

# **Northeast Landscape Resource Atlas**

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**A support document to the 2nd Generation MFRC Northeast Landscape Plan**

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**March, 2014**



Minnesota Forest Resources Council (MFRC)

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# User's Guide

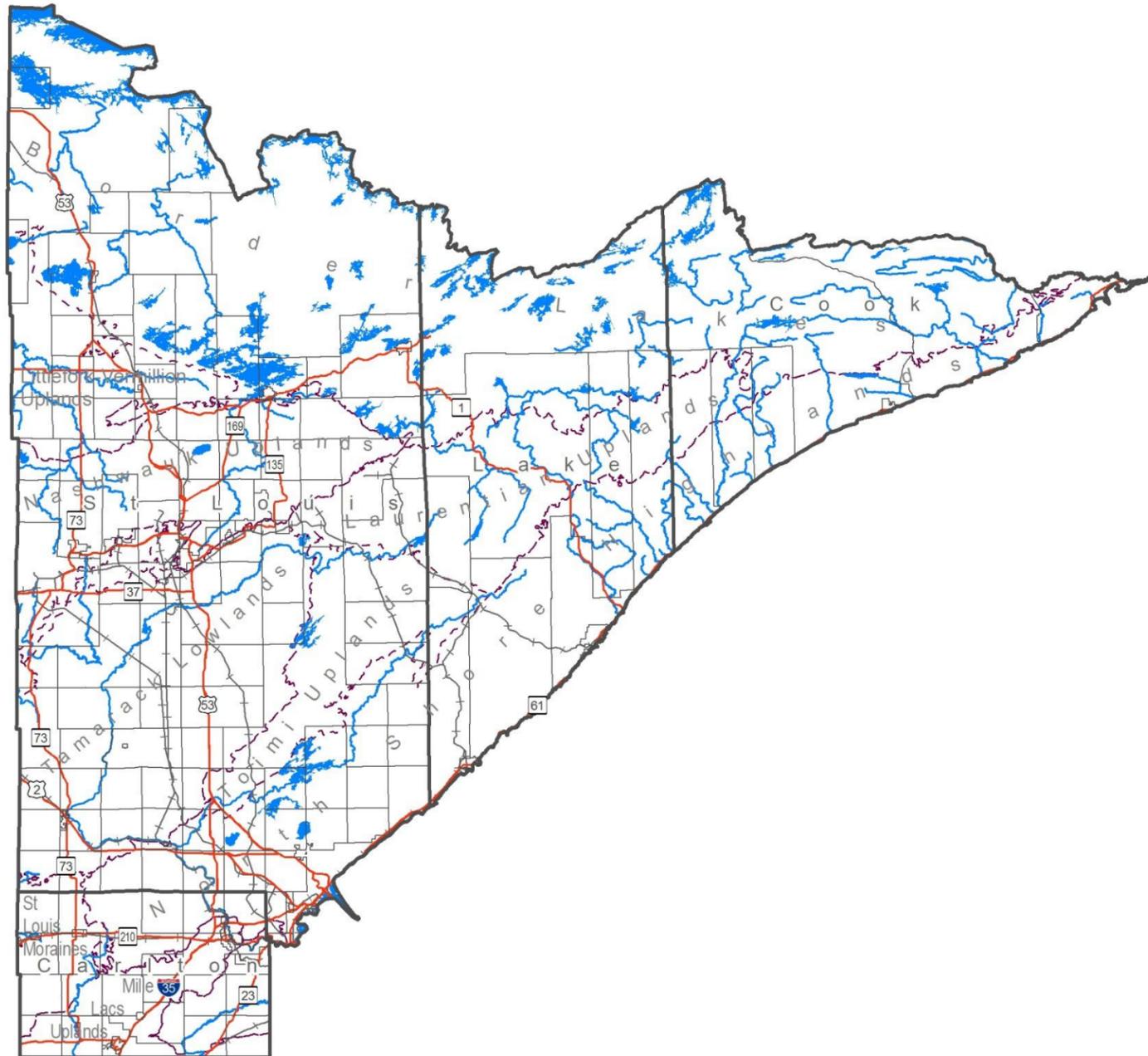
The purpose of this document is to provide spatial data as a reference for the Minnesota Forest Resources Council's Landscape Program. Included in this document are maps and tables regarding forest management topics for the Northeast Landscape Region. When printed, the document is arranged with the maps on the left page and the tables regarding the map subject on the right page. This allows for easy side-by-side viewing of the maps and tables. In PDF format, the document contains bookmarks for easy navigation to map topics. Current geographical features are included on all maps (including presettlement land cover) to provide a spatial reference for the map user. Sources are provided for each map; more details regarding sources can be found in the bibliography at the end of the document.

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# Political Boundaries

## Northeast Landscape Region

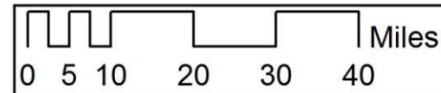


### Political Boundaries

-  County Boundaries
-  Municipal Boundaries

### Other Features

-  Highways
-  Railroads
-  Lakes
-  Rivers
-  ECS Subsections



Sources: Political Boundaries - MNDNR Data Deli; Other Features - MNDNR Data Deli

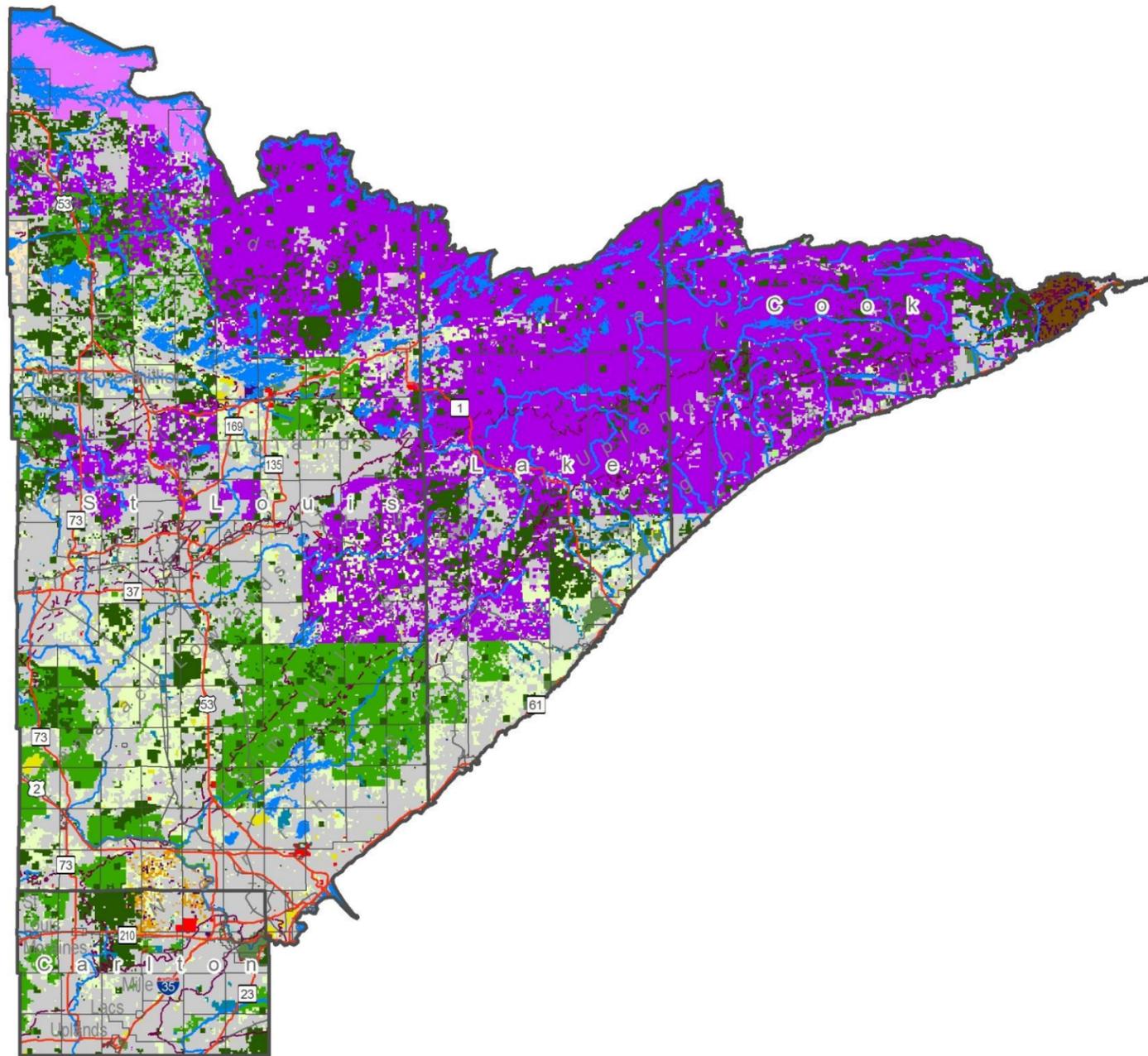


### Political Boundaries Table

County	Area		Municipal Divisions			
	Acres	% of Total	Cities	Townships	Unorganized	Total Municipal
Carlton	559,725	7.6	10	19	2	31
Cook	1,027,587	14.0	1	3	3	7
Lake	1,464,087	19.9	3	5	3	11
St. Louis	4,312,245	58.6	26	73	13	112
<b>Total Northeast Region</b>	<b>7,363,644</b>	<b>100.0</b>	<b>40</b>	<b>100</b>	<b>21</b>	<b>161</b>

# Land Ownership (1976-2007)

## Northeast Landscape Region

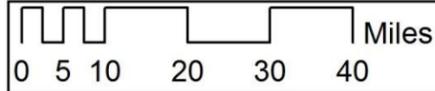


**Other Features**

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections

**GAP Land Ownership**

- Federal
  - Army Corps of Engineers
  - Bureau of Indian Affairs
  - Bureau of Land Management
  - U.S. Forest Service
  - U.S. Park Service
  - Unknown
- State
  - County Admin/State Forest
  - County Admin/State Owned
  - Department of Military Affairs
  - Department of Transportation
  - Division of Ecological Services
  - Division of Fish and Wildlife
  - Division of Forestry
  - Division of Lands and Minerals
  - Division of Parks and Recreation
  - Division of Trails and Waterways
  - Division of Waters
  - Minnesota DNR (Undifferentiated)
  - State (Undifferentiated)
- County
  - County
- Other Public
  - Other Public
- Private Conservancy
  - The Nature Conservancy
- Tribal
  - Boise Forte Band
  - Fond Du Lac Tribe
  - Grand Portage Tribe
  - Minnesota Chippewa Indians
  - Nett Lake Tribe
- Private
  - Private



Sources: GAP Land Ownership - MNDNR Data Deli; Other Features - MNDNR Data Deli

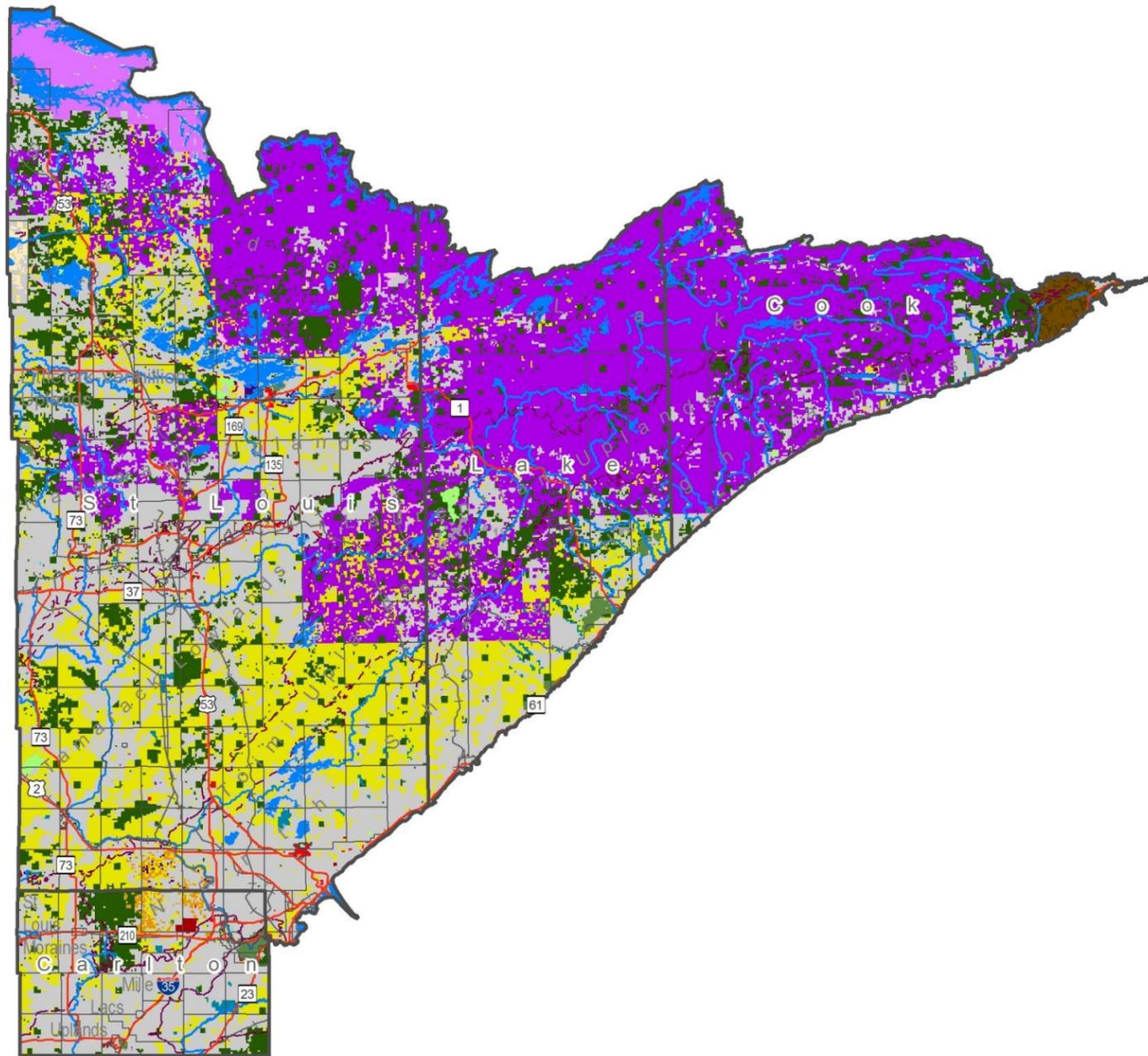


### Land Ownership (1976-2007) Table

Ownership Type	Land Ownership	Acres	% of Total
Federal	Army Corps of Engineers	34	0.0
	Bureau of Indian Affairs	16,772	0.2
	Bureau of Land Management	1,518	0.0
	U.S. Forest Service	2,334,185	31.7
	U.S. Park Service	180,810	2.5
	Unknown	11,692	0.2
<b>Total Federal</b>		<b>2,545,011</b>	<b>34.6</b>
State	County Admin/State Forest	612,819	8.3
	County Admin/State Owned	539,532	7.3
	Department of Military Affairs	42	0.0
	Department of Transportation	1,493	0.0
	Division of Ecological Services	2,872	0.0
	Division of Fish and Wildlife	27,949	0.4
	Division of Forestry	897,874	12.2
	Division of Lands and Minerals	1,989	0.0
	Division of Parks and Recreation	42,191	0.6
	Division of Trails and Waterways	3,351	0.0
	Division of Waters	253	0.0
	Minnesota DNR (Undifferentiated)	152	0.0
	State (Undifferentiated)	2,609	0.0
<b>Total State</b>		<b>2,133,125</b>	<b>29.0</b>
<b>Total County</b>		<b>31,960</b>	<b>0.4</b>
<b>Total Other Public</b>		<b>16,235</b>	<b>0.2</b>
Private Conservancy	The Nature Conservancy	9,962	0.1
<b>Total Private Conservancy</b>		<b>9,962</b>	<b>0.1</b>
<b>Total Public and Private Conservancy</b>		<b>4,736,292</b>	<b>64.3</b>
Tribal	Boise Forte Band	652	0.0
	Fond Du Lac Tribe	18,440	0.3
	Grand Portage Tribe	32,409	0.4
	Minnesota Chippewa Indians	678	0.0
	Nett Lake Tribe	9,513	0.1
<b>Total Tribal</b>		<b>61,693</b>	<b>0.8</b>
<b>Total Private</b>		<b>2,565,659</b>	<b>34.8</b>
<b>Total Northeast Region</b>		<b>7,363,644</b>	<b>100.0</b>

# Land Management (1976-2007)

## Northeast Landscape Region



**Other Features**

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections

**GAP Land Management**

Federal

- Army Corps of Engineers
- Bureau of Indian Affairs
- Bureau of Land Management
- U.S. Forest Service
- U.S. Park Service
- Unknown

State

- Department of Military Affairs
- Department of Transportation
- Division of Ecological Services
- Division of Fish and Wildlife
- Division of Forestry
- Division of Lands and Minerals
- Division of Parks and Recreation
- Division of Trails and Waterways
- Division of Waters
- Minnesota DNR
- State of Minnesota

County

- County

Other Public

- Municipal
- University

Private Conservancy

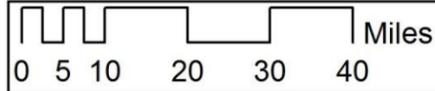
- The Nature Conservancy

Tribal

- Boise Forte Band
- Fond Du Lac Tribe
- Grand Portage Reservation
- Grand Portage Tribe
- Minnesota Chippewa Indians
- Nett Lake Tribe

Private

- Private



Sources: GAP Land Management - MNDNR Data Deli; Other Features - MNDNR Data Deli

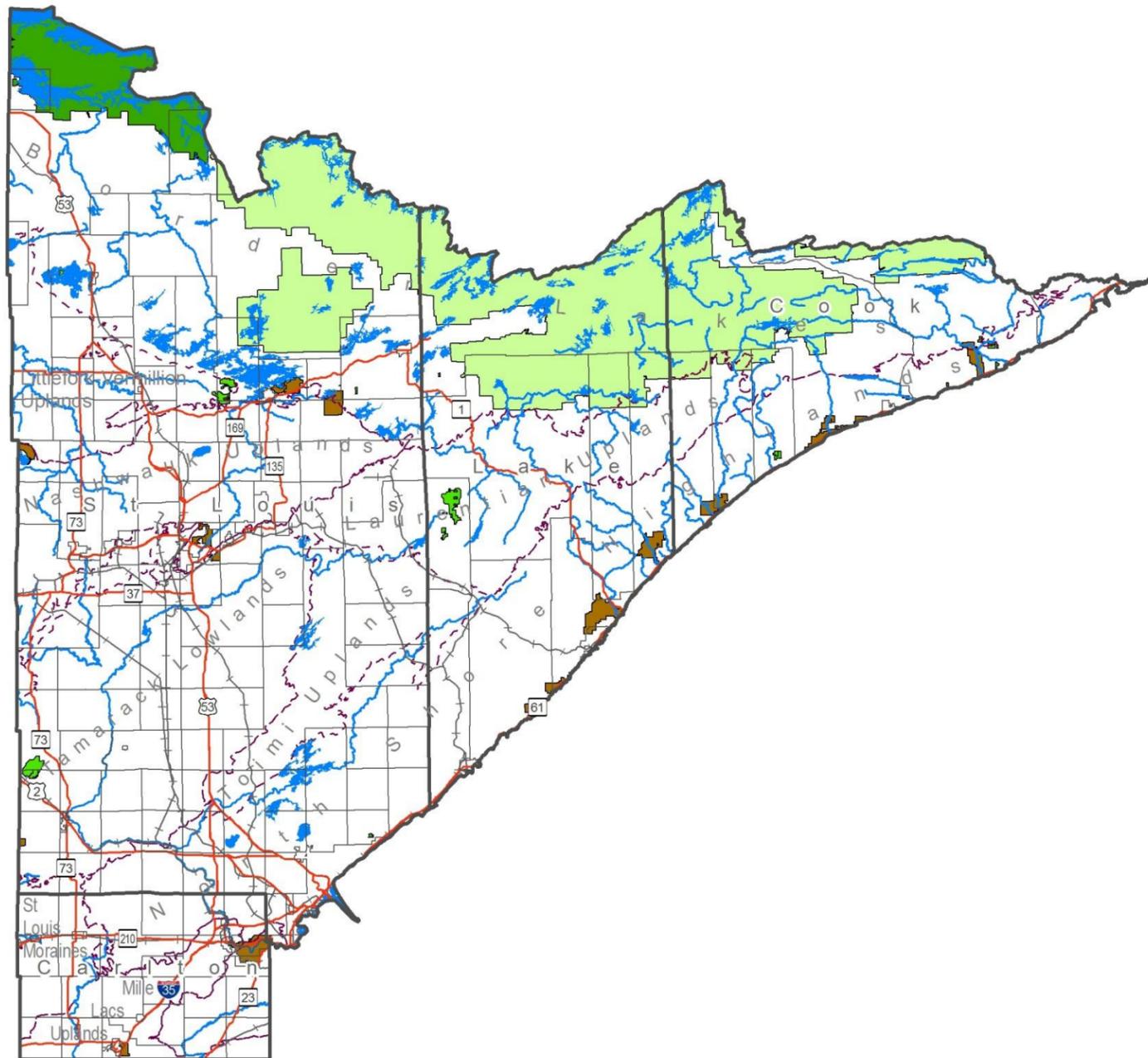


### Land Management (1976-2007) Table

Management Type	Land Management	Acres	% of Total
Federal	Army Corps of Engineers	34	0.0
	Bureau of Indian Affairs	3,416	0.0
	Bureau of Land Management	1,518	0.0
	U.S. Forest Service	2,334,010	31.7
	U.S. Park Service	180,810	2.5
	Unknown	11,692	0.2
<b>Total Federal</b>		<b>2,531,480</b>	<b>34.4</b>
State	Department of Military Affairs	42	0.0
	Department of Transportation	1,493	0.0
	Division of Ecological Services	13,828	0.2
	Division of Fish and Wildlife	27,949	0.4
	Division of Forestry	893,074	12.1
	Division of Lands and Minerals	1,989	0.0
	Division of Parks and Recreation	42,141	0.6
	Division of Trails and Waterways	3,351	0.0
	Division of Waters	253	0.0
	Minnesota DNR	152	0.0
	State of Minnesota	2,609	0.0
<b>Total State</b>		<b>986,881</b>	<b>13.4</b>
County	Carlton County	74,574	1.0
	Cook County	4,642	0.1
	Lake County	152,340	2.1
	St Louis County	946,821	12.9
<b>Total County</b>		<b>1,178,378</b>	<b>16.0</b>
Other Public	Municipal	12,257	0.2
	University	3,978	0.1
<b>Total Other Public</b>		<b>16,235</b>	<b>0.2</b>
Private Conservancy	The Nature Conservancy	9,962	0.1
<b>Total Private Conservancy</b>		<b>9,962</b>	<b>0.1</b>
<b>Total Public and Private Conservancy</b>		<b>4,722,935</b>	<b>64.1</b>

Management Type	Land Management	Acres	% of Total
Tribal	Boise Forte Band	652	0.0
	Fond Du Lac Tribe	20,681	0.3
	Grand Portage Reservation	11,116	0.2
	Grand Portage Tribe	32,409	0.4
	Minnesota Chippewa Indians	678	0.0
	Nett Lake Tribe	9,513	0.1
<b>Total Tribal</b>		<b>75,049</b>	<b>1.0</b>
<b>Total Private</b>		<b>2,565,659</b>	<b>34.8</b>
<b>Total Northeast Region</b>		<b>7,363,644</b>	<b>100.0</b>

# Proclamation Areas Northeast Landscape Region

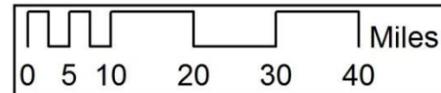


### Reserved Lands

- BWCA Boundary (1978)
- Voyageurs National Park
- State Park Statutory Boundaries
- Scientific and Natural Area Boundaries

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- ++ Railroads
- Lakes
- Rivers
- ECS Subsections



Sources: Reserved Lands - MNDNR Data Deli; Other Features - MNDNR Data Deli

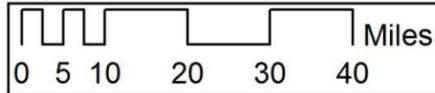
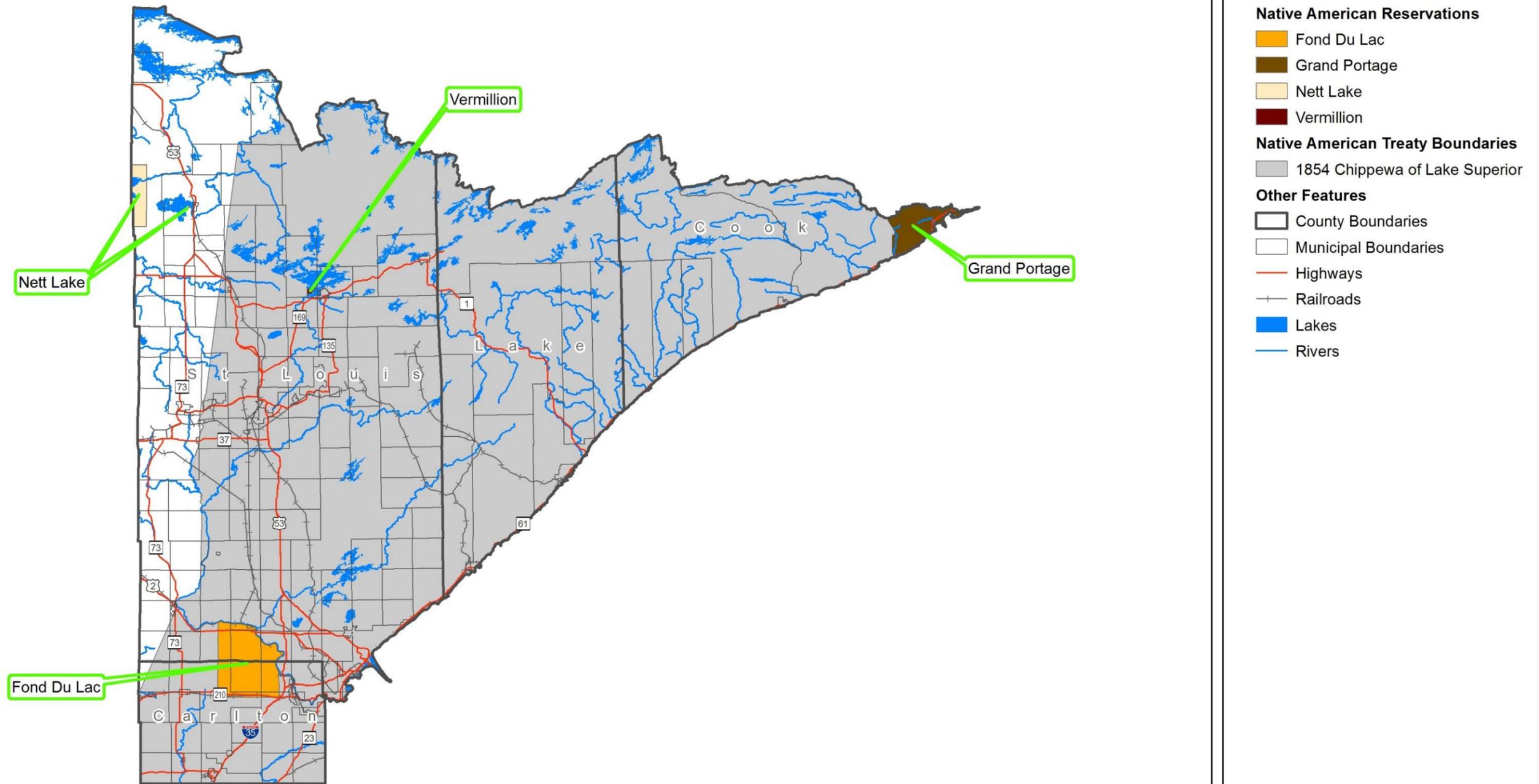


### Proclamation Areas Table

<b>Reserved Lands</b>	<b>Acres</b>	<b>% of Total</b>
BWCA Boundary (1978)	1,095,941	14.9
Voyageurs National Park	189,619	2.6
State Park Statutory Boundaries	62,151	0.8
Scientific and Natural Area Boundaries	15,230	0.2
<b>Total Reserved Lands</b>	<b>1,362,941</b>	<b>18.5</b>
<b>Total Northeast Region</b>	<b>7,363,644</b>	

# Native American Reservations and Treaty Boundaries

## Northeast Landscape Region



Sources: Native American Reservations and Treaty Boundaries - MNDNR Data Deli; Other Features - MNDNR Data Deli



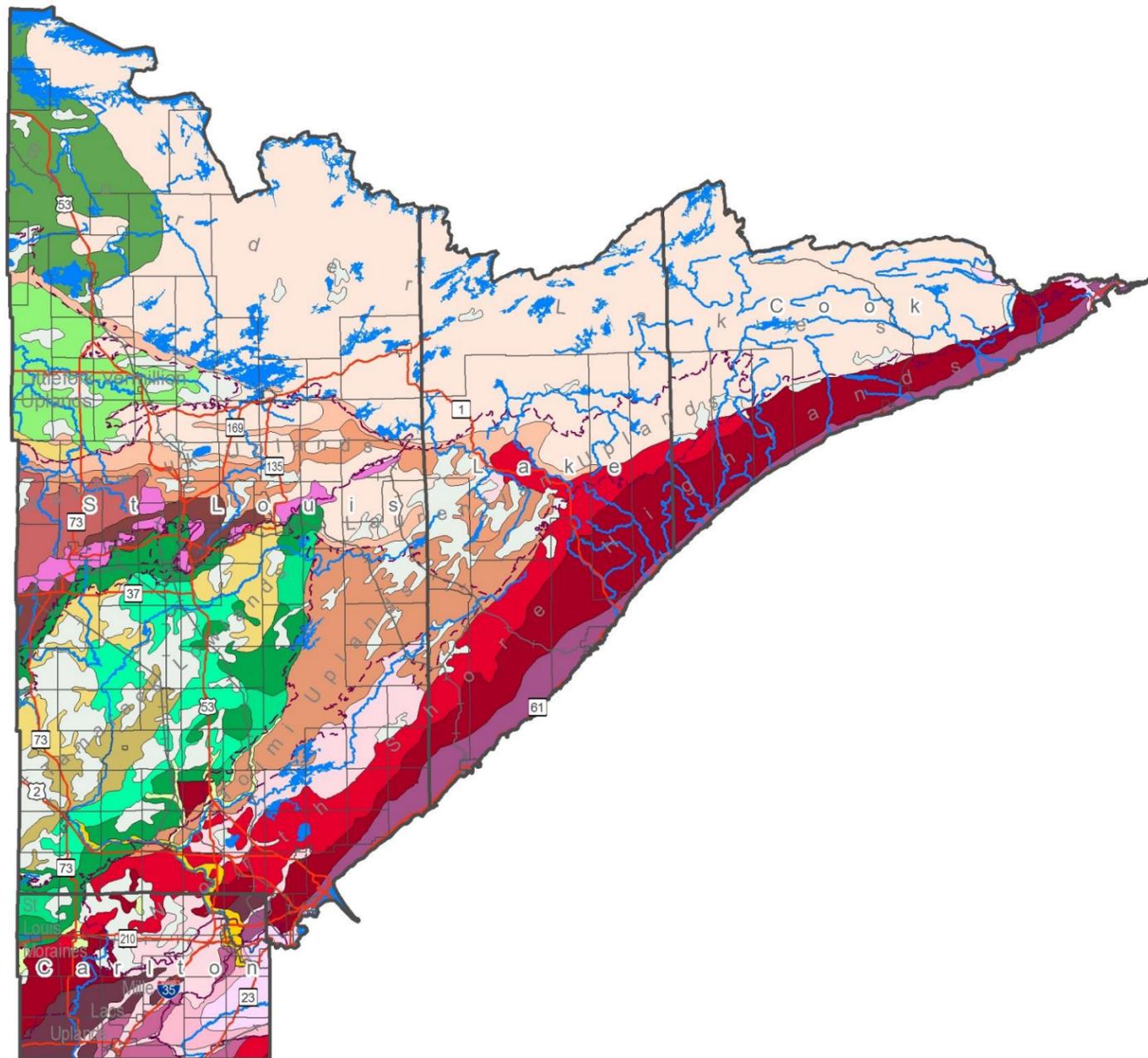
### Native American Reservations and Treaty Boundaries Tables

<b>Reservation</b>	<b>Acres</b>	<b>% of Region</b>
Fond Du Lac	100,500	1.4
Grand Portage	47,385	0.6
Nett Lake	22,726	0.3
Vermillion	1,041	0.0
<b>Total Reservation Areas</b>	<b>171,653</b>	<b>2.3</b>
<b>Total Northeast Region</b>	<b>7,363,644</b>	

<b>Treaty</b>	<b>Acres</b>	<b>% of Region</b>
1854 Chippewa of Lake Superior	6,096,955	82.8
<b>Total Northeast Region</b>	<b>7,363,644</b>	

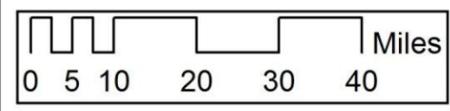
# Quaternary Geology

## Northeast Landscape Region



- Quaternary Geology**
- dce - End moraine
  - dcg - Ground moraine
  - dcl - Lake-modified till
  - deg - Ground moraine
  - del - Lake-modified till
  - dhe - End moraine
  - dla - Sand and gravel
  - dls - Silt and fine sand
  - do - Outwash
  - hp - Peat
  - m - Mine pits and dumps
  - rng - Ground moraine
  - ms - Stagnation moraine
  - ro - Outwash
  - rsg - Ground moraine
  - rve - End moraine
  - rvg - Ground moraine
  - scg - Ground moraine
  - sla - Sand and gravel
  - slc - Clay and clayey silt
  - sme - End moraine
  - smg - Ground moraine
  - sne - End moraine
  - sng - Ground moraine
  - so - Outwash
  - td - Terraces (Holocene to Pleistocene)
  - wat - Water

- Other Features**
- County Boundaries
  - Municipal Boundaries
  - Highways
  - Railroads
  - Lakes
  - Rivers
  - ECS Subsections



Sources: Quaternary Geology - MN Geo; Other Features - MNDNR Data Deli

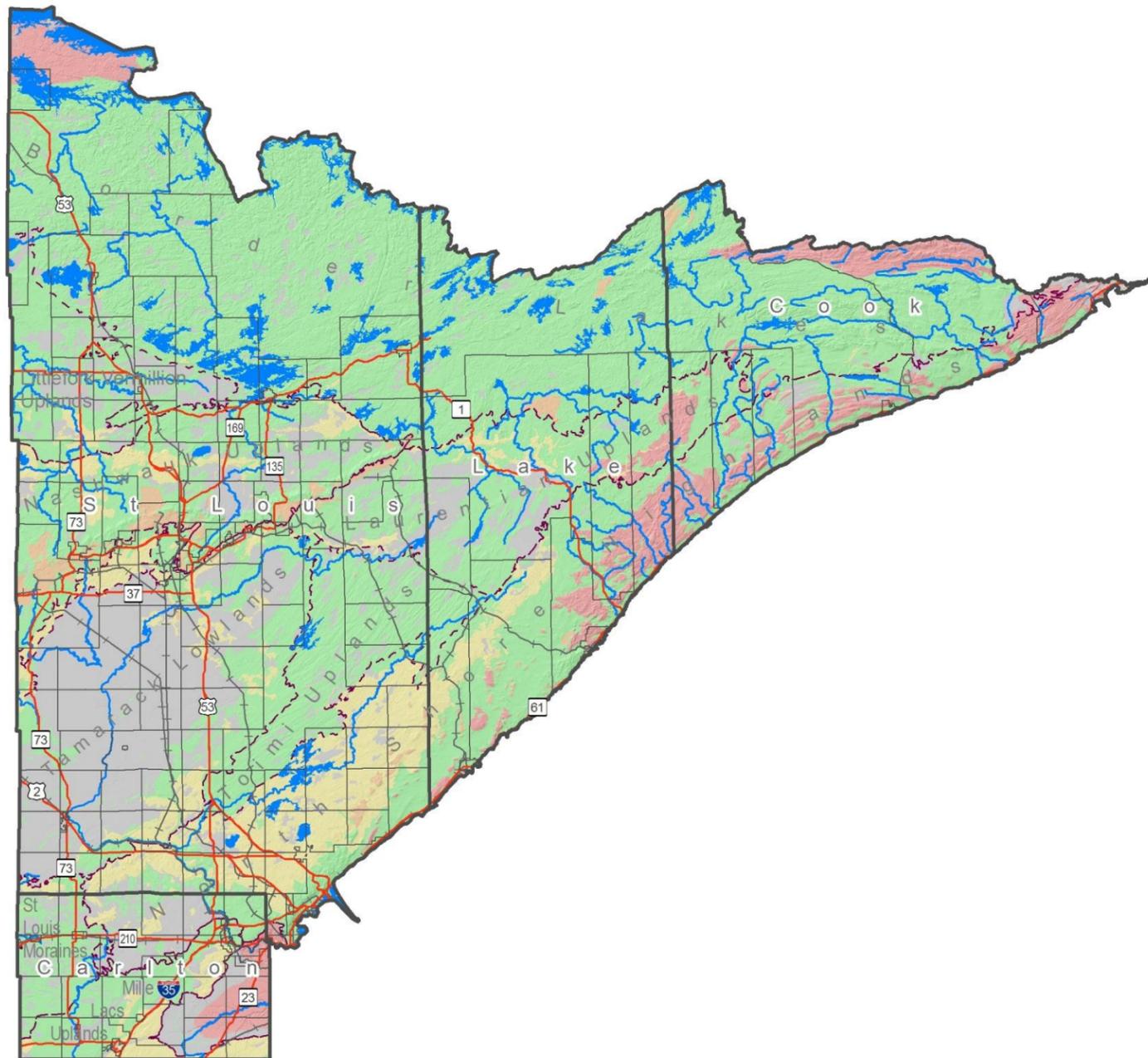


## Quaternary Geology Table

Quaternary Geology	Acres	% of Total
dce - End moraine	263,748	3.6
dcg - Ground moraine	59,328	0.8
dcl - Lake-modified till	195,689	2.7
deg - Ground moraine	293,994	4.0
del - Lake-modified till	194,290	2.6
dhe - End moraine	1,995	0.0
dla - Sand and gravel	160,324	2.2
dls - Silt and fine sand	87,271	1.2
do - Outwash	32,063	0.4
hp - Peat	661,220	9.0
m - Mine pits and dumps	69,588	0.9
rng - Ground moraine	76,398	1.0
rns - Stagnation moraine	103,176	1.4
ro - Outwash	130,588	1.8
rsg - Ground moraine	399,480	5.4
rve - End moraine	173,078	2.4
rvg - Ground moraine	2,607,264	35.5
scg - Ground moraine	87,956	1.2
sla - Sand and gravel	41,839	0.6
slc - Clay and clayey silt	75,419	1.0
sme - End moraine	419,725	5.7
smg - Ground moraine	640,294	8.7
sne - End moraine	47,171	0.6
sng - Ground moraine	228,194	3.1
so - Outwash	267,951	3.6
td - Terraces (Holocene to Pleistocene)	30,199	0.4
wat - Water	2,112	0.0
<b>Total Northeast Region</b>	<b>7,350,352</b>	<b>100.0</b>

