

WHITE EARTH TRIBAL HEARING ON PIPELINES

June 6, 2015

Presentation

by

Willis Mattison, Citizen Advocate/Organizer

&

Bob Merritt,

Merritt Hydrologic and Environmental Consulting

WHO AM I?

WHAT DO I KNOW ABOUT ANYTHING?

- Live near Osage, Mn
- Raised near Thief River Falls, Mn
- B.S. Degree, BSU – Biology and Chemistry
- M.S. Degree, St. Mary's University- Ecology
- Retired Regional Director –Minnesota Pollution Control Agency (28 years)
- Extensive Experience in Environmental Review
- First Responder to Enbridge Pipeline Spills
- Honored to be Invited to present to W.E. Nation

WHERE DID ALL THIS NEW OIL COME FROM?

- Shale Oil Crude
- Tar Sands Bituminous



2005 Nation Energy Policy Act

Oil and gas industry exempted from major federal environmental statutes:

- **Clean Water Act**
- **Clean Air Act**
- **Safe Drinking Water Act**
- **Comprehensive Environmental Response, Compensation, and Liability Act**
- **Resource Conservation and Recovery Act**
- **National Environmental Policy Act**
- **Toxic Release Inventory under the Emergency Planning and**
- **Community Right-to-Know Act**

Bakken Shale Production 1985-2010 Williston Basin, ND & MT

Canada

2010

Bakken Shale Producing Wells

Bbl Oil per Day (Mean per Quarter)

- 0 - 100
- 101 - 500
- > 500

Gas-Oil Ratio (Mean per Quarter)

- 0 - 1,000 (Oil Bbl >>> Gas BOE)
- 1,001 - 6,000 (Oil Bbl > Gas BOE)
- > 6,000 (Gas BOE > Oil Bbl)

