Plan's Otter Tail Planning Region. Furthermore, as mentioned in Plan section 2.3.1.8 and again in Plan section 5.3, the MPCA is conducting Intensive Watershed Monitoring in the Buffalo River and Upper Red River of the North major watersheds in 2019 and 2020. The MPCA will then update the TMDL and WRAPS reports for those major watersheds, and newly identified impaired waters may be added to the MPCA's draft 2022 Impaired Waters List as a result. For more information on the MPCA's Impaired Waters List please visit https://www.pca.state.mn.us/water/minnesotas-impaired-waters-list.			x	N	Comment noted for implementation, with thanks.
MPCA	2	2	2	MPCA staff agree with BWSR staff comments on Plan section 2.3.2.6 starting on page 2-22. The revised Navigable Waters Protection Rule and associated Waters of the United States definition were published in the Federal Register on April 21, 2020 and became effective on June 22, 2020. This section could be updated accordingly. For more information please visit https://www.epa.gov/nwpr/final-rule-navigable-waters-protection-rule.	x			Y	Section revised as suggested and per BWSR Comment #30.
MPCA	3	App. C	App. C	Please include Scott Schroeder, MPCA Watershed Project Manager, as an Advisory Committee member in section 6.2 of Appendix C: BRRW 1W1P Participation Plan. Scott began participating in Advisory Committee meetings and associated review of project materials in November of 2018 and will continue to be a point of contact as MPCA's Watershed Project Manager for the watersheds included in the Plan.		x		Y	Name changed to list Scott Schroeder.
IWI	1	General	General	Overall, the Buffalo-Red River Watershed Comprehensive Watershed Management Plan is well-organized, detailed, and attractive to look at and read; however, the plan is missing some critical elements that would make it a stronger plan. Some of the critical missing elements include the overall context, the audience, the purpose of the plan, and the technical black box that was used to derive all the metrics and project costs. Below is a question-based and detailed assessment of the plan for each of the critical missing elements where I provide more details of how the plan could be strengthened. The following comments are based on my review of the Buffalo-Red River Watershed Comprehensive Watershed Management Plan. My review has used questions from William Baer's article "General Plan Evaluation Criteria: An Approach to Making Better Plans" Journal of the American Planning Association, (1997), 63:3, 329-344.			x	Y	See responses to each comment in lines below.
IWI	2	General	General	Is the political/legal context of the plan explained? Minnesota Statutes §103B. 801 that drive thisprocess across the State are not mentioned or addressed. I assume this plan is meeting a statemandate.		x		Y	Will add reference to statute.
IWI	3	General	General	Is the administrative authority for preparation indicated? The executive summary of the planmentions a Memorandum of Agreement (MOA) between local government units in the region.			x	N	Correct.
IWI	4	General	General	Is the role of the preparing agency or firm adequately explained? Not that I can see in the plandocument. The plan states that one of the planning teams hired Houston Engineering, Inc. toassist with plan formulation.			x	N	Houston Engineering is also listed on the Acknowledgements page.
IWI	5	General	General	Is it clear who the plan is for? Not really. I am assuming that the plan is for each of the countiesthat signed the MOA and more specifically the Leads and Partners that are identified in theImplementation Schedule (Section 4) in large tables. It seems that landowners and, in particular,farmers throughout the region should be a key audience as many of the outcomes of the plan willrely on farmers' willingness to cooperate with some aspects of plan, such as filtration practicesand soil health.		x		Y	Language added to Executive Summary to clarify audience.
IWI	6	General	General	Is the purpose of the plan explained? Not really. A reader could pick out reasons for the plan inthe executive summary and the introduction, but it would be much more direct for it to state thepurpose (decrease risk of flooding, increase water quality, decrease erosion, increase soil health,etc.).	x			Y	Language added to Executive Summary to clarify plan purpose. See BWSR Comment #8.