# Landforms

## Northeast Landscape Region

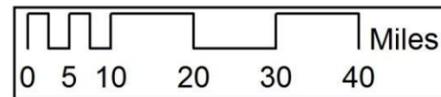


### Landforms

- Level
- Rolling to Undulating
- Hummocky
- Steep
- Undifferentiated

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- + Railroads
- Lakes
- Rivers
- ECS Subsections



Sources: Landforms - MNDNR Data Deli; Other Features - MNDNR Data Deli

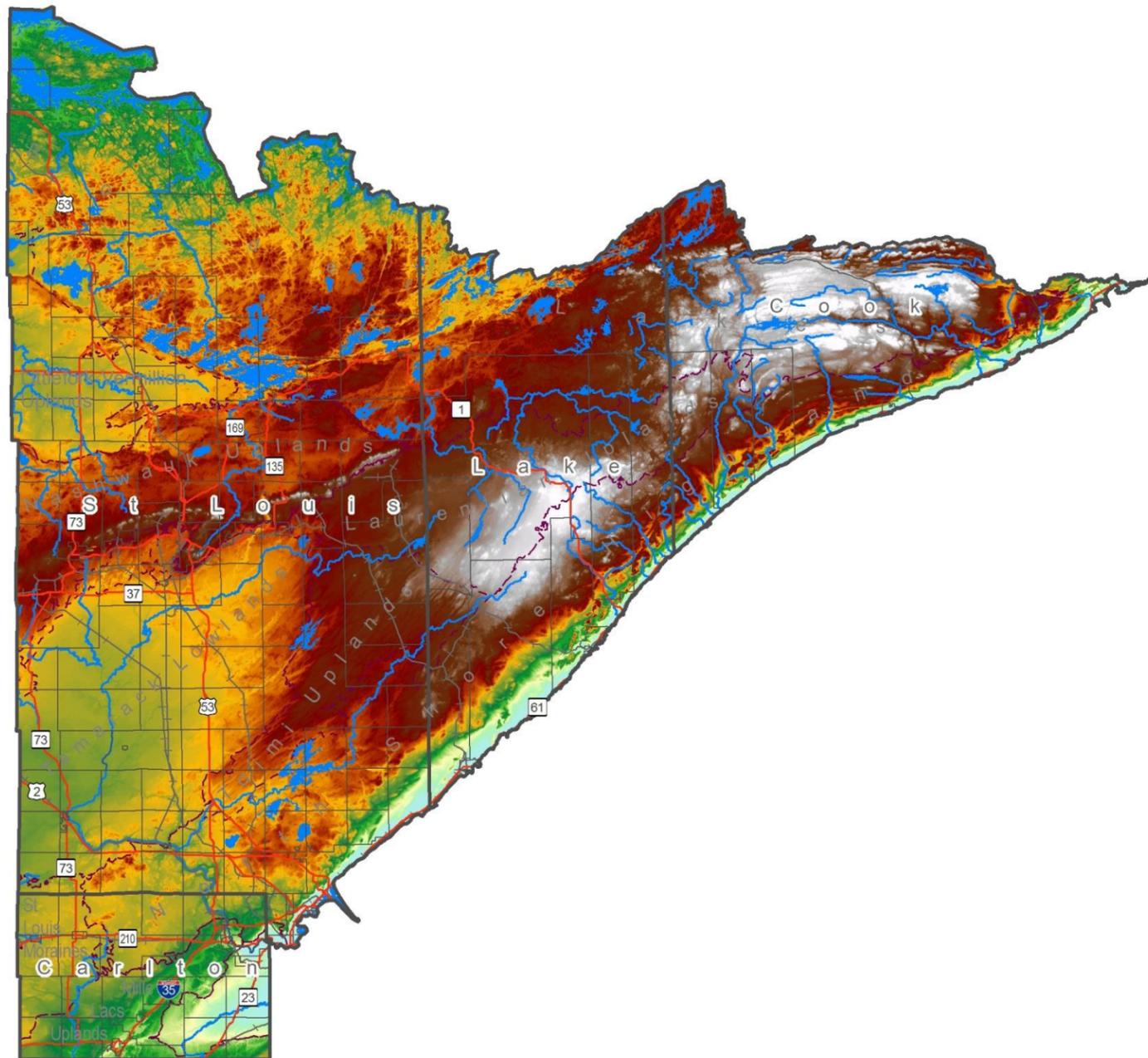


## Landforms Table

<b>Landforms</b>	<b>Acres</b>	<b>% of Total</b>
Level	1,315,297	17.9
Rolling to Undulating	4,649,221	63.2
Hummocky	750,581	10.2
Steep	528,218	7.2
Undifferentiated	117,877	1.6
<b>Total Northeast Region</b>	<b>7,361,194</b>	<b>100.0</b>

# Topography

## Northeast Landscape Region

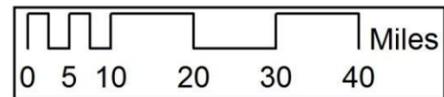


### Elevation (Feet)



### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections

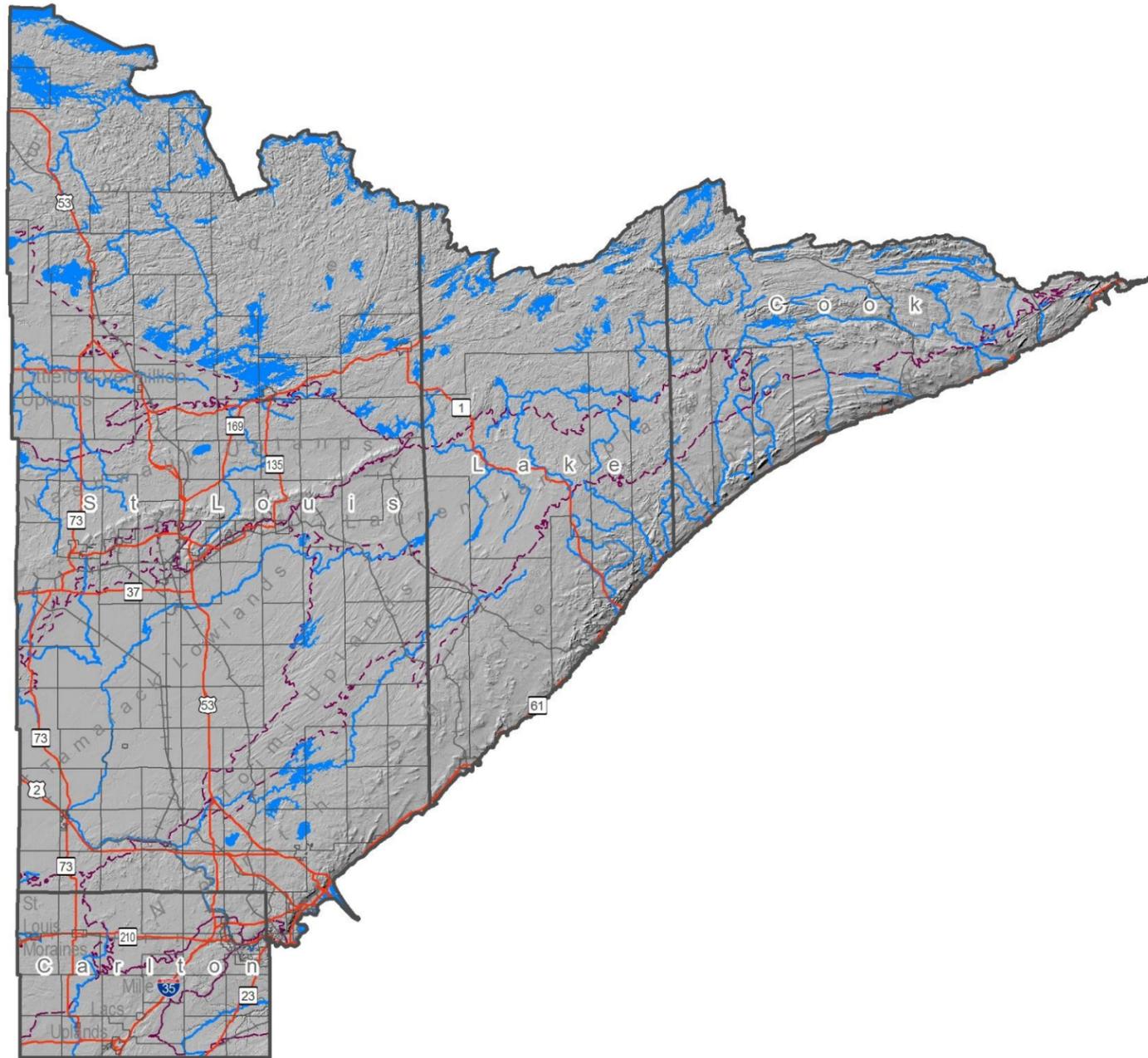


Sources: Elevation - MNDNR Data Deli; Other Features - MNDNR Data Deli



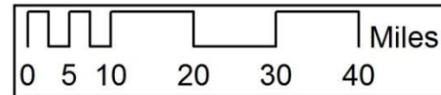
# Shaded Relief

## Northeast Landscape Region



### Other Features

-  County Boundaries
-  Municipal Boundaries
-  Highways
-  Railroads
-  Lakes
-  Rivers
-  ECS Subsections

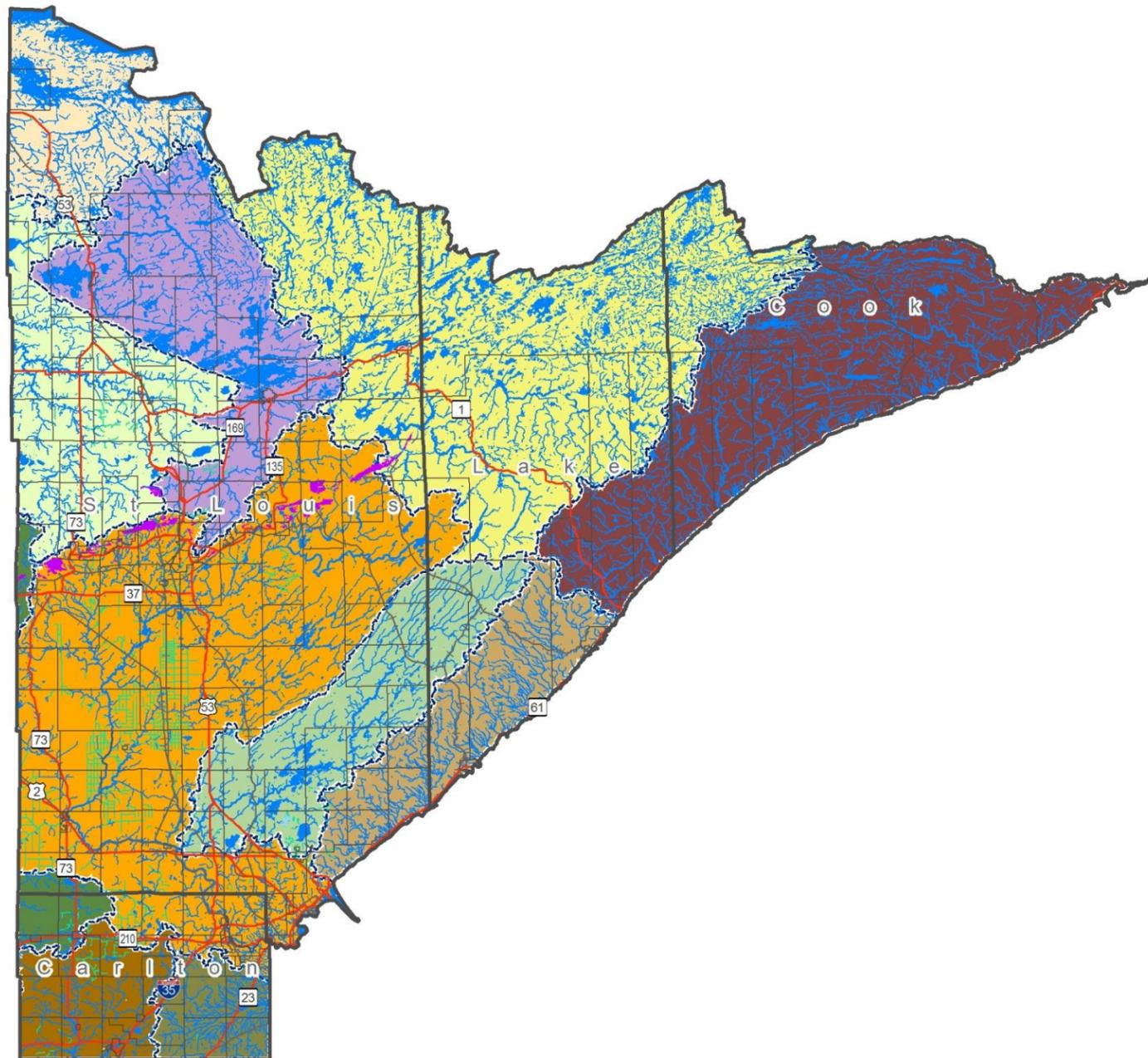


Sources: Shaded Relief - MNDNR Data Deli; Other Features - MNDNR Data Deli



# Major Watersheds

## Northeast Landscape Region



### DNR Level 04 - HUC 08 - Majors

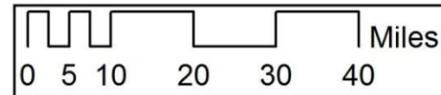
- Cloquet River
- Kettle River
- Lake Superior - North
- Lake Superior - South
- Little Fork River
- Mississippi River - Grand Rapids
- Nemadji River
- Rainy River - Headwaters
- Rainy River - Rainy Lake
- St. Louis River
- Vermilion River

### Other Water Features

- Lake, Pond or Reservoir; River or Stream
- Gravel Pit, Mine Pit or Quarry
- Tailings Pond
- Inundation Area or Intermittent Water
- Artificial Basin; Detention Pond
- Sewage Disposal Pond or Filtration Bed
- River
- Stream (Perennial)
- Stream (Intermittent)
- Drainage Ditch (Perennial)
- Drainage Ditch (Intermittent)

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads



Sources: DNR Level 04 - HUC 08 - Majors - MNDNR Data Deli; Other Features - MNDNR Data Deli



## Major Watersheds Tables

Major Watershed	Acres	% of Total
Cloquet River	507,569	6.9
Kettle River	230,355	3.1
Lake Superior - North	1,015,657	13.8
Lake Superior - South	399,264	5.4
Little Fork River	579,488	7.9
Mississippi River - Grand Rapids	107,724	1.5
Nemadji River	143,525	1.9
Rainy River - Headwaters	1,607,853	21.8
Rainy River - Rainy Lake	371,844	5.1
St. Louis River	1,738,444	23.6
Vermilion River	661,299	9.0
<b>Total Northeast Region</b>	<b>7,363,021</b>	<b>100.0</b>

DNR Water Features	Acres	% of Region
Lake, Pond or Reservoir	525,227	7.1
River or Stream	20,930	0.3
Gravel Pit, Mine Pit or Quarry	22,885	0.3
Tailings Pond	117	0.0
Inundation Area or Intermittent Water	2,038	0.0
Artificial Basin; Detention Pond	123	0.0
Sewage Disposal Pond or Filtration Bed	79	0.0
<b>Total DNR Water Features</b>	<b>571,400</b>	<b>7.8</b>

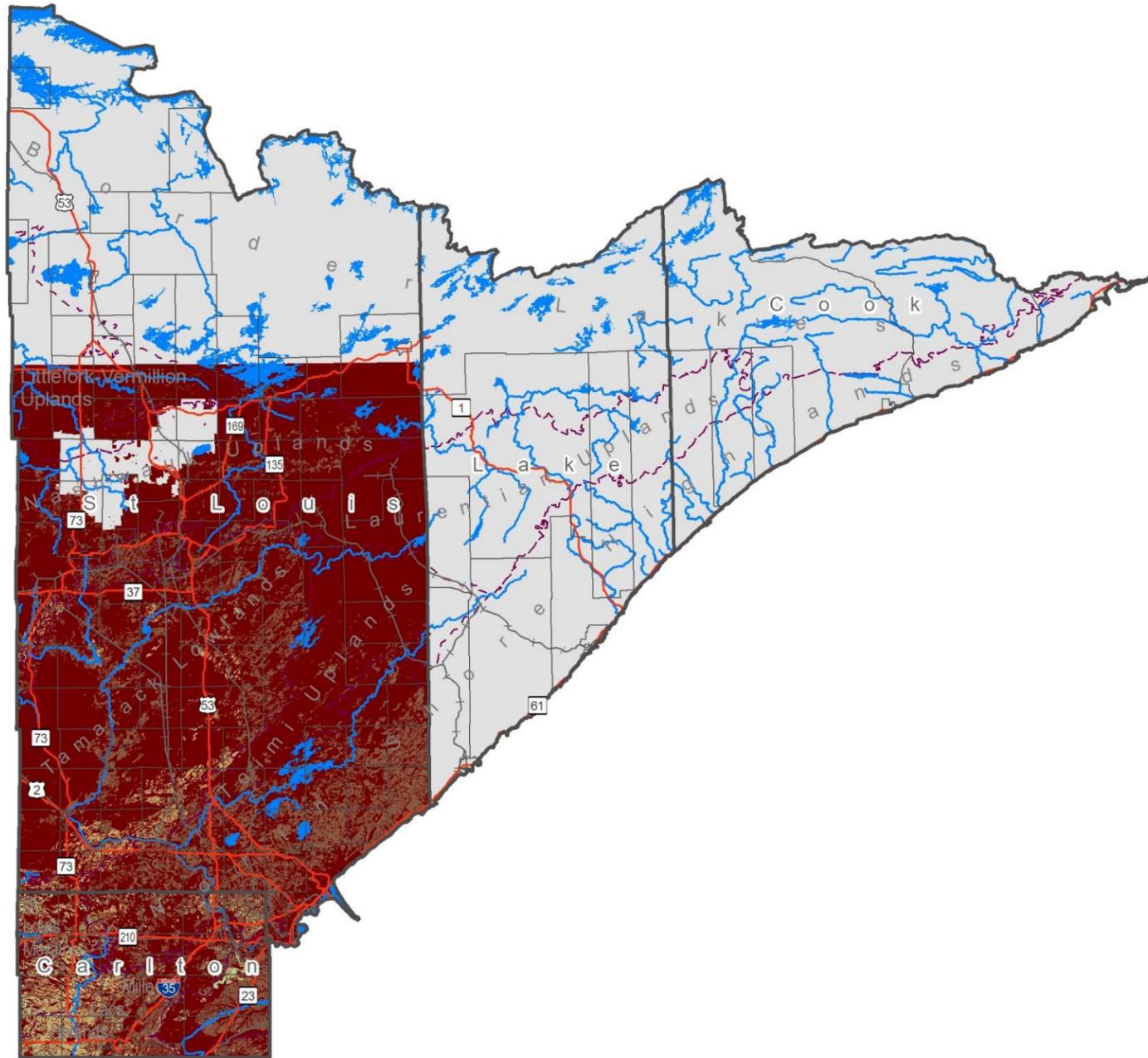
Streams (displayed in map)	Miles
Centerline (River)	669.5
Connector (River)	22.4
Stream (Perennial)	7365.4
Stream (Intermittent)	1471.7
Drainage Ditch (Perennial)	806.6
Drainage Ditch (Intermittent)	96.5
<b>Total Northeast Region</b>	<b>10432.1</b>

Streams (not displayed in map)	Miles
Unknown	0.5
Aqueduct (Elevated or Tunnel)	4.4
Arbitrary Overland Flow Connector	0.1
Connector (Lake)	3087.0
Connector (Wetland)	644.9
Drainage Ditch (Undifferentiated)	24.0
Interpreted Arc Connector	12.0
Stream (Unknown)	26.1
<b>Total Northeast Region</b>	<b>3798.9</b>

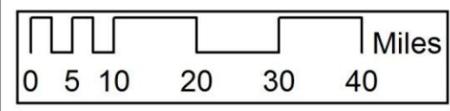
<b>Stream Density (total miles/square mile)</b>	<b>1.24</b>
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# Soils - Farmland Class

## Northeast Landscape Region



- SSURGO Soils - Farmland Class**
- All areas are prime farmland
  - Prime farmland if drained
  - Farmland of statewide importance
  - Not prime farmland
  - Not rated or not available
- Other Features**
- County Boundaries
  - Municipal Boundaries
  - Highways
  - + Railroads
  - Lakes
  - Rivers
  - ECS Subsections



Sources: Soils - NRCS Web Soil Survey; Other Features - MNDNR Data Deli

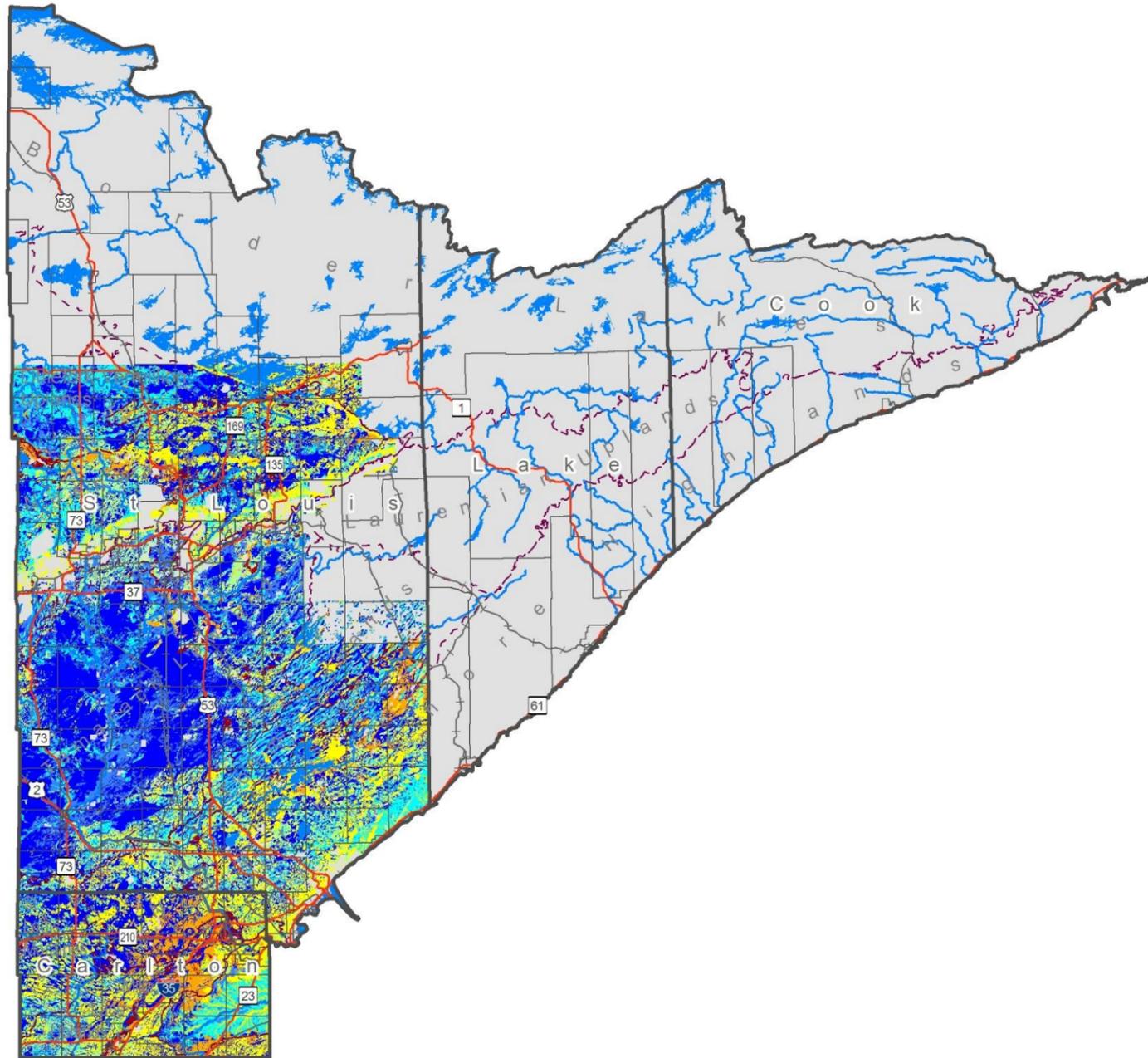


### Soils - Farmland Class Table

<b>SSURGO Farmland Class</b>	<b>Acres</b>	<b>% of Total</b>
All areas are prime farmland	99,460	1.4
Prime farmland if drained	40,547	0.6
Farmland of statewide importance	612,856	8.3
Not prime farmland	2,574,378	35.0
Not rated or not available	4,036,409	54.8
<b>Total Northeast Region</b>	<b>7,363,649</b>	<b>100.0</b>

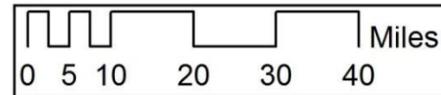
# Soils - Drainage Class

## Northeast Landscape Region



### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections



Sources: Main - MNDNR Data Deli; Other Features - MNDNR Data Deli

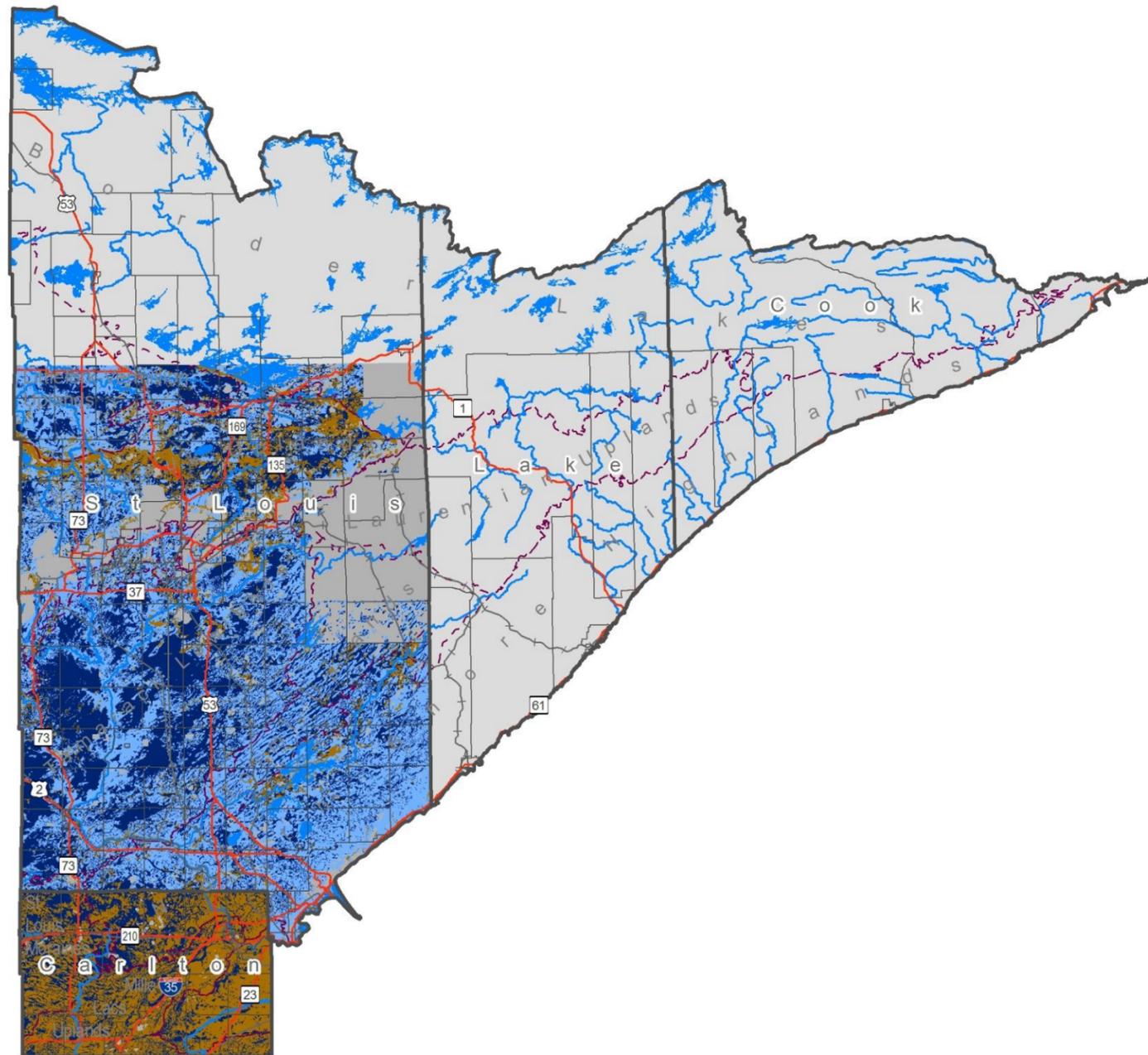


### Soils - Drainage Class Table

<b>SSURGO Drainage Class</b>	<b>Acres</b>	<b>% of Total</b>
Excessively drained	38,413	0.5
Somewhat excessively drained	162,423	2.2
Well drained	511,239	6.9
Moderately well drained	412,378	5.6
Somewhat poorly drained	436,077	5.9
Poorly drained	241,633	3.3
Very poorly drained	1,102,293	15.0
Not rated or not available	4,459,193	60.6
<b>Total Northeast Region</b>	<b>7,363,649</b>	<b>100.0</b>

# Soils - Hydric Rating

## Northeast Landscape Region

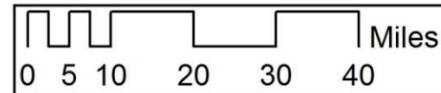


### SSURGO Soils - Hydric Rating

- All Hydric
- Partially Hydric
- Not Hydric
- Unknown Hydric
- Not rated or not available

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections



Sources: Soils - NRCS Web Soil Survey; Other Features - MNDNR Data Deli

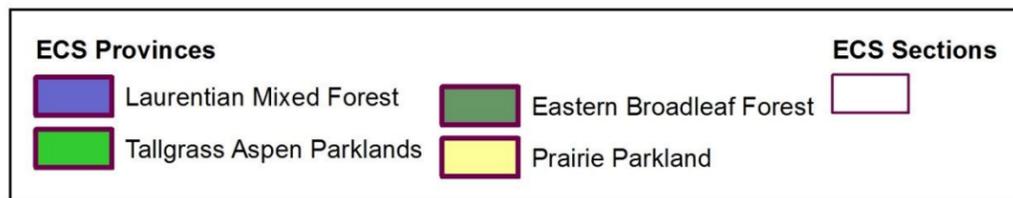
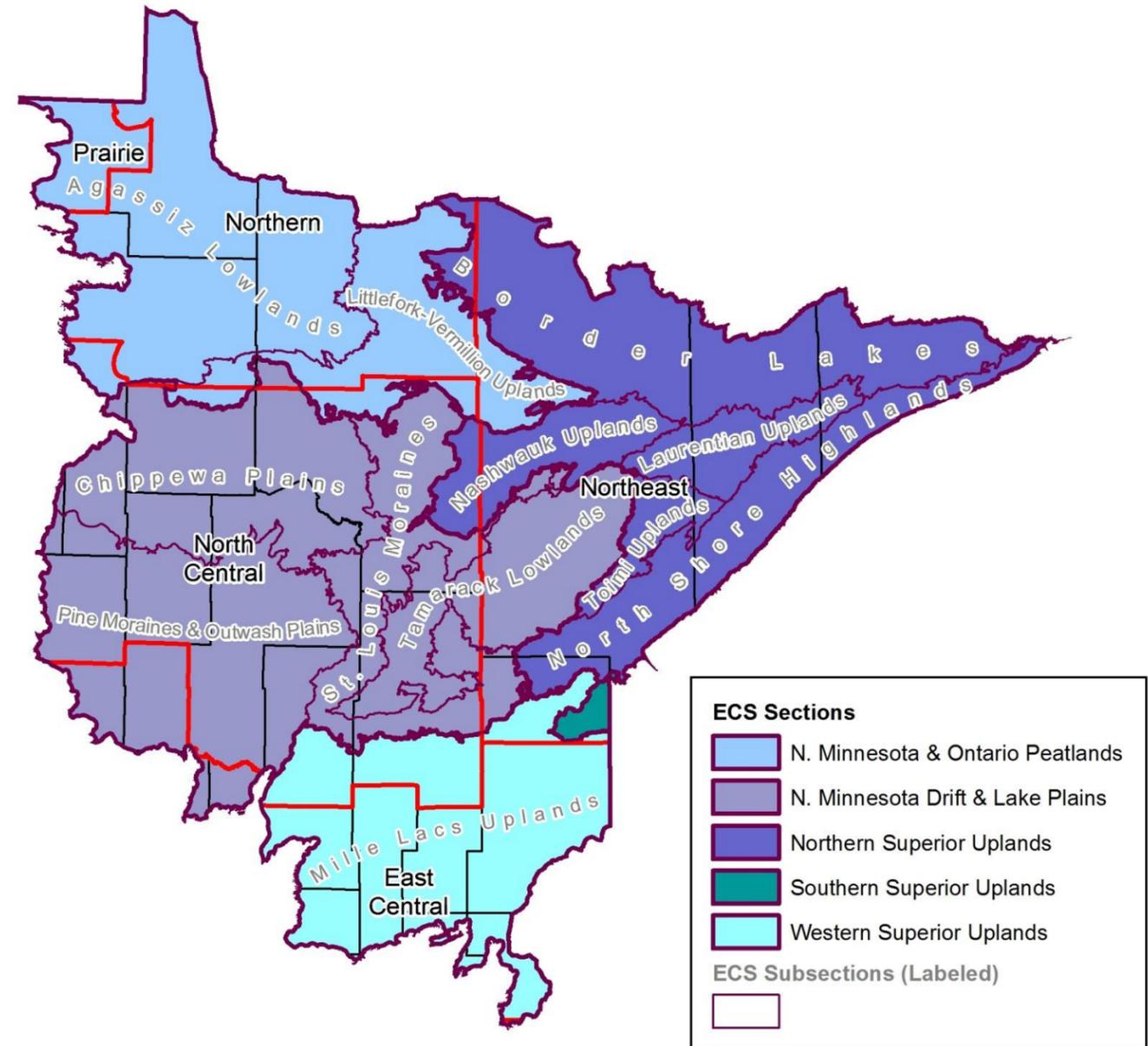
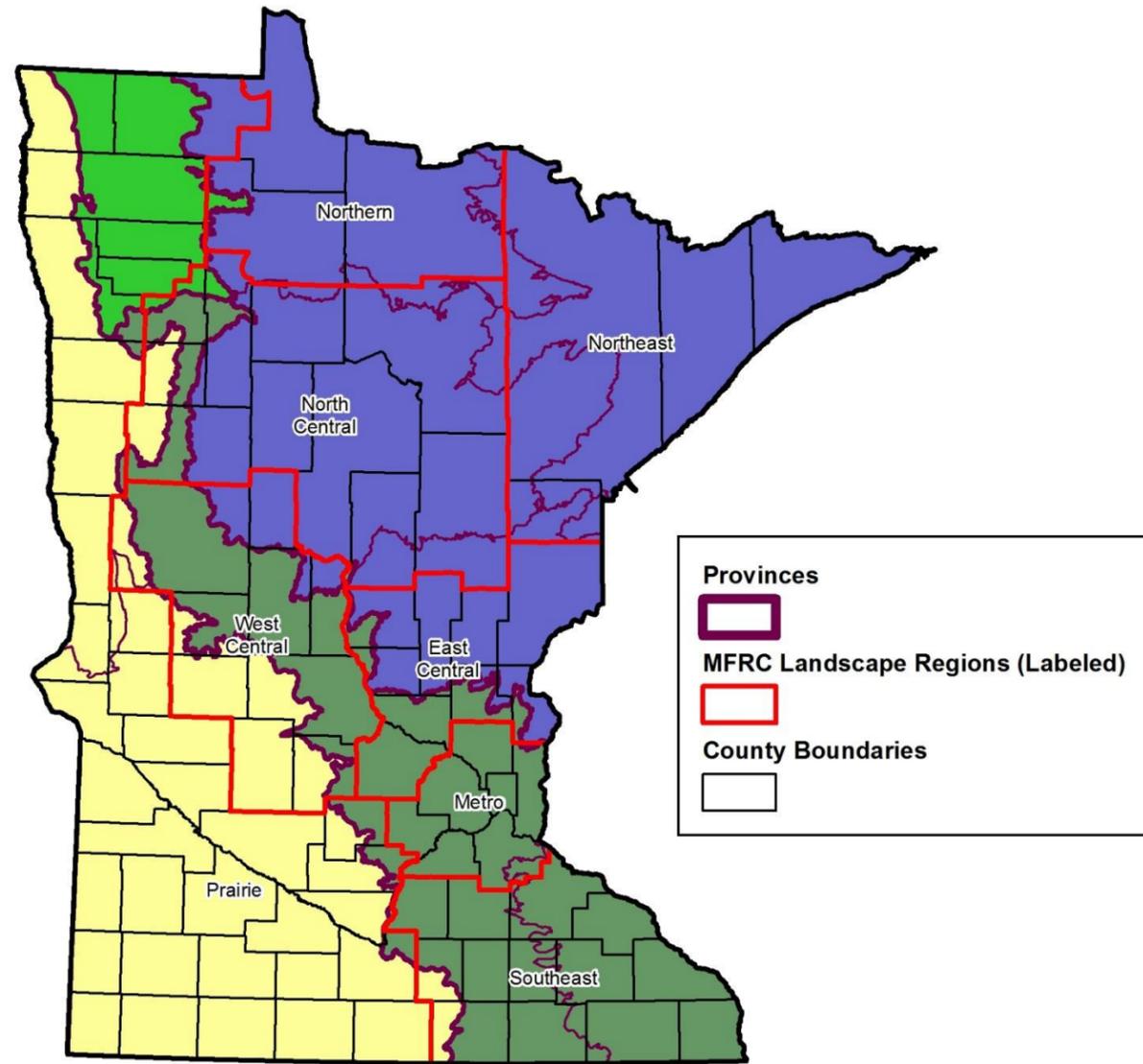