— Bakken Depositional Limit

Miles

0 20 40

McCone

2000: Elm Coulee
Middle Bakken
Horizontal wells
Discovery

1996: Middle Bakken
Vertical well Tests
Elm Coulee Field

Dawson

Richland

Billings Nose

1987:
Upper Bakken Shale
Horizontal Wells
Billings Nose

1976:
Upper Bakken Shale,
Vertical wells
Billings Nose

Golden Valley

Fallon



2006:
Parshall
Field
discovered

Renville

Ward

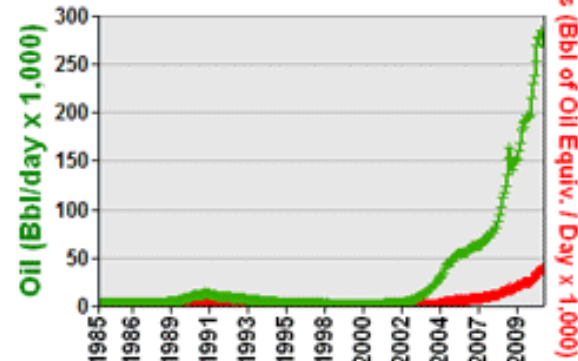
Mountrail

McLean

Dunn

Merced

Bakken Shale Production



Canada

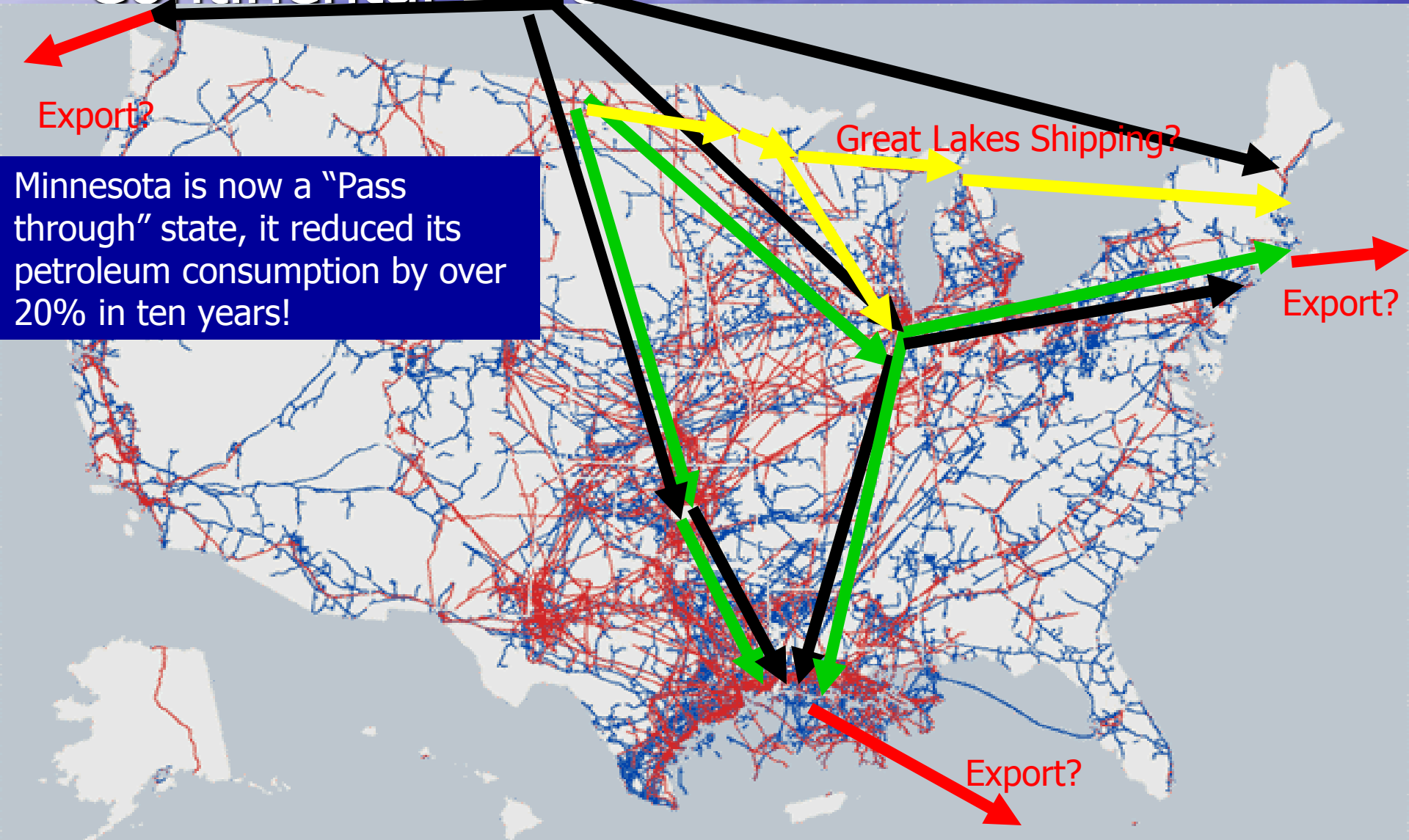


WY

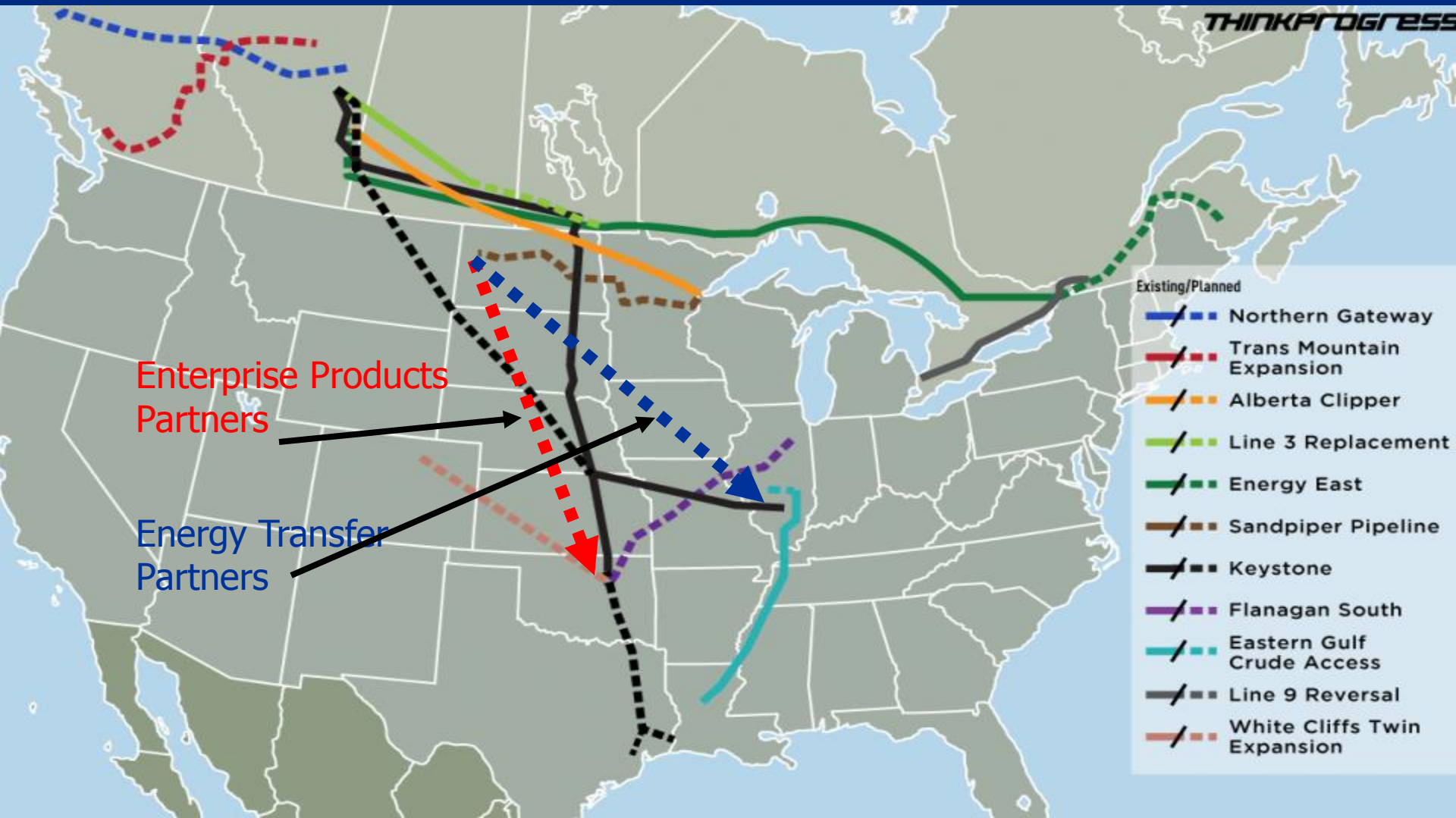
SD

NE

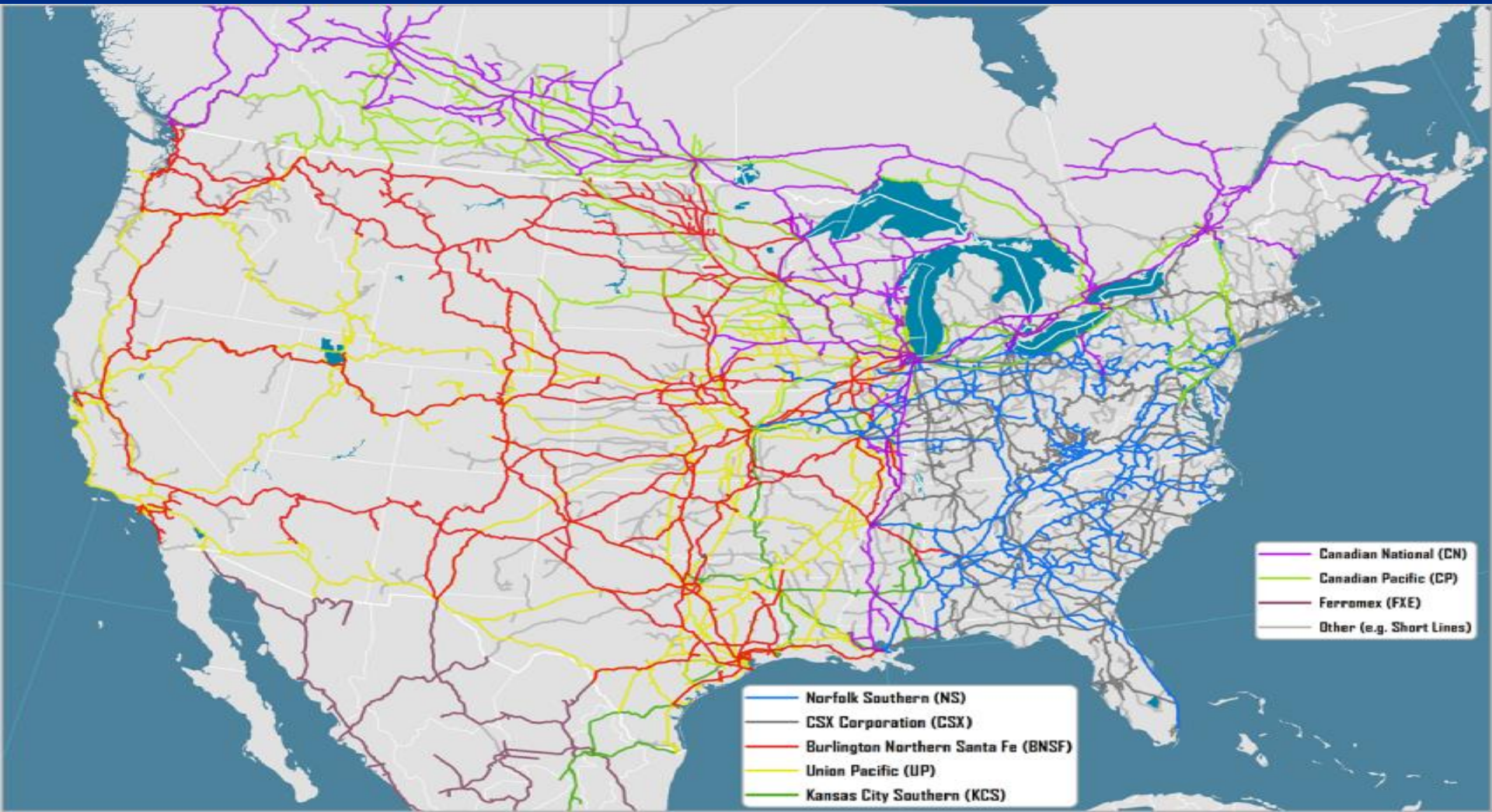
Pipeline Infrastructure Changing at Continental Level



Planning, reviewing and permitting continental scale pipeline projects with single state scope is problematic



Pipelines are not the solution to Railroad Congestions



Facing Reality: Transporting All This New Crude Oil Presents New Hazards



WE ARE NOT DEALING WITH CONVENTIONAL CRUDE OIL!

- Tar Sands oil becomes diluted bituminous or “dilbit”;
- Dilbit behaves much differently than conventional crude in the environment-Even the Coast Guard is unprepared on Great Lakes;
- Bakken Shale oil being shipped by rail and pipeline w/o stripping liquid natural gas component;
- This “Unstripped” Bakken Oil is as volatile (flammable) as Unleaded Gasoline.

Kalamazoo Michigan: a study in compounded human error



What is 99.9993%?

Enbridge touts a safety record of 99.9993%.
What does 99.9993 safe mean?

Enbridge transports over 2.2 million barrels of per day of oil and liquids.

Using the 99.9993% figure reveals that 647 gallons per day is leaked from their pipeline system.

That projects to a leakage of **236,000** gallons per year or **2.36 million gallons** over a ten year period.

