

Farms & Groundwater Topic Meeting Summary



Introduction

Located in remote northern Minnesota is the wild Little Fork River Watershed (LFRW). The LFRW is a large watershed covering 1,872 square miles. The confluence with the Rainy River is about 160 miles from the headwaters, 11 miles west of International Falls. The Little Fork River begins in the north-central portion of St. Louis County near the town of Cook (MPCA, 2017). The watershed consists of three counties: Koochiching County (39%), St. Louis County (48%), and Itasca County (12%). There are no large cities within LFRW: the largest towns are Littlefork (population of 674) and Cook (population of 667).

The LFRW One Watershed, One Plan (1W1P) is a planning partnership between Koochiching County, Koochiching County, Itasca County, Itasca SWCD, St. Louis County, North St. Louis SWCD, and the City of Littlefork. Over the next year, this planning partnership will create a plan that will help maintain the high quality of the natural resources in the LFRW as well as restore valuable resources. Through this process, the planning partners, with guidance from local experts and stakeholders, will develop a comprehensive watershed management plan that identifies key issues in the watershed, creates measurable goals to help address those issues, and develop targeted implementation actions that help work towards achieving those goals.

The 1W1P process is outlined in **Figure 1** below. The first steps of the 1W1P process are a series of topic meetings that will be held to gather local input and kick-off the planning process by gathering issues, prioritizing issues, and targeting resources. These meetings will bring together the stakeholders and local experts to provide a strong background in each topic to ensure that the 1W1P adequately addresses the most important local concerns. The resources that will be covered in these meetings are Rivers & Lakes, Forests & Wetlands/Peatlands, Urban Stormwater & Drainage, and Farms & Groundwater. This is a summary of the Farms & Groundwater meeting.



Figure 1 Planning process for the LFRW 1W1P.

Little Fork River Farms & Groundwater Overview

Similarly to the rest of Minnesota, the LFRW was shaped by glacial activity. Most recently, melt water from the Wisconsin glaciation formed glacial Lake Agassiz. Lake Agassiz existed for nearly 4,500 years. Heavy clay deposits from Glacial Lake Agassiz can be found along the mainstem channel below more recent fluvial sediment (**Figure 5**).

Topography varies from the northwest flat big bog area in the Northern Minnesota and Ontario Peatlands to the rolling topography of the Northern Superior uplands in the southeast part of the watershed. Soil types range from peat over clay at the headwaters to glacial till and ledge rock to silty clay downstream of the town of Littlefork. The entire watershed consists of highly erodible types of soil structures. The heavy clay deposits below the fluvial sediments can affect slope and bank stability and infiltrating groundwater can pool and create failure planes. From the Little Fork River headwaters in Lost Lake, to the mouth at the Rainy River, the elevation drops 300 feet giving a two foot per mile drop between the towns of Cook and Littlefork (MPCA, 2006).

Little agriculture occurs in the LFRW, generally due to low productivity potential of much of the lands. Settlers attempted to drain the peat-rich landscape that dominate the watershed but were mostly unsuccessful. Because of this, there is generally low pressure for agriculture development. Only 2.1% of the land is agriculture: 1.6% of land is pasture/hay and 0.5% is cultivated crops (**Figure 6**; USGS, 2024). The most common crops are other hay, alfalfa, and less commonly soybeans, clover/wildflowers and spring wheat (CSISS, 2025). Agricultural lands are spread out throughout the watershed; however, much occurs south of Littlefork and near Cook. There are approximately 1,287 acres of cultivated land and 15,246 acres of pasture as of 2021 (NLCD, 2021). Breakdowns of 2016 and 2021 acres of cultivated and pastureland can be found in **Figure 7**. Generally, cropland acres are decreasing, and pastureland acres are increasing, although risks of conversion are generally low in the watershed (**Figure 8**).