### Soils - Hydric Rating Table

<b>SSURGO Hydric Rating</b>	<b>Acres</b>	<b>% of Total</b>
All Hydric	1,072,888	14.6
Partially Hydric	1,165,405	15.8
Not Hydric	610,256	8.3
Unknown Hydric	607,716	8.3
Not rated or not available	3,907,385	53.1
<b>Total Northeast Region</b>	<b>7,363,649</b>	<b>100.0</b>

# ECS Provinces, Sections, and Subsections

## Northeast Landscape Region



Sources: ECS, County Boundaries - MNDNR Data Deli; MFRC Landscape Regions - MFRC

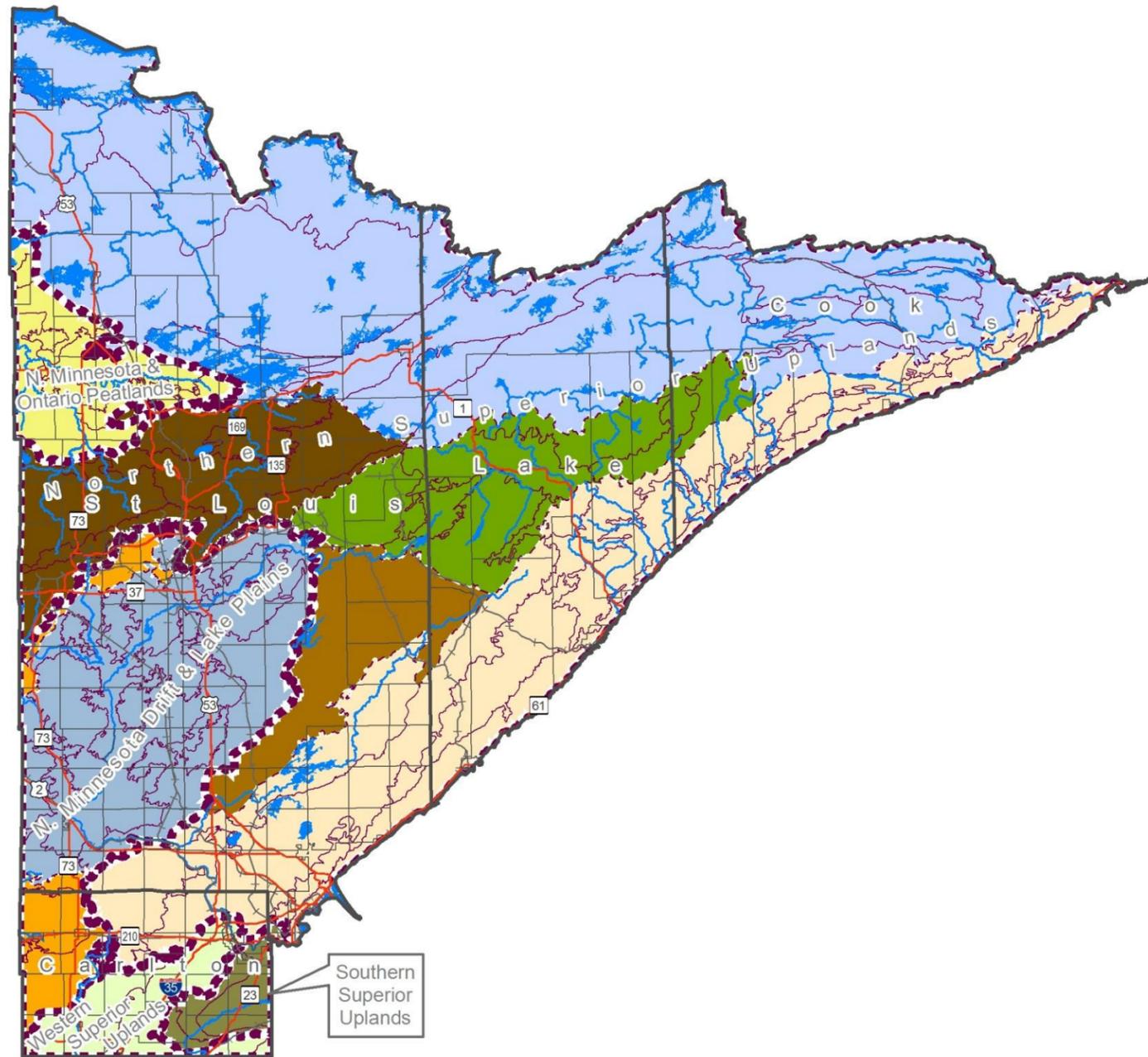


### ECS Provinces, Sections, and Subsections Table

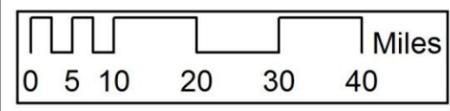
<b>ECS Province</b>	<b>ECS Section</b>	<b>ECS Subsection</b>	<b>Acres in Region</b>	<b>% of Region</b>	<b># of LTAs in Region</b>
Laurentian Mixed Forest	N. Minnesota & Ontario Peatlands	Littlefork-Vermillion Uplands	303,575	4.1	7
	<b>Subtotal (Section)</b>		<b>303,575</b>	<b>4.1</b>	<b>7</b>
	N. Minnesota Drift & Lake Plains	St. Louis Moraines	191,251	2.6	6
		Tamarack Lowlands	940,886	12.8	5
	<b>Subtotal (Section)</b>		<b>1,132,137</b>	<b>15.4</b>	<b>11</b>
	Northern Superior Uplands	Border Lakes	2,623,704	35.6	17
		Laurentian Uplands	567,293	7.7	8
		Nashwauk Uplands	598,124	8.1	6
		North Shore Highlands	1,481,342	20.1	10
		Toimi Uplands	339,292	4.6	1
	<b>Subtotal (Section)</b>		<b>5,609,755</b>	<b>76.2</b>	<b>42</b>
	Southern Superior Uplands	Glacial Lake Superior Plain	109,676	1.5	3
	<b>Subtotal (Section)</b>		<b>109,676</b>	<b>1.5</b>	<b>3</b>
	Western Superior Uplands	Mille Lacs Uplands	206,662	2.8	5
	<b>Subtotal (Section)</b>		<b>206,662</b>	<b>2.8</b>	<b>5</b>
<b>Subtotal (Province)</b>			<b>7,361,805</b>	<b>100.0</b>	<b>68</b>
<b>Total Northeast Region</b>			<b>7,361,805</b>	<b>100.0</b>	<b>68</b>

# ECS Sections, Subsections, and Land Type Associations

## Northeast Landscape Region



- ECS**
- ECS Section (Labeled)
  - ECS Subsections
  - ECS Land Type Associations
- ECS Subsections by ECS Sections**
- N. Minnesota & Ontario Peatlands
  - Littlefork-Vermillion Uplands
  - N. Minnesota Drift & Lake Plains
  - St. Louis Moraines
  - Tamarack Lowlands
  - Northern Superior Uplands
  - Border Lakes
  - Laurentian Uplands
  - Nashwauk Uplands
  - North Shore Highlands
  - Toimi Uplands
  - Southern Superior Uplands
  - Glacial Lake Superior Plain
  - Western Superior Uplands
  - Mille Lacs Uplands
- Other Features**
- County Boundaries
  - Municipal Boundaries
  - Highways
  - Railroads
  - Lakes
  - Rivers



Sources: ECS - MNDNR Data Deli; Other Features - MNDNR Data Deli



## ECS Sections, Subsections, and Land Type Associations Table

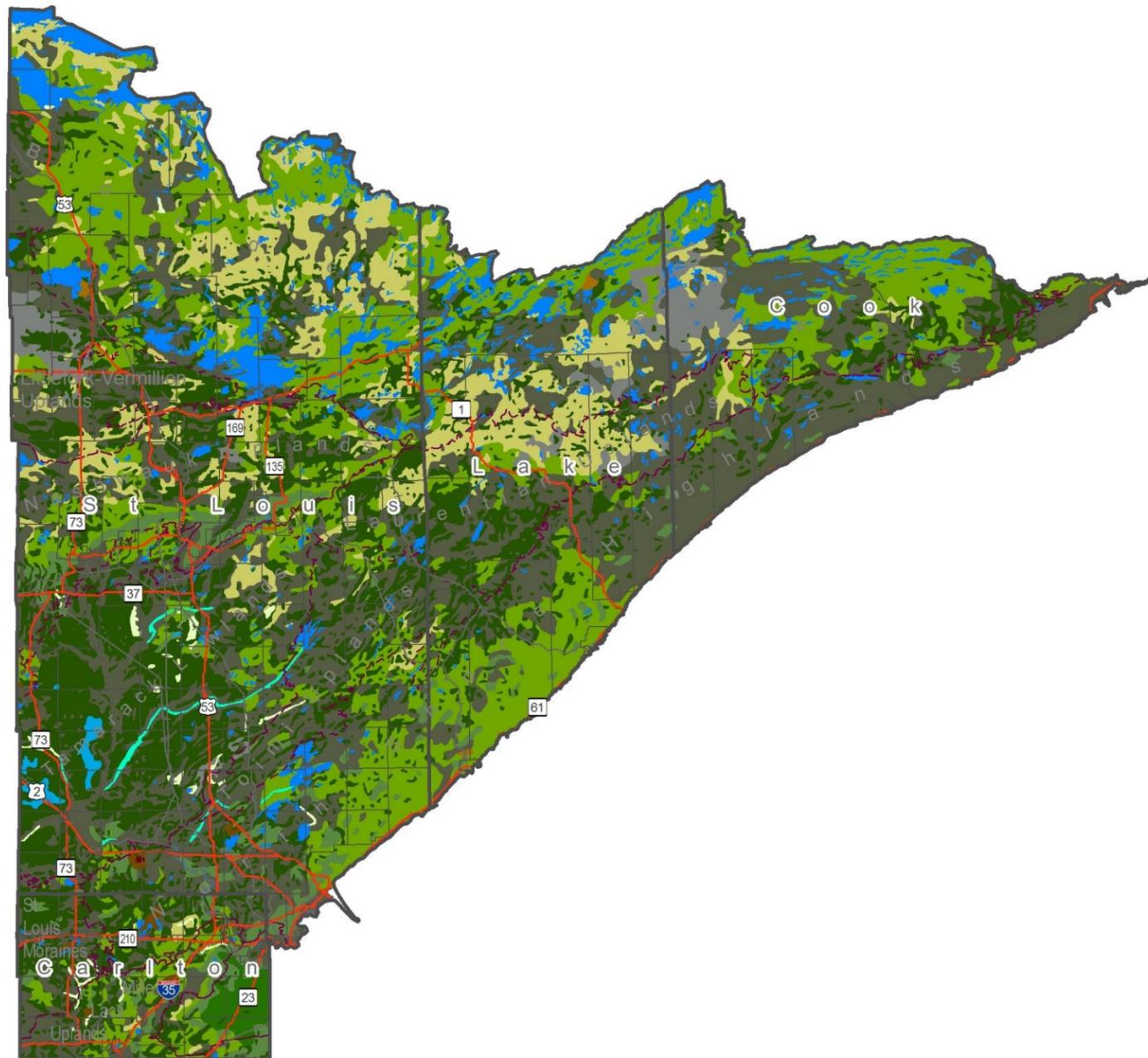
Section	Subsection	Land Type Association	Acres	% of Northeast Region
N. Minnesota & Ontario Peatlands	Littlefork-Vermillion Uplands	Cook Till Plain	97,338	1.3
		Effie Till Plain	559	0.0
		Haney Till Plain	268	0.0
		Koochiching Peatlands	57,569	0.8
		Net Lake Till Plain	7,904	0.1
		Rauch Till Plain	101,435	1.4
		Smith Road Till Plain	38,502	0.5
		<b>Subtotal (Subsection)</b>		<b>303,575</b>
<b>Subtotal (Section)</b>			<b>303,575</b>	<b>4.1</b>
N. Minnesota Drift & Lake Plains	St. Louis Moraines	Automba Drumlin Plain	67,618	0.9
		Buhl Till Plain	38,104	0.5
		Goodland Delta	16,409	0.2
		Rice Lake Moraine	2,164	0.0
		Sandy Lake Moraine	13,311	0.2
		Wright Till Plain	53,645	0.7
		<b>Subtotal (Subsection)</b>		<b>191,251</b>
	Tamarack Lowlands	Aurora Till Plain	275,606	3.7
		Esquagama Sand Plain	36,588	0.5
		Floodwood Peatlands	254,579	3.5
		Moose-Willow Peatlands	127	0.0
		Warba Lake Plain	373,985	5.1
	<b>Subtotal (Subsection)</b>		<b>940,886</b>	<b>12.8</b>
<b>Subtotal (Section)</b>			<b>1,132,137</b>	<b>15.4</b>
Northern Superior Uplands	Border Lakes	Ash Lake Till Plain	126,387	1.7
		Ely-Knife Lake Bedrock Complex	233,896	3.2
		Gabbro Lake Bedrock Compl	453,599	6.2
		Johnson Lake Bedrock Complex	149,173	2.0
		Lac LaCroix Bedrock Complex	145,513	2.0
		Myrtle Lake Till Plain	297,137	4.0
		Northern Lights Lake Till Plain	69,532	0.9
		Poplar Lake Bedrock Complex	56,190	0.8
		Rove Slate Bedrock Complex	81,889	1.1
		Saganaga Lake Bedrock Complex	52,037	0.7
		Swamp River Till Plain	42,518	0.6
		Trout Lake Bedrock Complex	404,770	5.5
		Two Island Lake Moraine	57,455	0.8
		Vegetable Lakes Till Plain	109,421	1.5
	Vermilion Bedrock Complex	94,251	1.3	
	Voyageurs Bedrock Complex	157,097	2.1	
	White Iron Lake Bedrock Complex	92,840	1.3	
	<b>Subtotal (Subsection)</b>		<b>2,623,704</b>	<b>35.6</b>

(Northern Superior Uplands Section continued at right.)

Section	Subsection	Land Type Association	Acres	% of Northeast Region	
Northern Superior Uplands	Laurentian Uplands	Big-Bird Lake Moraine	105,794	1.4	
		Greenwood Lake Till Plain	124,419	1.7	
		Isabella Moraine	103,931	1.4	
		Kelly-Sawbill Landing Till Plain	89,705	1.2	
		Phantom Lake Peatland	13,006	0.2	
		Seven Beavers Peatland	29,635	0.4	
		Temperance River Till Plain	50,223	0.7	
		Timber Freer Till Plain	50,580	0.7	
		<b>Subtotal (Subsection)</b>		<b>567,293</b>	<b>7.7</b>
		Nashwauk Uplands	Big Rice Moraine	59,915	0.8
	Mesabi Range		97,398	1.3	
	Nashwauk Moraine		134,667	1.8	
	Pengilly Till Plain		51,075	0.7	
	Pike-Sandy River Sand Plain		184,024	2.5	
	Whalsten Till Plain		71,045	1.0	
	<b>Subtotal (Subsection)</b>			<b>598,124</b>	<b>8.1</b>
	North Shore Highlands	Brimson Sand Plain	68,998	0.9	
		Brookston Moraine	110,806	1.5	
		Cabin Lake Till Plain	71,888	1.0	
		Cloquet Sand Plain	140,478	1.9	
Highland Moriane		355,432	4.8		
Honeymoon Mountain Till Plain		106,739	1.4		
North Shore Till Plain		150,365	2.0		
Sawtooth Mountain Bedrock Complex		114,400	1.6		
Split Rock Till Plain		123,036	1.7		
Tettegouche Till Plain		239,200	3.2		
<b>Subtotal (Subsection)</b>			<b>1,481,342</b>	<b>20.1</b>	
Toimi Uplands		Toimi Drumlin Plain	339,292	4.6	
<b>Subtotal (Subsection)</b>			<b>339,292</b>	<b>4.6</b>	
<b>Subtotal (Section)</b>			<b>5,609,755</b>	<b>76.2</b>	
Southern Superior Uplands	Glacial Lake Superior Plain	Douglas Lake-Modified Till Plain	60,152	0.8	
		Duesler Lake Plain	33,400	0.5	
		Nemadji Lake Plain	16,125	0.2	
	<b>Subtotal (Subsection)</b>		<b>109,676</b>	<b>1.5</b>	
<b>Subtotal (Section)</b>			<b>109,676</b>	<b>1.5</b>	
Western Superior Uplands	Mille Lacs Uplands	Bruno Moraine	3,553	0.0	
		Kettle River Drumlin Plain	84,274	1.1	
		Nickerson Moraine	113,810	1.5	
		Solana Till Plain	3,345	0.0	
		Willow River Sand Plain	1,680	0.0	
<b>Subtotal (Subsection)</b>		<b>206,662</b>	<b>2.8</b>		
<b>Subtotal (Section)</b>			<b>206,662</b>	<b>2.8</b>	
<b>Total Northeast Region</b>			<b>7,361,805</b>	<b>100.0</b>	

# Presettlement Land Cover (1895)

## Northeast Landscape Region

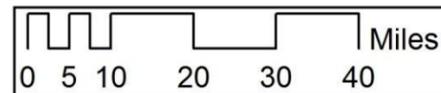


### Presettlement Land Cover (Marschner's)

- Aspen-Birch (trending to Conifers)
- Aspen-Birch (trending to hardwoods)
- Aspen-Oak Land
- Big Woods - Hardwoods (oak, maple, basswood, hickory)
- Mixed Hardwood and Pine (Maple, White Pine, Basswood, etc)
- Mixed White Pine and Red Pine
- Pine Flats (Hemlock, Spruce, Fir, White Pine, Aspen)
- White Pine
- Jack Pine Barrens and Openings
- Conifer Bogs and Swamps
- Open Muskeg
- River Bottom Forest
- Wet Prairie
- Lakes (open water)
- Undefined

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- ECS Subsections



Sources: Presettlement Land Cover (Marschner's) - MNDNR Data Deli; Other Features - MNDNR Data Deli

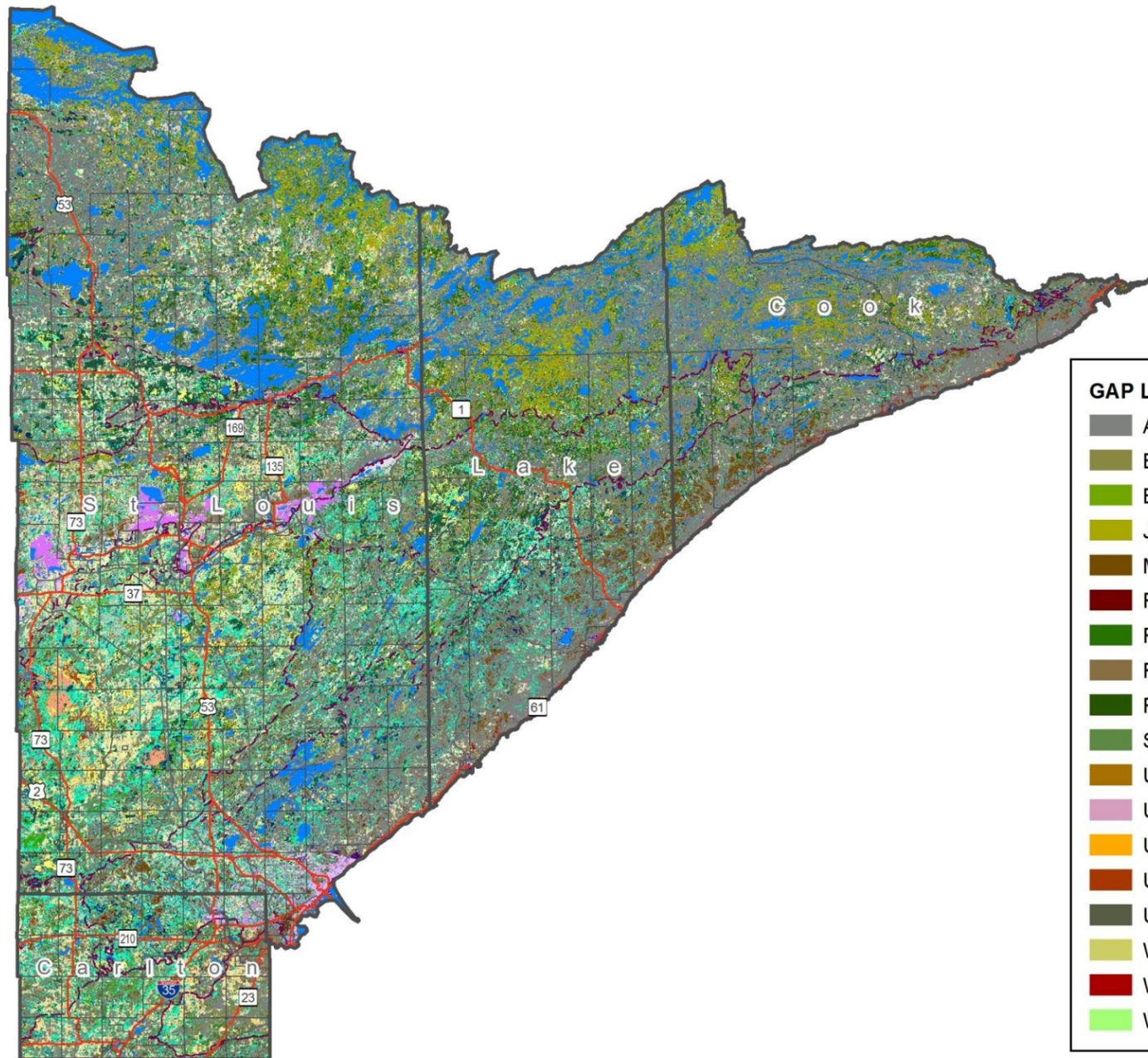


### Presettlement Land Cover (1895) Table

Comparative Class	Presettlement Land Cover (Marschner's)	Acres	% of Total
Upland Forest	Aspen-Birch (trending to Conifers)	2,305,856	31.4
	Aspen-Birch (trending to hardwoods)	159,654	2.2
	Aspen-Oak Land	608	0.0
	Big Woods - Hardwoods (oak, maple, basswood, hickory)	13,531	0.2
	Mixed Hardwood and Pine (Maple, White Pine, Basswood, etc)	232,153	3.2
	Mixed White Pine and Red Pine	1,665,237	22.7
	Pine Flats (Hemlock, Spruce, Fir, White Pine, Aspen)	46,618	0.6
	White Pine	5,057	0.1
<b>Subtotal (Upland Forest)</b>		<b>4,428,714</b>	<b>60.3</b>
Upland Grass	Jack Pine Barrens and Openings	688,738	9.4
<b>Subtotal (Upland Grass)</b>		<b>688,738</b>	<b>9.4</b>
Lowland Vegetation	Conifer Bogs and Swamps	1,739,407	23.7
	Open Muskeg	22,115	0.3
	River Bottom Forest	17,216	0.2
	Wet Prairie	26,717	0.4
<b>Subtotal (Lowland Vegetation)</b>		<b>1,805,454</b>	<b>24.6</b>
Open Water	Lakes (open water)	425,582	5.8
<b>Subtotal (Open Water)</b>		<b>425,582</b>	<b>5.8</b>
Unclassified	Undefined	203	0.0
<b>Subtotal (Unclassified)</b>		<b>203</b>	<b>0.0</b>
<b>Total Northeast Region</b>		<b>7,348,691</b>	<b>100.0</b>

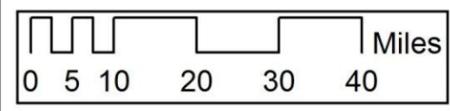
# Land Cover (1992)

## Northeast Landscape Region



- GAP Level 4**
- Aspen/White Birch
  - Balsam Fir mix
  - Bur/White Oak
  - Jack Pine
  - Maple/Basswood
  - Red Oak
  - Red Pine
  - Red/White Pine
  - Red/White Pine-Deciduous mix
  - Spruce/Fir-Deciduous mix
  - Upland Black Spruce
  - Upland Conifer
  - Upland Conifer-Deciduous mix
  - Upland Deciduous
  - Upland Northern White-Cedar
  - White Pine mix
  - White Spruce
  - White/Red Oak

- GAP Level 4**
- Upland Shrub
  - Grassland
  - Black Ash
  - Broadleaf Sedge/Cattail
  - Floating Aquatic
  - Lowland Black Spruce
  - Lowland Deciduous
  - Lowland Deciduous Shrub
  - Lowland Evergreen Shrub
  - Lowland Northern White-Cedar
  - Sedge Meadow
  - Silver Maple
  - Stagnant Black Spruce
  - Stagnant Northern White-Cedar
  - Stagnant Tamarack
  - Tamarack
  - Cropland
  - Water
  - Barren
  - High intensity urban
  - Transportation
  - Mixed Developed
  - Low intensity urban
- Other Features**
- County Boundaries
  - Municipal Boundaries
  - Highways
  - Railroads
  - ECS Subsections



Sources: GAP Land Cover - MNDNR Data Deli; Other Features - MNDNR Data Deli



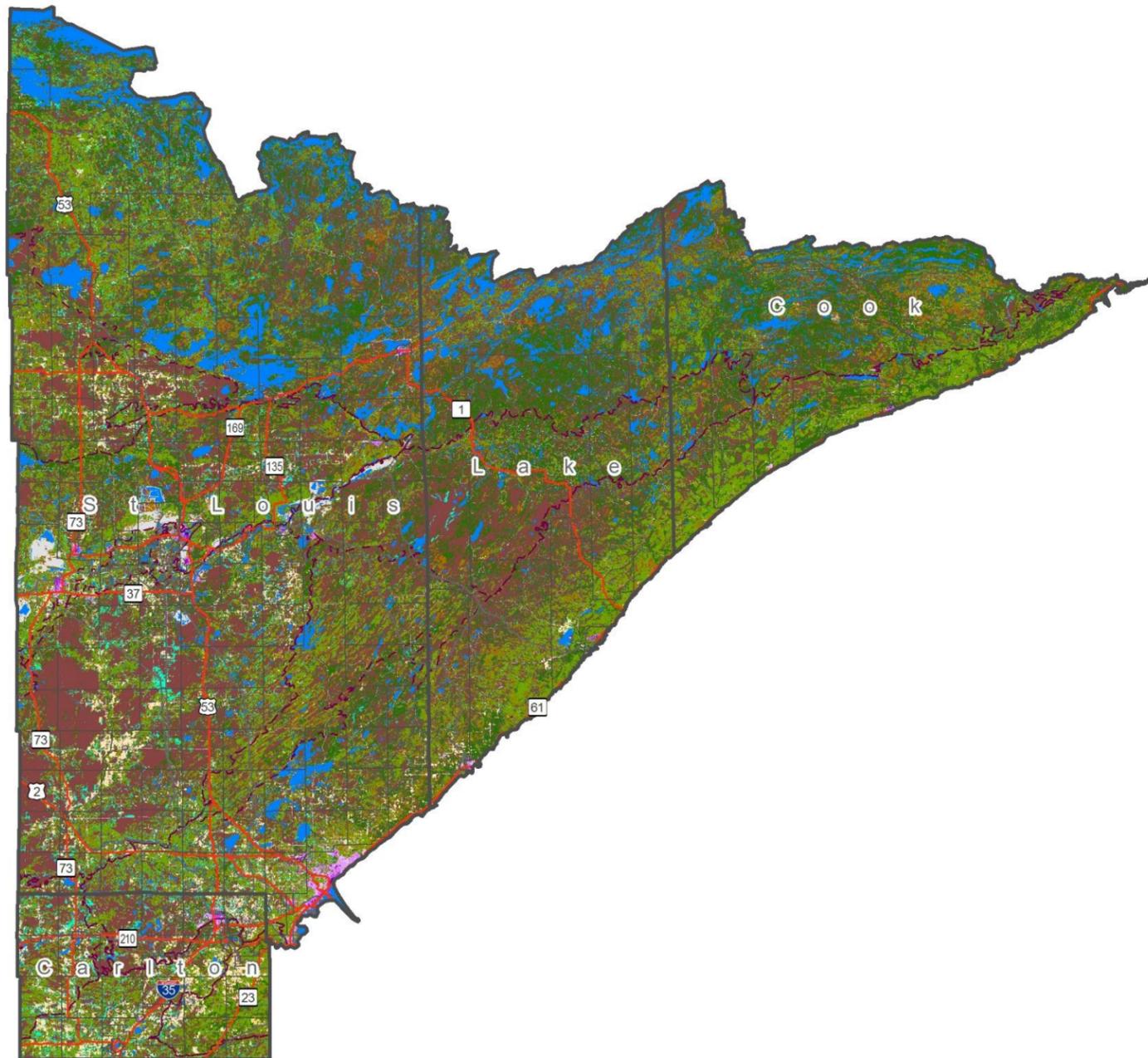
### Land Cover (1992) Table

Comparative Class	GAP Level 4	Acres	% of Total
Upland Forest	Aspen/White Birch	2,732,562	37.1
	Balsam Fir mix	200,927	2.7
	Bur/White Oak	2,414	0.0
	Jack Pine	440,812	6.0
	Maple/Basswood	107,967	1.5
	Red Oak	12,590	0.2
	Red Pine	158,859	2.2
	Red/White Pine	143	0.0
	Red/White Pine-Deciduous mix	80,416	1.1
	Spruce/Fir-Deciduous mix	51,442	0.7
	Upland Black Spruce	15,673	0.2
	Upland Conifer	942	0.0
	Upland Conifer-Deciduous mix	11,548	0.2
	Upland Deciduous	10,752	0.1
	Upland Northern White-Cedar	14,951	0.2
	White Pine mix	64,534	0.9
	White Spruce	21,572	0.3
	White/Red Oak	728	0.0
<b>Subtotal (Upland Forest)</b>		<b>3,928,833</b>	<b>53.4</b>
Upland Shrub	Upland Shrub	427,374	5.8
<b>Subtotal (Upland Shrub)</b>		<b>427,374</b>	<b>5.8</b>
Upland Grass	Grassland	292,368	4.0
<b>Subtotal (Upland Grass)</b>		<b>292,368</b>	<b>4.0</b>

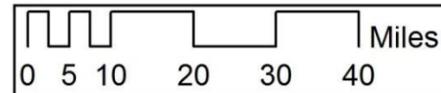
Comparative Class	GAP Level 4	Acres	% of Total
Lowland Vegetation	Black Ash	103,289	1.4
	Broadleaf Sedge/Cattail	2,748	0.0
	Floating Aquatic	11,673	0.2
	Lowland Black Spruce	465,201	6.3
	Lowland Deciduous	3,657	0.0
	Lowland Deciduous Shrub	648,920	8.8
	Lowland Evergreen Shrub	60,736	0.8
	Lowland Northern White-Cedar	139,648	1.9
	Sedge Meadow	97,409	1.3
	Silver Maple	173	0.0
	Stagnant Black Spruce	189,509	2.6
	Stagnant Northern White-Cedar	4,728	0.1
	Stagnant Tamarack	26,679	0.4
	Tamarack	123,897	1.7
	<b>Subtotal (Lowland Vegetation)</b>		<b>1,878,267</b>
Agriculture	Cropland	106,289	1.4
<b>Subtotal (Agriculture)</b>		<b>106,289</b>	<b>1.4</b>
Open Water	Water	576,353	7.8
<b>Subtotal (Open Water)</b>		<b>576,353</b>	<b>7.8</b>
Barren	Barren	37,402	0.5
<b>Subtotal (Barren)</b>		<b>37,402</b>	<b>0.5</b>
Developed	High intensity urban	23,076	0.3
	Transportation	36	0.0
	Mixed Developed	64,506	0.9
	Low intensity urban	28,181	0.4
<b>Subtotal (Developed)</b>		<b>115,799</b>	<b>1.6</b>
<b>Total Northeast Region</b>		<b>7,362,684</b>	<b>100.0</b>

# Land Cover (2001)

## Northeast Landscape Region



- National Land Cover Dataset 2001**
- Deciduous Forest
  - Evergreen Forest
  - Mixed Forest
  - Shrub/Scrub
  - Grassland/Herbaceous
  - Pasture/Hay
  - Emergent Herbaceous Wetlands
  - Woody Wetlands
  - Cultivated Crops
  - Open Water
  - Barren Land (Rock/Sand/Clay)
  - Developed, Open Space
  - Developed, Low Intensity
  - Developed, Medium Intensity
  - Developed, High Intensity
  - Unclassified
- Other Features**
- County Boundaries
  - Municipal Boundaries
  - Highways
  - + Railroads
  - ECS Subsections