Minnesota Pipeline System Suffers from Corridor Fatigue & Lack of Advance Public Planning

Figure 7853.0510-2
Pipeline System Map



NEW ENBRIDGE PROJECTS:

1. ALBERTA CLIPPER

2. SANDPIPER

3. LINE THREE RELOCATION



Minnesota Lakes

A View from Space

**ENBRIDGE SANDPIPER
PROPOSED PIPELINE ROUTE
IN RED**

**ENBRIDGE
SANDPIPER
PROPOSED
PIPELINE
ROUTE**

GRAND FORKS

**LOOK
WHERE THE
CLEAREST LAKES
ARE**

Census of Water Clarity

Using satellite images taken from space, a statewide census of water clarity – a key indicator of lake water quality – has been created for the first time.

Employing state of the art image analysis technology, the Remote Sensing Laboratory and Water Resources Center at the University of Minnesota have used satellite remote sensing to determine clarity transparency for about 10,500 Minnesota lakes. This satellite-based method enables resource managers to analyze how lake water clarity varies statewide over time. Resource managers are using this information to better target monitoring and management efforts.

Lake Clarity Depth

Feet	Meters
less than 1.5	less than 0.5
1.5 - 3	0.5 - 1
3 - 6	1 - 2
6 - 12	2 - 4
greater than 12	greater than 4

~ Ecoregion Boundaries



Prepared by Friends of the Headwaters

P.O. Box 585
Park Rapids, MN 56470

MN Lakes map from Water Resources Center, UofM

Ground Water Contamination Susceptibility in Minnesota

Minnesota Pollution Control Agency






1989

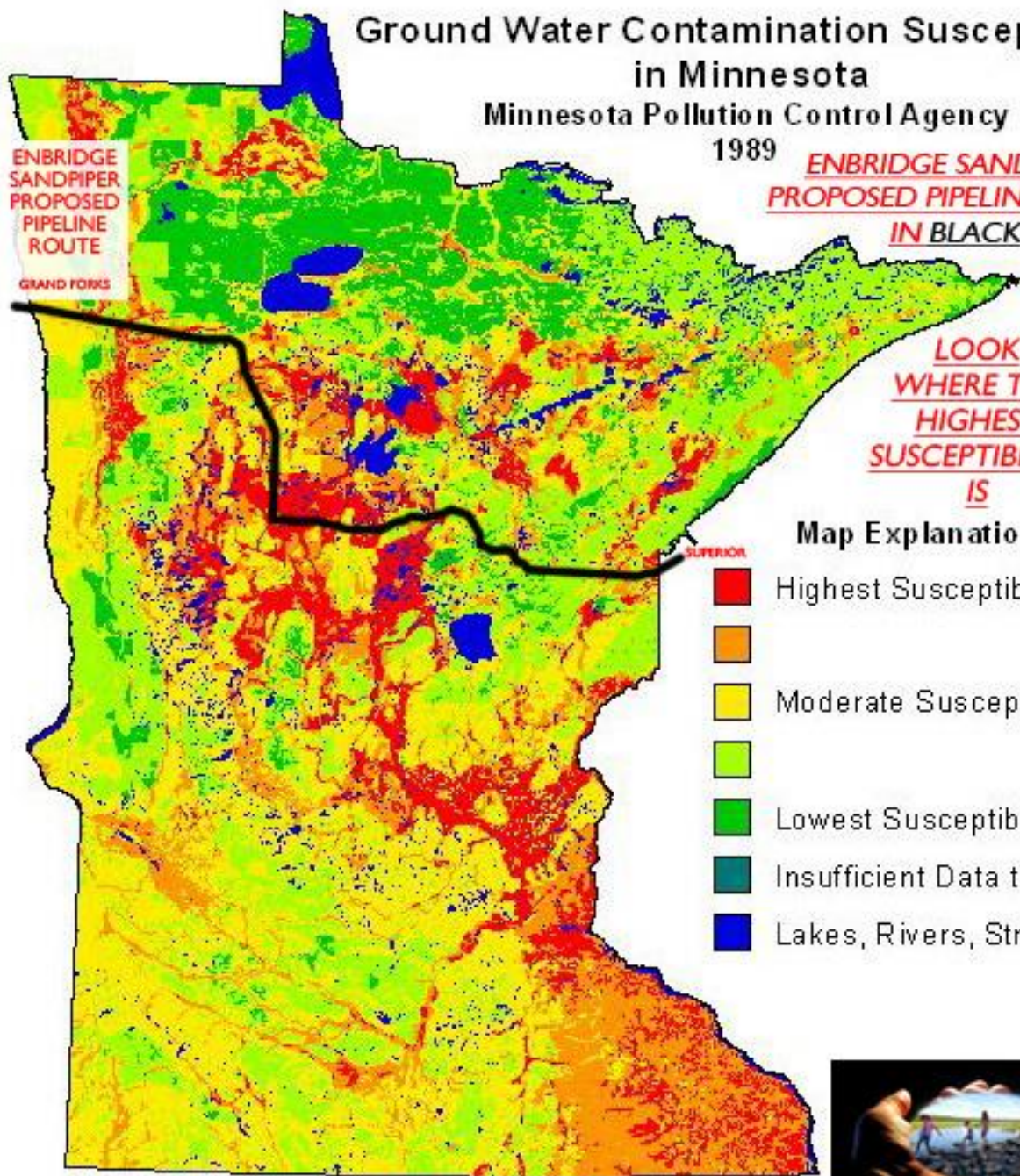
ENBRIDGE SANDPIPER
PROPOSED PIPELINE ROUTE
IN BLACK

ENBRIDGE
SANDPIPER
PROPOSED
PIPELINE
ROUTE
GRAND FORKS

LOOK
WHERE THE
HIGHEST
SUSCEPTIBILITY
IS

Map Explanation

-  Highest Susceptibility
-  Moderate Susceptibility
-  Lowest Susceptibility
-  Insufficient Data to Rank
-  Lakes, Rivers, Streams