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IWI	7	General	General	Is the type of plan and its scope reported early on, to alert the reader about what to expect?(highly quantitative and analytic; far ranging or narrow; specific and technical.) The reader canglean an inkling from the executive summary and the introduction, but it is not stated upfront about what the reader should expect. This type of plan is quantitative, both in terms of the types of issues that are getting addressed, such as sediment and decreasing the amount in runoff and in terms of the costs of addressing the prioritized issues. The plan should be technical because of the issues that are getting addressed and how to address them. This is where the plan's audience is necessary to identify and address at the beginning of the plan and before that, the beginning of the plan creation process. This plan is reasonably easy to read, but it is not clear how any of the numbers are arrived at. The reader needs to trust that what is in the plan is correct.			x	Y	See response to Comment #5.
IWI	8	General	General	Is an overview/summary provided? Yes.			x	N	Correct.
IWI	9	General	General	Is the source of funding for the plan shown? No. I didn't see any discussion funding for this plan.			x	N	See plan Acknowledgements page: "Funding provided from the Clean Water Fund as part of the Clean Water, Land, and Legacy Amendment."
IWI	10	General	General	Is the amount of time in preparation shown? No. I didn't see how much time in person hours thisplan took to put together.			x	N	Not provided for this planning effort.
IWI	11	General	General	Are problems specifically identified? Yes, they are called issues and resource concerns. Theywere identified through a process with committees/teams. I appreciated the emerging issues.			x	N	Comment noted with thanks.
IWI	12	General	General	Are goals and objectives explicitly identified? Priority issues, measurable goals, short and long- term goals, and a metric are identified.			x	N	Correct.
IWI	13	General	General	Is the tone of the plan commensurate with the planning approach? Is there planning forprocedural coordination with other plans and agencies? I am not clear on the relationship betweenthe various entities and who funds what, and then which agency does the work? There areleads/partners identified in Section 4, but I doubt some of them have budgetary authority. Inaddition, was Extension part of this process? They are leads/partners in a number of these actionitems in Section 4.			x	N	Lead roles are identified in Section 4. Sources of funding are provided in Table 6-1.
IWI	14	General	General	Are alternatives listed, or at least considered? No alternatives discussed and no discussion ofwhether alternatives were considered in the plan creation process.			x	N	Alternatives are not part of this planning process.
IWI	15	General	General	Who was involved in the plan formulation? Section 1.2 explains which entities were involved anda large planning group was divided into three smaller committees. Appendix C: Participation Planlists the names of people involved for each of the committees of which most members appear tobe male indicating a lack of diversity of membership and possibly missing important issues andresource concerns. It also says the general public was involved. However, a key stakeholder arefarmers and they don't appear to be intimately involved on these committees.			x	N	Correct- formal planning committees are shown in Appendix C.
IWI	16	General	General	How were they chosen? It appears they were chosen because they are elected officials, SWCDstaff and SWCD board of supervisors, and the watershed's board of managers.			x	N	Correct.
IWI	17	General	General	How were they involved? It looks like the planning team, advisory committee, and policycommittee were consulted and worked with the consultant. I don't see how often they met, howlong, or the agendas. Perhaps these are available elsewhere.			x	N	Meeting frequency, agendas, and minutes are available on brrwd.org.
IWI	18	General	General	How were data, models, goals and other pertinent information used in recommending policy oraction? Unclear who initially identified the resource concerns and issues (the consultant?) andthen it looks like there was a process to continue to identify and prioritize concerns and issues.There was one public kickoff meeting. It is not clear who was invited to that face to face meetingon a January evening. In Section 2, there are a series of sub-watershed resource concern maps. For each sub-watershed, land use, surface waters, habitat and recreation, and groundwater concerns are mapped. While the maps are very small, the reader can start to get a picture of the issues in a particular sub-watershed. It would have been interesting to figure out a way to overlay the issue areas to understand where the true "hot spots" of concern are. The plan (I assume the consultant) used an application called PTMApp, TMDLs, other plans and reports, and the maps to create prioritization criteria for each measurable goal. Here is where the big black box is. Somehow lots of data was fed into an app and culled through so that Section 3: Measurable Goals could be written. It is impressive in its specificity. For example, for Sediment for the Central sub-watershed, a short-term goal of 9% reduction in sediment is specified or 17,662 tons/year and the long-term goal is a 37% reduction in sediment. For each sub-watershed, a specific short-term and long-term goal is specified. Interestingly, long-term goals are not bounded by time and the short-term goal time frame is 10 years. I like the snapshot approach to each issue. A reader can easily see what the issue is and how it can get addressed in each sub-watershed. It looks like Section 4: Implementation Schedule translates these numbers to practices.			x	N	Appendix H lists each geospatial criteria used for subwatershed prioritization. The PTMApp data was created during a 2017 Accelerated Implementation Grant. A summary of its creation can be found at Houston Engineering, Inc. (HEI), 2019. Buffalo-Red River Watershed Targeted Implementation Report: Assessing Water Quantity and Quality.
IWI	19	General	General	How were technical matters transformed into recommended policy? As I said before, it's a bit ofa black box. I am not sure if there is a technical appendix to this plan that specifies how the modelworks and how it generated these numbers. There may be some readers that could have aninterest in this aspect of the work. Perhaps there's also a way to explain how the model works fora non-technical audience. For example, a farmer might want to know why he/she should use aparticular practice and how he/she is assisting in the overall reduction of sediment. Thetransformation from data into measurable goals and then to specific practices on acreage canseem a bit mysterious.			x	N	The PTMApp data was created during a 2017 Accelerated Implementation Grant. A summary of its creation can be found at Houston Engineering, Inc. (HEI), 2019. Buffalo-Red River Watershed Targeted Implementation Report: Assessing Water Quantity and Quality.