Sources: National Land Cover Dataset - MRLC; Other Features - MNDNR Data Deli

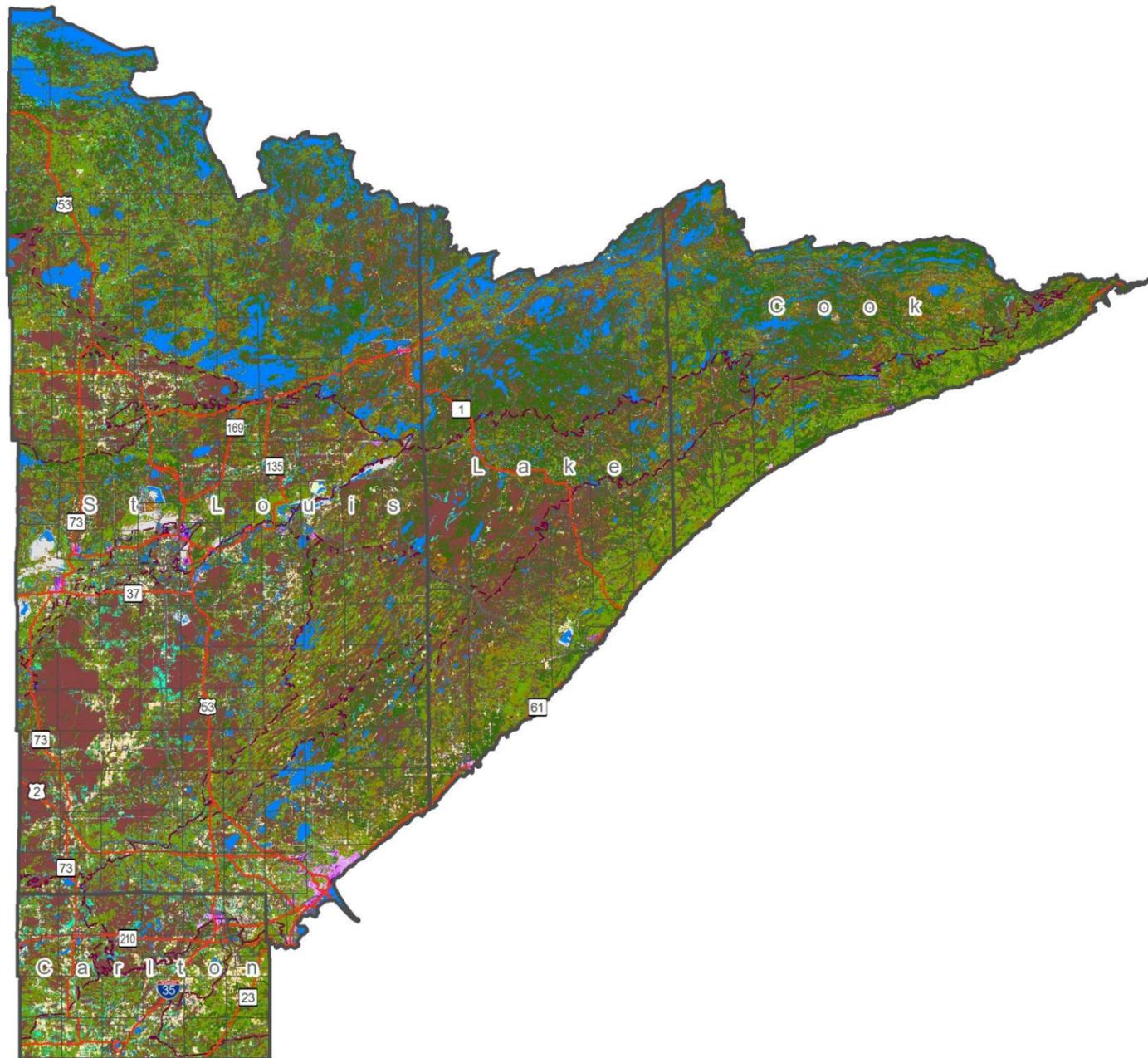


### Land Cover (2001) Table

Comparative Class	National Land Cover Dataset 2001	Acres	% of Total
Upland Forest	Deciduous Forest	1,367,611	18.6
	Evergreen Forest	965,622	13.1
	Mixed Forest	1,147,098	15.6
<b>Subtotal (Upland Forest)</b>		<b>3,480,330</b>	<b>47.3</b>
Upland Shrub	Shrub/Scrub	472,971	6.4
<b>Subtotal (Upland Shrub)</b>		<b>472,971</b>	<b>6.4</b>
Upland Grass	Grassland/Herbaceous	24,910	0.3
	Pasture/Hay	141,533	1.9
<b>Subtotal (Upland Grass)</b>		<b>166,443</b>	<b>2.3</b>
Lowland Vegetation	Emergent Herbaceous Wetlands	216,010	2.9
	Woody Wetlands	2,208,098	30.0
<b>Subtotal (Lowland Vegetation)</b>		<b>2,424,108</b>	<b>32.9</b>
Agriculture	Cultivated Crops	14,534	0.2
<b>Subtotal (Agriculture)</b>		<b>14,534</b>	<b>0.2</b>
Open Water	Open Water	581,902	7.9
<b>Subtotal (Open Water)</b>		<b>581,902</b>	<b>7.9</b>
Barren	Barren Land (Rock/Sand/Clay)	40,963	0.6
<b>Subtotal (Barren)</b>		<b>40,963</b>	<b>0.6</b>
Developed	Developed, Open Space	136,434	1.9
	Developed, Low Intensity	32,137	0.4
	Developed, Medium Intensity	9,774	0.1
	Developed, High Intensity	3,685	0.1
<b>Subtotal (Developed)</b>		<b>182,030</b>	<b>2.5</b>
Unclassified	Unclassified	363	0.0
<b>Subtotal (Unclassified)</b>		<b>363</b>	<b>0.0</b>
<b>Total Northeast Region</b>		<b>7,363,644</b>	<b>100.0</b>

# Land Cover (2006)

## Northeast Landscape Region

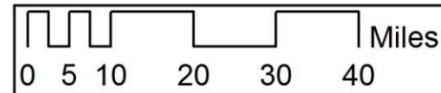


### National Land Cover Dataset 2006

- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Grassland/Herbaceous
- Pasture/Hay
- Emergent Herbaceous Wetlands
- Woody Wetlands
- Cultivated Crops
- Open Water
- Barren Land (Rock/Sand/Clay)
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Unclassified

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- ECS Subsections



Sources: National Land Cover Dataset - MRLC; Other Features - MNDNR Data Deli

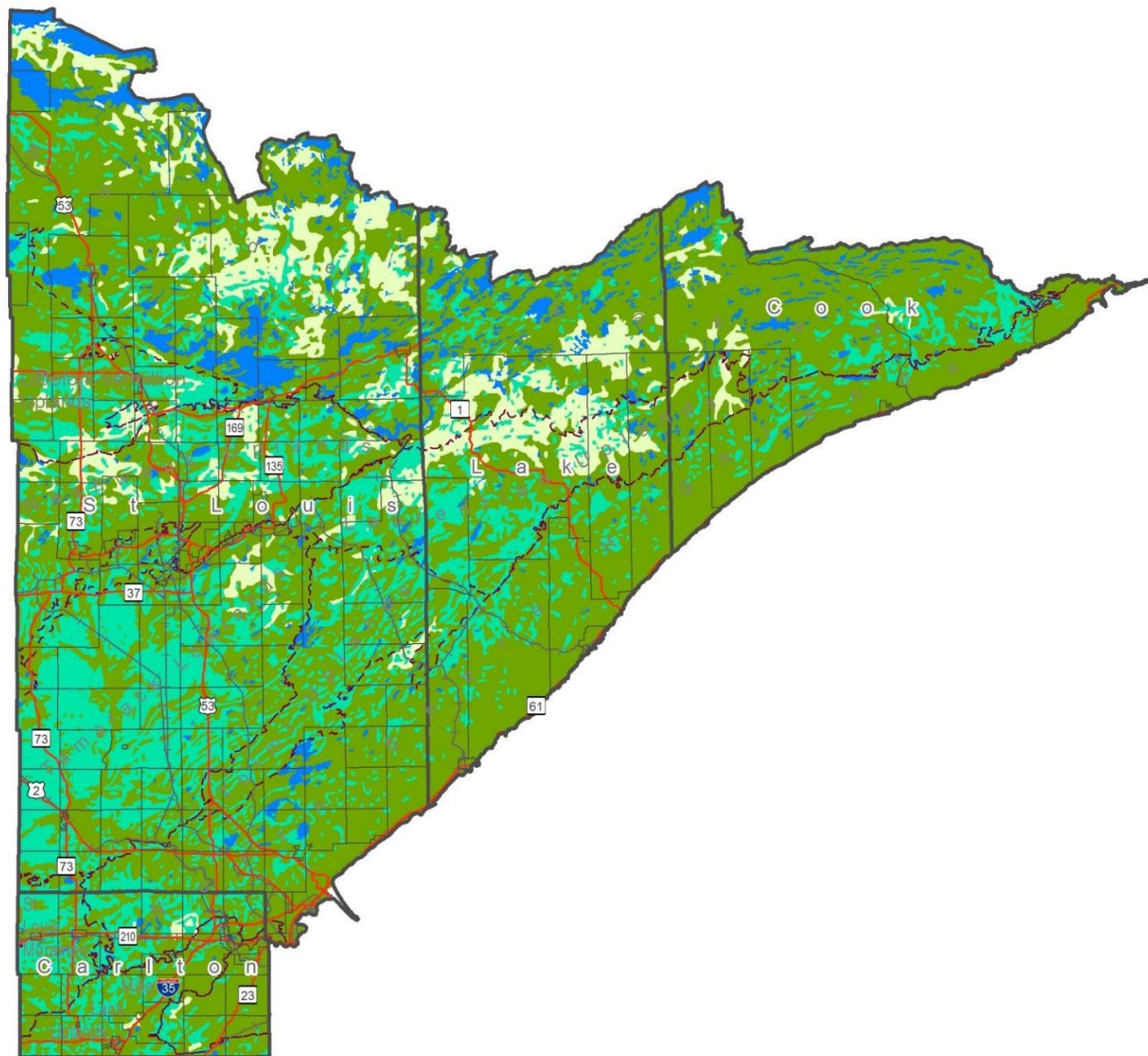


### Land Cover (2006) Table

Comparative Class	National Land Cover Dataset 2001	Acres	% of Total
Upland Forest	Deciduous Forest	1,350,316	18.3
	Evergreen Forest	957,369	13.0
	Mixed Forest	1,131,909	15.4
<b>Subtotal (Upland Forest)</b>		<b>3,439,594</b>	<b>46.7</b>
Upland Shrub	Shrub/Scrub	473,577	6.4
<b>Subtotal (Upland Shrub)</b>		<b>473,577</b>	<b>6.4</b>
Upland Grass	Grassland/Herbaceous	45,255	0.6
	Pasture/Hay	141,334	1.9
<b>Subtotal (Upland Grass)</b>		<b>186,589</b>	<b>2.5</b>
Lowland Vegetation	Emergent Herbaceous Wetlands	229,141	3.1
	Woody Wetlands	2,211,439	30.0
<b>Subtotal (Lowland Vegetation)</b>		<b>2,440,580</b>	<b>33.1</b>
Agriculture	Cultivated Crops	14,843	0.2
<b>Subtotal (Agriculture)</b>		<b>14,843</b>	<b>0.2</b>
Open Water	Open Water	577,923	7.8
<b>Subtotal (Open Water)</b>		<b>577,923</b>	<b>7.8</b>
Barren	Barren Land (Rock/Sand/Clay)	46,510	0.6
<b>Subtotal (Barren)</b>		<b>46,510</b>	<b>0.6</b>
Developed	Developed, Open Space	137,165	1.9
	Developed, Low Intensity	32,608	0.4
	Developed, Medium Intensity	10,074	0.1
	Developed, High Intensity	3,818	0.1
<b>Subtotal (Developed)</b>		<b>183,665</b>	<b>2.5</b>
Unclassified	Unclassified	363	0.0
<b>Subtotal (Unclassified)</b>		<b>363</b>	<b>0.0</b>
<b>Total Northeast Region</b>		<b>7,363,644</b>	<b>100.0</b>

# Presettlement Land Cover (1895) - Reclassified

## Northeast Landscape Region

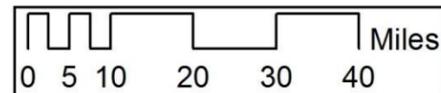


### Presettlement - Reclassified

- Upland Forest
- Upland Grass
- Lowland Vegetation
- Open Water
- Unclassified

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- ECS Subsections



Sources: Presettlement - MNDNR Data Deli; Other Features - MNDNR Data Deli



### Presettlement Land Cover (1895) - Reclassified Table

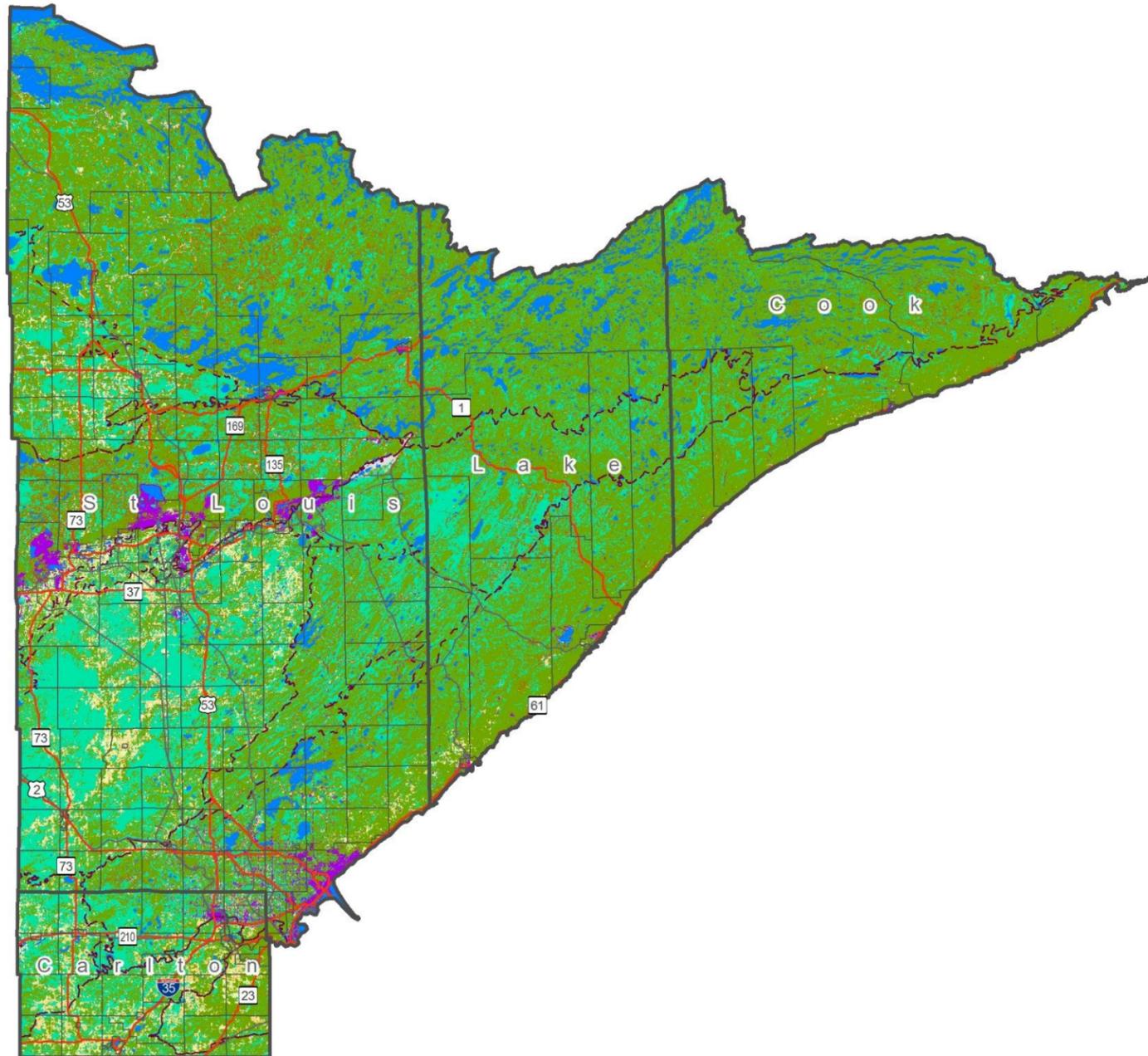
Comparative Class	Marschner's Presettlement (1895)				GAP Land Cover (1992)			
	Acres	% of Total	NA	NA	Acres	% of Total	Change 1895 to 1992 (Acres)	Change 1895 to 1992 (% Change)
Upland Forest	4,428,714	60.1	-	-	3,928,833	53.4	-499,881	-11.3
Upland Shrub	0	0.0	-	-	427,374	5.8	427,374	n/a
Upland Grass	688,738	9.4	-	-	292,368	4.0	-396,371	-57.6
Lowland Vegetation	1,805,454	24.5	-	-	1,878,267	25.5	72,813	4.0
Agriculture	0	0.0	-	-	106,289	1.4	106,289	n/a
Open Water	425,582	5.8	-	-	576,353	7.8	150,771	35.4
Barren	0	0.0	-	-	37,402	0.5	37,402	n/a
Developed	0	0.0	-	-	115,799	1.6	115,799	n/a
Unclassified	15,156	0.2	-	-	960	0.0	-14,196	-93.7
<b>Total Northeast Region</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>

Comparative Class	NLCD (2001)				NLCD (2006)			
	Acres	% of Total	Change 1992 to 2001 (Acres)	Change 1992 to 2001 (% Change)	Acres	% of Total	Change 2001 to 2006 (Acres)	Change 2001 to 2006 (% Change)
Upland Forest	3,480,330	47.3	-448,503	-11.4	3,439,594	46.7	-40,736	-1.2
Upland Shrub	472,971	6.4	45,598	10.7	473,577	6.4	605	0.1
Upland Grass	166,443	2.3	-125,925	-43.1	186,589	2.5	20,146	12.1
Lowland Vegetation	2,424,108	32.9	545,841	29.1	2,440,580	33.1	16,472	0.7
Agriculture	14,534	0.2	-91,755	-86.3	14,843	0.2	309	2.1
Open Water	581,902	7.9	5,549	1.0	577,923	7.8	-3,979	-0.7
Barren	40,963	0.6	3,561	9.5	46,510	0.6	5,548	13.5
Developed	182,030	2.5	66,231	57.2	183,665	2.5	1,635	0.9
Unclassified	363	0.0	-597	-62.2	363	0.0	0	0.0
<b>Total Northeast Region</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>

# Land Cover (1992) - Reclassified

## Northeast Landscape Region

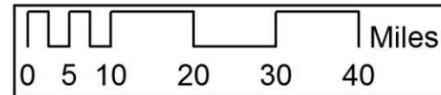


### GAP 1992 - Reclassified

- Upland Forest
- Upland Shrub
- Upland Grass
- Lowland Vegetation
- Agriculture
- Open Water
- Barren
- Developed

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- + Railroads
- ECS Subsections



Sources: GAP Land Cover - MNDNR Data Deli; Other Features - MNDNR Data Deli



### Land Cover (1992) - Reclassified Table

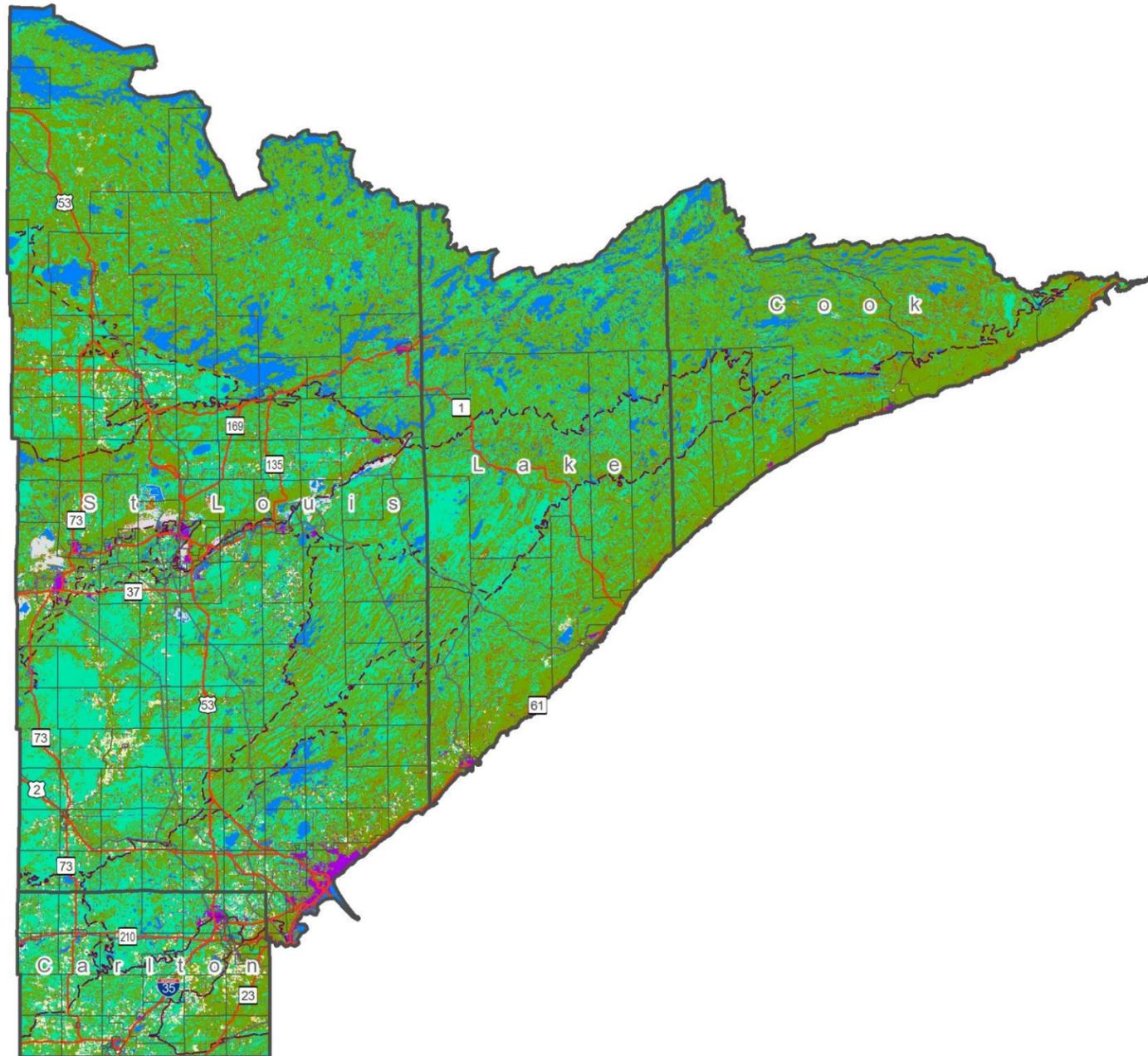
Comparative Class	Marschner's Presettlement (1895)				GAP Land Cover (1992)			
	Acres	% of Total	NA	NA	Acres	% of Total	Change 1895 to 1992 (Acres)	Change 1895 to 1992 (% Change)
Upland Forest	4,428,714	60.1	-	-	3,928,833	53.4	-499,881	-11.3
Upland Shrub	0	0.0	-	-	427,374	5.8	427,374	n/a
Upland Grass	688,738	9.4	-	-	292,368	4.0	-396,371	-57.6
Lowland Vegetation	1,805,454	24.5	-	-	1,878,267	25.5	72,813	4.0
Agriculture	0	0.0	-	-	106,289	1.4	106,289	n/a
Open Water	425,582	5.8	-	-	576,353	7.8	150,771	35.4
Barren	0	0.0	-	-	37,402	0.5	37,402	n/a
Developed	0	0.0	-	-	115,799	1.6	115,799	n/a
Unclassified	15,156	0.2	-	-	960	0.0	-14,196	-93.7
<b>Total Northeast Region</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>

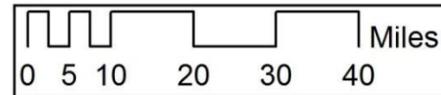
Comparative Class	NLCD (2001)				NLCD (2006)			
	Acres	% of Total	Change 1992 to 2001 (Acres)	Change 1992 to 2001 (% Change)	Acres	% of Total	Change 2001 to 2006 (Acres)	Change 2001 to 2006 (% Change)
Upland Forest	3,480,330	47.3	-448,503	-11.4	3,439,594	46.7	-40,736	-1.2
Upland Shrub	472,971	6.4	45,598	10.7	473,577	6.4	605	0.1
Upland Grass	166,443	2.3	-125,925	-43.1	186,589	2.5	20,146	12.1
Lowland Vegetation	2,424,108	32.9	545,841	29.1	2,440,580	33.1	16,472	0.7
Agriculture	14,534	0.2	-91,755	-86.3	14,843	0.2	309	2.1
Open Water	581,902	7.9	5,549	1.0	577,923	7.8	-3,979	-0.7
Barren	40,963	0.6	3,561	9.5	46,510	0.6	5,548	13.5
Developed	182,030	2.5	66,231	57.2	183,665	2.5	1,635	0.9
Unclassified	363	0.0	-597	-62.2	363	0.0	0	0.0
<b>Total Northeast Region</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>

# Land Cover (2001) - Reclassified

## Northeast Landscape Region



- NLCD 2001 - Reclassified**
- Upland Forest
  - Upland Shrub
  - Upland Grass
  - Lowland Vegetation
  - Agriculture
  - Open Water
  - Barren
  - Developed
  - Unclassified
- Other Features**
- County Boundaries
  - Municipal Boundaries
  - Highways
  - Railroads
  - ECS Subsections



Sources: National Land Cover Dataset - MRLC; Other Features - MNDNR Data Deli



### Land Cover (2001) - Reclassified Table

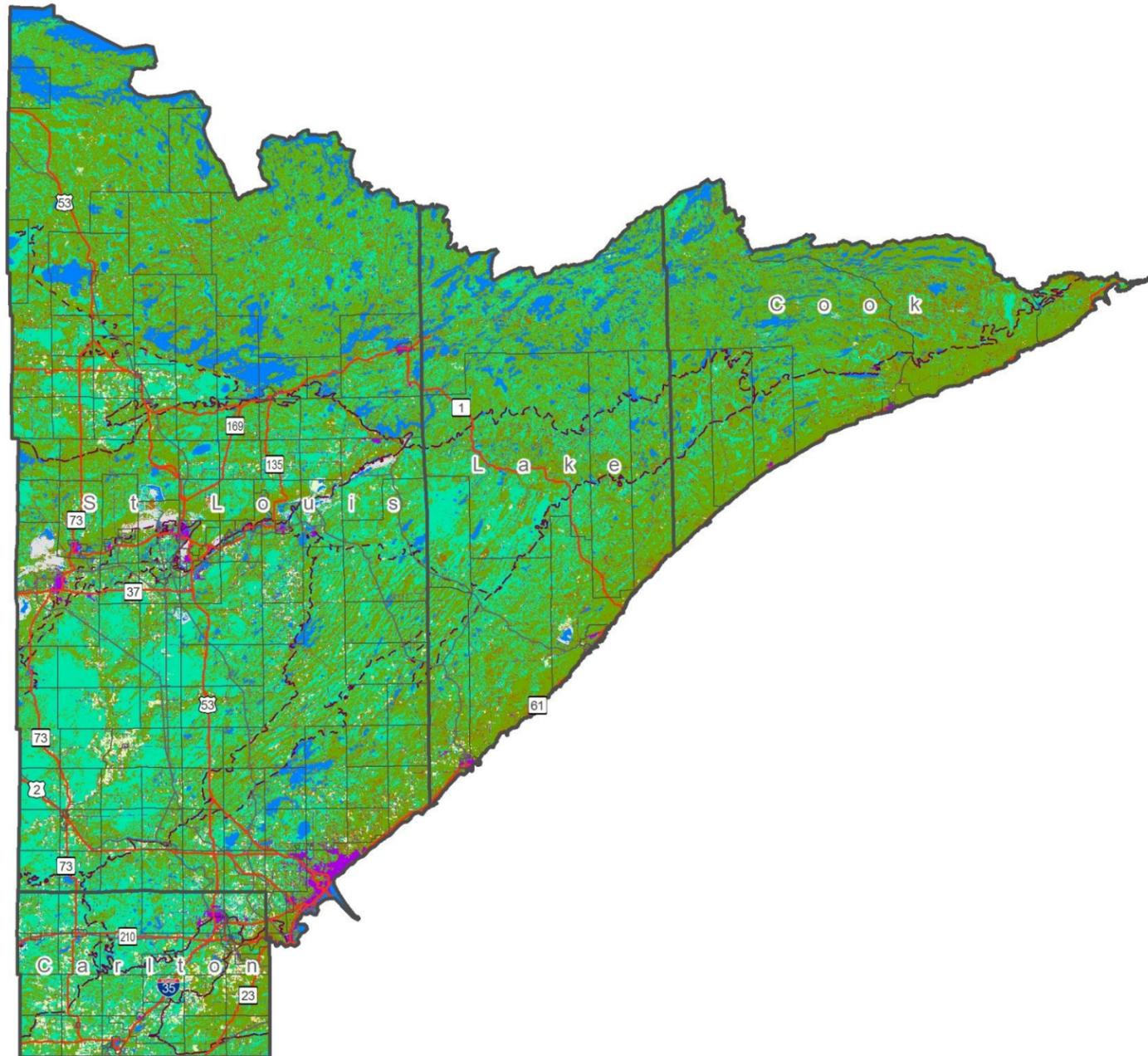
Comparative Class	Marschner's Presettlement (1895)				GAP Land Cover (1992)			
	Acres	% of Total	NA	NA	Acres	% of Total	Change 1895 to 1992 (Acres)	Change 1895 to 1992 (% Change)
Upland Forest	4,428,714	60.1	-	-	3,928,833	53.4	-499,881	-11.3
Upland Shrub	0	0.0	-	-	427,374	5.8	427,374	n/a
Upland Grass	688,738	9.4	-	-	292,368	4.0	-396,371	-57.6
Lowland Vegetation	1,805,454	24.5	-	-	1,878,267	25.5	72,813	4.0
Agriculture	0	0.0	-	-	106,289	1.4	106,289	n/a
Open Water	425,582	5.8	-	-	576,353	7.8	150,771	35.4
Barren	0	0.0	-	-	37,402	0.5	37,402	n/a
Developed	0	0.0	-	-	115,799	1.6	115,799	n/a
Unclassified	15,156	0.2	-	-	960	0.0	-14,196	-93.7
<b>Total Northeast Region</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>

Comparative Class	NLCD (2001)				NLCD (2006)			
	Acres	% of Total	Change 1992 to 2001 (Acres)	Change 1992 to 2001 (% Change)	Acres	% of Total	Change 2001 to 2006 (Acres)	Change 2001 to 2006 (% Change)
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Upland Shrub	472,971	6.4	45,598	10.7	473,577	6.4	605	0.1
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Developed	182,030	2.5	66,231	57.2	183,665	2.5	1,635	0.9
Unclassified	363	0.0	-597	-62.2	363	0.0	0	0.0
<b>Total Northeast Region</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>

# Land Cover (2006) - Reclassified

## Northeast Landscape Region

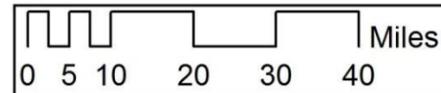


### NLCD 2006 - Reclassified

- Upland Forest
- Upland Shrub
- Upland Grass
- Lowland Vegetation
- Agriculture
- Open Water
- Barren
- Developed
- Unclassified

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- ECS Subsections



Sources: National Land Cover Dataset - MRLC; Other Features - MNDNR Data Deli



### Land Cover (2006) - Reclassified Table

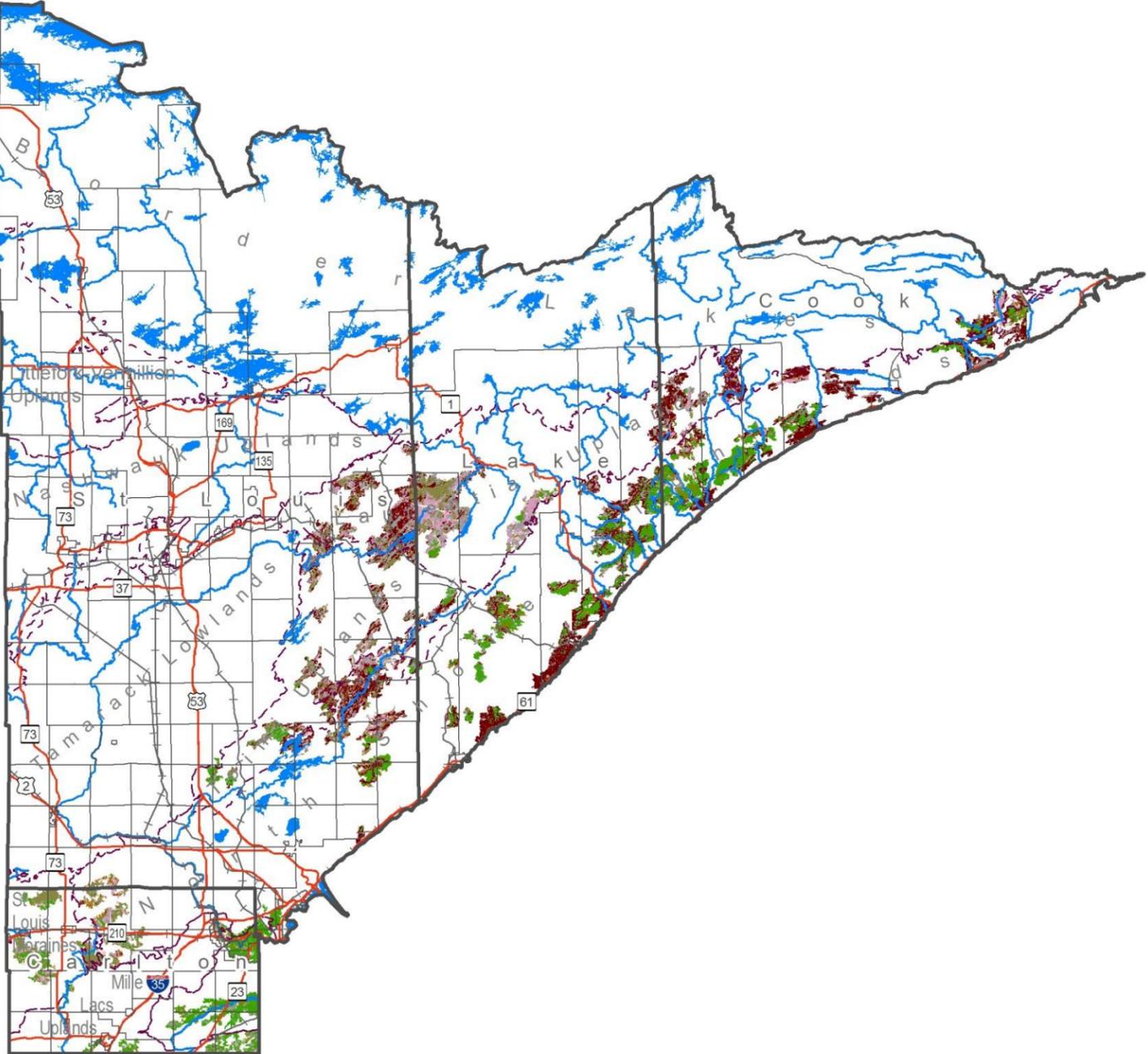
Comparative Class	Marschner's Presettlement (1895)				GAP Land Cover (1992)			
	Acres	% of Total	NA	NA	Acres	% of Total	Change 1895 to 1992 (Acres)	Change 1895 to 1992 (% Change)
Upland Forest	4,428,714	60.1	-	-	3,928,833	53.4	-499,881	-11.3
Upland Shrub	0	0.0	-	-	427,374	5.8	427,374	n/a
Upland Grass	688,738	9.4	-	-	292,368	4.0	-396,371	-57.6
Lowland Vegetation	1,805,454	24.5	-	-	1,878,267	25.5	72,813	4.0
Agriculture	0	0.0	-	-	106,289	1.4	106,289	n/a
Open Water	425,582	5.8	-	-	576,353	7.8	150,771	35.4
Barren	0	0.0	-	-	37,402	0.5	37,402	n/a
Developed	0	0.0	-	-	115,799	1.6	115,799	n/a
Unclassified	15,156	0.2	-	-	960	0.0	-14,196	-93.7
<b>Total Northeast Region</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>

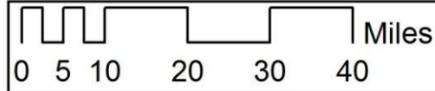
Comparative Class	NLCD (2001)				NLCD (2006)			
	Acres	% of Total	Change 1992 to 2001 (Acres)	Change 1992 to 2001 (% Change)	Acres	% of Total	Change 2001 to 2006 (Acres)	Change 2001 to 2006 (% Change)
Upland Forest	3,480,330	47.3	-448,503	-11.4	3,439,594	46.7	-40,736	-1.2
Upland Shrub	472,971	6.4	45,598	10.7	473,577	6.4	605	0.1
Upland Grass	166,443	2.3	-125,925	-43.1	186,589	2.5	20,146	12.1
Lowland Vegetation	2,424,108	32.9	545,841	29.1	2,440,580	33.1	16,472	0.7
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Open Water	581,902	7.9	5,549	1.0	577,923	7.8	-3,979	-0.7
Barren	40,963	0.6	3,561	9.5	46,510	0.6	5,548	13.5
Developed	182,030	2.5	66,231	57.2	183,665	2.5	1,635	0.9
Unclassified	363	0.0	-597	-62.2	363	0.0	0	0.0
<b>Total Northeast Region</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>	<b>7,363,644</b>	<b>100.0</b>	<b>-</b>	<b>-</b>

# MBS Native Plant Communities

## Northeast Landscape Region



- MBS Native Plant Communities**
- Acid Peatland
  - Cliff/Talus
  - Fire-Dependent Forest/Woodland
  - Floodplain Forest
  - Forested Rich Peatland
  - Lake Shore
  - Marsh
  - Mesic Hardwood Forest
  - Open Rich Peatland
  - Other
  - River Shore
  - Rock Outcrop
  - Wet Forest
  - Wet Meadow/Carr
- Other Features**
- County Boundaries
  - Municipal Boundaries
  - Highways
  - Railroads
  - Lakes
  - Rivers
  - ECS Subsections



Sources: MBS Native Plant Communities - MNDNR Data Deli; Other Features - MNDNR Data Deli