Although there is little agricultural land, the adjacency of this land to waterways makes management higher priority. Livestock and grazing can negatively impact streambanks and stream water quality and could be a source of targeting in the LFRW. In eLINK data, there have been no agricultural BMPs in the LFRW. However, there are 2,359 acres enrolled in the Minnesota Agricultural Water Quality Certification Program, from three producers.

In the LFRW, many residents rely on private wells to supply their drinking water. Most wells are within depths that encounter glacial till. Water resources are not intensively developed within the watershed due to the lack of population. The largest withdrawals are at Littlefork and Cook, which have municipal water supplies/DWSMAs (Helgesen, Lindholm, and Ericson, 1976). Many residents use private wells for their drinking water if they are located outside of the municipal water supplies. Less than 1% of samples tested for nitrates indicate human activity as the cause for groundwater contamination, and no wells are above the standard of 10 mg/L (MDH, 2025). The MDH notes that sealing abandoned wells and testing private wells should both be priorities in the watershed (MDH, 2025). They also note that noncommunity water supplies should be considered.

There are:
1,287 acres of crops 🌾
15,246 acres of pasture 🐄
in the LFRW.

There are 2,359 acres
(3 Producers)
enrolled in the
MN Ag Water
Quality Certification
Program



Issues

The general process of planning and convening the topic meetings are shown in the graphic below. The process begins with gathering issues from existing studies and documents before the meeting. At the meeting, participants brainstorm issues, discuss these issues in greater depth, prioritize them, and brainstorm possible actions to address these issues (**Figure 2**).

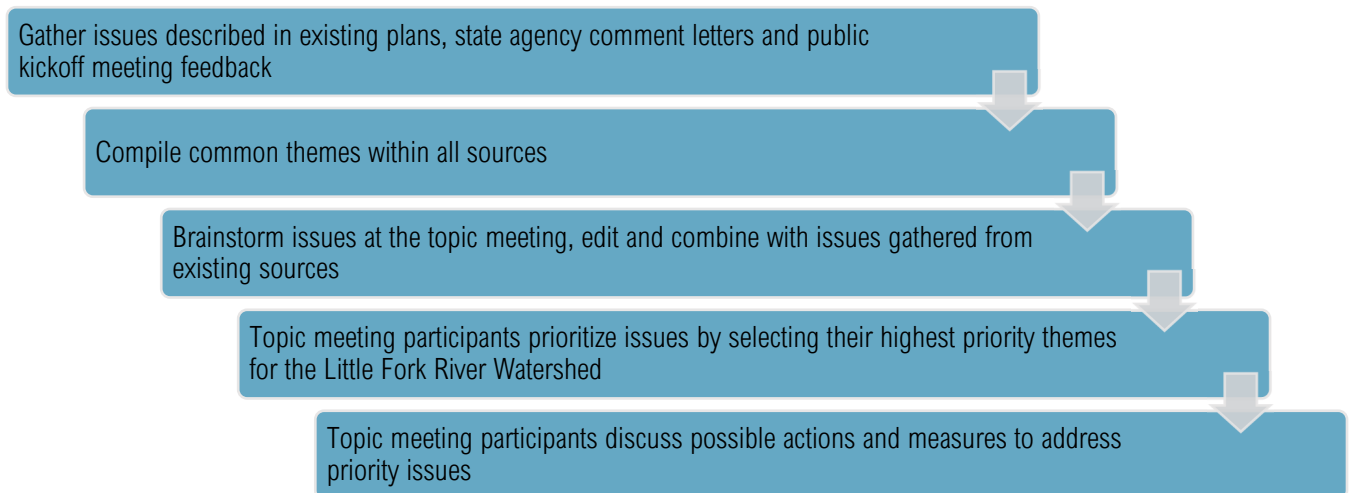


Figure 2 Issue development for the LFRW 1W1P during topic meetings

The Farms & Groundwater Topic meeting for the 1W1P planning effort was held on November 6, 2025 in the city of Littlefork. To gather the diverse viewpoints about water quality of stakeholders and experts in the watershed, we began the meeting by asking each member of the Advisory Committee to describe the forests and wetlands in the LFRW in a few words. Their responses are shown below in a word cloud (**Figure 3**).