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IWI	20	General	General	Have all possible or pertinent issues been considered? This is hard to answer. However, at theoutset 73 issues were identified and whittled down to 30 and then 12 became priority issues. I amnot clear on the process, although it's clear that 73 issues are too many to address.			x	N	The original 73 issues were identified at first by the consultant, through review of existing data and information as outlined in the plan. The issues were vetted and expanded by members of the Planning Team, Advisory Committee, Policy Committee, and public. All 73 identified issues are summarized in Appendix E.
IWI	21	General	General	Have financial/fiscal implications been considered and will tax dollars address the problemsidentified? The total dollar amount for each of the three priority levels runs to the millions ofdollars. I cannot tell how these were arrived at or what share of the budget is allocated to eachagency. It may be likely that because of COVID-19 and the costs associated with it that localgovernment spending may be constrained in the next few years.			x	Y	Costs were provided for an estimated "base" funding amount, similar to average annual funding from 2013-2018 costs. Text revised to indicate as such.
IWI	22	General	General	Has feasibility in the larger political context been considered? I cannot tell how this plan fits intoall the other work and plans that may happen throughout the watershed and sub-watershed.			x	N	Feasibility in a larger political context was not evaluated as part of this plan.
IWI	23	General	General	Are implementation provisions appropriate in the plan? Only if farmers and other landownersaccept the practices identified.			x	N	Correct.
IWI	24	General	General	Are there priorities for implementation? Yes.			x	N	Correct.
IWI	25	General	General	Is cost of implementation vs. non-implementation considered? I don't see an analysis of whathappens if the status quo is maintained. It might be useful to know if the status quo is maintained,would the costs of sediment, flooding, unstable channels and streambanks, increased phosphorus,etc., be higher than the costs of the implementation practices identified in the plan.			x	N	The status quo is largely what can be accomplished under Funding Level 1. With additional dollars (Funding Level 2), more actions can be implemented and more progress toward goals made.
IWI	26	General	General	Is there a time span for plan implementation? Yes, annually over 10 years.			x	N	Correct.
IWI	27	General	General	Is the agency or person responsible for implementation identified? Yes, except for the individualfarmers that I assume will be asked to participate in many of these practices.			x	N	Correct.
IWI	28	General	General	Can the responsible agency realistically be expected to implement the plan? Much of the planrelies on budget allocations from the various agencies, including local governments and trustfrom farmers. I am not clear if the funds identified pay staff costs in addition to identifiedpractices.			x	N	Lead roles are identified in Section 4. Sources of funding are provided in Table 6-1.
IWI	29	General	General	Is the plan based on a wide spectrum of data where feasible? Yes, it appears that a reasonablythorough review of the natural resources data was used in Appendix A. However, the socio-economic analysis is overly simplistic and perhaps is why I don't obviously see private rurallandowners/farmers who are the key stakeholders consulted in this process. The plan could haveused a much more robust social science analysis to understand where the key stakeholders are atin terms of the many issues identified in this plan. Some questions: How many privatefarms/landowners are in each watershed? Do they trust the agencies that will implement much ofthis plan even though the plan is actually relying on farmers to implement much of the identifiedpractices?			x	N	Comment noted. Social science analysis work was not completed as part of this planning effort. High-level socioeconomic information is provided in the Land and Water Resources Narrative (page 42) to provide context about the watershed to the reader, and meet BWSR Plan Content Requirements. This includes information about land ownership.
IWI	30	General	General	Is the plan sufficiently flexible to permit new data and findings to be fed in? The plan is largelycompleted. I assume the consultants can make small tweaks, but I highly doubt new data andfindings will feed into the plan. This plan is not created to be dynamic, but to be completed andthen followed.			x	N	Correct. New information or priorities may merit an Amendment. For changes that constitute and amendment and processes, see Section 6.6.
IWI	31	General	General	Are the data sources cited? Yes, in an appendix.			x	N	Correct.
IWI	32	General	General	Are the methodology sources cited? Yes.			x	N	Correct.
IWI	33	General	General	Is the client or reading public identified? No.			x	Y	See response to Comment #5.
IWI	34	General	General	Are the ideas convincingly presented, given the nature of the audience? Given that I am not surewho the audience is, the plan is convincing in its presentation.			x	Y	See response to Comment #5.
IWI	35	4	General	Are the rationales behind the decision effectively presented? Not really. As I indicatedpreviously, the measurable goals and the implementation schedule are specific, but how thesespecific numbers were arrived at, I could not say other than PTMapp was used to assist in thisanalysis. I have no idea how the cost of practices was arrived at.	x			N	The PTMApp data was created during a 2017 Accelerated Implementation Grant. A summary of its creation can be found at Houston Engineering, Inc. (HEI), 2019. Buffalo-Red River Watershed Targeted Implementation Report: Assessing Water Quantity and Quality. See footnote on Page 4-9: 2 For purposes of this plan, practice cost was estimated by doubling the 2016 Environmental Quality Incentive Program (EQIP) payment rates. Practice costs for Soil Health and Nutrient Management Practices (source reduction) were annualized.
IWI	36	General	General	Are the recommendations consistent with goals? Yes.			x	N	Noted, with thanks.
IWI	37	General	General	Are the size and format conducive to the use intended? This plan is large and complicated as itcovers a large watershed with 8 sub-watersheds. It uses 11x17 sheets for the implementationsection and a person would have trouble looking at these on a computer, such as a laptop andmost people cannot print large sheets.			x	N	Noted. The 11x17 pages can be shrunk down to an 8.5 x 11 for printing purposes. The larger 11x7 is used in the plan to make graphics and figures as easy to read as possible.
IWI	38	General	General	Is the date of publication shown? I don't see a draft date, perhaps a final date will be added oncethe plan is approved.			x	N	Correct, the final plan date will be on the cover. The draft date for the 60-day formal review is also provided on the cover (May 11, 2020).
IWI	39	General	General	Are the authors shown, to indicate professional responsibility, both names and agency or firmname? In Appendix C.			x	N	Correct.
IWI	40	General	General	Is there a table of contents? Yes.			x	N	Correct.
IWI	41	General	General	Are graphics used to best advantage? I like the graphics. It makes it easy to understand thepriority issues and each measurable goal. The maps are useful as well and this is ultimately aspatial problem. For most of the sub-watersheds, it would be useful to have a finer-grained spatialanalysis, especially when it comes to implementation.			x	N	Noted, with thanks. PTMApp maps are also available for implementation on PTMAppWeb.
IWI	42	General	General	Are the appendices useful? Yes			x	N	Noted, with thanks.
IWI	43	General	General	Is the plan attractively laid out? Yes			x	N	Noted, with thanks.