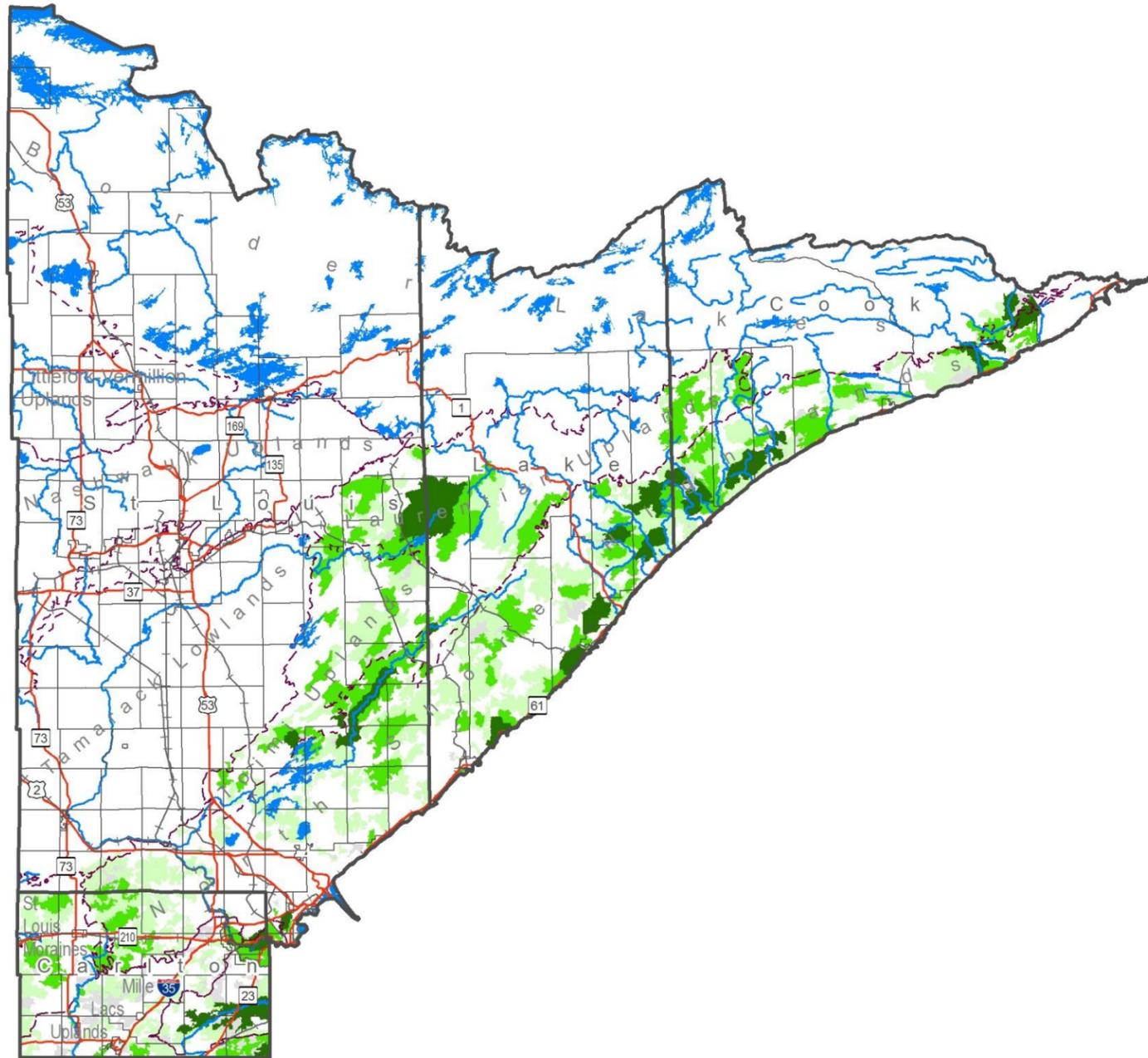


### MBS Native Plant Communities Table

<b>MBS Native Plant Communities</b>	<b>Acres</b>	<b>% of Total</b>
Acid Peatland	70,762	1.0
Cliff/Talus	545	0.0
Fire-Dependent Forest/Woodland	187,971	2.6
Floodplain Forest	1,278	0.0
Forested Rich Peatland	69,097	0.9
Lake Shore	424	0.0
Marsh	357	0.0
Mesic Hardwood Forest	136,119	1.8
Open Rich Peatland	5,064	0.1
Other	96,031	1.3
River Shore	303	0.0
Rock Outcrop	1,024	0.0
Wet Forest	34,521	0.5
Wet Meadow/Carr	8,843	0.1
<b>Total MBS Native Plant Communities</b>	<b>612,337</b>	<b>8.3</b>
<b>Total Northeast Region</b>	<b>7,363,644</b>	<b>-</b>

# MBS Biodiversity Significance

## Northeast Landscape Region

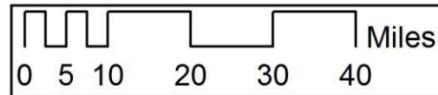


### MBS Biodiversity Significance

- Outstanding
- High
- Moderate
- Below

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections



Sources: MBS Biodiversity Significance - MNDNR Data Deli; Other Features - MNDNR Data Deli

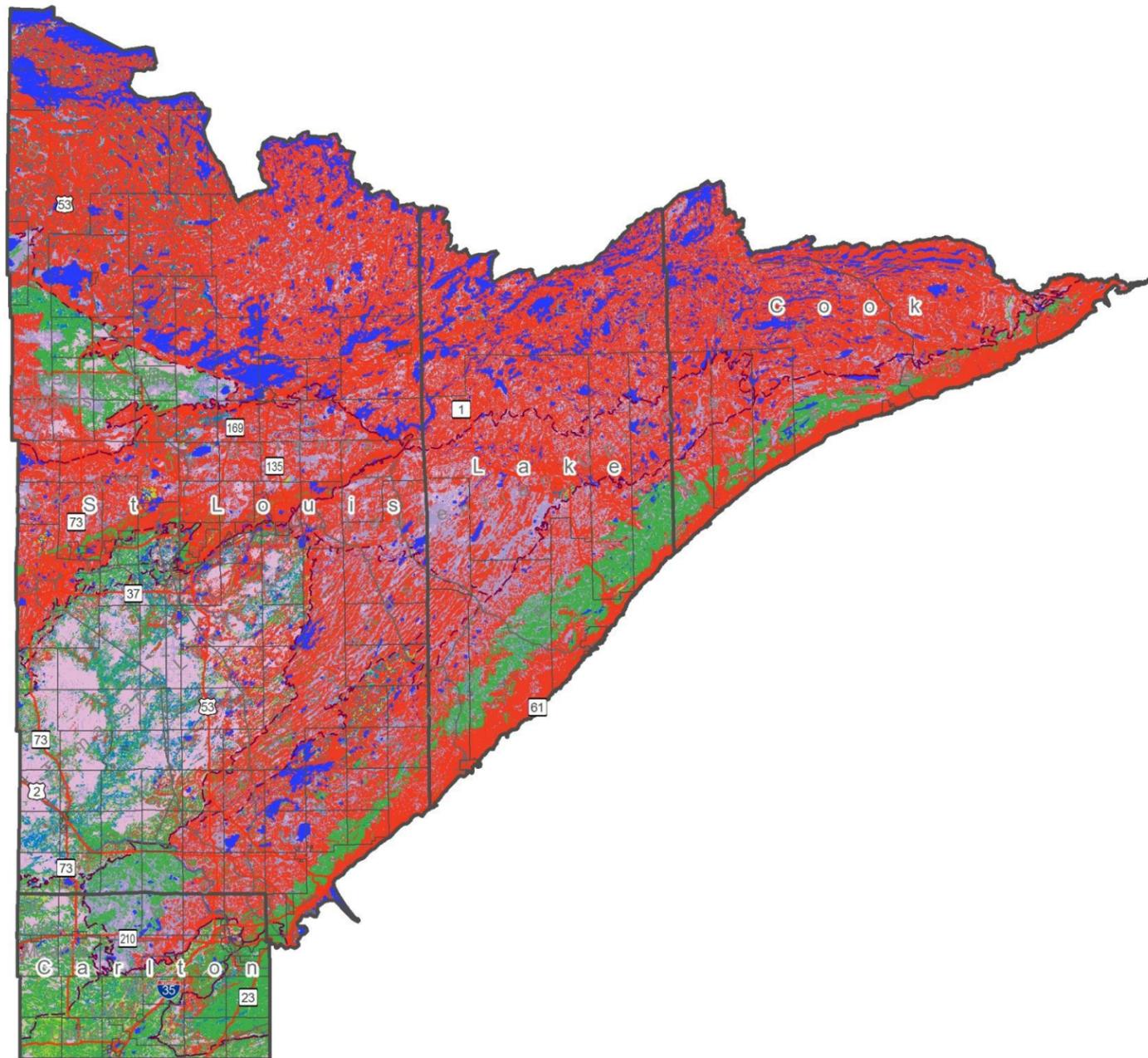


### Biodiversity Significance Table

<b>Biodiversity Significance</b>	<b>Acres</b>	<b>% of Total</b>
Outstanding	186,574	2.53
High	451,913	6.14
Moderate	652,536	8.86
Below	93,987	1.28
<b>Total Biodiversity Significance</b>	<b>1,385,011</b>	<b>18.81</b>
<b>Total Northeast Region</b>	<b>7,363,644</b>	<b>-</b>

# Potential Native Plant Communities

## Northeast Landscape Region

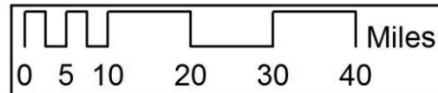


### Potential Native Plant Communities (12/26/2013)

-  Acid Peatland
-  Fire Dependent Forest
-  Forested Rich Peatland
-  Mesic Hardwood
-  Open Rich Peatland
-  Water
-  Wet Forest
-  Wet Meadow/Carr

### Other Features

-  County Boundaries
-  Municipal Boundaries
-  Highways
-  Railroads
-  ECS Subsections



Sources: Potential Native Plant Communities - NRRI; Other Features - MNDNR Data Deli

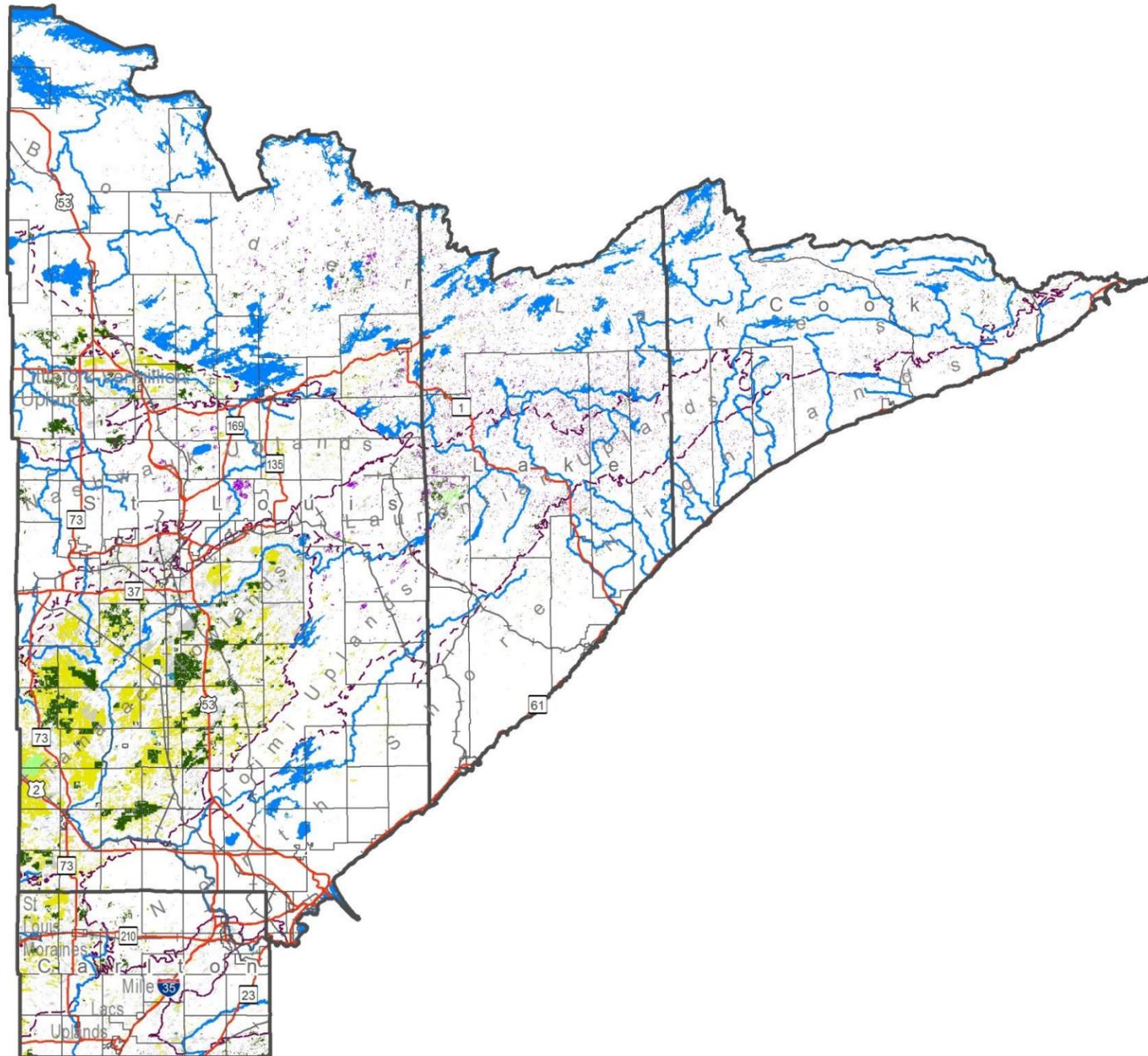


### Potential Native Plant Communities Table

Potential NPC Systems	Area (acres)	% of Total
Acid Peatland	588,757	8.0
Fire-Dependent Forest/Woodland	3,756,337	51.0
Forested Rich Peatland	1,111,295	15.1
Mesic Hardwood Forest	839,194	11.4
Open Rich Peatland	1,113	0.0
Water	615,814	8.4
Wet Forest	311,696	4.2
Wet Meadow/Carr	137,291	1.9
<b>Total Northeast Region</b>	<b>7,361,497</b>	<b>100.0</b>

# Management for Acid Peatland

## Northeast Landscape Region



**Other Features**

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections

**GAP Land Management**

Federal

- Army Corps of Engineers
- Bureau of Indian Affairs
- Bureau of Land Management
- U.S. Forest Service
- U.S. Park Service
- Unknown

State

- Department of Military Affairs
- Department of Transportation
- Division of Ecological Services
- Division of Fish and Wildlife
- Division of Forestry
- Division of Lands and Minerals
- Division of Parks and Recreation
- Division of Trails and Waterways
- Division of Waters
- Minnesota DNR
- State of Minnesota

County

- County

Other Public

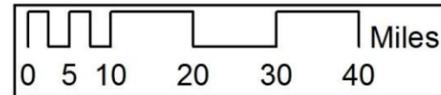
- Municipal
- University
- Private Conservancy
- The Nature Conservancy

Tribal

- Boise Forte Band
- Fond Du Lac Tribe
- Grand Portage Reservation
- Grand Portage Tribe
- Minnesota Chippewa Indians
- Nett Lake Tribe

Private

- Private



Sources: Potential Native Plant Communities - NRRI; GAP Land Ownership - MNDNR Data Deli; Other Features - MNDNR Data Deli

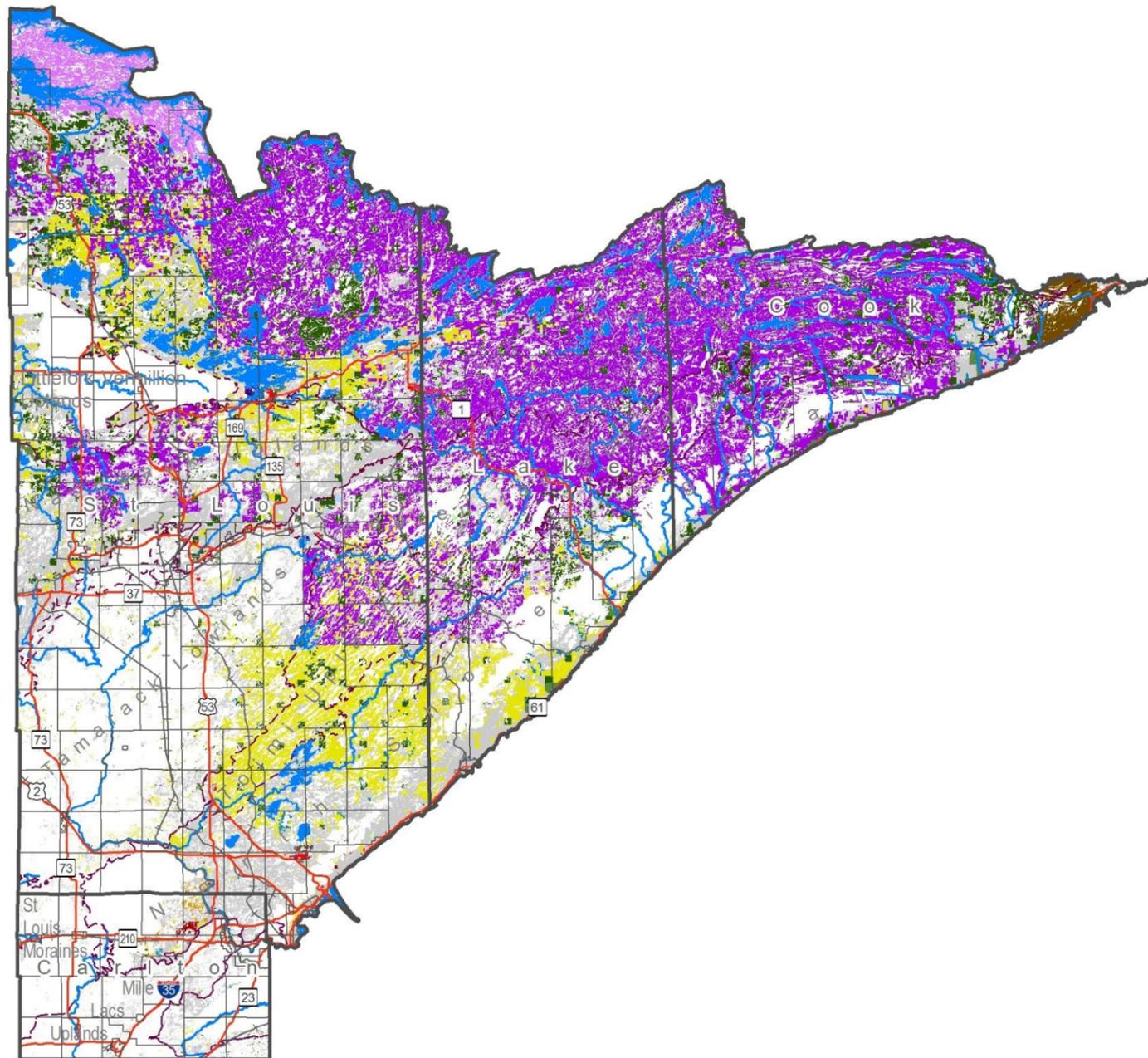


## Management for Acid Peatland Table

Management Type for Acid Peatland	Land Management for Acid Peatland	Acres	% of Total
Federal	Bureau of Indian Affairs	17	0.0
	Bureau of Land Management	189	0.0
	National Park Service	0	0.0
	U.S. Forest Service	61,095	10.4
	U.S. Park Service	719	0.1
	Unknown	265	0.0
<b>Total Federal</b>		<b>62,284</b>	<b>10.6</b>
State	Department of Transportation	61	0.0
	Division of Ecological Services	6,483	1.1
	Division of Fish and Wildlife	1,563	0.3
	Division of Forestry	135,770	23.1
	Division of Lands and Minerals	77	0.0
	Division of Parks and Recreation	840	0.1
	Division of Trails and Waterways	339	0.1
	State of Minnesota	226	0.0
<b>Total State</b>		<b>145,358</b>	<b>24.7</b>
County	Carlton County	17,279	2.9
	Cook County	65	0.0
	Lake County	1,464	0.2
	St. Louis County	191,532	32.5
<b>Total County</b>		<b>210,340</b>	<b>35.7</b>
Other Public	Municipal	449	0.1
	University	83	0.0
<b>Total Other Public</b>		<b>532</b>	<b>0.1</b>
Private Conservancy	The Nature Conservancy	327	0.1
<b>Total Private Conservancy</b>		<b>327</b>	<b>0.1</b>
<b>Total Public and Private Conservancy</b>		<b>418,841</b>	<b>71.1</b>
Tribal	Boise Forte Band	4	0.0
	Fond Du Lac Tribe	256	0.0
	Grand Portage Reservation	73	0.0
	Grand Portage Tribe	296	0.1
	Minnesota Chippewa Indians	16	0.0
	Nett Lake Tribe	439	0.1
<b>Total Tribal</b>		<b>1,084</b>	<b>0.2</b>
<b>Total Private</b>		<b>168,831</b>	<b>28.7</b>
<b>Total Acid Peatland Area</b>		<b>588,757</b>	<b>100.0</b>

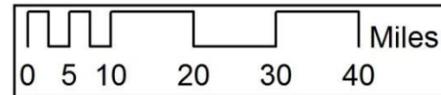
# Management for Fire-Dependent Forest/Woodland

## Northeast Landscape Region



**GAP Land Management**

- Federal
  - Army Corps of Engineers
  - Bureau of Indian Affairs
  - Bureau of Land Management
  - U.S. Forest Service
  - U.S. Park Service
  - Unknown
- State
  - Department of Military Affairs
  - Department of Transportation
  - Division of Ecological Services
  - Division of Fish and Wildlife
  - Division of Forestry
  - Division of Lands and Minerals
  - Division of Parks and Recreation
  - Division of Trails and Waterways
  - Division of Waters
  - Minnesota DNR
  - State of Minnesota
- County
  - County
- Other Public
  - Municipal
  - University
- Private Conservancy
  - The Nature Conservancy
- Tribal
  - Boise Forte Band
  - Fond Du Lac Tribe
  - Grand Portage Reservation
  - Grand Portage Tribe
  - Minnesota Chippewa Indians
  - Nett Lake Tribe
- Private
  - Private



Sources: Potential Native Plant Communities - NRRI; GAP Land Ownership - MNDNR Data Deli; Other Features - MNDNR Data Deli

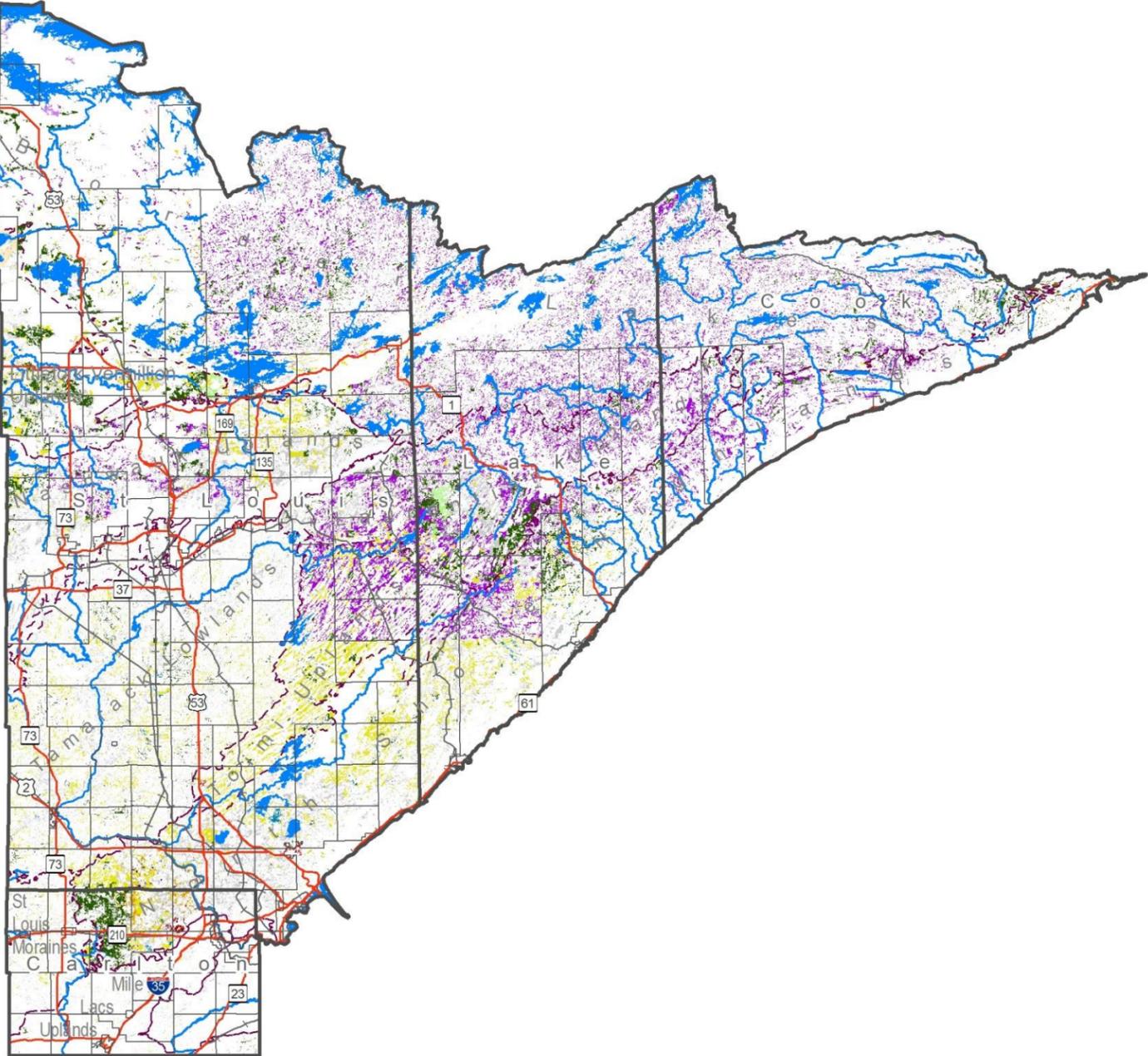


## Management for Fire-Dependent Forest/Woodland Table

Management Type for Fire-Dependent Forest/Woodland	Land Management for Fire-Dependent Forest/Woodland	Acres	% of Total
Federal	Army Corps of Engineers	3	0.0
	Bureau of Indian Affairs	928	0.0
	Bureau of Land Management	602	0.0
	National Park Service	12	0.0
	U.S. Forest Service	1,526,457	40.6
	U.S. Park Service	86,626	2.3
	Unknown	8,197	0.2
<b>Total Federal</b>		<b>1,622,825</b>	<b>43.2</b>
State	Department of Military Affairs	9	0.0
	Department of Transportation	756	0.0
	Division of Ecological Services	1,805	0.0
	Division of Fish and Wildlife	9,431	0.3
	Division of Forestry	398,772	10.6
	Division of Lands and Minerals	1,384	0.0
	Division of Parks and Recreation	20,114	0.5
	Division of Trails and Waterways	1,378	0.0
	Division of Waters	207	0.0
	Minnesota DNR	123	0.0
	State of Minnesota	1,556	0.0
<b>Total State</b>		<b>435,534</b>	<b>11.6</b>
County	Carlton County	3,470	0.1
	Cook County	3,413	0.1
	Lake County	73,999	2.0
	St. Louis County	405,106	10.8
<b>Total County</b>		<b>485,989</b>	<b>12.9</b>
Other Public	Municipal	7,649	0.2
	University	2,386	0.1
<b>Total Other Public</b>		<b>10,036</b>	<b>0.3</b>
Private Conservancy	The Nature Conservancy	4,160	0.1
<b>Total Private Conservancy</b>		<b>4,160</b>	<b>0.1</b>
<b>Total Public and Private Conservancy</b>		<b>2,558,544</b>	<b>68.1</b>
Tribal	Boise Forte Band	424	0.0
	Fond Du Lac Tribe	3,540	0.1
	Grand Portage Reservation	9,190	0.2
	Grand Portage Tribe	25,987	0.7
	Minnesota Chippewa Indians	441	0.0
	Nett Lake Tribe	2,751	0.1
<b>Total Tribal</b>		<b>42,332</b>	<b>1.1</b>
<b>Total Private</b>		<b>1,155,461</b>	<b>30.8</b>
<b>Total Fire-Dependent Forest/Woodland Area</b>		<b>3,756,337</b>	<b>100.0</b>

# Management for Forested Rich Peatland

## Northeast Landscape Region

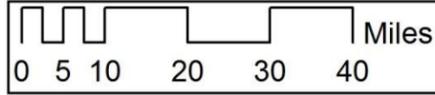


**Other Features**

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections

**GAP Land Management**

- Federal
  - Army Corps of Engineers
  - Bureau of Indian Affairs
  - Bureau of Land Management
  - U.S. Forest Service
  - U.S. Park Service
  - Unknown
- State
  - Department of Military Affairs
  - Department of Transportation
  - Division of Ecological Services
  - Division of Fish and Wildlife
  - Division of Forestry
  - Division of Lands and Minerals
  - Division of Parks and Recreation
  - Division of Trails and Waterways
  - Division of Waters
  - Minnesota DNR
  - State of Minnesota
- County
  - County
- Other Public
  - Municipal
  - University
- Private Conservancy
  - The Nature Conservancy
- Tribal
  - Boise Forte Band
  - Fond Du Lac Tribe
  - Grand Portage Reservation
  - Grand Portage Tribe
  - Minnesota Chippewa Indians
  - Nett Lake Tribe
- Private
  - Private



Sources: Potential Native Plant Communities - NRRI; GAP Land Ownership - MNDNR Data Deli; Other Features - MNDNR Data Deli

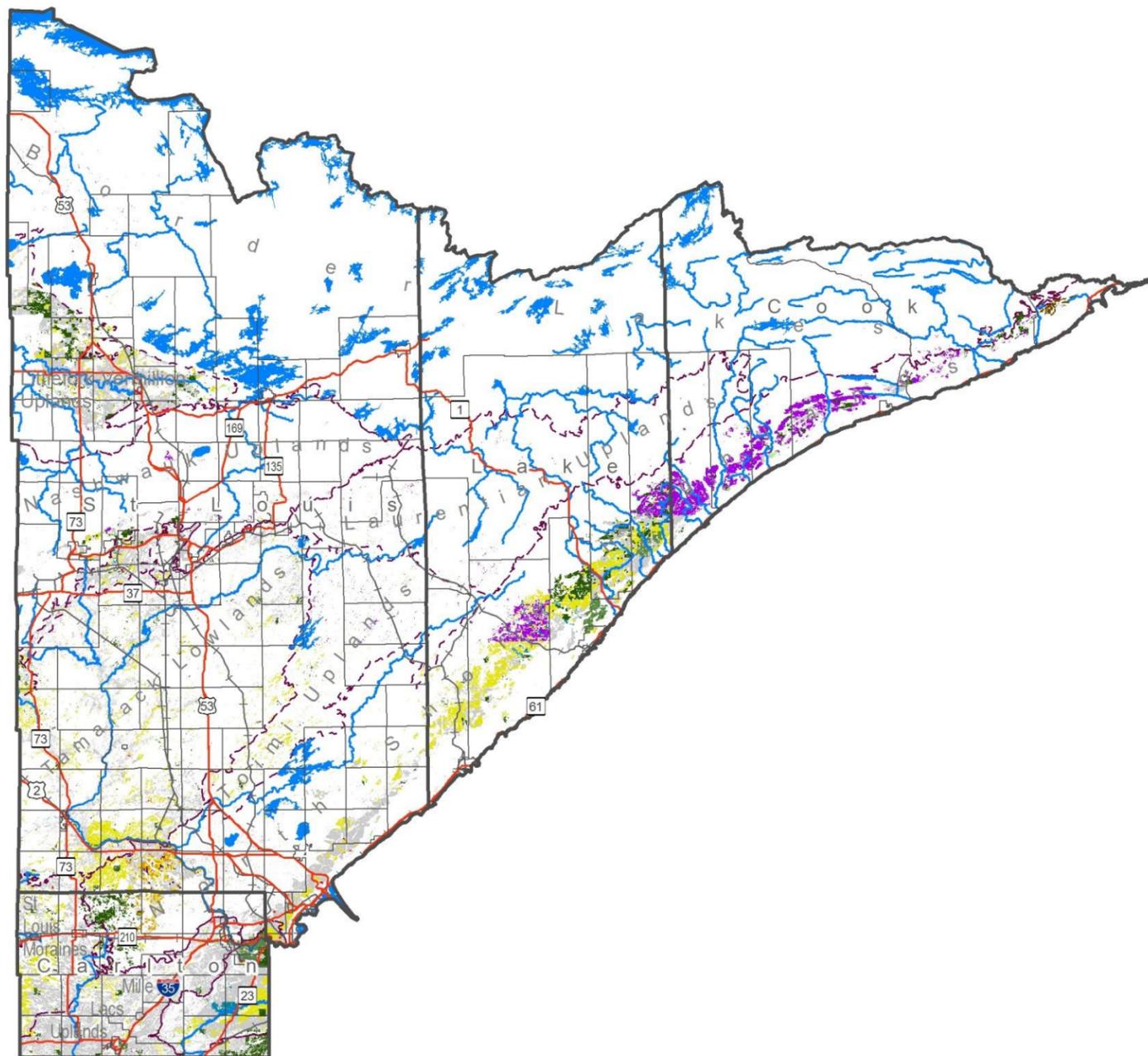


## Management for Forested Rich Peatland Table

Management Type for Forested Rich Peatland	Land Management for Forested Rich Peatland	Acres	% of Total
Federal	Army Corps of Engineers	2	0.0
	Bureau of Indian Affairs	855	0.1
	Bureau of Land Management	169	0.0
	National Park Service	4	0.0
	U.S. Forest Service	359,204	32.3
	U.S. Park Service	2,777	0.2
	Unknown	1,996	0.2
<b>Total Federal</b>		<b>365,008</b>	<b>32.8</b>
State	Department of Transportation	69	0.0
	Division of Ecological Services	5,000	0.4
	Division of Fish and Wildlife	5,446	0.5
	Division of Forestry	198,338	17.8
	Division of Lands and Minerals	188	0.0
	Division of Parks and Recreation	1,968	0.2
	Division of Trails and Waterways	295	0.0
	Division of Waters	5	0.0
	Minnesota DNR	9	0.0
	State of Minnesota	278	0.0
<b>Total State</b>		<b>211,596</b>	<b>19.0</b>
County	Carlton County	9,333	0.8
	Cook County	641	0.1
	Lake County	28,540	2.6
	St. Louis County	157,327	14.2
<b>Total County</b>		<b>195,841</b>	<b>17.6</b>
Other Public	Municipal	1,417	0.1
	University	1,398	0.1
<b>Total Other Public</b>		<b>2,816</b>	<b>0.3</b>
Private Conservancy	The Nature Conservancy	4,014	0.4
<b>Total Private Conservancy</b>		<b>4,014</b>	<b>0.4</b>
<b>Total Public and Private Conservancy</b>		<b>779,274</b>	<b>70.1</b>
Tribal	Boise Forte Band	182	0.0
	Fond Du Lac Tribe	7,660	0.7
	Grand Portage Reservation	788	0.1
	Grand Portage Tribe	3,013	0.3
	Minnesota Chippewa Indians	49	0.0
	Nett Lake Tribe	4,624	0.4
<b>Total Tribal</b>		<b>16,317</b>	<b>1.5</b>
<b>Total Private</b>		<b>315,703</b>	<b>28.4</b>
<b>Total Forested Rich Peatland Area</b>		<b>1,111,295</b>	<b>100.0</b>

# Management for Mesic Hardwood Forest

## Northeast Landscape Region



**Other Features**

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections

**GAP Land Management**

Federal

- Army Corps of Engineers
- Bureau of Indian Affairs
- Bureau of Land Management
- U.S. Forest Service
- U.S. Park Service
- Unknown

State

- Department of Military Affairs
- Department of Transportation
- Division of Ecological Services
- Division of Fish and Wildlife
- Division of Forestry
- Division of Lands and Minerals
- Division of Parks and Recreation
- Division of Trails and Waterways
- Division of Waters
- Minnesota DNR
- State of Minnesota

County

- County

Other Public

- Municipal
- University

Private Conservancy

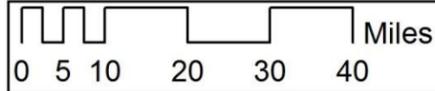
- The Nature Conservancy

Tribal

- Boise Forte Band
- Fond Du Lac Tribe
- Grand Portage Reservation
- Grand Portage Tribe
- Minnesota Chippewa Indians
- Nett Lake Tribe

Private

- Private



Sources: Potential Native Plant Communities - NRRI; GAP Land Ownership - MNDNR Data Deli; Other Features - MNDNR Data Deli