Figure 3 Word cloud showing participants thoughts about farms and groundwater in the LFRW.



Following this, two presentations from local experts were delivered to the group: first, Ryan Clark (Carlton County) provided information on the Minnesota Agricultural Water Quality Certification Program (MAWQCP) and opportunities within the watershed for more enrollment. Then Dan Disrud from MDH provided a summary of the upcoming Groundwater Restoration and Protection Strategies (GRAPS) process and the state of wells and groundwater in the LFRW.



Figure 4 Brainstormed issues for farms and groundwater in the LFRW.

At the meeting, attendees were asked to write about issues and opportunities related to farms & groundwater on sticky notes (Figure 4). These notes were then clustered into themes to determine if the Advisory Committee priorities align with the themes gathered from the plans, reports comment letters, and public input. Draft issue statements based on these stick notes were created. These can be found in Table 1, as well as the relevant documents which identify the issue.

Table 1 Draft issue statements for farms and groundwater in the LFRW.

Draft Issue	Draft Issues Statement	Sources (see key below)
Agricultural Runoff	Agricultural runoff and livestock access increases erosion, nutrients, sediment, and bacteria in streams and groundwater.	WRAPS, TMDL, EPA TMDL, Select Lakes, Trends, St. Louis County, MPCA Letter,
Groundwater	Groundwater quality and sustainability need assessment and protection.	MDH Letter, MPCA Letter, BWSR Letter, DNR Letter, EPA TMDL, WRAPS, Koochiching County, Itasca County, St. Louis County

BWSR Letter – BWSR 60 Day Letter | **DNR Letter** – DNR 60 Day Letter | **EPA TMDL** – EPA Total Maximum Daily Loads Support Letter | **Itasca County** – Itasca County Local Water Management Plan | **Koochiching County** – Koochiching County Comprehensive Local Water Management Plan | **Logging** – MPCA Effect of Historical Logging Report | **MDH Letter** – MPCA 60 Day Letter | **Monitoring** – MPCA Monitoring and Assessment Report | **MPCA Letter** – MPCA 60 Day Letter | **Select Lakes** – MPCA Water Quality Assessment of Select Lakes | **St. Louis County** – St. Louis County Comprehensive Water Management Plan | **TMDL** – MPCA Sediment Reduction Project Total (Total Maximum Daily Load) | **Trends** – MPCA Watershed Assessment and Trends Update | **WRAPS** – Little Fork River Watershed Restoration and Protection Strategy Report |

Farms & Groundwater Actions

Actions were brainstormed to help address the issues that were prioritized during the meeting. These actions will be implemented into the plan, with more actions added during the planning process.

- Technical and financial assistance for alternative water systems and access control
- Outreach to smaller farms
- Project development and technical assistance funds to cover staff time to work with Ryan Clark and producers
- well testing workshops in cooperation with IRRRB (see if they will financially help defray costs for RO systems for homes)
- Livestock exclusion fencing, water wells, and watering ponds.
- reforest abandoned fields in old farms
- Seal unused wells
- Rotational grazing, cover crops, no till/reduced tillage
- Outreach opportunities abundant
- Cost share on well screening
- Nett Lake- tribal collaboration
- Enroll more MN Ag Water Cert Farms
- Replacing failing septic
- Ag waste management practices.
- Spring protection? Mapping, ownership identification
- Coordination with DWSMAs
- Cost share for Ag BMPs
- Outreach to Ag producers for BMPs