Commenter	Comment #	Section	Specific	Comment	Material	Editorial	Note	Plan Change Made (Yes/No)	Comment Response / Action
Moorhead Public Service (MPS)	1	2	General	At Moorhead Public Service (MPS), staff make a concerted effort to gather and record trending historical data for many aspects of the Red River's raw water quality including pH, hardness (both carbonate and non-carbonate), turbidity, and alkalinity to name a few. Over the past several years, we at MPS have noticed a very large and negative trend in Red River quality in terms of total hardness and conductivity. These two water quality parameters have a high effect on MPS' need for chemical use in our softening process - the higher the hardness and conductivity, the more chemicals we need to add to remove the excess. (Note: I would be happy to forward data if there is interest-data shows increases in non-carbonate hardness by as much as 49 percent.) MPS utilizes the Red River as it's primary water source, with various well fields located along the northern stretches of the Buffalo Aquifer as a supplementary source, as detailed within the Plan (Buffalo Aquifer wells also acts as our primary drought backup resource). When hardness and conductivity rise in the Red River as trends have shown, MPS is forced to utilize additional groundwater resources from the Buffalo Aquifer to dilute out this degraded surface water for treatment to drinking water standards. Over time, this unfortunate necessity will use additional groundwater storage volume that should be left untouched for drought preparedness. MPS has worked with the MN DNR since approximately 2008 on devising an Aquifer Management Plan for the Buffalo Aquifer, and in 2017, the final document was approved. Within the document, it details MPS' plan to utilize the Buffalo Aquifer as the primary source of water during extended drought conditions similar to the drought experienced in the 1930s. As mentioned above, with the degrading water quality in the surface water source, the Red River, MPS is forced to use groundwater sources it would otherwise be storing within the Buffalo Aquifer for drought preparedness. I believe that as part of this Plan, the Red River (and tributary sources) needs to be studied to specifically identify and mitigate the source(s) of increased hardness (both carbonate and noncarbonate) and conductivity. All drinking water suppliers that utilize the Red River between its headwaters and the Canadian border would greatly benefit from this information and the corresponding action plans to reduce and reverse this hardness trend. The Buffalo Aquifer would specifically benefit from reduced annual pumping, and allow it to recover additional storage volume capacity for drought preparedness.	x			Y	Issue added to "Emerging Issues" section (2.6).
MPS	2	2	General	A second item I wanted to suggest would be to further describe the planning phases of total suspended solids (TSS)/turbidity reduction from water sources and tributaries in relation to the Phosphorous and Nitrogen reduction action plans. I am concerned that if the turbidity levels in the Red River were to be reduced prior to the reduction in total Nitrogen and Phosphorous levels, it would allow for increased total photosynthesis within the reaches of the Red River, and therefore allow for an increased risk of Blue-Green algae blooms (HABs) that surface water treatment plants such as MPS are not designed to handle. Is there a project phasing plan to ensure that nutrient loading is effectively implemented prior to the reduction in turbidity as to avoid this risk?			x	N	Sediment loading is a primary concern for this plan. Total phosphorus is also a measurable goal in this plan.
Public Hearing Comments (9/16/2020)									
Barry Nelson, Becker County Commissioner				What happens if a county does not adopt the plan at the end of the planning process?			x	N	If a county does not adopt the plan, the others move forward without them in the partnership. They would still need to have an approved plan and would lose their eligibility to receive Watershed-Based Implementation Funding
Marc Pritchard, MPS				If we notice water chemistry changing, what is the process for an amendment to incorporate the new data and information?			x	N	The plan was drafted to be flexible to incorporate new data. Substantial changes to priority issues, programs, or projects would substantiate an amendment, as spelled out in the plan.