0 20 40 60 80 Miles



Prepared by Friends of the Headwaters
www.friendsoftheheadwaters.org

ENBRIDGE SANDPIPER
PROPOSED PIPELINE ROUTE
IN RED

ENBRIDGE
SANDPIPER
PROPOSED
PIPELINE
ROUTE

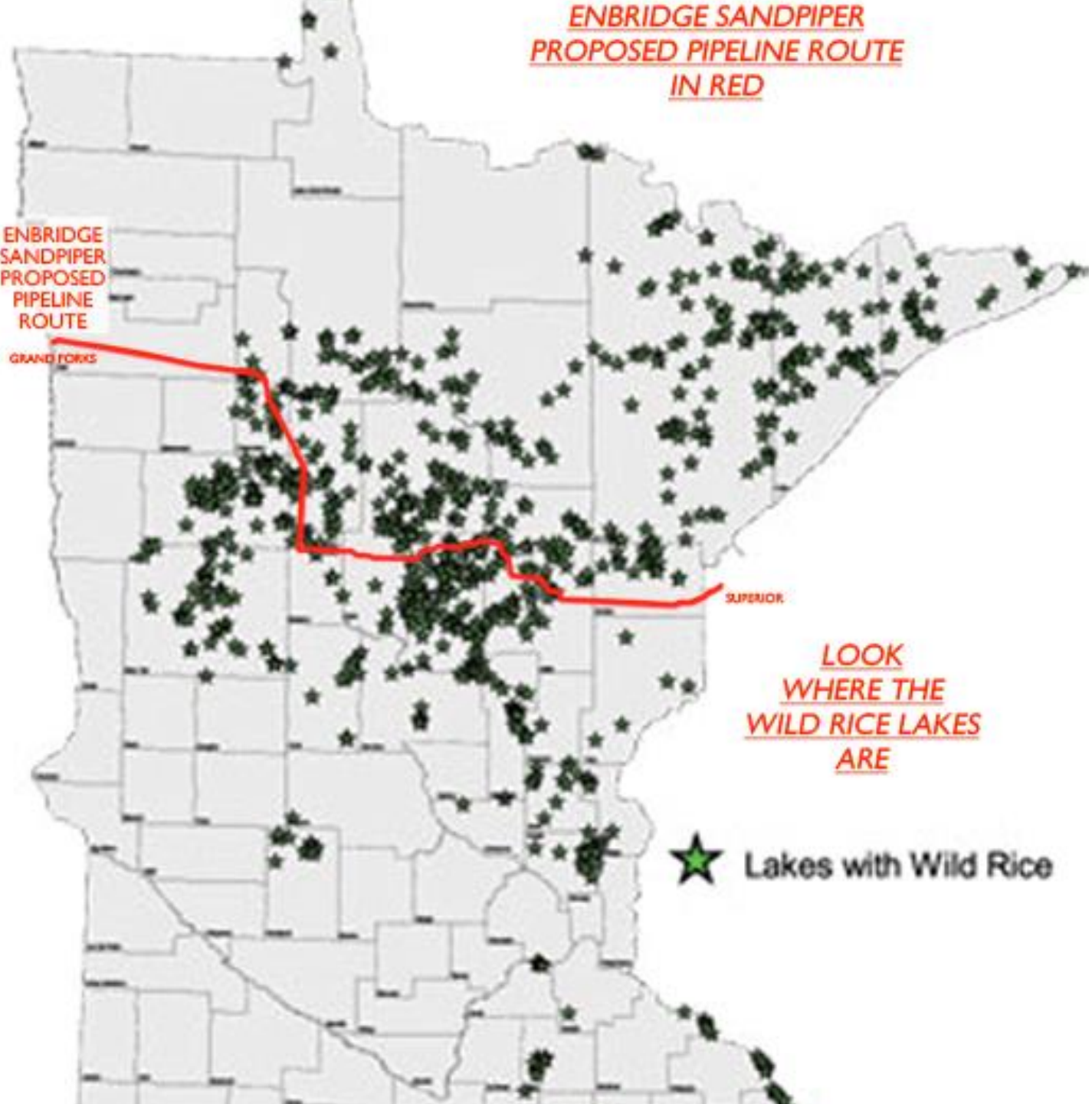
GRAND FORKS

SUPERIOR

LOOK
WHERE THE
WILD RICE LAKES
ARE



Lakes with Wild Rice





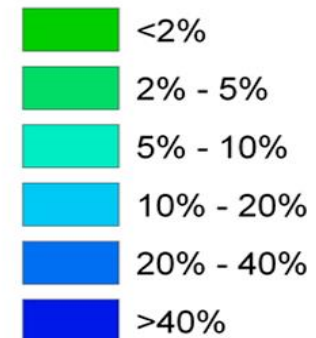
ENBRIDGE/NORTH DAKOTA
PIPELINE COMPANY PROPOSED
"SANDPIPER" PIPELINE ROUTE
IN RED

NDPC
SANDPIPER
PROPOSED
PIPELINE
ROUTE

GRAND FORKS

SUPERIOR

Wetland



Map MN DNR

**PRIME
ANISHINAABE
WILD RICE
BEDS**

**30 INCH WIDE
PIPELINE BORED
UNDER THE MISS. R.**

MISSISSIPPI RIVER

**LASALLE CREEK STATE
SCIENTIFIC NATURAL AREA**

**LASALLE LAKE STATE
RECREATION
AREA**

HEADWATERS

**ITASCA
STATE
PARK**

BEMIDJI

MISSISSIPPI RIVER HEADWATERS

PIPELINE IN RED

**ITASCA STATE PARK
HEADWATERS
LASALLE CREEK SNA
LASALLE LAKE ST REC AREA
UPPER RICE LAKE**



SUPERIOR REGION

U.S. BORDER (DASH) to SUPERIOR TERMINAL

LINE 1 - 10" x 4"
LINE 2 - 10"
LINE 3 - 10"
LINE 4 - 10" x 4"
LINE 10 - 14" x 20"
LINE 66 - 30" To Blackhawk Terminal
LINE 67 - 30"

SUPERIOR TERMINAL to MP, 97.23 (U.S. HWY. 8)

LINE 68 - 30"
LINE 11 - 24"
LINE 67 - 40"
LINE 12 - 20"

SUPERIOR TERMINAL to MP, 1544.25 (Densometer)

LINE 9 - 30"

CHICAGO REGION

MP, 97.23 (U.S. HWY. 8) to GRIFFITH TERMINAL

LINE 65 - 24"
LINE 14 - 24" To Niagara
LINE 61 - 30" To MP 448.42 (County Line)
LINE 13 - 30"

HARTSDALE TERMINAL to MP 68.78 (State Line)

LINE 62 - 30"

GRIFFITH LATERAL MP 455.70 to GRIFFITH TERMINAL

LINE 64 - 30"

GRIFFITH TERMINAL to U.S. BORDER (Sonia)

LINE 66 - 30"

MP, 1544.25 (Densometer) to U.S. BORDER (Sonia)

LINE 8 - 30"

BUFFALO EXTENSION (U.S. BORDER TO BUFFALO, N.Y.)

LINE 10 - 12" x 20"

STOCKBRIDGE TERMINAL to FREEDOM JCT. (MP 35.27)

LINE 17 - 14" Enbridge Pipeline (Trans) Inc.

FREEDOM JCT. (MP 35.27) to MP 88.61 (DUPONT STREET)

WISCONSIN - 14" Lateral from Indiana Pipeline

CUSHING REGION

MP, 448.42 (County Line) to FLANAGAN TERMINAL

LINE 61 - 40"

FLANAGAN TERMINAL to MP 68.78 (State Line)

LINE 62 - 30"

FLANAGAN TERMINAL to CUSHING TERMINAL

LINE 58 - 30" x 24"

CUSHING TERMINAL to WOOD RIVER

LINE 57 - 30"

CUSHING TERMINAL to TULSA

LINE 52 - 10"