Meeting Attendees

- Ada Tse – St. Louis County
- Andy Arens – Itasca SWCD
- Austin Steere – Itasca SWCD
- Austin Wallin – Koochiching SWCD
- Cal Saari – Itasca SWCD Supervisor
- Chad Severts – BWSR
- Dan Disrud – MDH
- Jeff Hrubes – BWSR
- Jolén Simon – Koochiching SWCD
- Kelly Condiff – DNR
- Mike Kennedy, MPCA
- Mitch Brinks, GIS Specialist TSA 8
- Pam Tomevi, Koochiching SWCD
- Phil Norvitch – North St. Louis SWCD
- Rhoda Adkins – MPCA
- Ryan Clark – Carlton County
- Skyler Webb, St. Louis County
- Aaron Frankl – Houston Engineering Inc.



References

- Center for Spatial Information Science and Systems (CSISS), 2025. CropScape – Cropland Data Layer. <https://nassgeodata.gmu.edu/CropScape/>. Accessed June 2025.
- Helgesen, Lindholm, and Ericson, 1976. Water Resources of the Little Fork River Watershed, Northeastern Minnesota.
- Minnesota Department of Natural Resources (DNR), 2015. Watershed Health Assessment Framework.
- Minnesota Department of Natural Resources (DNR), 2017. Watershed Context Report.
- Minnesota Pollution Control Agency (MPCA), 2017. Little Fork River Watershed Restoration and Protection Strategy Report.
- Minnesota Pollution Control Agency (MPCA), 2006. Effect of Historical Logging on Geomorphology, Hydrology, and Water Quality in the Little Fork River Watershed.
- National Land Cover Database (NLCD), 2021. United States Geological Survey.
- United States Geological Survey (USGS), 2024. Annual NLCD. <https://www.usgs.gov/centers/eros/science/national-land-cover-database>. Accessed June 2025.