BOARD OF WATER AND SOIL RESOURCES

October 28, 2020

Buffalo-Red River Watershed Policy Committee
c/o Aaron Larsen, West Otter Tail SWCD
506 Western Ave
Fergus Falls, MN 56537

RE: Approval of the Buffalo-Red River Watershed Comprehensive Watershed Management Plan

Dear Buffalo-Red River Watershed Policy Committee:

The Minnesota Board of Water and Soil Resources (BWSR) is pleased to inform you the Buffalo-Red River Watershed Comprehensive Watershed Management Plan (Plan) was approved at its regular meeting held on October 28, 2020. Attached is the signed Board Order that documents approval of the Plan and indicates the Plan meets all relevant requirements of law, rule, and policy.

This Plan is effective for a ten-year period until October 28, 2030. Please be advised, the partners must adopt and begin implementing the plan within 120 days of the date of the Order in accordance with Minnesota Statutes §103B.101, Subd. 14 and 103B.801, and the One Watershed, One Plan Operating Procedures.

The members of the partnership and participants in the plan development process are to be commended for writing a plan that clearly presents water management goals, actions, and priorities of the partnership, and for participating in the One Watershed, One Plan program. The BWSR looks forward to working with you as you implement this Plan and document its outcomes.

Please contact Board Conservationist Brett Arne of our staff at 218-850-0934 or brett.arne@state.mn.us for further assistance in this matter.