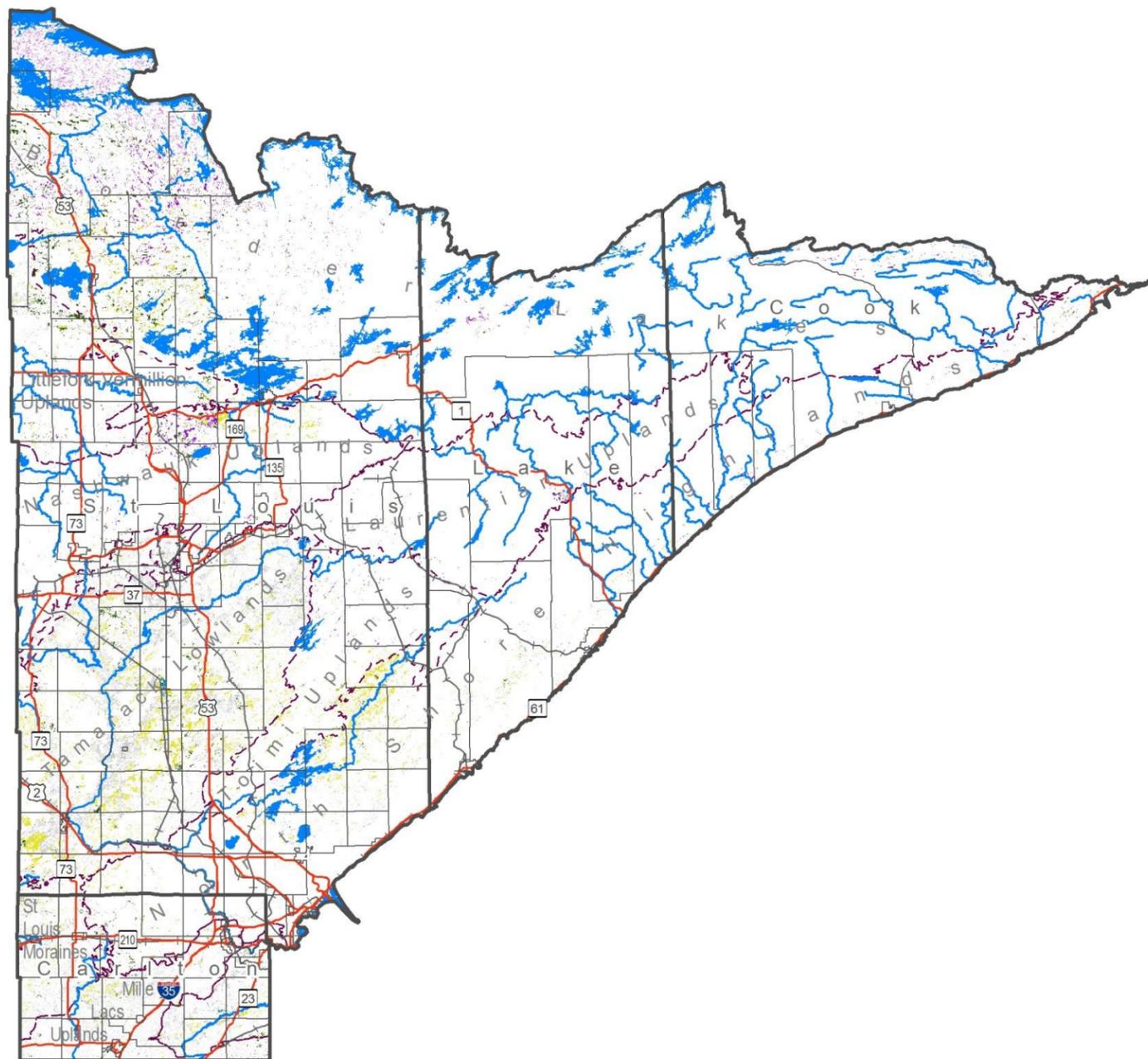


## Management for Mesic Hardwood Forest Table

Management Type for Mesic Hardwood Forest	Land Management for Mesic Hardwood Forest	Acres	% of Total
Federal	Bureau of Indian Affairs	1,187	0.1
	Bureau of Land Management	188	0.0
	U.S. Forest Service	66,864	8.0
	U.S. Park Service	2	0.0
	Unknown	297	0.0
<b>Total Federal</b>		<b>68,538</b>	<b>8.2</b>
State	Department of Military Affairs	32	0.0
	Department of Transportation	469	0.1
	Division of Ecological Services	827	0.1
	Division of Fish and Wildlife	7,636	0.9
	Division of Forestry	80,247	9.6
	Division of Lands and Minerals	260	0.0
	Division of Parks and Recreation	16,190	1.9
	Division of Trails and Waterways	638	0.1
	Division of Waters	25	0.0
	State of Minnesota	237	0.0
<b>Total State</b>		<b>106,560</b>	<b>12.7</b>
County	Carlton County	30,871	3.7
	Cook County	45	0.0
	Lake County	45,411	5.4
	St. Louis County	83,755	10.0
<b>Total County</b>		<b>160,082</b>	<b>19.1</b>
Other Public	Municipal	1,604	0.2
	University	63	0.0
<b>Total Other Public</b>		<b>1,667</b>	<b>0.2</b>
Private Conservancy	The Nature Conservancy	1,413	0.2
<b>Total Private Conservancy</b>		<b>1,413</b>	<b>0.2</b>
<b>Total Public and Private Conservancy</b>		<b>338,259</b>	<b>40.3</b>
Tribal	Fond Du Lac Tribe	7,884	0.9
	Grand Portage Reservation	758	0.1
	Grand Portage Tribe	2,195	0.3
	Minnesota Chippewa Indians	69	0.0
	Nett Lake Tribe	1,158	0.1
<b>Total Tribal</b>		<b>12,064</b>	<b>1.4</b>
<b>Total Private</b>		<b>488,871</b>	<b>58.3</b>
<b>Total Mesic Hardwood Forest Area</b>		<b>839,194</b>	<b>100.0</b>

# Management for Wet Forest

## Northeast Landscape Region

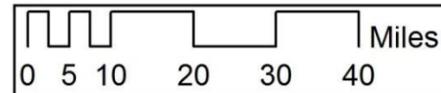


**Other Features**

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections

**GAP Land Management**

- Federal
  - Army Corps of Engineers
  - Bureau of Indian Affairs
  - Bureau of Land Management
  - U.S. Forest Service
  - U.S. Park Service
  - Unknown
- State
  - Department of Military Affairs
  - Department of Transportation
  - Division of Ecological Services
  - Division of Fish and Wildlife
  - Division of Forestry
  - Division of Lands and Minerals
  - Division of Parks and Recreation
  - Division of Trails and Waterways
  - Division of Waters
  - Minnesota DNR
  - State of Minnesota
- County
  - County
- Other Public
  - Municipal
  - University
  - Private Conservancy
  - The Nature Conservancy
  - Tribal
    - Boise Forte Band
    - Fond Du Lac Tribe
    - Grand Portage Reservation
    - Grand Portage Tribe
    - Minnesota Chippewa Indians
    - Nett Lake Tribe
  - Private
    - Private
    - Private



Sources: Potential Native Plant Communities - NRRI; GAP Land Ownership - MNDNR Data Deli; Other Features - MNDNR Data Deli

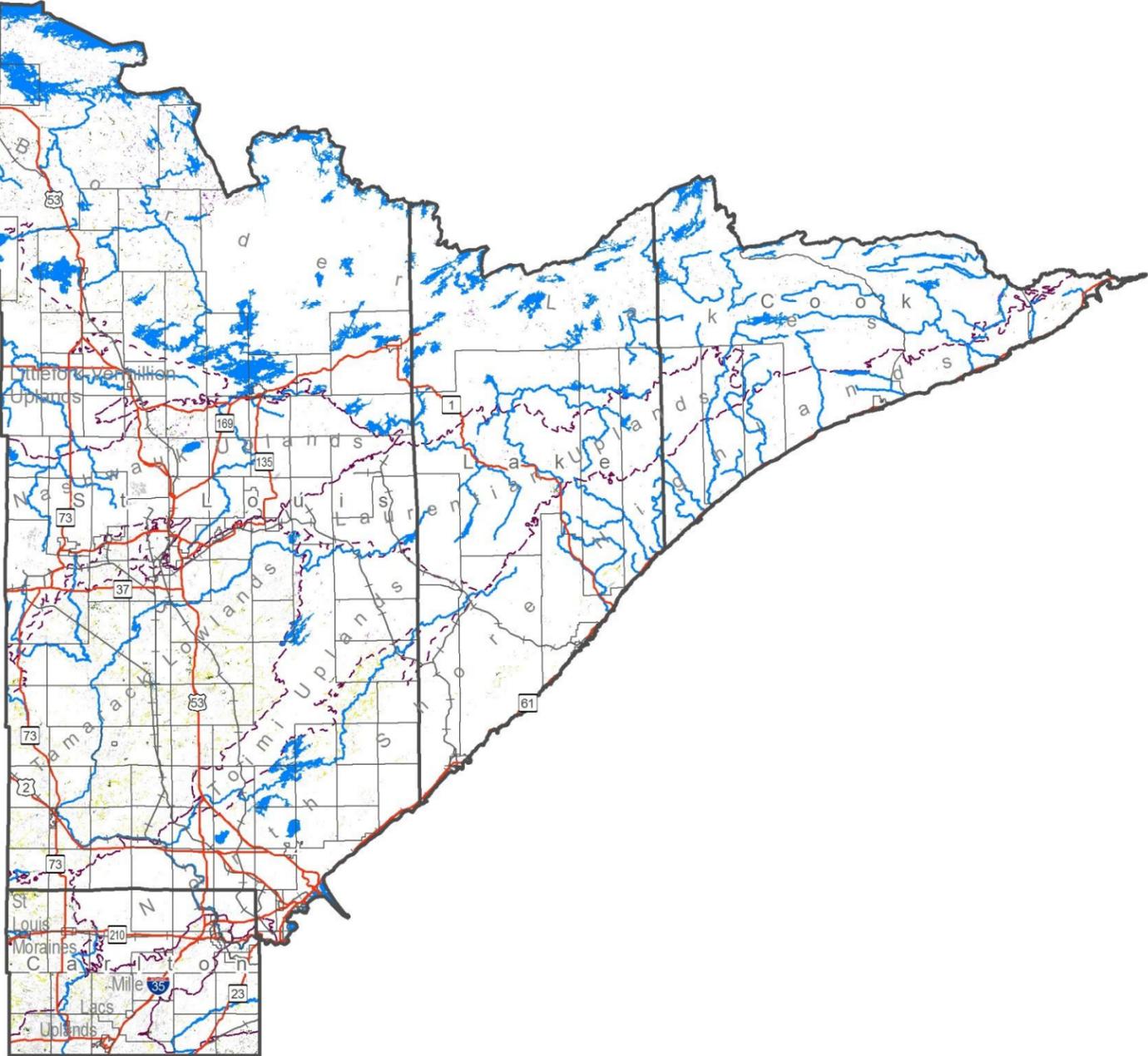


## Management for Wet Forest Table

Management Type for Wet Forest	Land Management for Wet Forest	Acres	% of Total
Federal	Bureau of Indian Affairs	53	0.0
	Bureau of Land Management	73	0.0
	National Park Service	3	0.0
	U.S. Forest Service	23,684	7.6
	U.S. Park Service	14,096	4.5
	Unknown	195	0.1
<b>Total Federal</b>		<b>38,105</b>	<b>12.2</b>
State	Department of Transportation	42	0.0
	Division of Ecological Services	88	0.0
	Division of Fish and Wildlife	1,753	0.6
	Division of Forestry	37,263	12.0
	Division of Lands and Minerals	39	0.0
	Division of Parks and Recreation	902	0.3
	Division of Trails and Waterways	144	0.0
	Division of Waters	12	0.0
	Minnesota DNR	3	0.0
	State of Minnesota	76	0.0
<b>Total State</b>		<b>40,322</b>	<b>12.9</b>
County	Carlton County	6,338	2.0
	Lake County	1,418	0.5
	St. Louis County	71,678	23.0
<b>Total County</b>		<b>79,434</b>	<b>25.5</b>
Other Public	Municipal	522	0.2
	University	9	0.0
<b>Total Other Public</b>		<b>531</b>	<b>0.2</b>
Private Conservancy	The Nature Conservancy	16	0.0
<b>Total Private Conservancy</b>		<b>16</b>	<b>0.0</b>
<b>Total Public and Private Conservancy</b>		<b>158,407</b>	<b>50.8</b>
Tribal	Boise Forte Band	44	0.0
	Fond Du Lac Tribe	318	0.1
	Grand Portage Reservation	130	0.0
	Grand Portage Tribe	291	0.1
	Minnesota Chippewa Indians	32	0.0
	Nett Lake Tribe	418	0.1
<b>Total Tribal</b>		<b>1,234</b>	<b>0.4</b>
<b>Total Private</b>		<b>152,055</b>	<b>48.8</b>
<b>Total Wet Forest Area</b>		<b>311,696</b>	<b>100.0</b>

# Management for Wet Meadow/Carr

## Northeast Landscape Region

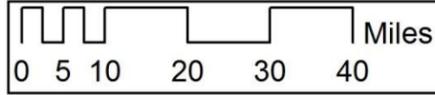


**Other Features**

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections

**GAP Land Management**

- Federal
  - Army Corps of Engineers
  - Bureau of Indian Affairs
  - Bureau of Land Management
  - U.S. Forest Service
  - U.S. Park Service
  - Unknown
- State
  - Department of Military Affairs
  - Department of Transportation
  - Division of Ecological Services
  - Division of Fish and Wildlife
  - Division of Forestry
  - Division of Lands and Minerals
  - Division of Parks and Recreation
  - Division of Trails and Waterways
  - Division of Waters
  - Minnesota DNR
  - State of Minnesota
- County
  - County
- Other Public
  - Municipal
  - University
  - Private Conservancy
  - The Nature Conservancy
  - Tribal
    - Boise Forte Band
    - Fond Du Lac Tribe
    - Grand Portage Reservation
    - Grand Portage Tribe
    - Minnesota Chippewa Indians
    - Nett Lake Tribe
  - Private
  - Private



Sources: Potential Native Plant Communities - NRRI; GAP Land Ownership - MNDNR Data Deli; Other Features - MNDNR Data Deli

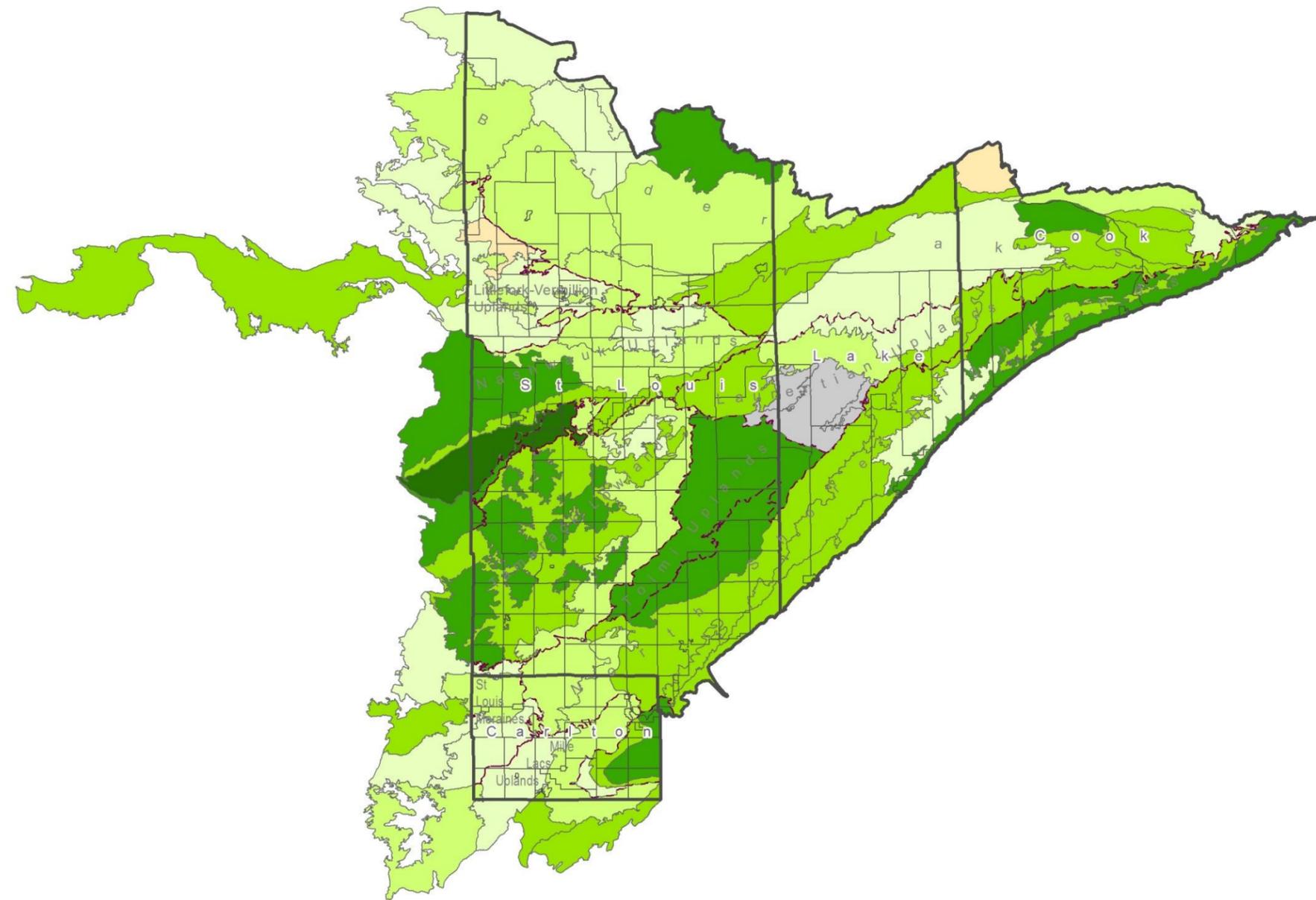


## Management for Wet Meadow/Carr Table

Management Type for Wet Meadow/Carr	Land Management for Management for	Acres	% of Total
Federal	Bureau of Indian Affairs	5	0.0
	Bureau of Land Management	36	0.0
	National Park Service	1	0.0
	U.S. Forest Service	8,257	6.0
	U.S. Park Service	2,682	2.0
	Unknown	50	0.0
<b>Total Federal</b>		<b>11,030</b>	<b>8.0</b>
State	Department of Transportation	32	0.0
	Division of Ecological Services	2	0.0
	Division of Fish and Wildlife	940	0.7
	Division of Forestry	13,506	9.8
	Division of Lands and Minerals	28	0.0
	Division of Parks and Recreation	247	0.2
	Division of Trails and Waterways	42	0.0
	Division of Waters	3	0.0
	Minnesota DNR	6	0.0
	State of Minnesota	35	0.0
<b>Total State</b>		<b>14,840</b>	<b>10.8</b>
County	Carlton County	6,966	5.1
	Cook County	6	0.0
	Lake County	634	0.5
	St. Louis County	26,116	19.0
<b>Total County</b>		<b>33,722</b>	<b>24.6</b>
Other Public	Municipal	302	0.2
	University	8	0.0
<b>Total Other Public</b>		<b>310</b>	<b>0.2</b>
Private Conservancy	The Nature Conservancy	1	0.0
<b>Total Private Conservancy</b>		<b>1</b>	<b>0.0</b>
<b>Total Public and Private Conservancy</b>		<b>59,904</b>	<b>43.6</b>
Tribal	Fond Du Lac Tribe	67	0.0
	Grand Portage Reservation	56	0.0
	Grand Portage Tribe	140	0.1
	Minnesota Chippewa Indians	12	0.0
	Nett Lake Tribe	61	0.0
<b>Total Tribal</b>		<b>335</b>	<b>0.2</b>
<b>Total Private</b>		<b>77,053</b>	<b>56.1</b>
<b>Total Wet Meadow/Carr Area</b>		<b>137,291</b>	<b>100.0</b>

# Change in Relative Abundance of Aspen by ECS Land Type

## Northeast Landscape Region



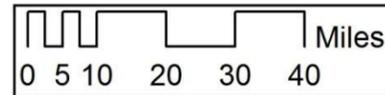
### Aspen Abundance

(1908-1990)

- Increase, > 10-fold
- Increase, 5 to 10-fold
- Increase, 3 to 5-fold
- Increase, 2 to 3-fold
- Some increase
- Some decline
- Decline, 2 to 3-fold
- Decline, 3 to 5-fold
- Decline, 5 to 10-fold
- Decline, > 10-fold
- Rare as bearing tree

### Other Features

- County Boundaries
- Municipal Boundaries
- ECS Subsections



Sources: Aspen Abundance - MNDNR; Other Features - MNDNR Data Deli



### Change in Relative Abundance of Aspen by ECS Land Type Table

Aspen Abundance (1908-1990)	Acres	% of Total
Increase, > 10-fold	147,363	1.6
Increase, 5 to 10-fold	1,650,599	17.9
Increase, 3 to 5-fold	2,811,000	30.5
Increase, 2 to 3-fold	2,386,389	25.9
Some increase	1,972,289	21.4
Some decline	92,346	1.0
Rare as bearing tree	167,060	1.8
<b>Totals (Land Type Areas)</b>	<b>9,227,046</b>	<b>100.0</b>

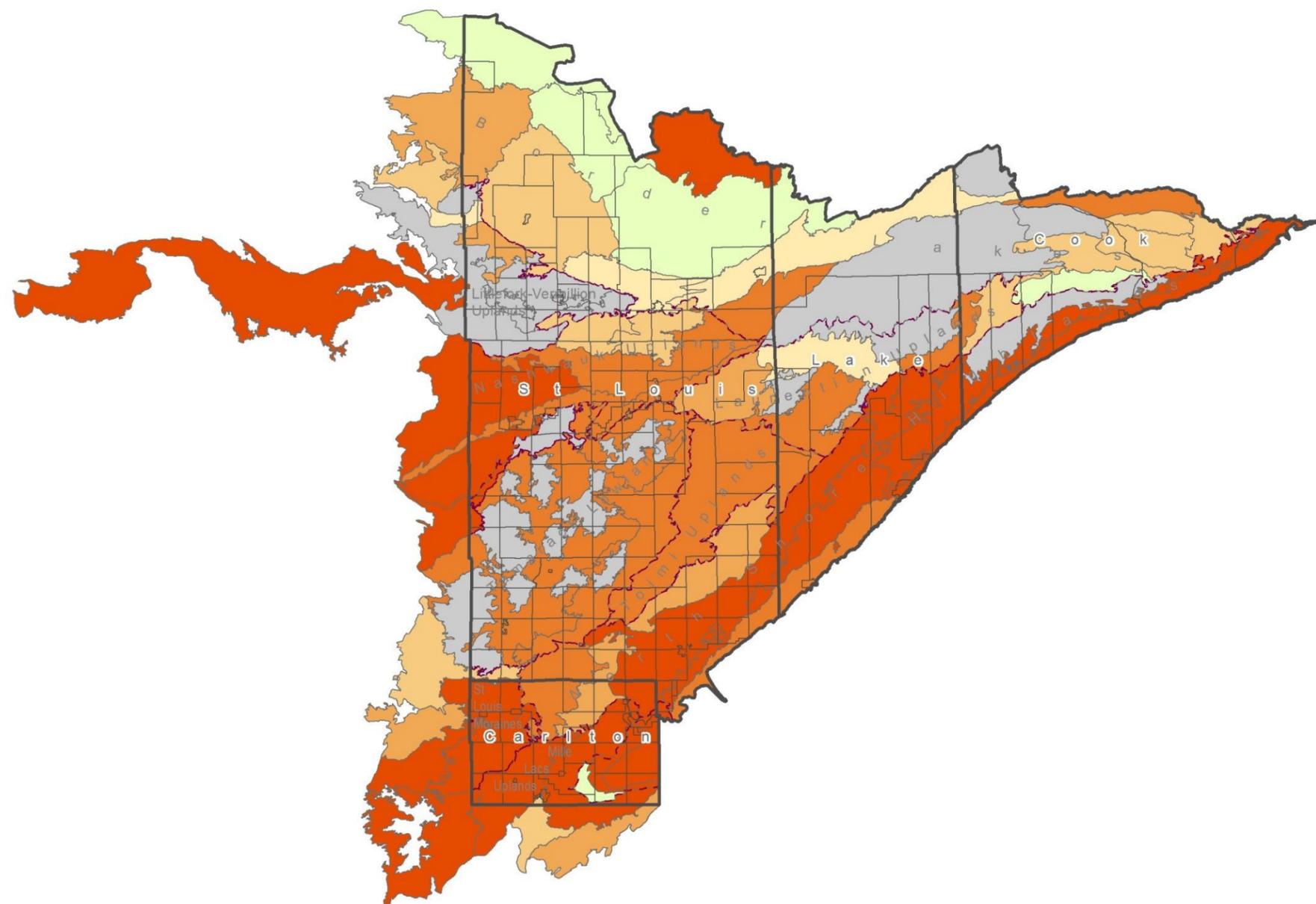
This analysis compares the relative abundance of trees using two sets of data, the Public Land Survey (PLS) and the 1990 Forest Inventory Analysis (FIA). PLS records were collected between 1846 and 1908 in Minnesota, thus PLS surveys predate significant settlement and logging in most areas and provide a comprehensive sampling of trees at that time. Tree species and their diameters, azimuths, and distances from survey corners were recorded at every section and quarter-section corner where trees were available.

FIA data were collected between 1986 and 1991 on randomly located plots in forests. Each plot consists of ten points. At each point tree species, and their diameters, azimuths, and distances from point center were recorded where trees were available. Thus FIA points differ from PLS survey corners with regard to the number of trees sampled (usually more) and no requirements to locate a tree in all four cardinal quadrants (NE, SE, SW, NW). A subset of the FIA point data was created to replicate the PLS data by selecting the nearest tree (greater than 4 inches d.b.h.) in each cardinal quadrant. PLS survey corners and FIA points were summarized by their occurrence in 291 Land Type Association (LTA) map units for the state. For each LTA, relative abundance of tree species were calculated and compared.

Study by John Almendinger, Minn. Dept. of Natural Resources, 2002

# Change in Relative Abundance of White Pine by ECS Land Type

## Northeast Landscape Region

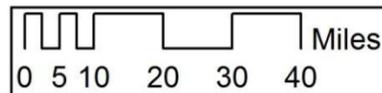


### White Pine Abundance (1908-1990)

- Increase, > 10-fold
- Increase, 5 to 10-fold
- Increase, 3 to 5-fold
- Increase, 2 to 3-fold
- Some increase
- Some decline
- Decline, 2 to 3-fold
- Decline, 3 to 5-fold
- Decline, 5 to 10-fold
- Decline, > 10-fold
- Rare as bearing tree

### Other Features

- County Boundaries
- Municipal Boundaries
- ECS Subsections



Sources: White Pine Abundance - MNDNR; Other Features - MNDNR Data Deli



### Change in Relative Abundance of White Pine by ECS Land Type Table

White Pine Abundance (1908-1990)	Acres	% of Total
Some increase	826,397	9.0
Some decline	450,367	4.9
Decline, 2 to 3-fold	918,810	10.0
Decline, 3 to 5-fold	735,841	8.0
Decline, 5 to 10-fold	1,904,356	20.6
Decline, > 10-fold	2,836,534	30.7
Rare as bearing tree	1,554,742	16.8
<b>Totals (Land Type Areas)</b>	<b>9,227,046</b>	<b>100.0</b>

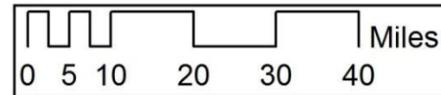
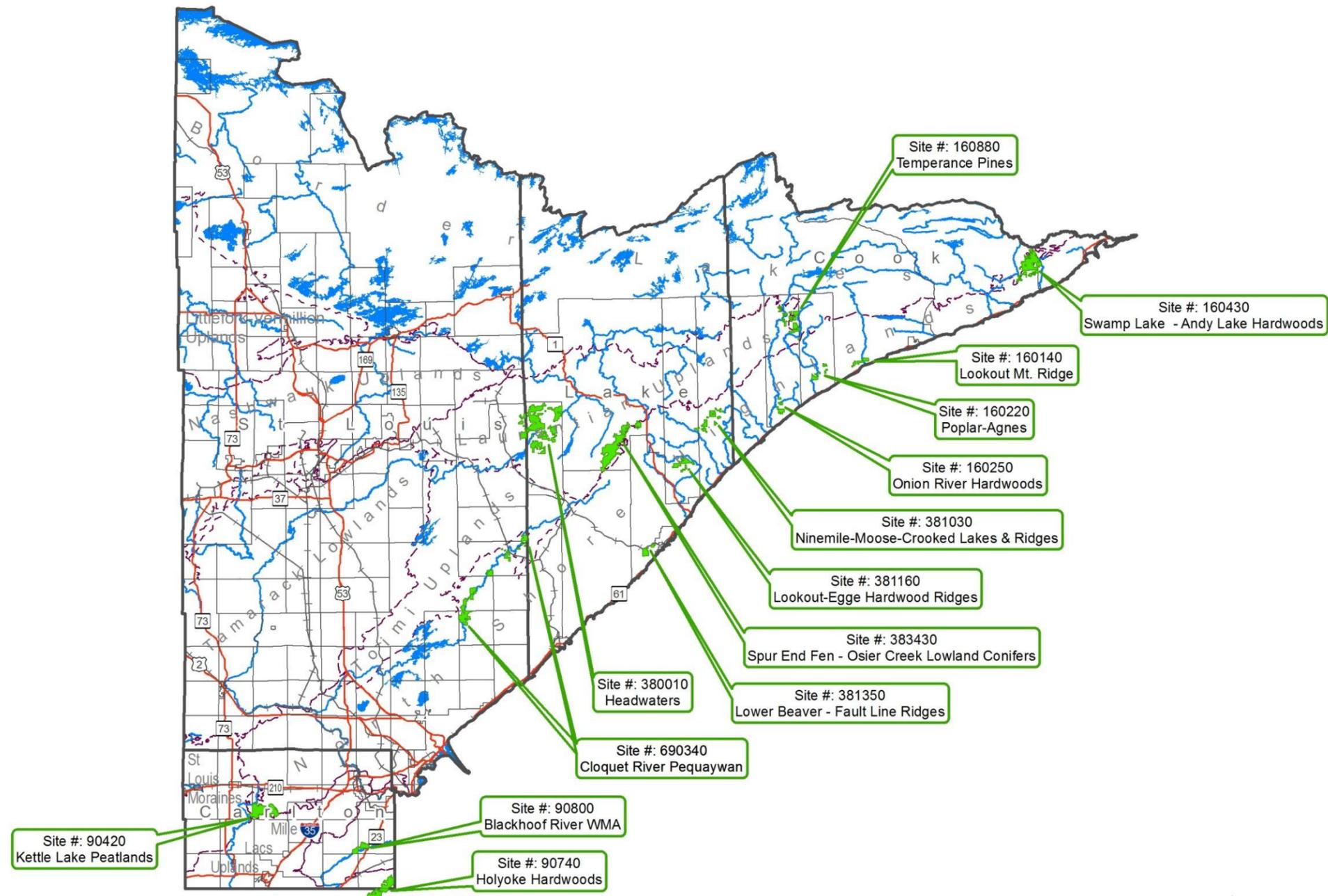
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Study by John Almendinger, Minn. Dept. of Natural Resources, 2002

# High Conservation Value Forest Candidates

## Northeast Landscape Region



Sources: HCVF Candidates - MNDNR HCVF; Other Features - MNDNR Data Deli



## High Conservation Value Forest Candidates Table

Site #	Site Name	County*	ECS Subsection	Acres	Acres in Region	Percent in Region
90420	Kettle Lake Peatlands	Carlton	Mille Lacs Uplands	4,662	4,662	100.0
90740	Holyoke Hardwoods	Carlton	Mille Lacs Uplands	3,874	1,727	44.6
90800	Blackhoof River WMA	Carlton	Glacial Lake Superior Plain	1,439	1,439	100.0
160140	Lookout Mt. Ridge	Cook	North Shore Highlands	712	712	100.0
160220	Poplar-Agnes	Cook	North Shore Highlands	784	784	100.0
160250	Onion River Hardwoods	Cook	North Shore Highlands	738	738	100.0
160430	Swamp Lake - Andy Lake Hardwoods	Cook	North Shore Highlands	5,390	5,390	100.0
160880	Temperance Pines	Cook	Laurentian Uplands	2,304	2,304	100.0
380010	Headwaters	Lake	Laurentian Uplands	12,528	12,528	100.0
381030	Ninemile-Moose-Crooked Lakes & Ridges	Lake	North Shore Highlands	1,830	1,830	100.0
381160	Lookout-Egge Hardwood Ridges	Lake	North Shore Highlands	1,683	1,683	100.0
381350	Lower Beaver - Fault Line Ridges	Lake	North Shore Highlands	989	989	100.0
383430	Spur End Fen - Osier Creek Lowland Conifers	Lake	Laurentian Uplands	7,841	7,841	100.0
690340	Cloquet River Pequaywan	St. Louis	North Shore Highlands	5,684	5,684	100.0

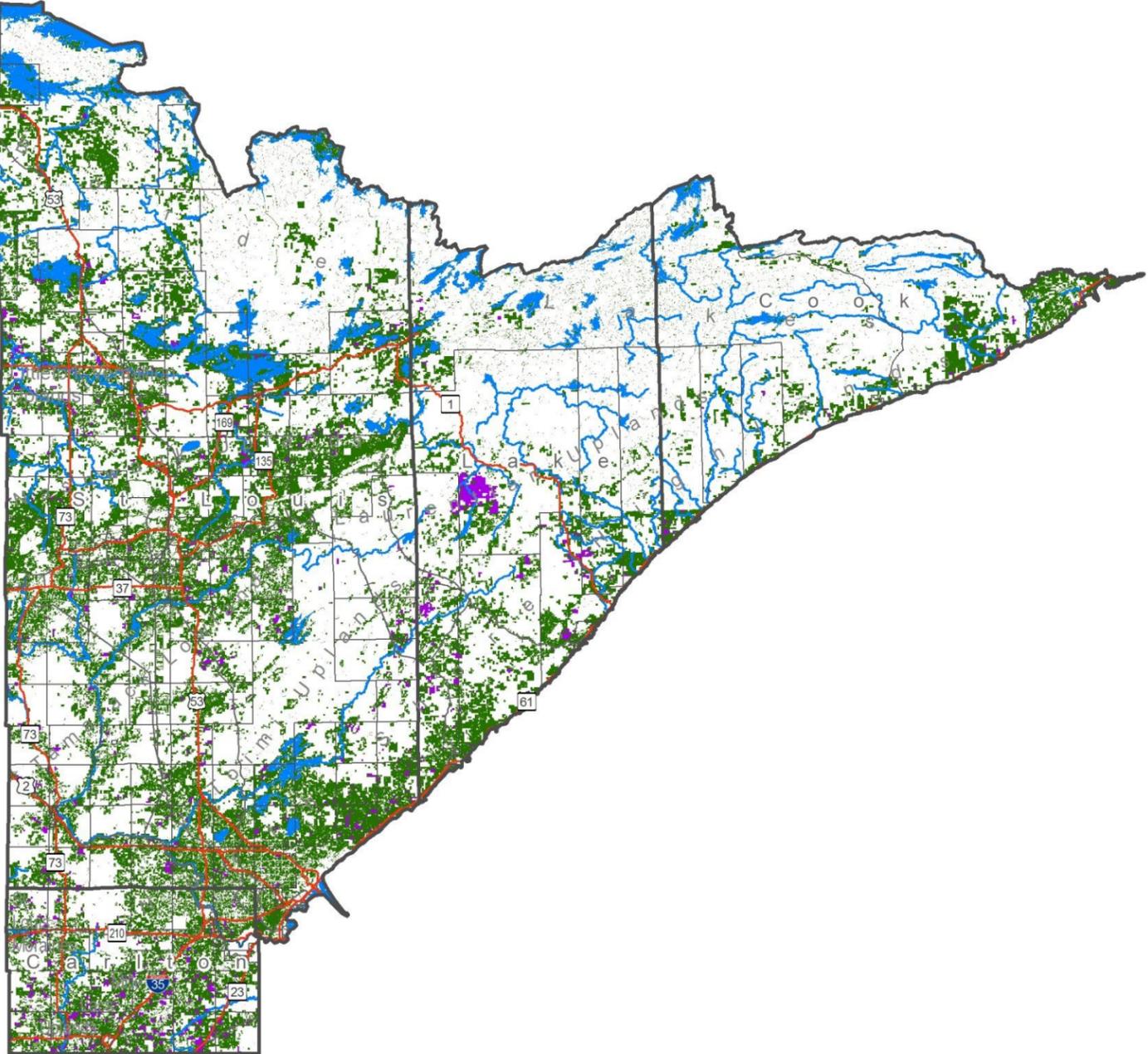
\*May intersect more than one county

**School Trust Lands (map under construction)**  
**Northeast Landscape Region**

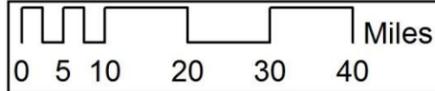
**School Trust Lands Table (table under construction)**

# Forest Stewardship Plans

## Northeast Landscape Region



- Current Stewardship Plans**
- (as of 9/30/2013)
- Important Forest Resource Areas**
- 
- Other Features**
- County Boundaries
- Municipal Boundaries
- Highways
- + Railroads
- Lakes
- Rivers



Sources: Stewardship Plans - MNDNR Forestry PFM Program; Important Forest Resource Areas - USFS SAP; Other Features - MNDNR Data Deli