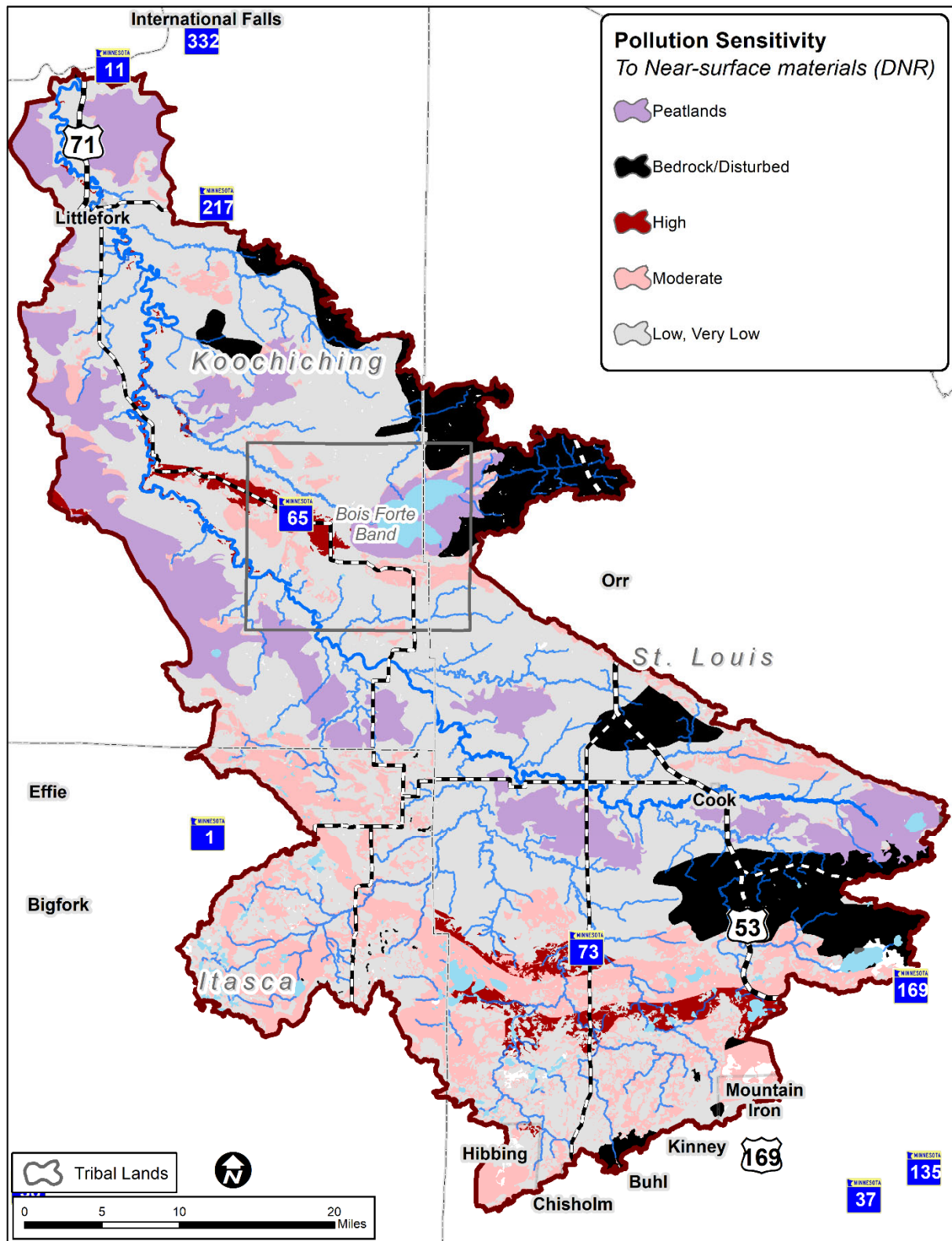


Figure 5. Pollution sensitivity of LFRW. Both DWSMAs (Littlefork and Cook) have moderate vulnerability ratings.