Sincerely,

Gerald Van Amburg, Chair
Minnesota Board of Water and Soil Resources

Enclosure: BWSR Board Order

CC: Margaret Wagner, MDA (via email)
Ryan Lemickson, MDA (via email)
Carrie Raber, MDH (via email)
Annette Drewes, DNR (via email)
Nathan Kestner, DNR (via email)
Barbara Weisman, DNR (via email)
Nicole Blasing, MPCA (via email)
Juline Holleran, MPCA (via email)
Jeff Risberg, MPCA (via email)
Scott Schroeder, MPCA (via email)
Erik Dahl, EQB (via email)
Ryan Hughes, BWSR (via email)
Brett Arne, BWSR (via email)
Rachel Mueller, BWSR (file copy)
Julie Westerlund, BWSR (via email)
Donna Caughey, BWSR (via email)

Equal Opportunity Employer

Minnesota Board of Water and Soil Resources
520 Lafayette Road North
St. Paul, Minnesota 55155

In the Matter of the review of the Comprehensive Watershed Management Plan for the Buffalo-Red River Watershed, pursuant to Minnesota Statutes, Sections 103B.101, Subdivision 14 and 103B.801.	**ORDER APPROVING COMPREHENSIVE WATERSHED MANAGEMENT PLAN**

Whereas, the Policy Committee of the Buffalo-Red River Watershed (BRRW) submitted a Comprehensive Watershed Management Plan (Plan) to the Minnesota Board of Water and Soil Resources (Board) on September 18, 2020, pursuant to Minnesota Statutes, Sections 103B.101, Subdivision 14 and 103B.801 and Board Resolution #18-14, and;

Whereas, the Board has completed its review of the Plan;

Now Therefore, the Board hereby makes the following Findings of Fact, Conclusions, and Order:

FINDINGS OF FACT

1. **Partnership Establishment.** The BRRW Watershed Partnership (Partnership) was established in March 2018, through adoption of a Memorandum of Agreement for the purposes of developing a Comprehensive Watershed Management Plan. The membership of the Partnership includes Becker Soil and Water Conservation District (SWCD), Clay SWCD, West Otter Tail SWCD, Wilkin SWCD, Becker County, Clay County, Otter Tail County, Wilkin County, Buffalo-Red River Watershed District.

2. **Authority to Plan**. Minnesota Statutes, Sections 103B.101, Subdivision 14 allows the Board to adopt resolutions, policies or orders that allow a comprehensive plan, local water management plan, or watershed management plan, developed or amended, approved and adopted, according to Chapter 103B, 103C, or 103D to serve as substitutes for one another or be replaced with a comprehensive watershed management plan. Minnesota Statutes, Sections 103B.801, established the Comprehensive Watershed Management Planning Program; also known as the One Watershed, One Plan (1W1P) program.

3. **Nature of the Watershed.** The BRRW is a diverse mix of agriculture, urban and rural settings, lakes, forests, and wetlands. The BRRW planning area drains 1,786 square miles and covers significant portions of Becker, Clay, and to a lesser extent Otter Tail and Wilkin Counties. There are two major watersheds that make up the planning area: the Buffalo and Upper Red rivers, and one minor watershed: Otter Tail River (downstream from Orwell Dam). Primary municipalities include Moorhead, Hawley, Callaway, Rothsay, and Barnesville.

4. **Plan Development.** The Plan was developed as a single, concise, and coordinated approach to watershed management. The Plan consolidates policies, programs, and implementation strategies from existing data, studies and plans, and incorporates input from multiple planning partners to

provide a single plan for management of the watershed. The Plan focuses on prioritized, targeted, and measurable implementation efforts and lays out specific actions to manage water quantity, protect and restore water quality, natural habitat, recreational uses and drinking water sources in the watershed.

5. **Plan Review.** On September 18, 2020, the Board received the Plan, a recording of the public hearing, and copies of all written comments pertaining to the Plan for final State review pursuant to Board Resolution #18-14. During the development of the Plan, State agency representatives attended and provided input at advisory committee meetings. The following state review comments were received during the comment period.

   A. Minnesota Department of Agriculture (MDA): MDA provided additional data on the Red River Valley Drainage Water Management Project. They also provided clarity on nitrogen testing and drinking water.

   B. Minnesota Department of Health (MDH): MDH requested clarity on source water protection vs groundwater as is commonly described in the plan. MDH also requested clarity and action items in regards to working with the City of Moorhead on source water protection.

   C. Minnesota Department of Natural Resources (DNR): DNR provided comments in regards also to the City of Moorhead and source water protection. DNR also commented on the need to be more clear on the identification of nutrient impaired lakes as listed in the plan, and also offered the group to be an active partner in developing lake outreach.