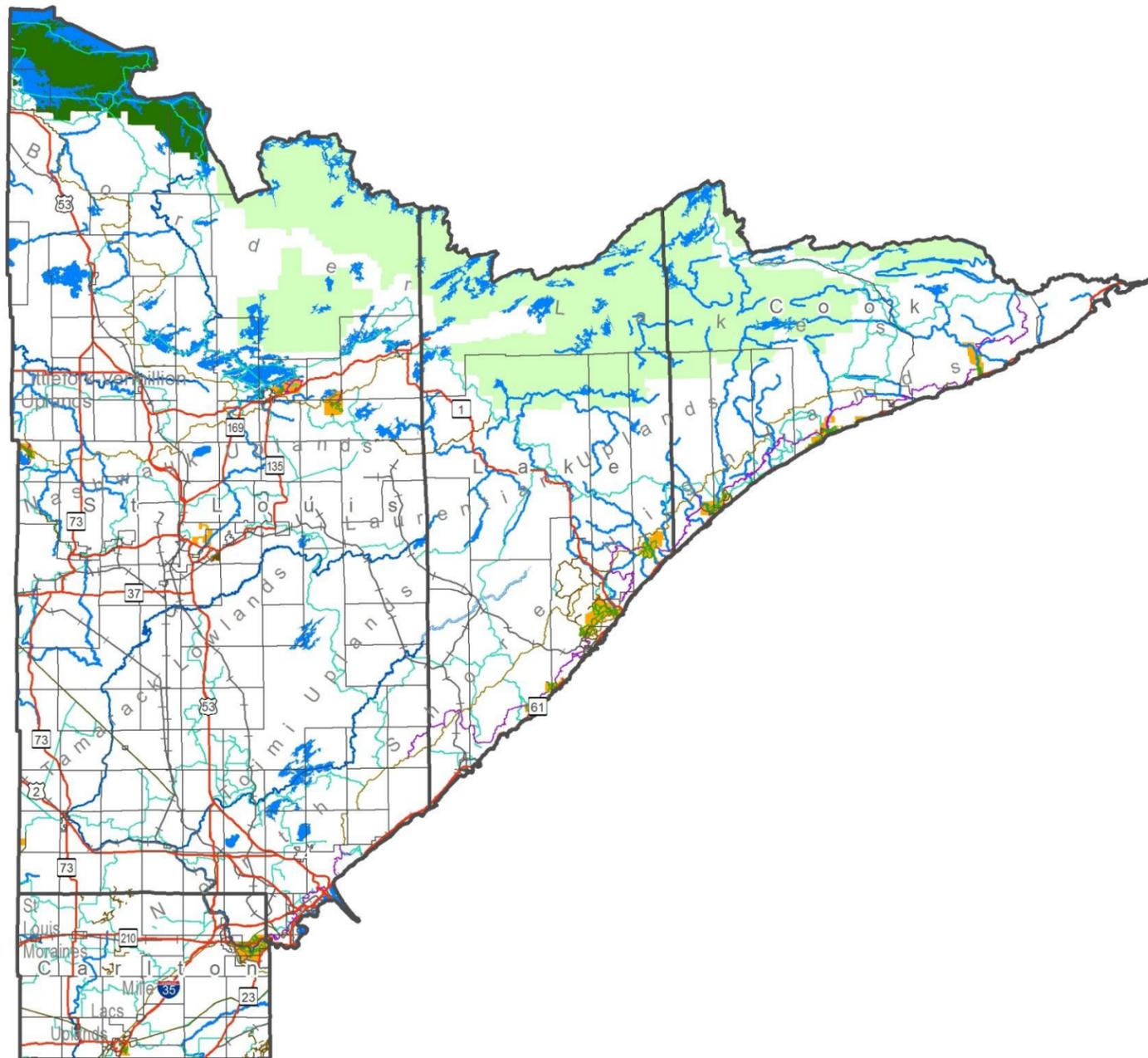


### Forest Stewardship Plans Table

Study Area	Metric	Acres
Northeast	Acres covered by current forest stewardship plans	106,835
	Acres of Important Forest Resource Areas	1,815,382
	Acres in Important Forest Resource Areas covered by current Forest Stewardship Plans	80,817
Minnesota	Acres covered by current forest stewardship plans	618,682
	Acres of Important Forest Resource Areas	9,898,192
	Acres in Important Forest Resource Areas covered by current Forest Stewardship Plans	415,893

# Parks and Trails

## Northeast Landscape Region



### Trails maintained by Parks & Trails

- Non-motorized Land
- Dual Use Land
- Motorized Land
- Non-motorized Water
- Dual Use Water
- Abandoned Use
- No use specified

### Snowmobile Trails

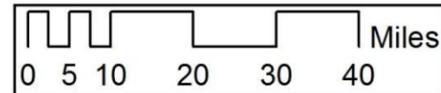


### Statutory Boundaries

- BWCA
- Voyageurs National Park
- State Parks

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers



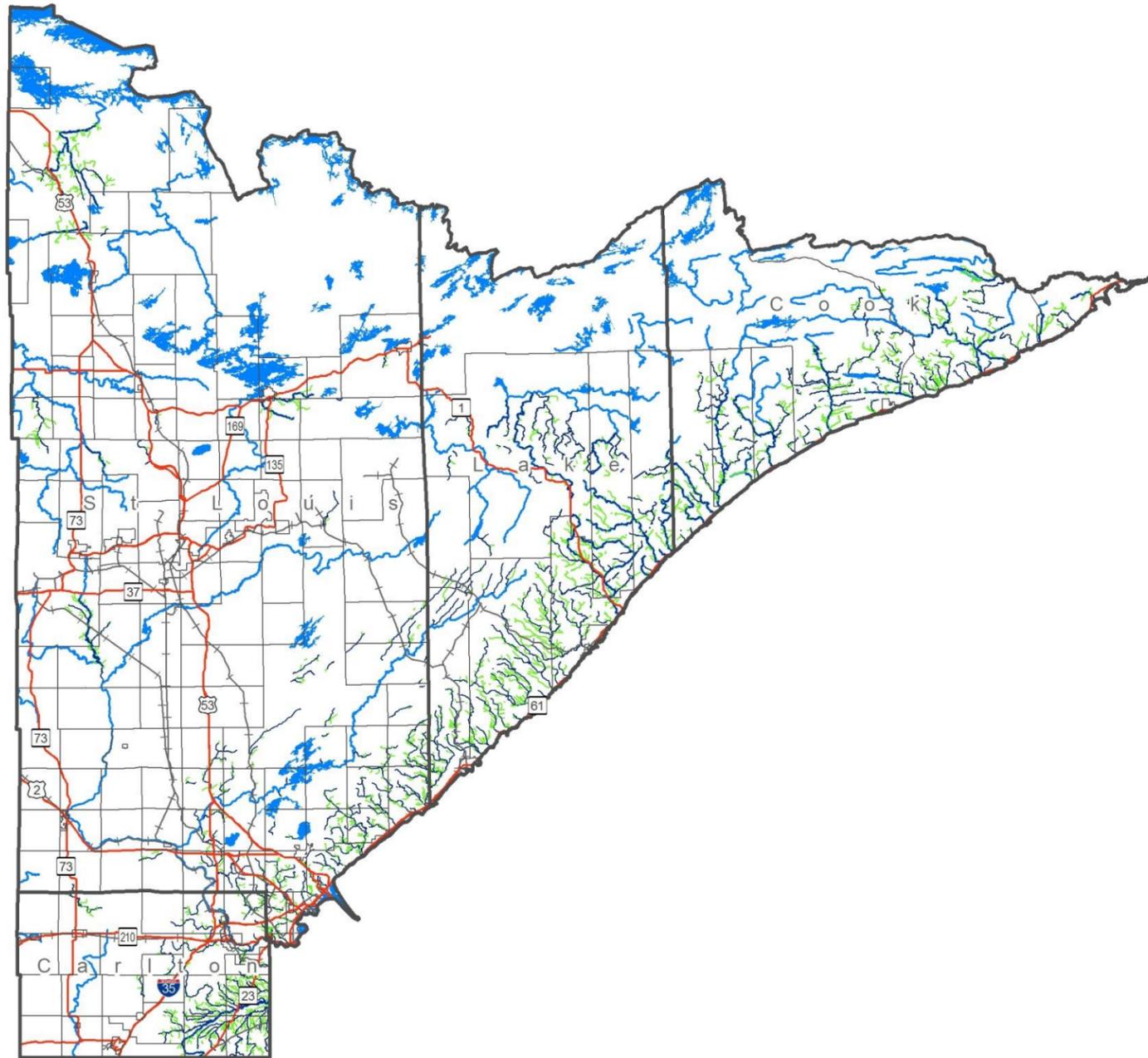
Sources: Trails and Statutory Boundaries - MNDNR Data Deli; Other Features - MNDNR Data Deli



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# Trout Stream Designations

## Northeast Landscape Region

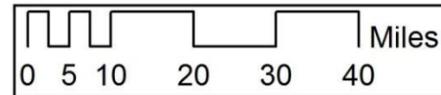


### Trout Stream Designation

- Designated Trout Stream
- - - Protected Tributary to Designated Trout Stream

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- + — Railroads
- Lakes
- Rivers



Sources: Trout Streams - MNDNR Data Deli; Other Features - MNDNR Data Deli

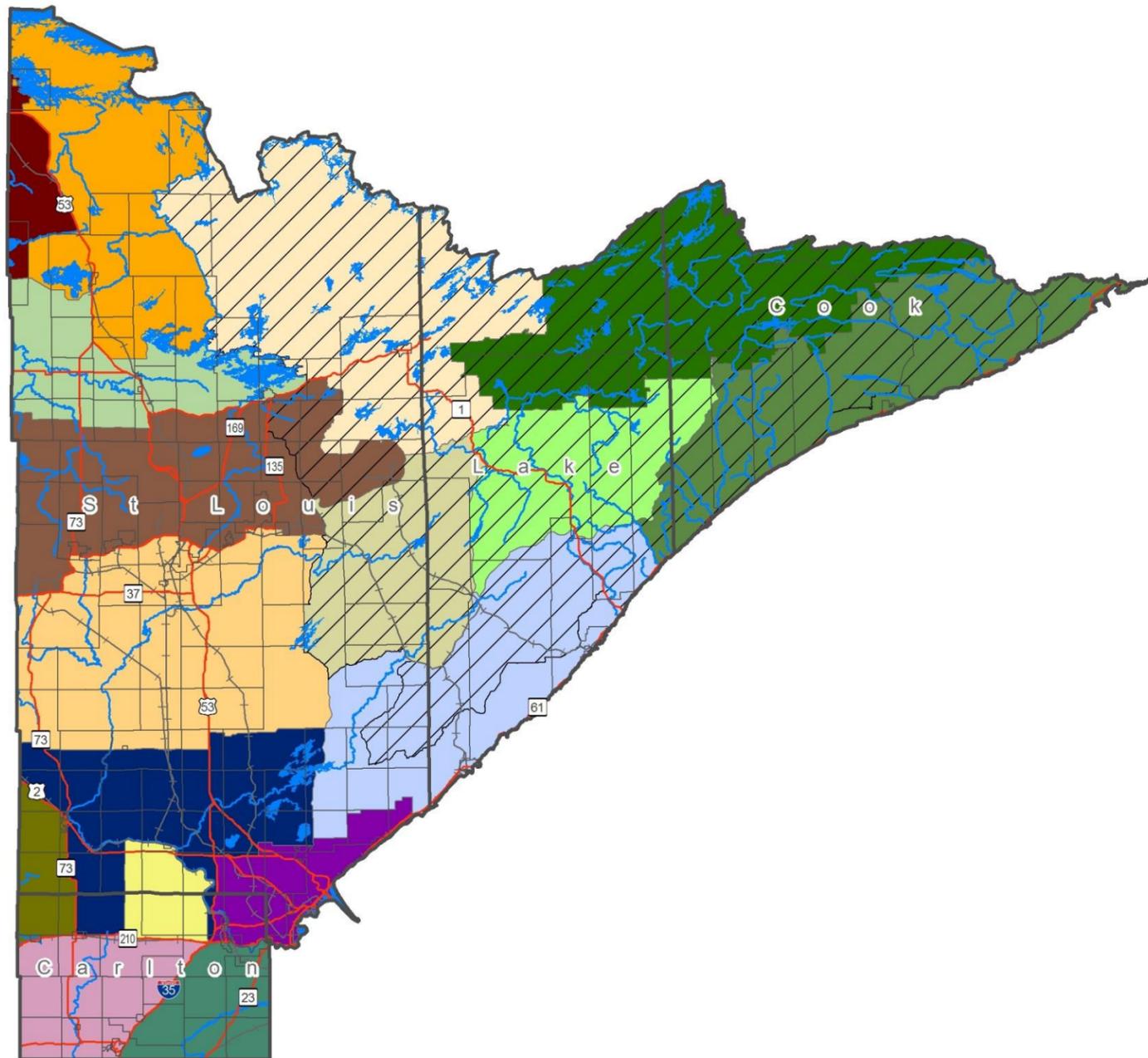


**Trout Stream Designations Table**

<b>Trout Stream Designation</b>	<b>Miles</b>
Designated Trout Stream	2,153
Protected Tributary to Designated Trout Stream	1,270
<b>Total Length</b>	<b>3,423</b>

# Deer Permit Areas

## Northeast Landscape Region



### Minnesota Deer Permit Areas

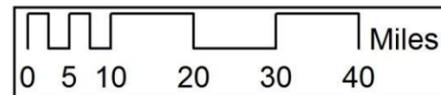
- Deer Permit Area 108
- Deer Permit Area 117
- Deer Permit Area 118
- Deer Permit Area 119
- Deer Permit Area 122
- Deer Permit Area 126
- Deer Permit Area 127
- Deer Permit Area 156
- Deer Permit Area 173
- Deer Permit Area 176
- Deer Permit Area 177
- Deer Permit Area 178
- Deer Permit Area 180
- Deer Permit Area 181
- Deer Permit Area 182
- Deer Permit Area 183
- Deer Permit Area 199

### Moose Range

- Moose Range

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers



Sources: Minnesota Deer Permit Areas, Moose Range - MNDNR Data Deli; Other Features - MNDNR Data Deli

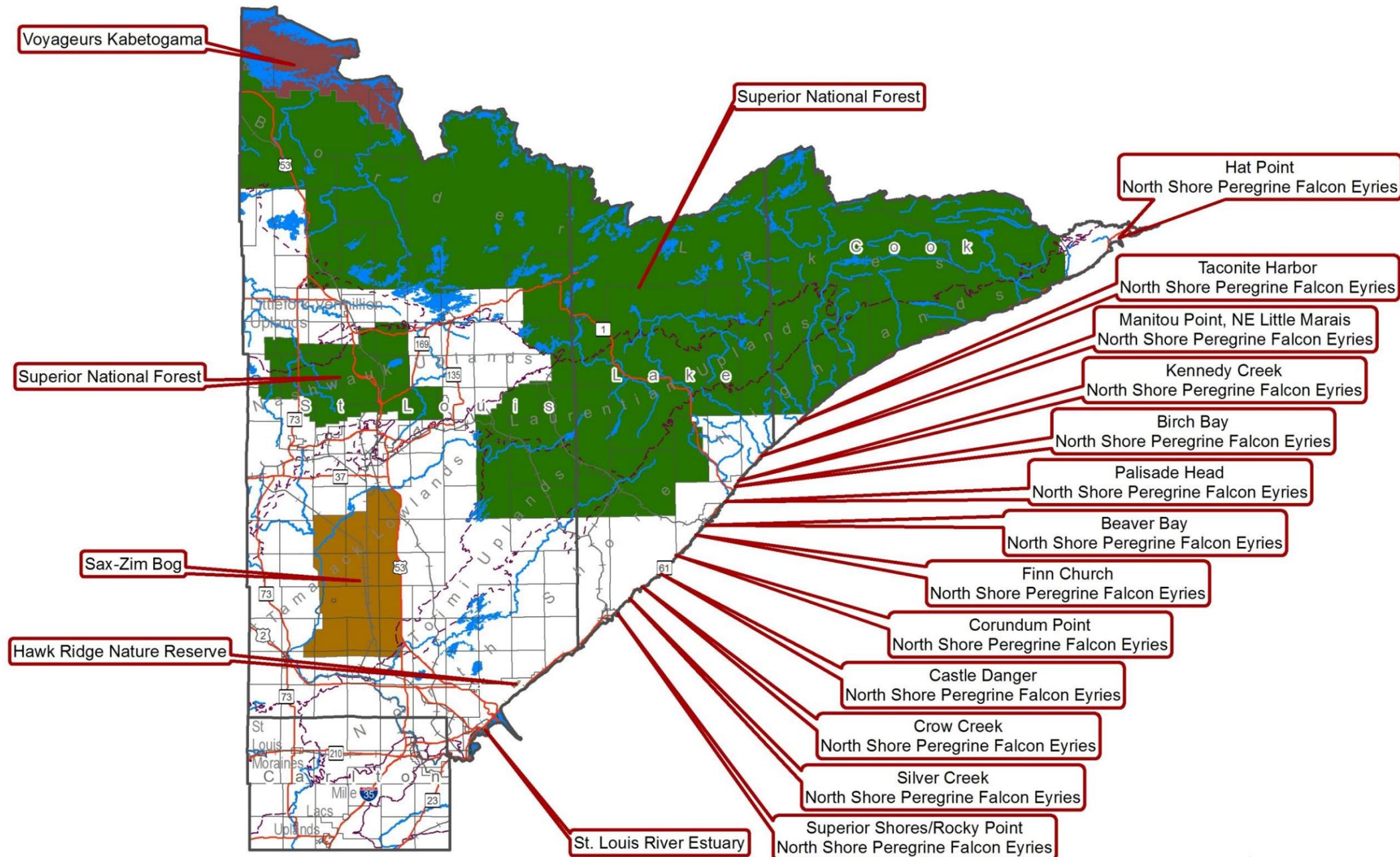


### Deer Permit Areas Table

<b>Deer Permit Area</b>	<b>Acres</b>	<b>% of Total</b>
Deer Permit Area 108	98,797	1.3
Deer Permit Area 117	725,536	9.9
Deer Permit Area 118	924,276	12.6
Deer Permit Area 119	591,449	8.0
Deer Permit Area 122	398,234	5.4
Deer Permit Area 126	626,045	8.5
Deer Permit Area 127	377,310	5.1
Deer Permit Area 156	232,510	3.2
Deer Permit Area 173	99,126	1.3
Deer Permit Area 176	634,341	8.6
Deer Permit Area 177	320,657	4.4
Deer Permit Area 178	778,064	10.6
Deer Permit Area 180	635,749	8.6
Deer Permit Area 181	470,404	6.4
Deer Permit Area 182	179,166	2.4
Deer Permit Area 183	174,473	2.4
Deer Permit Area 199	97,473	1.3
<b>Total Northeast Region</b>	<b>7,363,612</b>	<b>100.0</b>

# Important Bird Areas

## Northeast Landscape Region

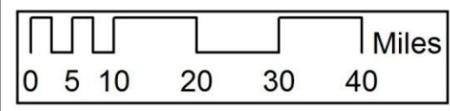


**Important Bird Areas**

- Hawk Ridge Nature Reserve IBA
- North Shore Peregrine Falcon Eyries IBA
- Sax-Zim Bog IBA
- St. Louis River Estuary
- Superior National Forest IBA
- Voyageurs Kabetogama IBA

**Other Features**

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections



Sources: Important Bird Areas - MN Audubon; Other Features - MNDNR Data Deli

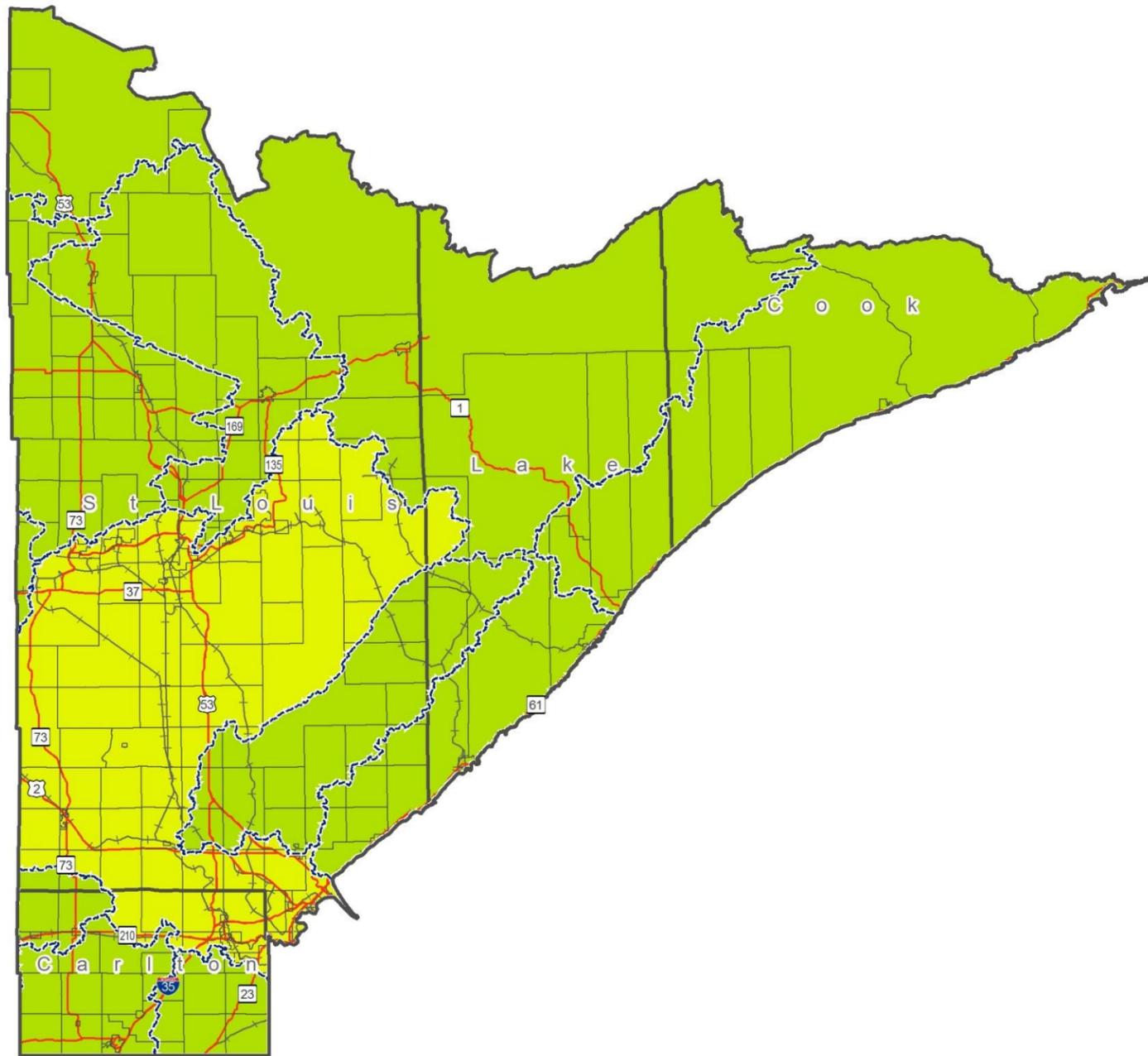


### Important Bird Areas Table

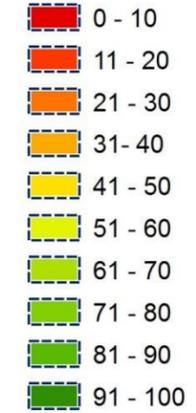
Name	Acres	% of Region
Hawk Ridge Nature Reserve IBA	415	0.0
Sax-Zim Bog IBA	272,947	3.7
St. Louis River Estuary	11,700	0.2
Superior National Forest IBA	3,768,845	51.2
Voyageurs Kabetogama IBA	189,588	2.6
Beaver Bay - North Shore Peregrine Falcon Eyries IBA	37	0.0
Birch Bay - North Shore Peregrine Falcon Eyries IBA	54	0.0
Castle Danger - North Shore Peregrine Falcon Eyries IBA	70	0.0
Corundum Point - North Shore Peregrine Falcon Eyries IBA	88	0.0
Crow Creek - North Shore Peregrine Falcon Eyries IBA	58	0.0
Finn Church - North Shore Peregrine Falcon Eyries IBA	102	0.0
Hat Point - North Shore Peregrine Falcon Eyries IBA	63	0.0
Kennedy Creek - North Shore Peregrine Falcon Eyries IBA	73	0.0
Manitou Point, NE Little Marais - North Shore Peregrine Falcon Eyries IBA	61	0.0
Palisade Head - North Shore Peregrine Falcon Eyries IBA	69	0.0
Silver Creek - North Shore Peregrine Falcon Eyries IBA	77	0.0
Superior Shores/Rocky Point - North Shore Peregrine Falcon Eyries IBA	54	0.0
Taconite Harbor - North Shore Peregrine Falcon Eyries IBA	13	0.0
<b>Total Important Bird Areas</b>	<b>4,244,315</b>	<b>57.6</b>
<b>Total Northeast Region</b>	<b>7,363,644</b>	

# Watershed Health Score

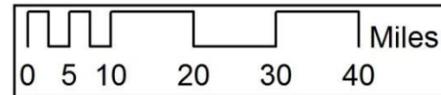
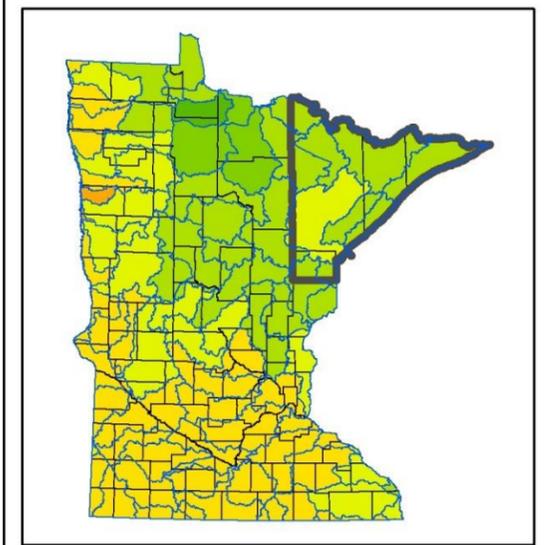
## Northeast Landscape Region



### Watershed Health Score (average)



### Other Features



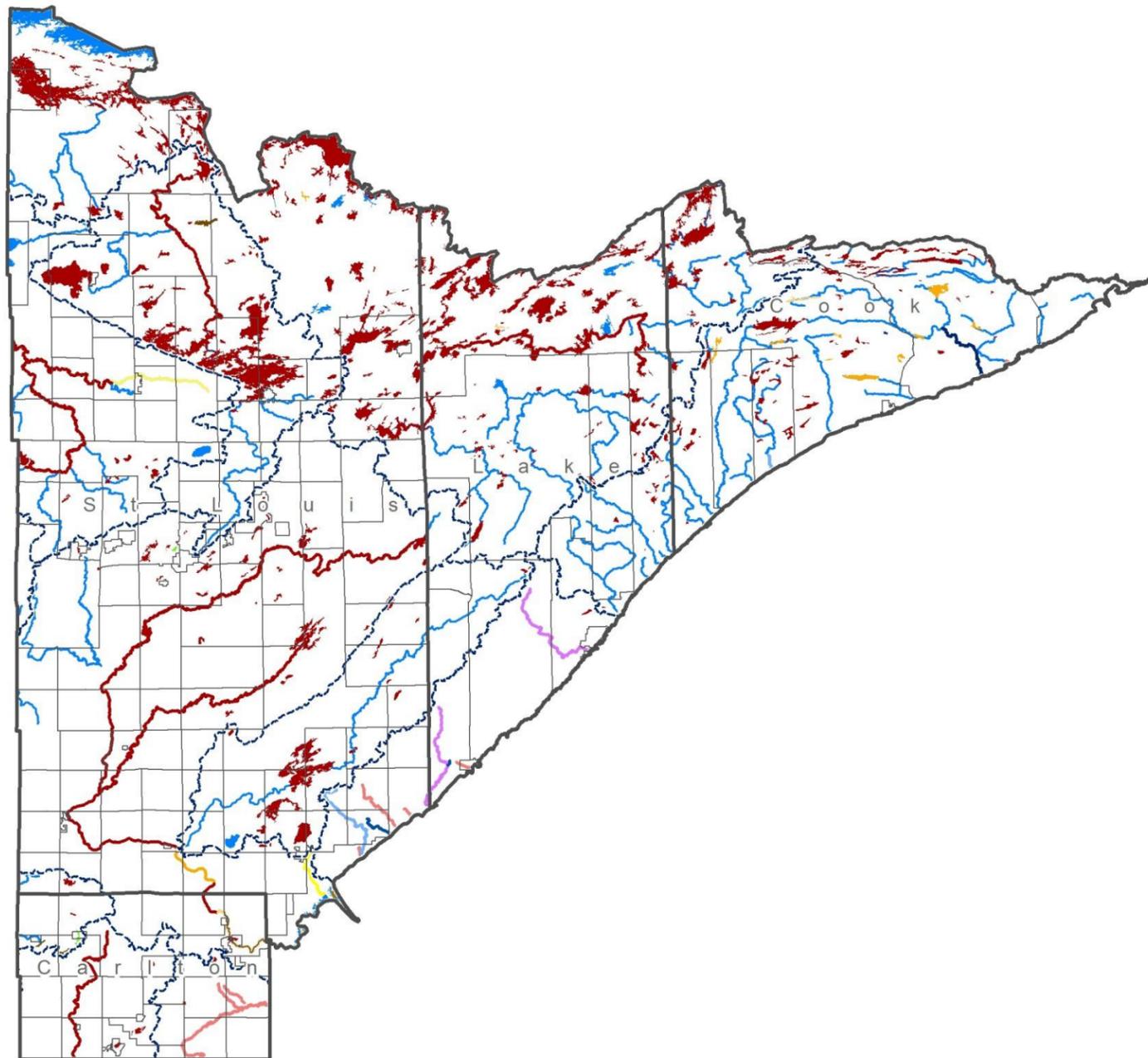
Sources: Watershed Health Score - MNDNR WHAF; Other Features - MNDNR Data Deli



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# Impaired Waters

## Northeast Landscape Region



### Impaired Streams (2010)

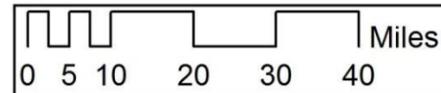
- CI-, LCWA, TM
- DDT, Dieldrin, Dioxin, FC, HgF, HgW, PCBF, PCBW, Toxaphene
- DDT, Dieldrin, Dioxin, HgF, HgW, PCBF, PCBW, Toxaphene
- DDT, Dieldrin, HgF, HgW, PCBF, PCBW
- DO, T
- HgF
- HgF, HgW
- HgF, PCBF
- HgF, T
- HgW
- HgW, T
- HgW, pH, T
- T

### Impaired Lakes (2010)

- HgF
- HgF, HgW
- HgF, Nutrients
- HgF, PCBF
- HgW
- Nutrients

### Other Features

- County Boundaries
- Municipal Boundaries
- Major Watersheds
- Lakes (non-impaired)
- Rivers (non-impaired)



Sources: Impaired Waters - MPCA; Other Features - MNDNR Data Deli



## Impaired Waters Tables

Stream Impairments	Affected Use	Miles
Cl-, LCWA, TM	AQL	9.6
DDT, Dieldrin, Dioxin, FC, HgF, HgW, PCBF, PCBW, Toxaphene	AQC, AQR	2.4
DDT, Dieldrin, Dioxin, HgF, HgW, PCBF, PCBW, Toxaphene	AQC	2.0
DDT, Dieldrin, HgF, HgW, PCBF, PCBW	AQC	5.5
DO, T	AQL	7.0
HgF	AQC	506.2
HgF, HgW	AQC	9.5
HgF, PCBF	AQC	16.2
HgF, T	AQC, AQL	25.7
HgW	AQC	13.2
HgW, pH, T	AQC, AQL	47.2
HgW, T	AQC, AQL	23.0
T	AQL	64.0
<b>Total Length</b>		<b>731.6</b>

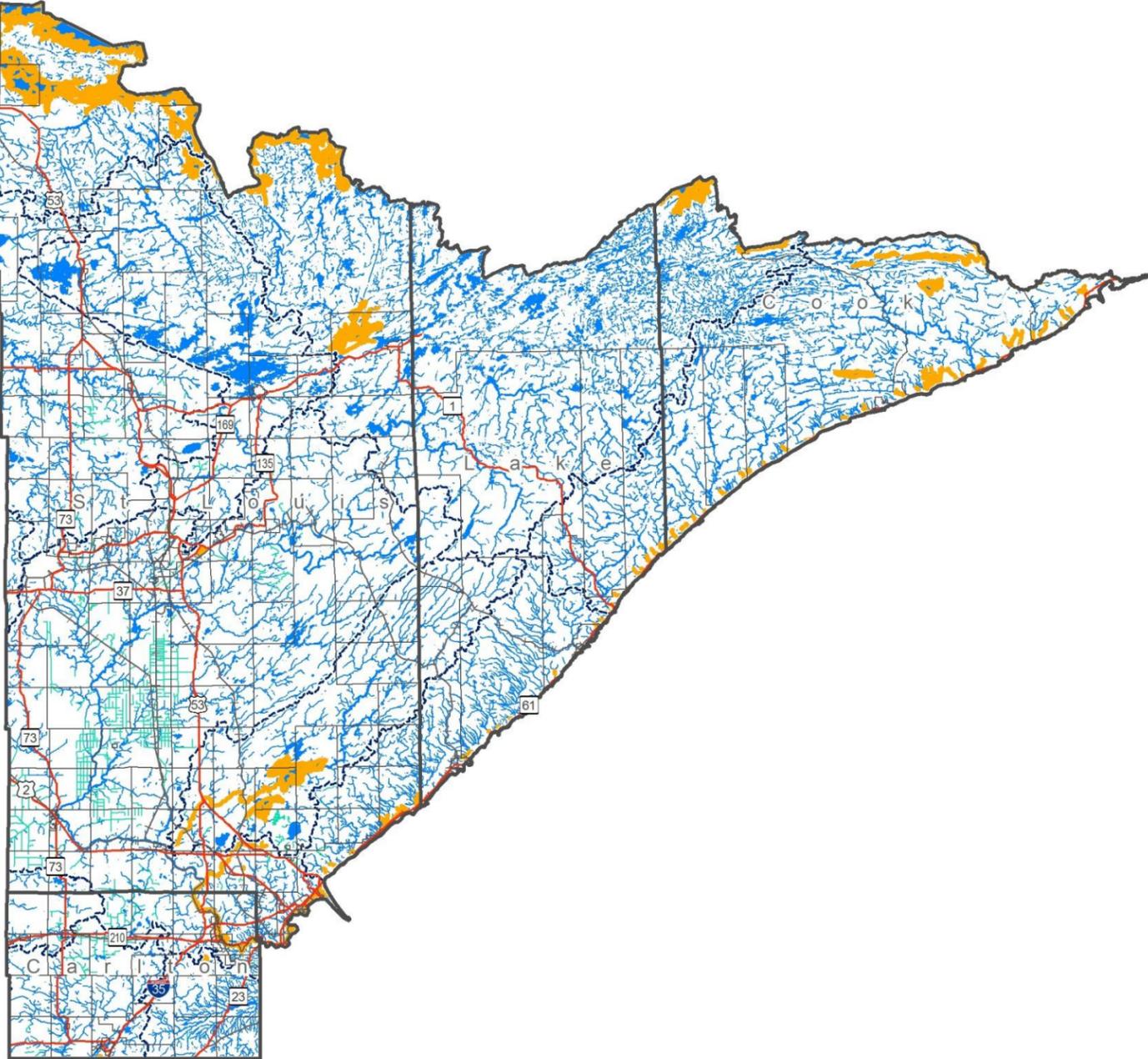
Lake Impairments	Affected Use	Area (Acres)
HgF	AQC	350,372
HgF, HgW	AQC	7,010
HgF, Nutrients	AQC, AQR	1,740
HgF, PCBF	AQC	1,260
HgW	AQC	131
Nutrients	AQR	629
<b>Total Area</b>		<b>361,142</b>

Impairment Abbreviations	
Cl-	Chloride
DO	Dissolved oxygen
DDT	Dichloro-diphenyl-trichloroethane
FC	Fecal coliform
HgF	Mercury in fish tissue
HgW	Mercury in water column
LCWA	Lack of a coldwater assemblage
PCBF	PCB in fish tissue
PCBW	PCB in water column
T	Turbidity
TM	Temperature

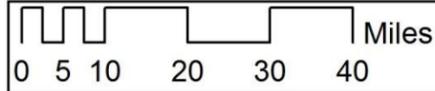
Affected Use Abbreviations	
AQC	Aquatic consumption
AQL	Aquatic life
AQR	Aquatic recreation

# Designated Infested Waters

## Northeast Landscape Region



- Water Features**
- Designated Infested Waters
  - Lakes
  - River
  - Stream (Perennial)
  - Stream (Intermittent)
  - Drainage Ditch (Perennial)
  - Drainage Ditch (Intermittent)
- Other Features**
- County Boundaries
  - Municipal Boundaries
  - Major Watersheds
  - Highways
  - + Railroads