- Terminal
- Station
- Refining Facility
- Site

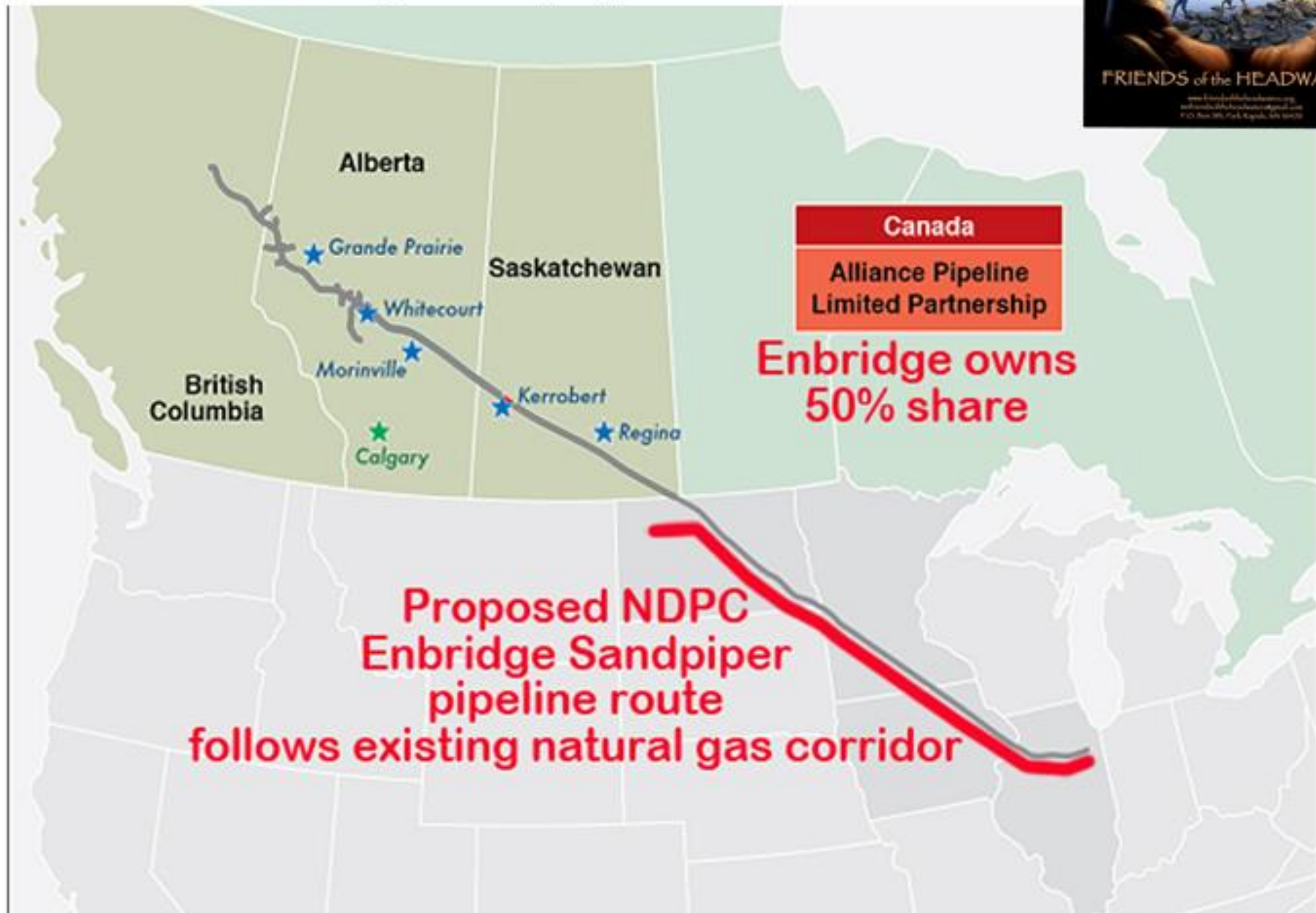


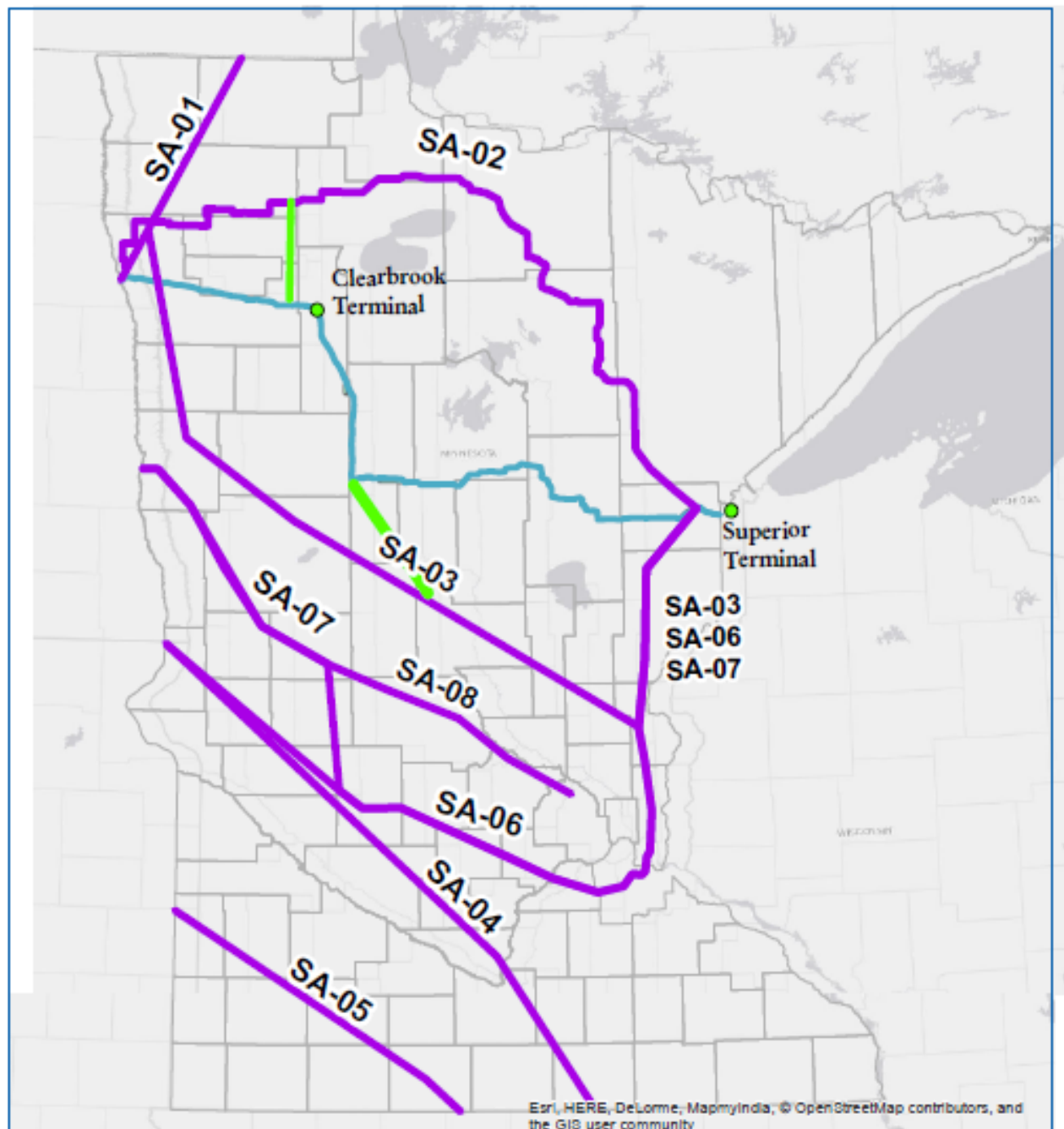
ENBRIDGE

LINE	TYPE	SIZE	STATUS	DATE
1	NEW	10"	IN SERVICE	10/1/00
2	NEW	10"	IN SERVICE	10/1/00
3	NEW	10"	IN SERVICE	10/1/00
4	NEW	10"	IN SERVICE	10/1/00
5	NEW	10"	IN SERVICE	10/1/00
6	NEW	10"	IN SERVICE	10/1/00
7	NEW	10"	IN SERVICE	10/1/00
8	NEW	10"	IN SERVICE	10/1/00
9	NEW	10"	IN SERVICE	10/1/00
10	NEW	10"	IN SERVICE	10/1/00

ENBRIDGE	
PIPE LINE SYSTEM MAP	
REGION: EQUIPMENTS AND FACILITIES	
LINE	DATE
045-1006-66	

Friends of the Headwaters
Proposed **Alternate Route A**
for Enbridge/NDPC Sandpiper pipeline





SO, HOW ARE WE DOING WITH PIPELINE PERMITTING?

- The PUC/DOC pipeline permitting process is extremely opaque, dominated by litigious proceedings that was designed for power lines;
- The process confounds the most experienced bureaucrats and attorneys, even the PUC Commissioners themselves.
- It remains to be seen how the decision on both the NEED for and ROUTE for Sandpiper and Line 3 will be made.