   D. Minnesota Pollution Control Agency (MPCA): MPCA commented on the update of a revised Waters of the United States definition. They also clarified that the draft impaired waters list utilized in the plan has not yet been formalized and is still in draft form.

   E. Minnesota Environmental Quality Board (EQB): EQB did not reply to requests for confirmation of receipt and did not provide comments for the final review.

   F. City of Moorhead Public Service (City): The City requested future inclusion of drinking water data that is collected by continuous monitoring of Moorhead drinking water, which is sourced from the Red River. They also requested further research into TSS and the affects reducing turbidity has on photosynthesis of algae.

   G. International Waters Institute (IWI): IWI conducted a thorough analysis of the plan and made several suggestions to improve public understanding of the context behind creation of a comprehensive watershed management plan. These included an explanation of the statutory authority, the rationale of decisions, procedures, and scope among others.

   H. Minnesota Board of Water and Soil Resources regional staff: BWSR staff provided comments throughout the planning process and had no suggested or required changes to the Plan submitted for the 60-day review. We commend the partners for their trust level and commitment to the resources of the Plan area. BWSR staff recommend approval of the Plan and look forward to working with the Partnership during implementation.

6. **Plan Summary and Highlights.** The highlights of the Plan include:
   - A thorough narrative description of the land and water resource features that shape the planning area and inform the broad priorities within the plan.

- A collection of 12 priority issues split between two distinct levels as selected by the group to focus efforts and define measurable goals.
- The plan includes focused priorities for nine (9) planning regions to ensure issue prioritization is specific to the needs of each geographical area.
- Each planning region has unique short and long-term goals and implementation schedules.
- The Prioritize, Target, and Measure Application (PMApp) was used to identify, prioritize, and target possible locations of upland structural projects and field management conservation practices in each specific planning region in the plan as the product of a separate Clean Water Fund grant.
- A thorough discussion of capital improvement projects within the watershed.
- A thorough discussion of regulatory and enforcement measures to meet the needs of county and watershed district obligations including shoreland management, public drainage, buffers, and land use planning to name a few.

7. **Northern Regional Committee.** On October 7, 2020, the Northern Regional Committee met to review and discuss the Plan. Those in attendance from the Board's Committee were Chair Rich Sve, Todd Holman, Gerald Van Amburg, Neil Peterson, Jeff Berg, Tom Schulz and Theresa Ebbenga. Board staff in attendance were Northern Region Manager Ryan Hughes, Board Conservationist Brett Arne and Clean Water Specialist Henry Van Offelen. The representatives from the Partnership were **List Partnership Attendees** and presented the Plan. Board regional staff provided its recommendation of Plan approval to the Committee. After discussion, the Committee's decision was to present a recommendation of approval of the Plan to the full Board.

8. This Plan will be in effect for a ten-year period until October 28, 2030.

CONCLUSIONS

1. All relevant substantive and procedural requirements of law have been fulfilled.
2. The Board has proper jurisdiction in the matter of approving a Comprehensive Watershed Management Plan for the Buffalo-Red River Watershed pursuant to Minnesota Statutes, Sections 103B.101, Subd. 14 and 103B.801 and Board Resolution #18-14.
3. The Buffalo-Red River Watershed Comprehensive Watershed Management Plan attached to this Order states water and water-related problems within the planning area; priority resource issues and possible solutions thereto; goals, objectives, and actions of the Partnership; and an implementation program.
4. The attached Plan is in conformance with the requirements of Minnesota Statutes Section 103B.101, Subd. 14 and 103B.801 and Board Resolution #18-14.
5. The attached Plan when adopted through local resolution by the members of the Partnership will serve as a substitute for the comprehensive plan, local water management plan, or watershed management plan, developed or amended, approved and adopted, according to Chapter 103B, 103C, or 103D, but only to the geographic area of the Plan and consistent with the One Watershed, One Plan Suggested Boundary Map.

ORDER

The Board hereby approves the attached Comprehensive Watershed Management Plan of the Buffalo-Red River Watershed, submitted September 18, 2020.

Dated at St. Paul, Minnesota, this twenty-eighth day of October, 2020.

MINNESOTA BOARD OF WATER AND SOIL RESOURCES

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BY: Gerald Van Amburg, Chair