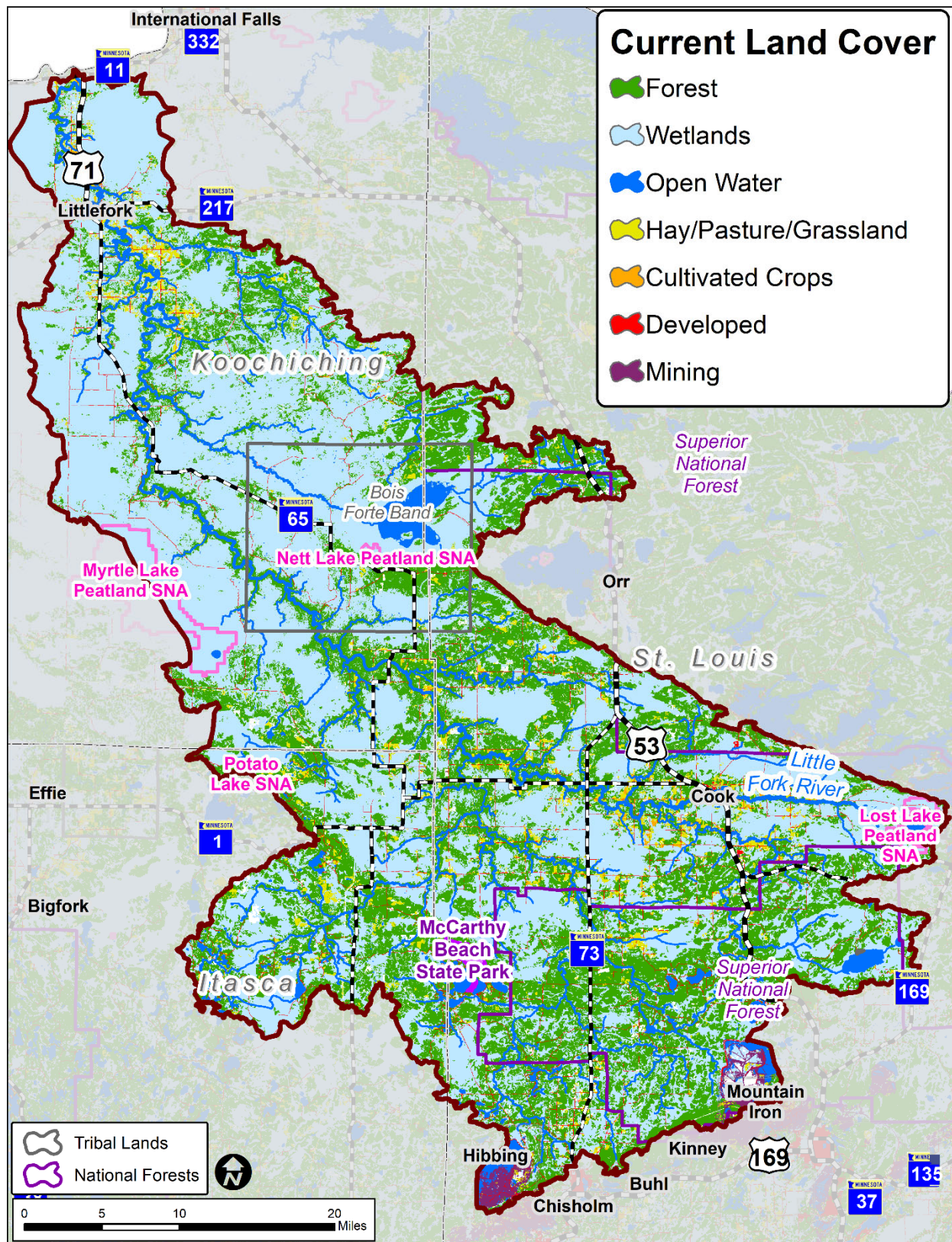


Figure 6. Land use in the LFRW.