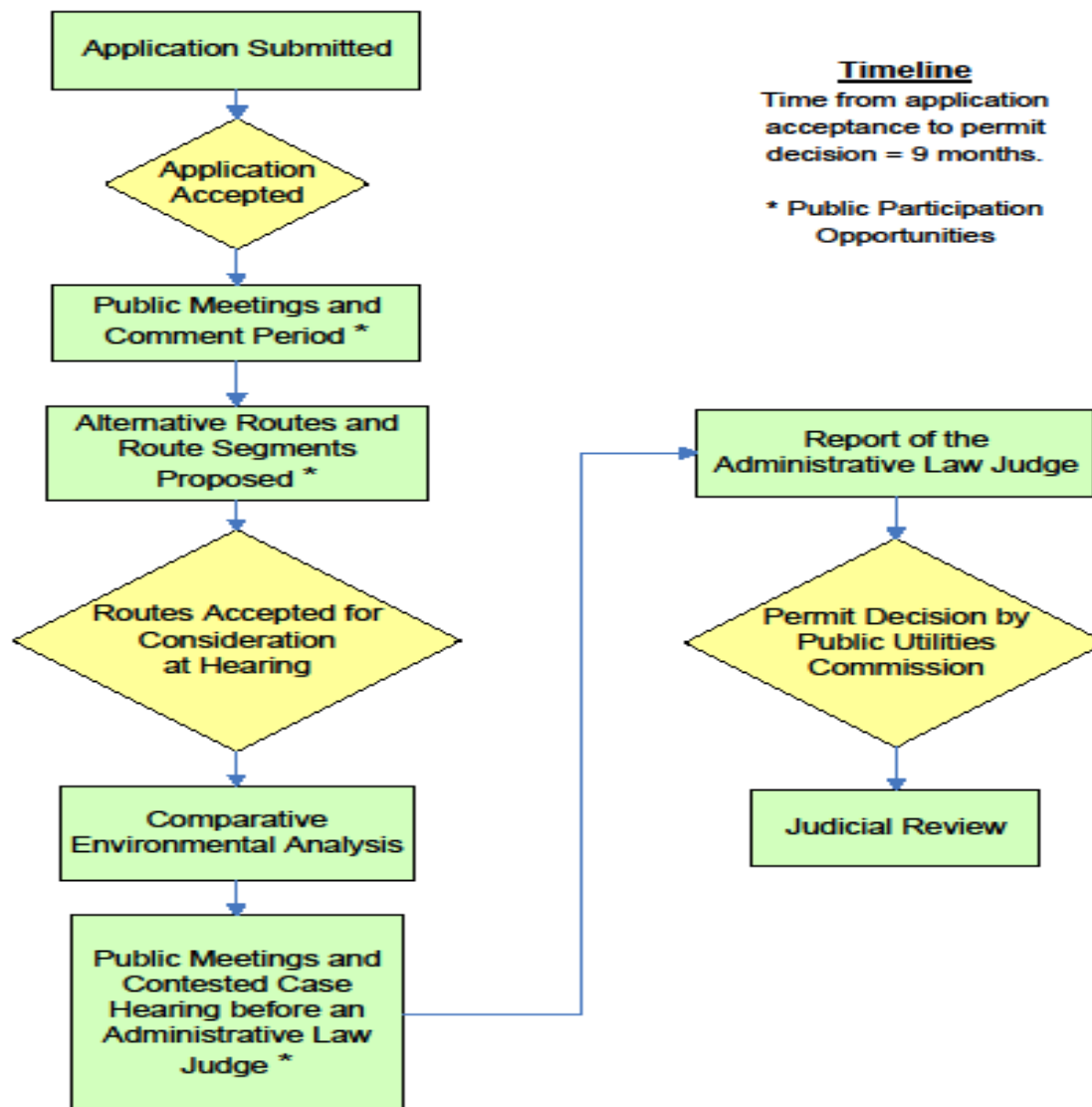
Streamlining Minnesota's Energy Statutes, Rules and Planning

- 1980's Power Line and Power Plant siting controversy;
- “Alternative Environmental Review” and Permitting for Major Energy Facilities: **Power lines and plants;**
- Imposed Nine and Twelve Month Deadlines on Permits!
- Pipelines were redefined as a “major energy facility”;
- 2005 Statute shifted Environmental Review from EQB to Department of Commerce.
- Has this produced an unintended “express lane” for pipeline permits?



Pipeline Routing Full Permitting Process

Minnesota Rules 7852



THE BURDON OF PROVING PRUDENT ALTERNATIVES EXIST IS ON THE PUBLIC!

- B. a more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of the evidence on the record by parties or persons other than the applicant, considering:
 - (1) the appropriateness of the size, the type, and the timing of the proposed facility compared to those of reasonable alternatives;
 - (2) the cost of the proposed facility and the cost of energy to be supplied by the proposed facility compared to the costs of reasonable alternatives and the cost of energy that would be supplied by reasonable alternatives;
 - (3) the effect of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives; and
 - (4) the expected reliability of the proposed facility compared to the expected reliability of reasonable alternatives;

ENVIRONMENTAL REVIEW and PERMITTING FOR POWER LINES IS NOT WORKING FOR PIPELINES

- Rules and Statutes are conflicting and confusing
- Process is opaque and illogical for both Need and Routing
- Burden for Development and Technical defense of Feasible Alternatives falls to “citizens interveners”
- Process takes place in litigious setting creating huge obstacles for citizen groups both financial and available expertise

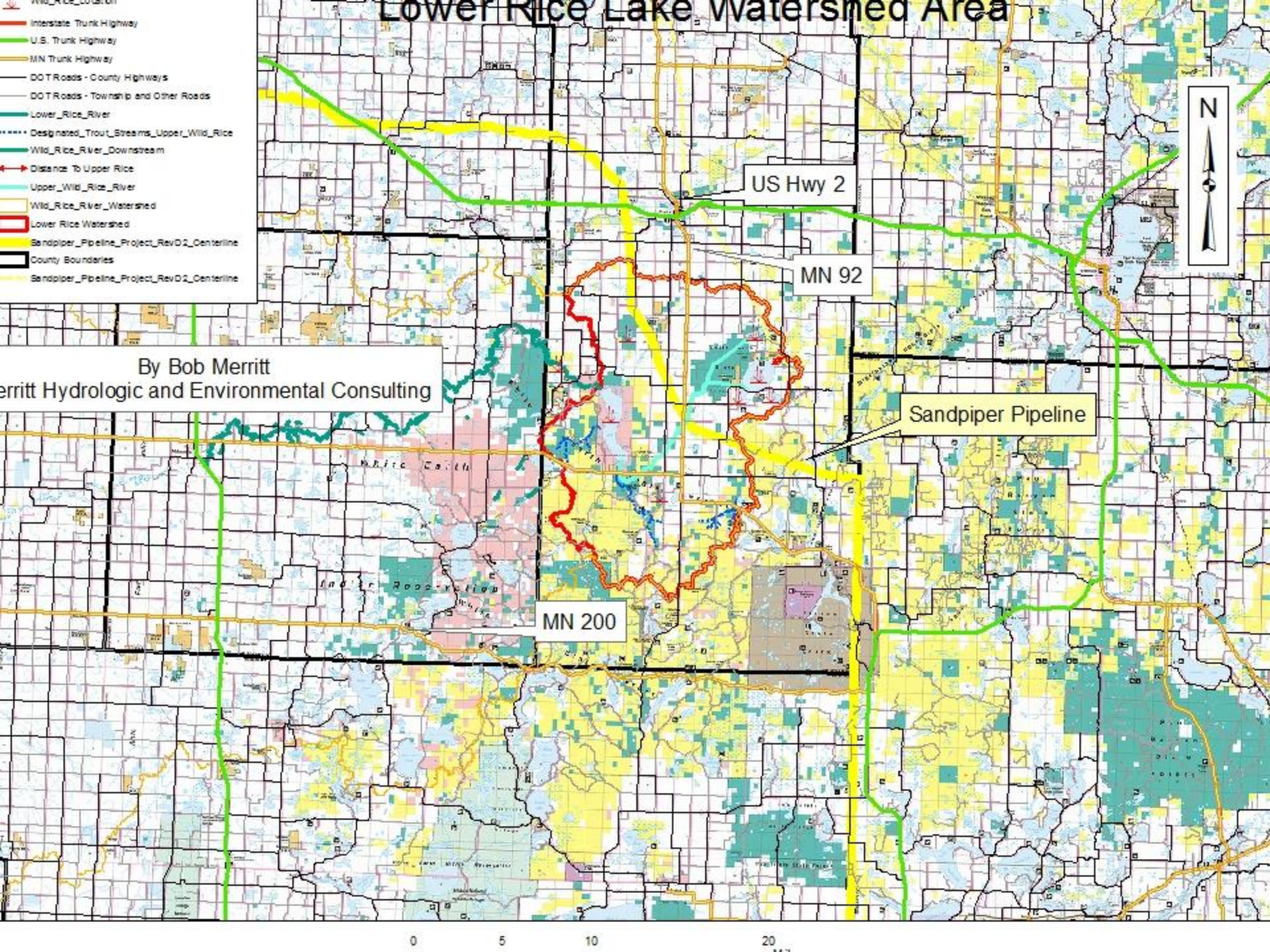
ENVIRONMENTAL REVIEW and PERMITTING FOR POWER LINES IS NOT WORKING FOR PIPELINES