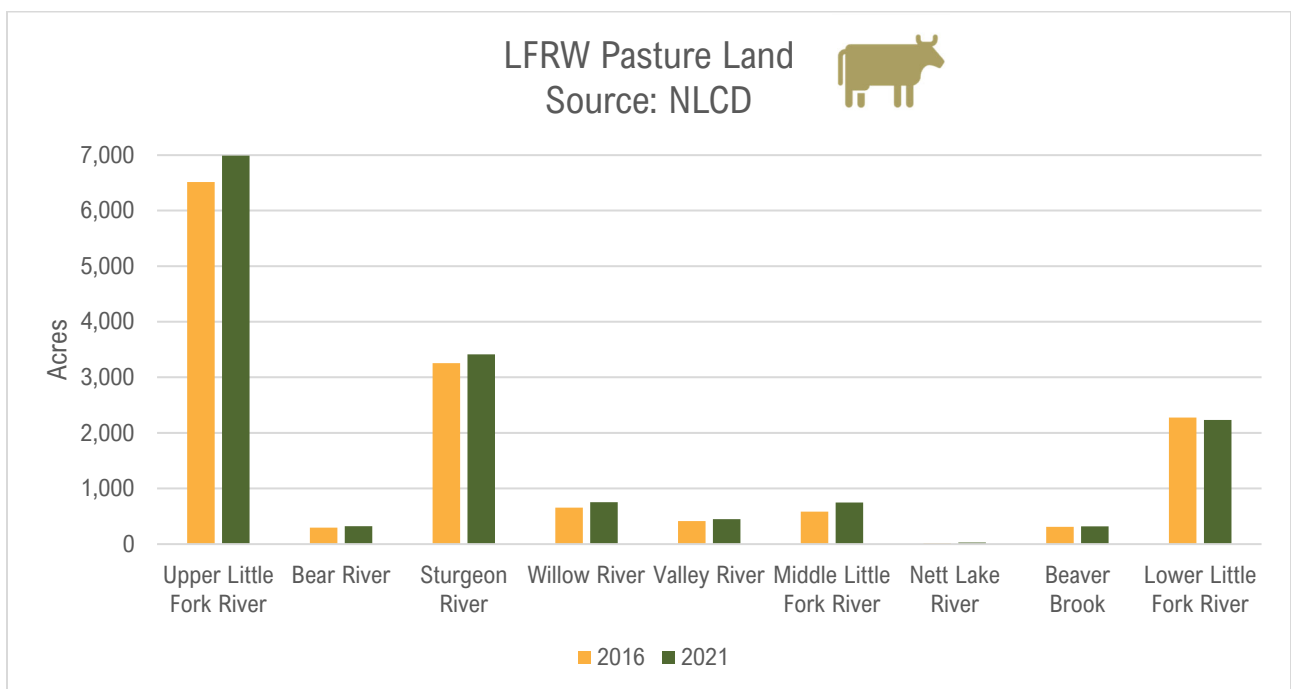
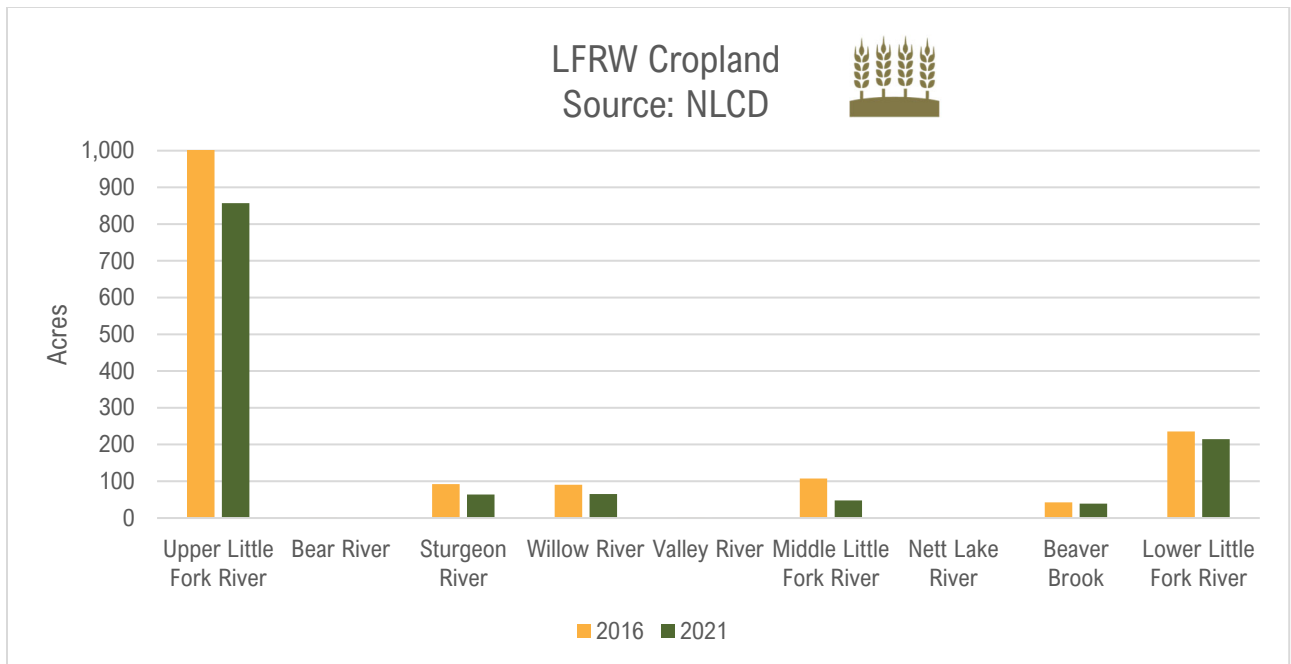


Figure 7. Cropland and pastureland in 2016 and 2021 for each subwatershed in the LFRW.