- Pits Citizens against Industry: a David and Goliath story;
- Process has unreasonable time constraints (9 and 12 Months)
- Relegates Natural Resource Agencies to bystander/commenter roles;
- “If the quality of Minnesota’s natural resources depends on citizen intervention in this legal setting, the environment loses!” —Jerry Von Korff, Attorney for Carlton County Land Stewards

THINGS ARE OUT OF BALANCE -CITIZEN'S CALL FOR CHANGE

- Crude Oil Transportation Infrastructure is evolving. Can Minnesota respond appropriately?
- Should the North Dakota and Alberta oil rushes drive hasty decisions here in Minnesota?
- Can Minnesota work with neighboring states on common energy transportation problems by broadening the geographic scope of systems planning?

Lower Rice Lake Watershed Area





Thank You

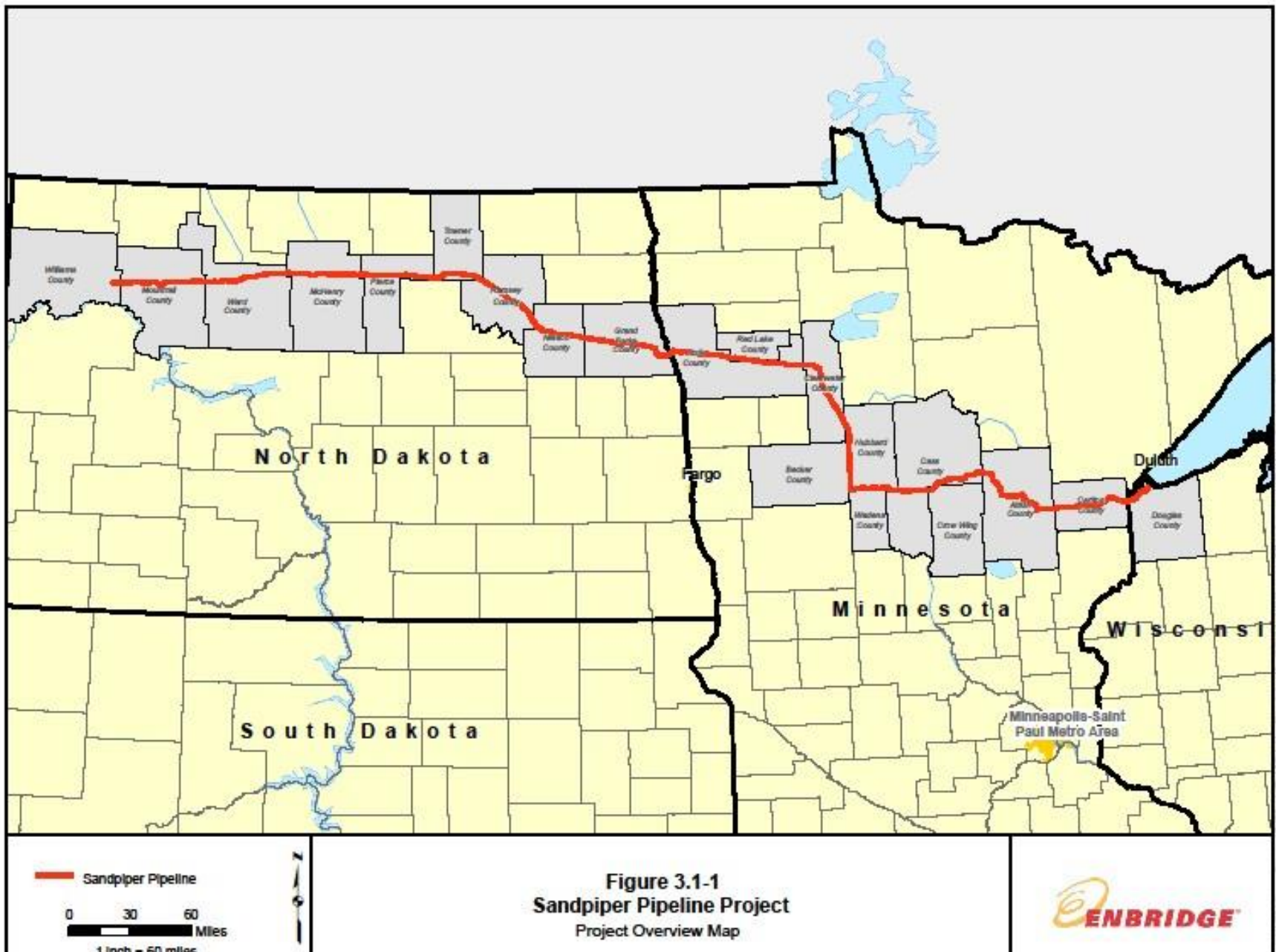
Questions or Comments?

Bob Merritt,

Merritt Hydrologic and
Environmental Consulting

Bob Merritt

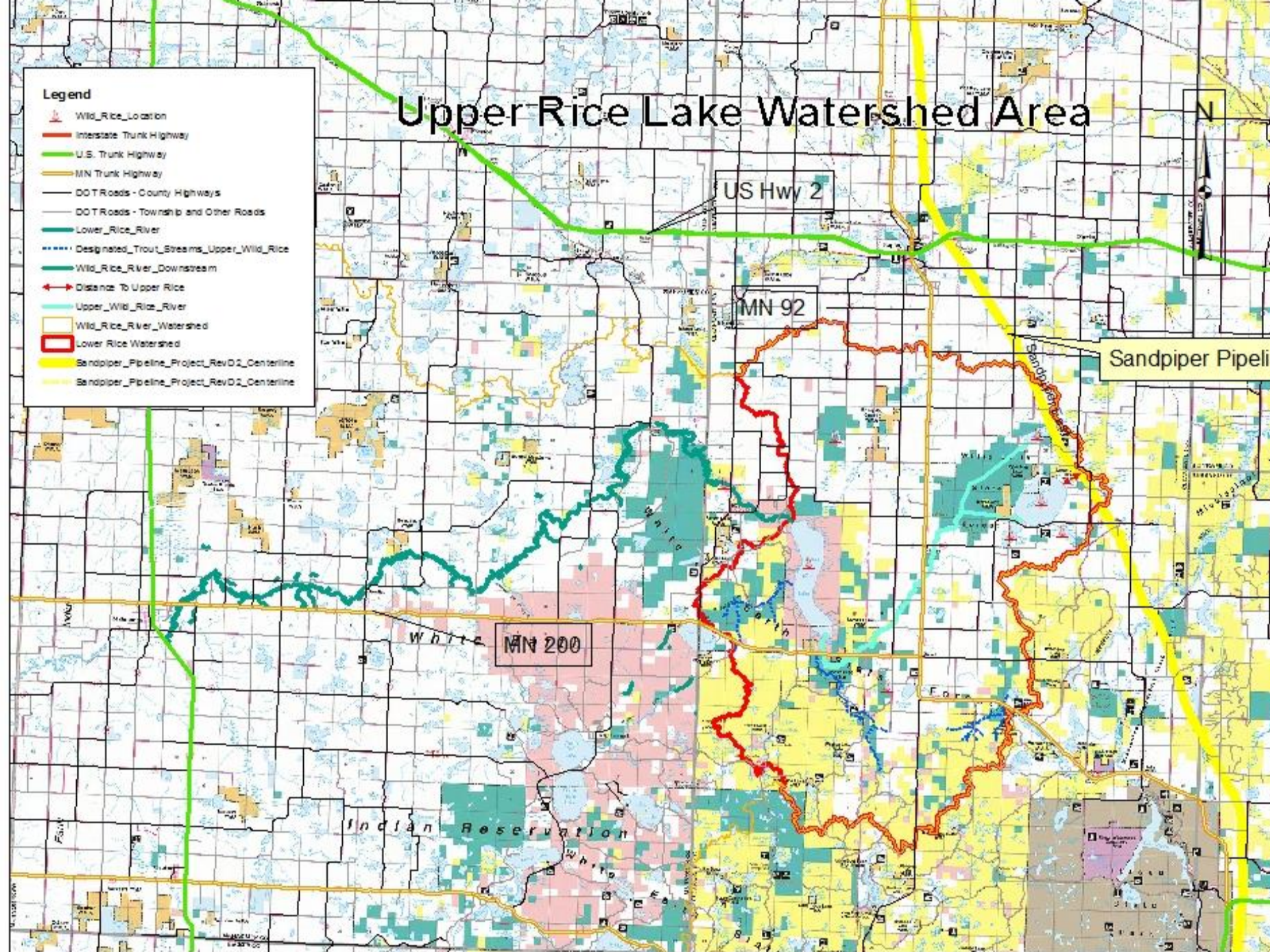
- Education: U of MN Duluth - BA and BS in Geology and Earth Science U of Nevada Reno – MS Hydrology
- Experience: 1978 – 2010 (32+ years} MN DNR Area Hydrologist for Becker, Clay, Mahnomen and Clay Counties; Southern ½ Polk County for first 10 years.
- Experience included significant studies of the Pineland Sands Aquifer, Effects of gravel mining in the Felton area on downstream calcareous fens, and Analysis and modeling of mining on streams in southeastern Minnesota.
- 2010 – Present; Merritt Hydrologic and Environmental Consulting, LLC



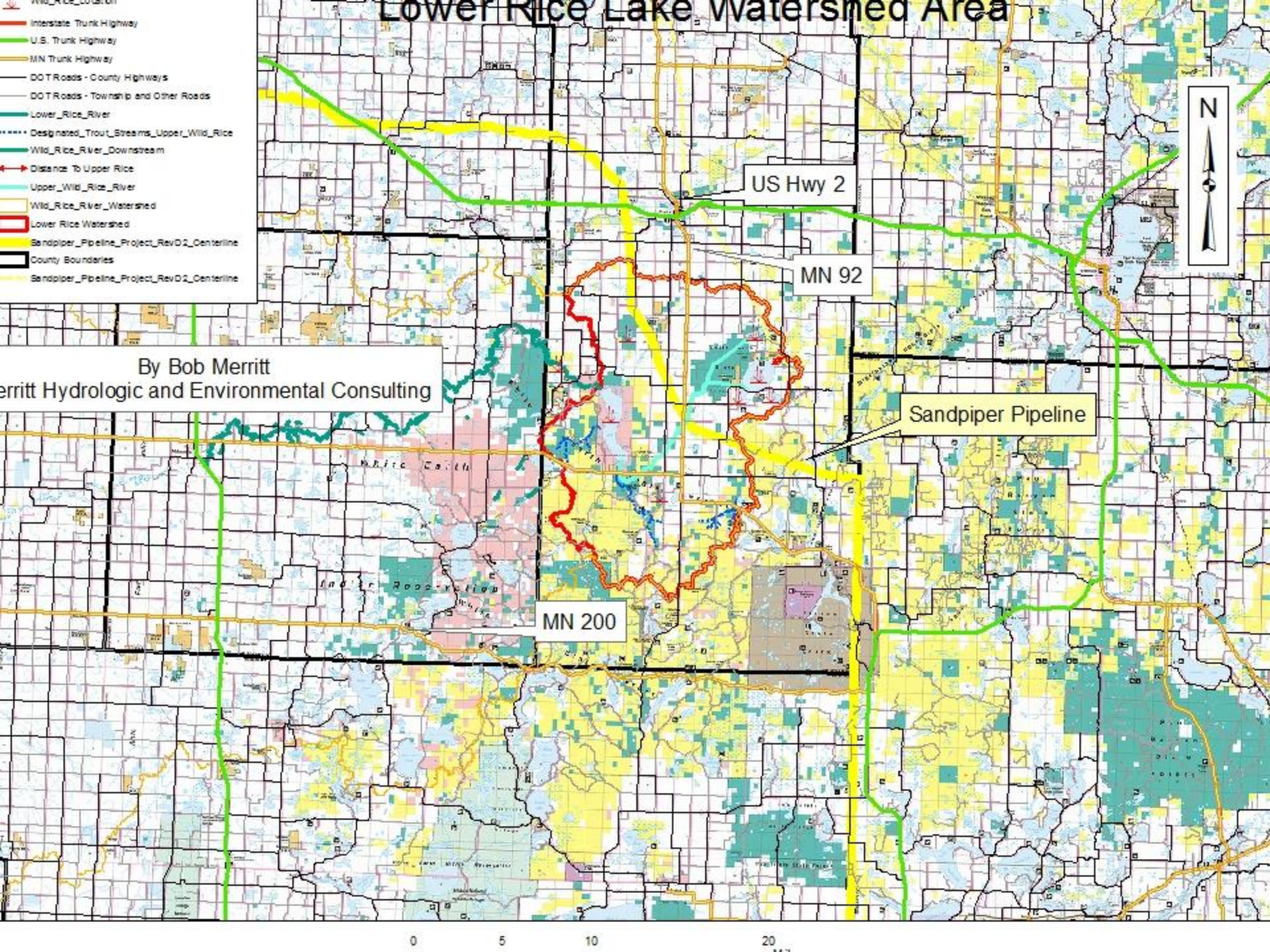
Upper Rice Lake Watershed Area

Legend

- Wild_Rice_Location
- Interstate Trunk Highway
- U.S. Trunk Highway
- MN Trunk Highway
- DOT Roads - County Highways
- DOT Roads - Township and Other Roads
- Lower_Rice_River
- Designated_Trout_Streems_Upper_Wild_Rice
- Wild_Rice_River_Downstream
- Distance To Upper Rice
- Upper_Wild_Rice_River
- Wild_Rice_River_Watershed
- Lower Rice Watershed
- Sandpiper_Pipeline_Project_RevD2_Centerline
- Sandpiper_Pipeline_Project_RevD2_Centerline



Lower Rice Lake Watershed Area



Lower Rice Lake Watershed Area



Mud Lake

Upper Rice Lake

3600 ft.

Sandpiper Pipeline

Lower Rice Lake

MN 200

Legend

- Wild_Rice_Location
- Interstate Trunk Highway
- U.S. Trunk Highway
- MN Trunk Highway
- DOT Roads - County Highways
- DOT Roads - Township and Other Roads
- Lower_Rice_River
- Designated Trout Streams Upper Wild_Rice
- Wild_Rice_River_Downstream
- Distance To Upper Rice
- Upper_Wild_Rice_River
- Public_Water_Basins
- Wild_Rice_River_Watershed
- Lower Rice Watershed
- Sandpiper_Pipeline_Project_RevD2_Centerline
- County Boundaries
- Sandpiper_Pipeline_Project_RevD2_Centerline

By Bob Merritt
Merritt Hydrologic and Environmental Consulting