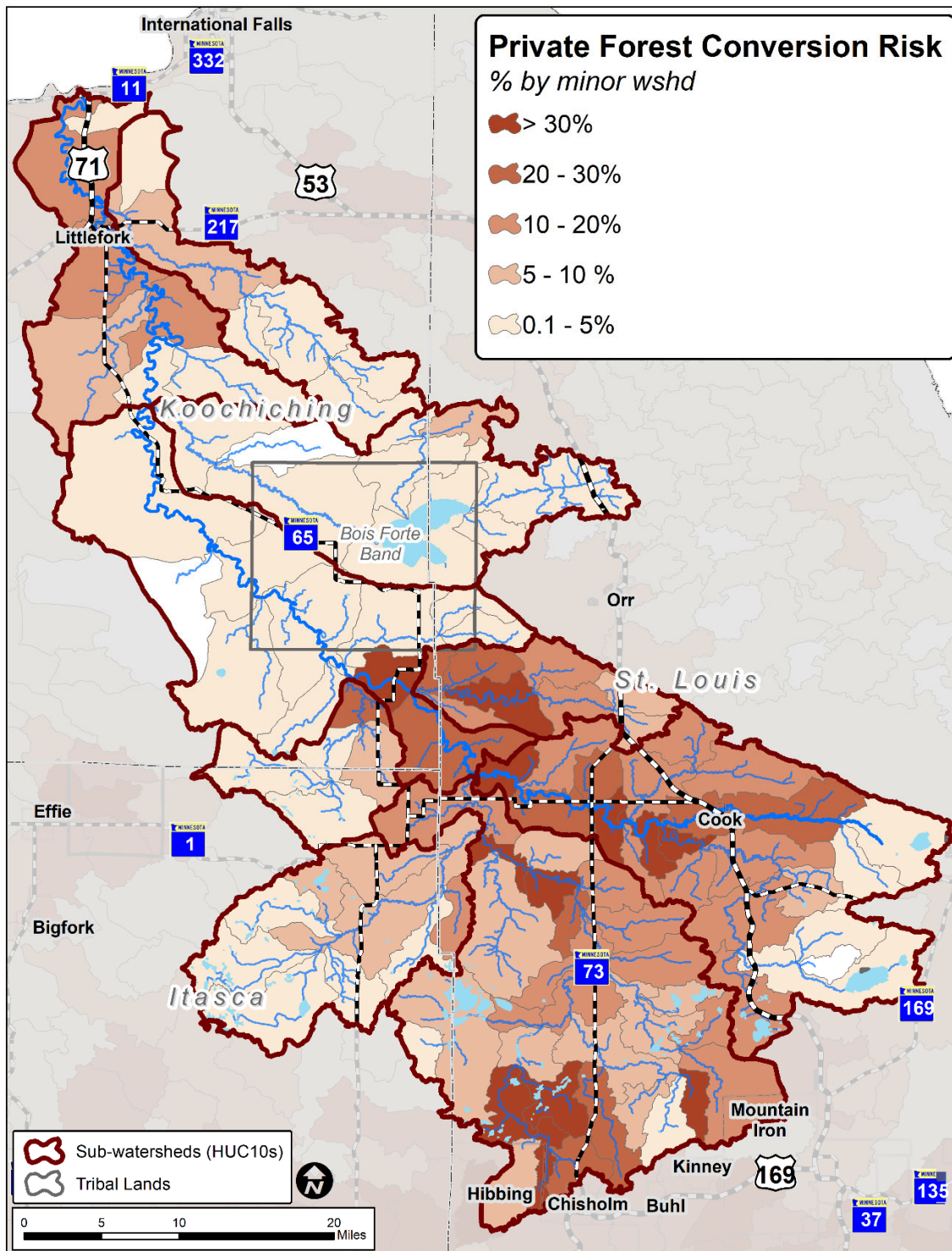


Figure 8. Private forest conservation risk in the LFRW.