Sources: Designated Infested Waters - MNDNR; Other Features - MNDNR Data Deli



## Designated Infested Waters Table

Name	Acres
Ash River	59
Baptism River	8
Beaver River	5
Big Sucker Creek	14
Brule River	3
Burntside	7,314
Burntside River	64
Caribou	462
Caribou River	21
Carlson Creek	48
Carlton Creek	14
Cascade River	6
Chester Creek	15
Chub	313
Cliff Creek	28
Cloquet River	270
Crane	2,921
Cross River	6
Crow Creek	5
Crystal Creek	8
Curface Creek	12
Dead River	16
Deer Yard Creek	9
Devil Track	1,868
Devil Track River	44
Dragon Creek	13
Durfee Creek	14
East Colville Creek	32
East Twin	121
Encampment River	6
Fall Creek	27
Farquhar Creek	41
Fish	2,886
Flour	331
Flute Reed River	5

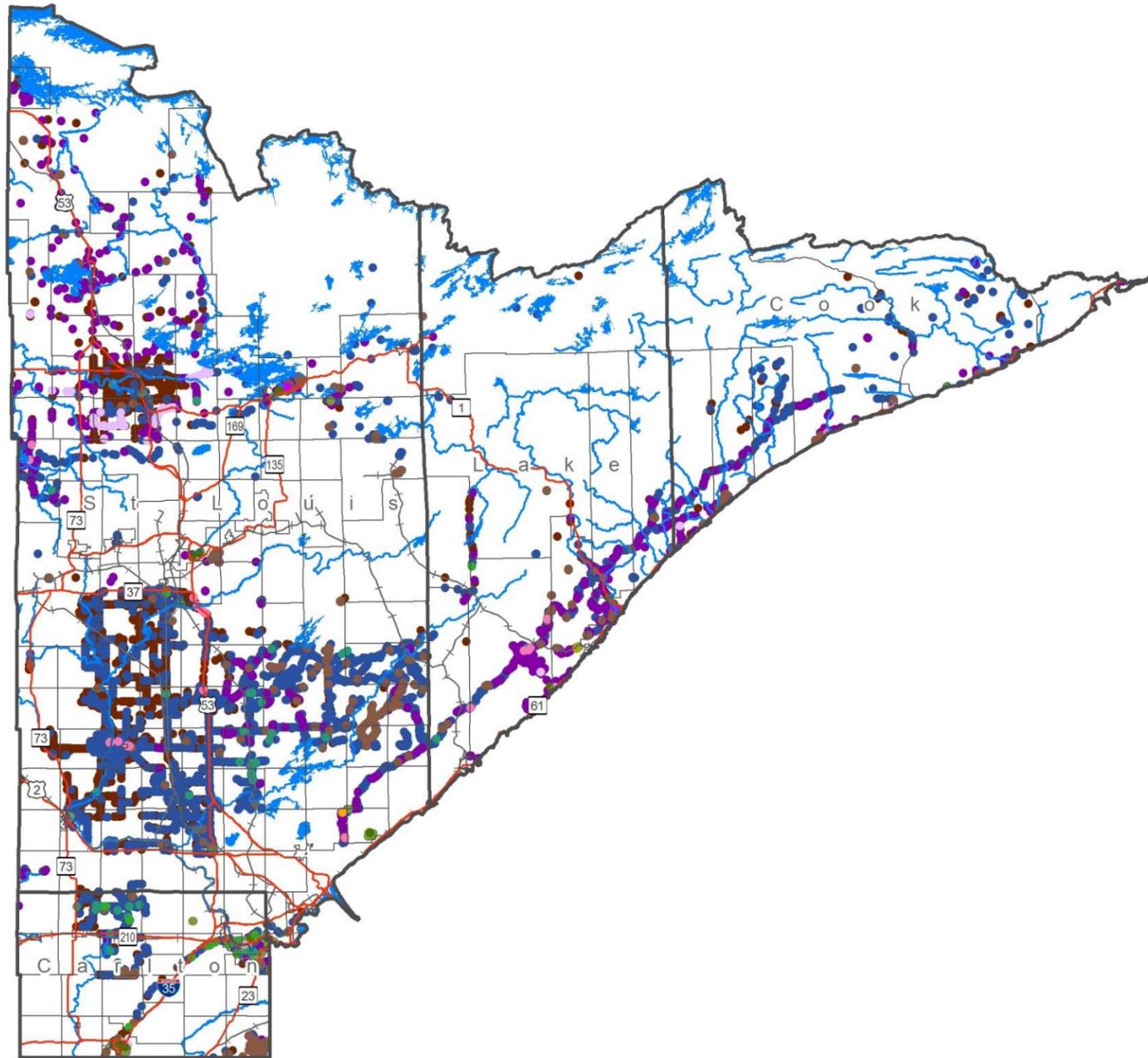
Name	Acres
French River	18
Gilbert Pit - Ore Be	188
Gooseberry River	13
Grand Portage River	50
Greenwood	2,046
Gunflint	2,166
Hollow Rock Creek	34
Horseshoe	19
Indian Camp Creek	4
Island	8,009
Jonvick Creek	15
Kabetogama	23,053
Kadunce Creek	53
Kennedy Creek	11
Kimball Creek	97
Knife River	52
Lac La Croix	13,676
Lester River	14
Little Brule Creek	9
Little John	40
Little Manitou River	14
Little Marais River	15
Little Sucker River	20
Little Vermilion	558
Loon	2,017
Manitou River	16
McFarland	385
Mud	44
Myhr Creek	22
Namakan	11,758
Nelsens Creek	1
North Fowl	298
North Fowl (Canada)	0
Onion River	14
Palisade Creek	11

Name	Acres
Pigeon River	209
Pike	488
Pine	2,120
Poplar River	7
Rainy	26,956
Red Rock Creek	7
Reservation River	24
Rollins Creek	20
Royal	22
Royal River	35
Saganaga	6,701
Sand	98
Sand Point	4,848
Schmidt Creek	18
Section 15 Creek	11
Section 16 Creek	13
Section 29 Creek	9
Shipwreck Creek	12
Silver Creek	3
South Fowl	508
St. Louis River	7,096
St. Louis River downstream of Fon du Lac Dam	5,416
Stewart River	9
Stone Creek	74
Sugar Loaf Creek	21
Superior	552
Talmadge River	6
Temperance River	2
Tischer Creek	13
Two Island River	11
Unnamed stream	114
West Twin	78
White Pine River	181
Williams Creek	8
<b>Total Area</b>	<b>137,434</b>

For details see the Designated Infested Waters list available at [http://files.dnr.state.mn.us/eco/invasives/infested\\_waters.pdf](http://files.dnr.state.mn.us/eco/invasives/infested_waters.pdf)

# Terrestrial Invasive Species Observations

## Northeast Landscape Region

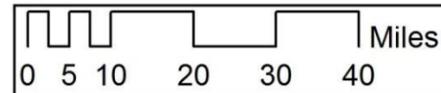


### Terrestrial Invasive Species Observations

- Buckthorn, Common
- Buckthorn, Glossy
- Grass, Reed canary
- Knapweed, Spotted
- Loosestrife, Purple
- Mustard, Garlic
- Parsnip, Wild
- Rose, Multi-Flora
- Spurge, Leafy
- Tansy
- Teasel, Cut-Leaved
- Thistle, Canada
- Thistle, Musk/Nodding
- Thistle, Plumeless

### Other Features

- ▭ County Boundaries
- ▭ Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers



Sources: Terrestrial Invasive Species Observations - MNDNR Data Deli; Other Features - MNDNR Data Deli



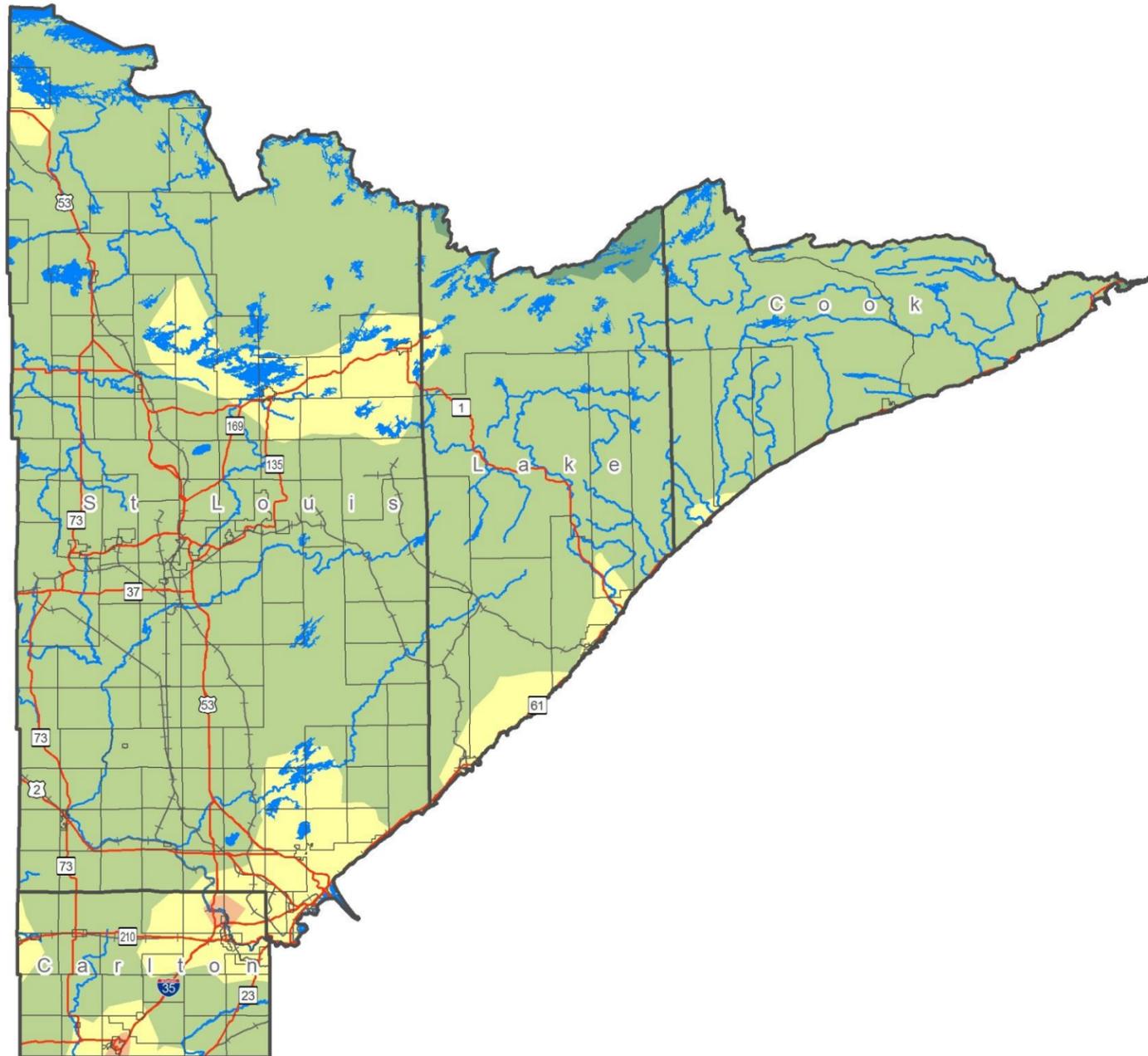
### Terrestrial Invasive Species Observations

Terrestrial Invasive Species Observations	Count
Buckthorn, Common	272
Buckthorn, Glossy	30
Grass, Reed canary	8,933
Knapweed, Spotted	834
Loosestrife, Purple	39
Mustard, Garlic	8
Parsnip, Wild	69
Rose, Multi-Flora	2
Spurge, Leafy	21
Tansy	8,498
Teasel, Cut-Leaved	1
Thistle, Canada	1,996
Thistle, Musk/Nodding	55
Thistle, Plumeless	2

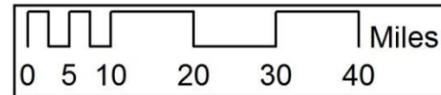
Observations were made between 6/3/2004 and 10/8/2012. Each observation may vary for the number of plants observed, distribution of plants, and acres infected. Separate observations may represent the same location, therefore the count of observations may over-represent the distribution of a species.

# Emerald Ash Borer Introduction Risk

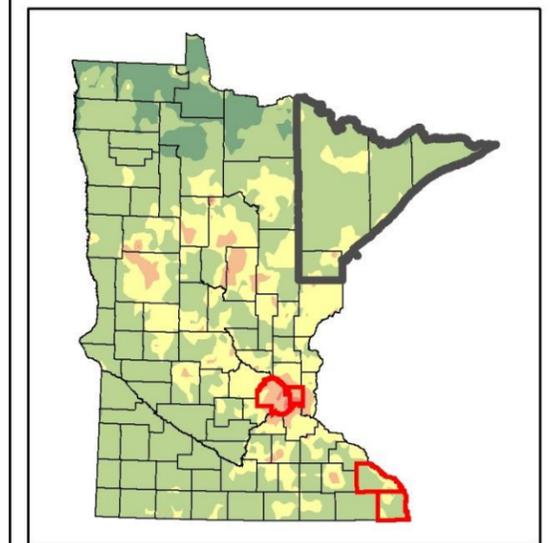
## Northeast Landscape Region



- Emerald Ash Borer Introduction Risk**
- Very Low
  - Low
  - Moderate
  - High
  - Very High
- Other Features**
- County Boundaries
  - Municipal Boundaries
  - Quarantine Boundaries
  - Highways
  - Railroads
  - Lakes
  - Rivers



Sources: Emerald Ash Borer Introduction Risk - MDA EAB; Other Features - MNDNR Data Deli

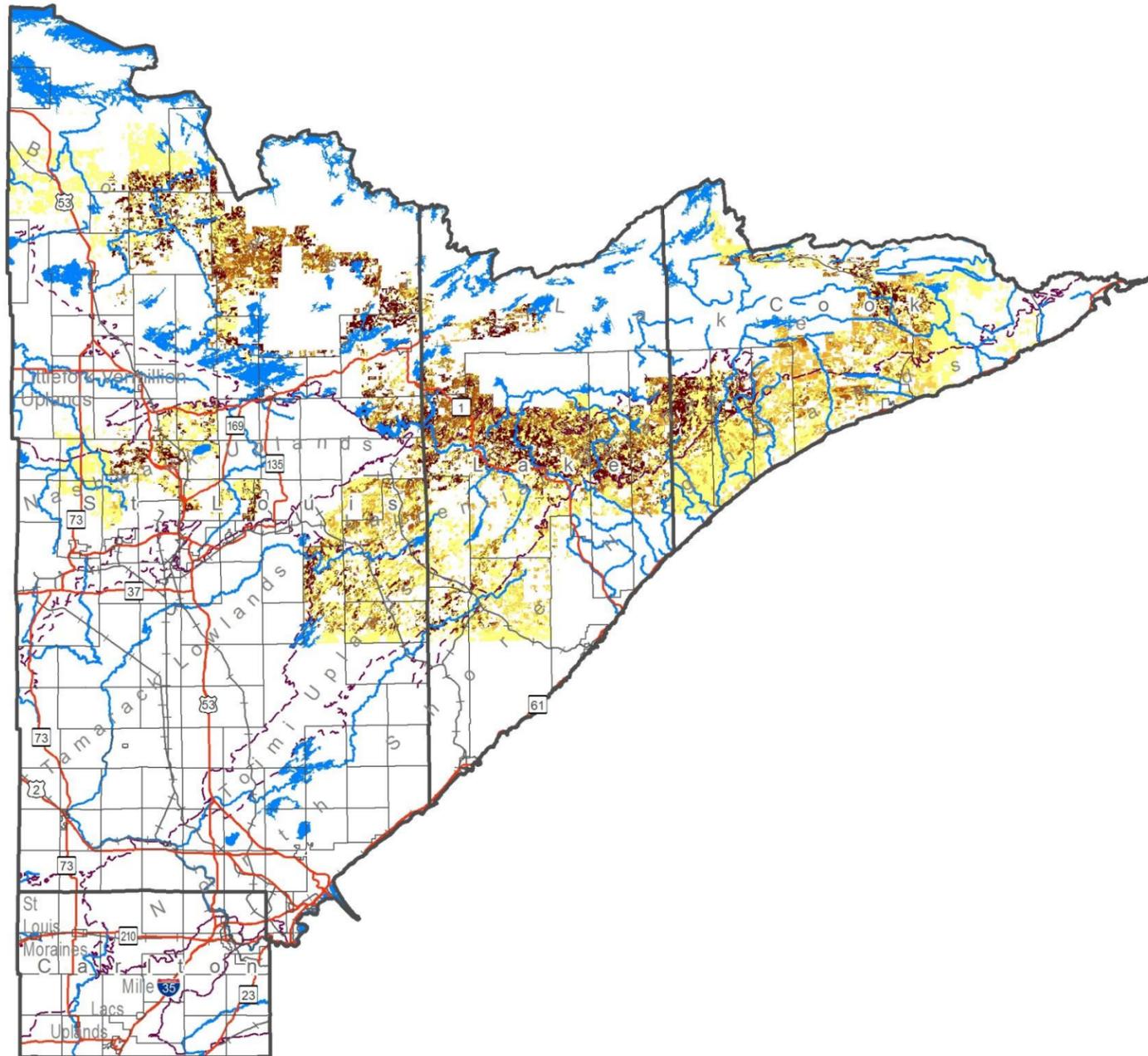


## **Emerald Ash Borer Introduction Risk Table**

No EAB observances have been recorded in the Northeast Region.

# Superior National Forest Final Fuel Hazard and Fire Risk Rating (2013)

## Northeast Landscape Region

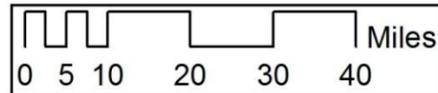


**Fuel Hazard and Fire Risk Rating (2013)**

- 0 - 11
- 12 - 25
- 26 - 31
- 32 - 36
- 37 - 47

**Other Features**

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections



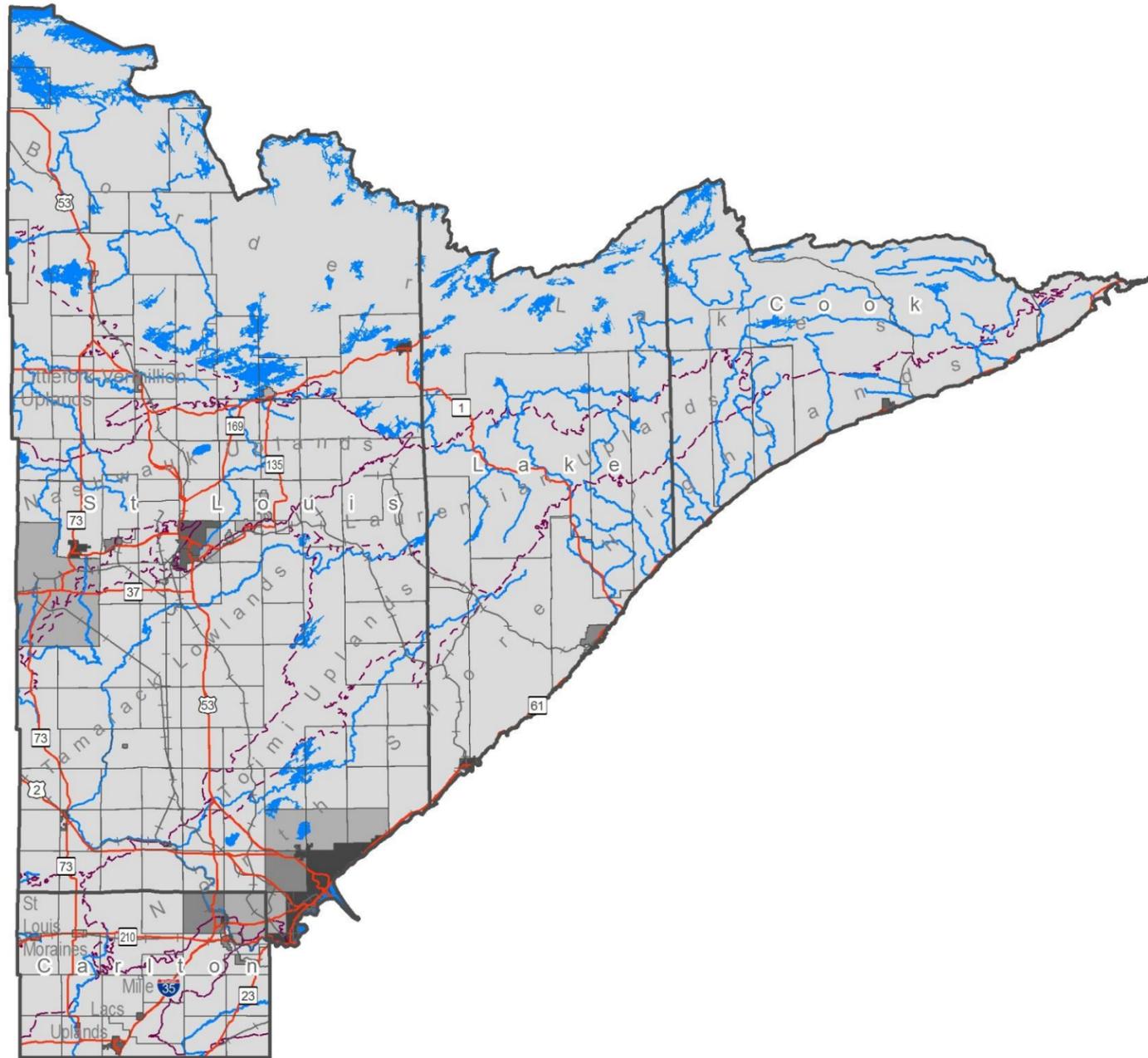
Sources: Fuel Hazard and Fire Risk Rating - USFS SNF; Other Features - MNDNR Data Deli



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# 2010 US Census Population Density

## Northeast Landscape Region



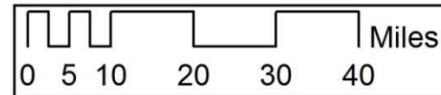
### 2010 Population Density (persons/sq mi)

- 0 - 58
- 59 - 198
- 199 - 419
- 420 - 843
- 844 - 1336

Classes by natural breaks

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- Railroads
- Lakes
- Rivers
- ECS Subsections



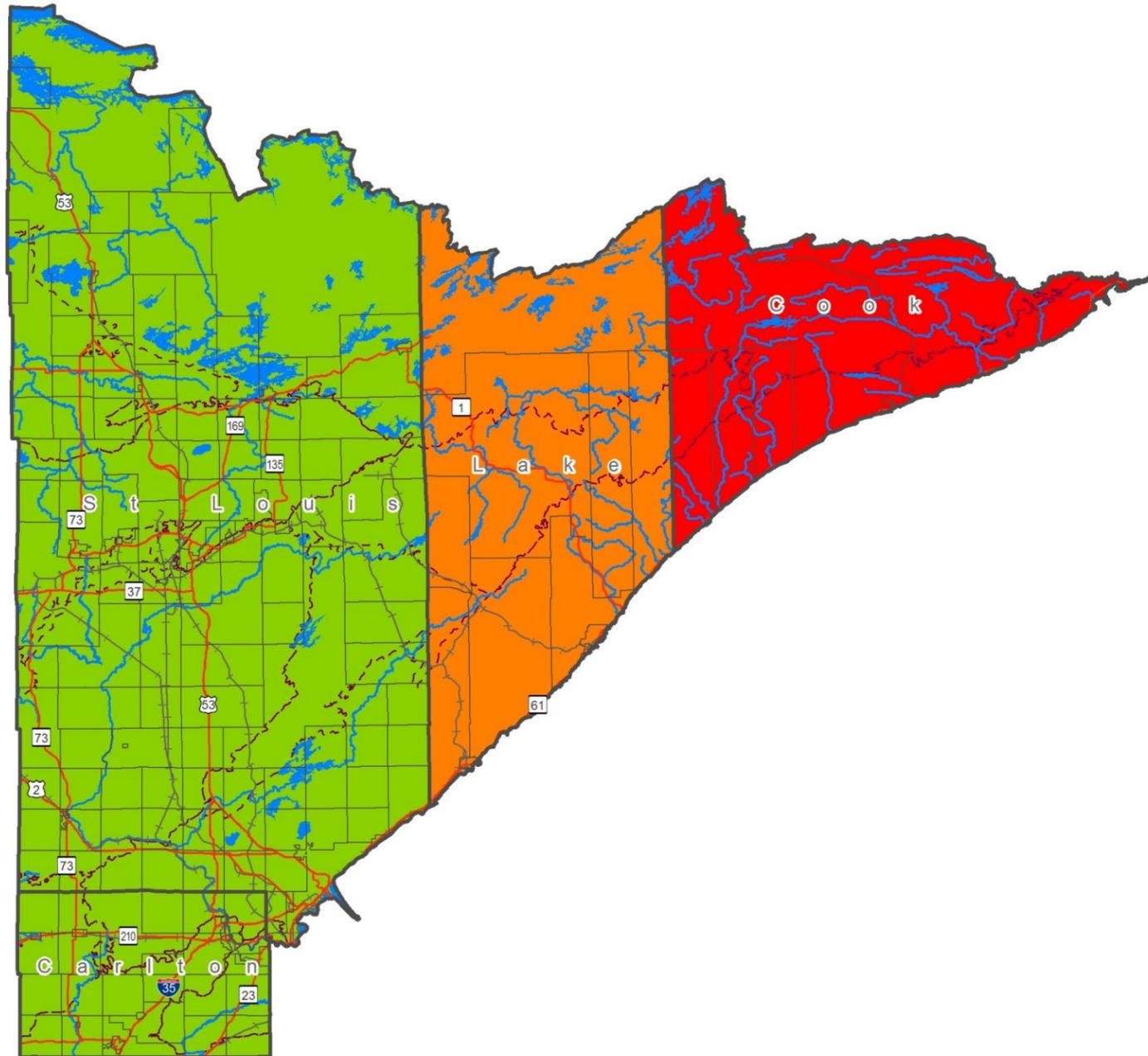
Sources: Population Density - US Census; Other Features - MNDNR Data Deli



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# Forestry Jobs by County (2008)

## Northeast Landscape Region



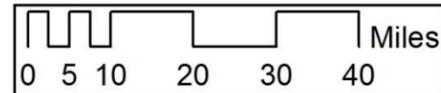
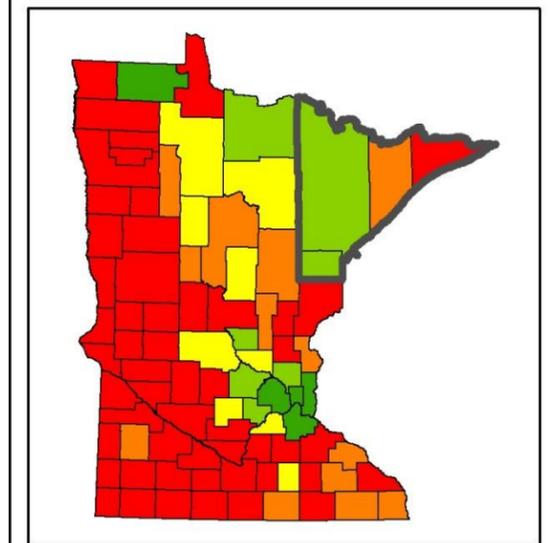
### Forestry Jobs by County (2008)

- 0 - 87
- 88 - 332
- 333 - 688
- 689 - 1308
- 1309 - 3122

Classes are by Natural Breaks for statewide data.

### Other Features

- County Boundaries
- Municipal Boundaries
- Highways
- | Railroads
- Lakes
- Rivers
- ECS Subsections



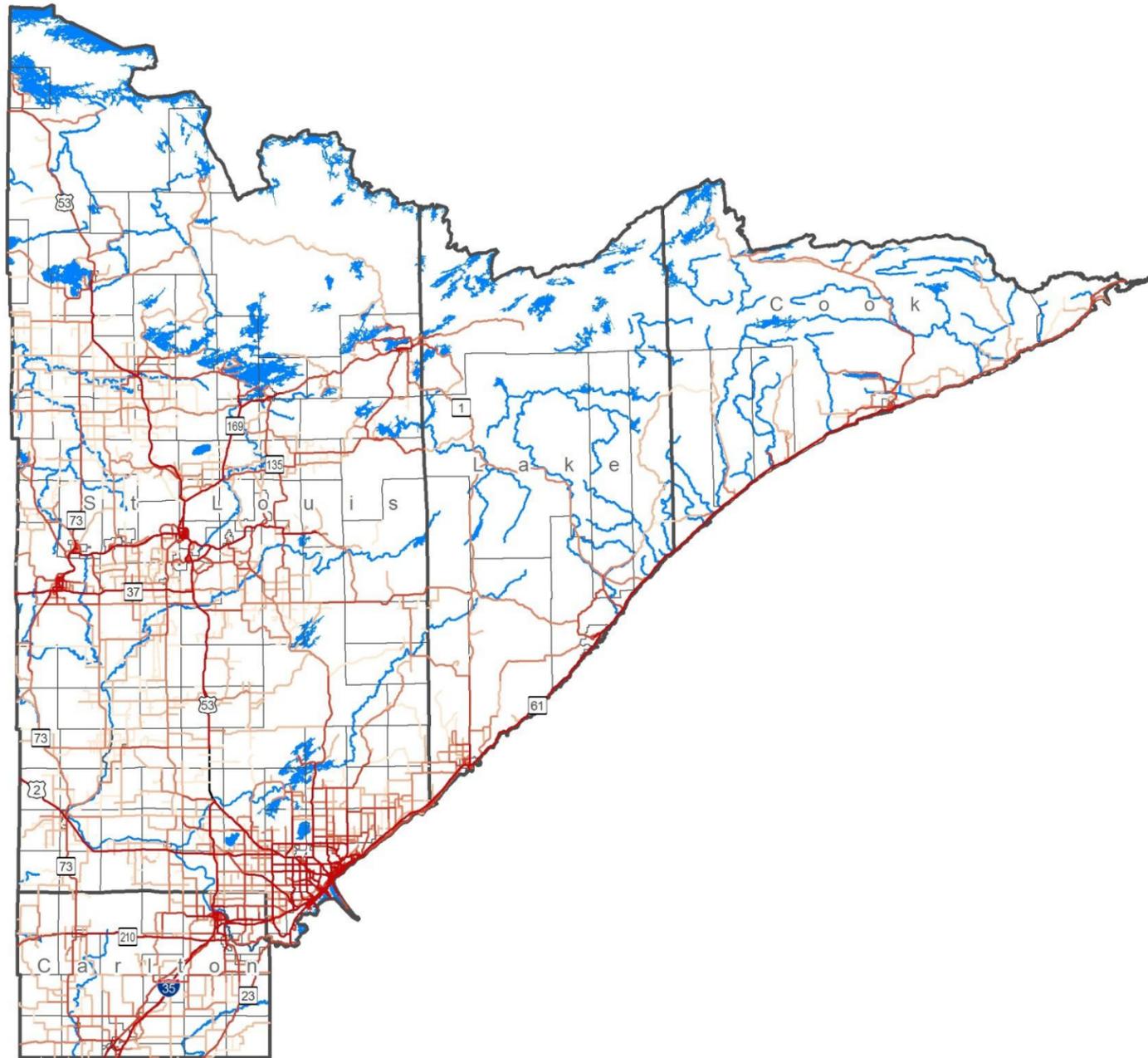
Sources: Forestry Jobs by County - MNDNR FOR; Other Features - MNDNR Data Deli



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# Annual Average Daily Traffic

## Northeast Landscape Region



### Annual Average Daily Traffic (2010 - 2012)

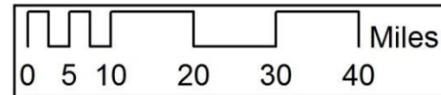
- 5 - 35
- 36 - 200
- 201 - 730
- 731 - 2750
- 2751 - 51000

Class breaks by quantile.

— No Data Available

### Other Features

- County Boundaries
- Municipal Boundaries
- Lakes
- Rivers



Sources: AADT - MNDOT; Other Features - MNDNR Data Deli



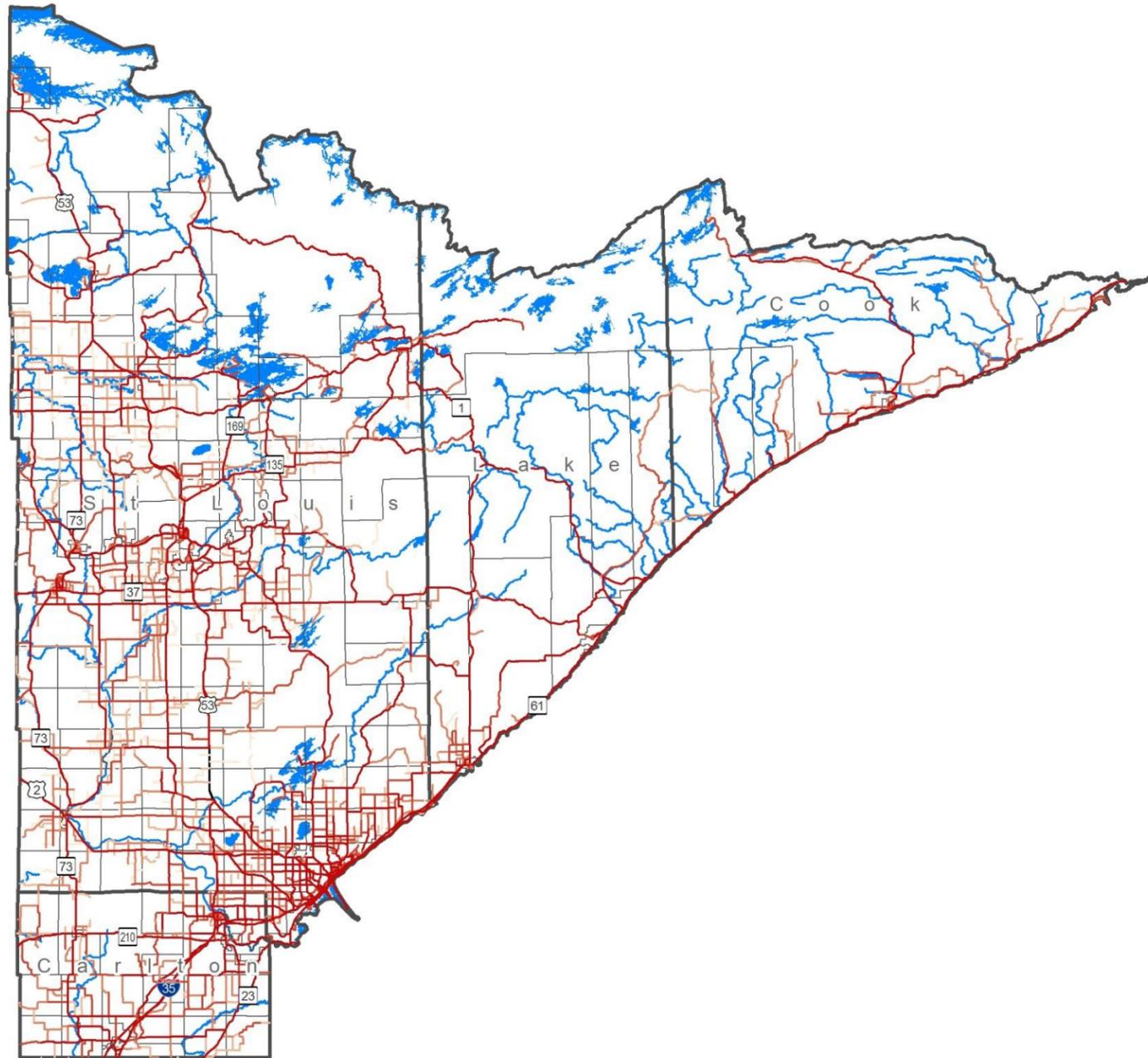
### Annual Average Daily Traffic Table

<b>Route Type</b>	<b>Annual Average Daily Traffic</b>
Interstate	557,400
US Highway	695,640
MN Highway	755,765
County State Aid Highway	1,276,660
Municipal State Aid Street	1,876,290
County Road	135,735
Township Road	285
Municipal Street	7,750
<b>Total Northeast Region</b>	<b>5,305,525</b>

Annual Average Daily Traffic (AADT) is the number of vehicles that travel a section of road per day (averaged for 365 days in one year). MNDOT measures traffic for road sections every 2-4 years. Note that AADT is per section of road. If more sections of road exist for a Route Type, more AADT will be reported for that Route Type in the table above. For a normalized comparison of the amount of traffic on each route type, refer to the Annual Average Daily Vehicle Miles Traveled.

# Annual Average Daily Vehicle Miles Traveled

## Northeast Landscape Region

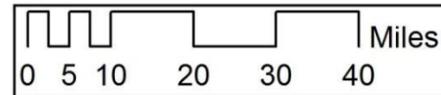


### Annual Average Daily Vehicle Miles Traveled (2010 - 2012)

- 0.01 - 29.86
  - 29.87 - 167.73
  - 167.74 - 559.15
  - 559.16 - 2122.79
  - 2122.80 - 313881.12
  - No Data Available
- Class breaks by quantile.

### Other Features

- County Boundaries
- Municipal Boundaries
- Lakes
- Rivers



Sources: AAD VMT - MNDOT; Other Features - MNDNR Data Deli



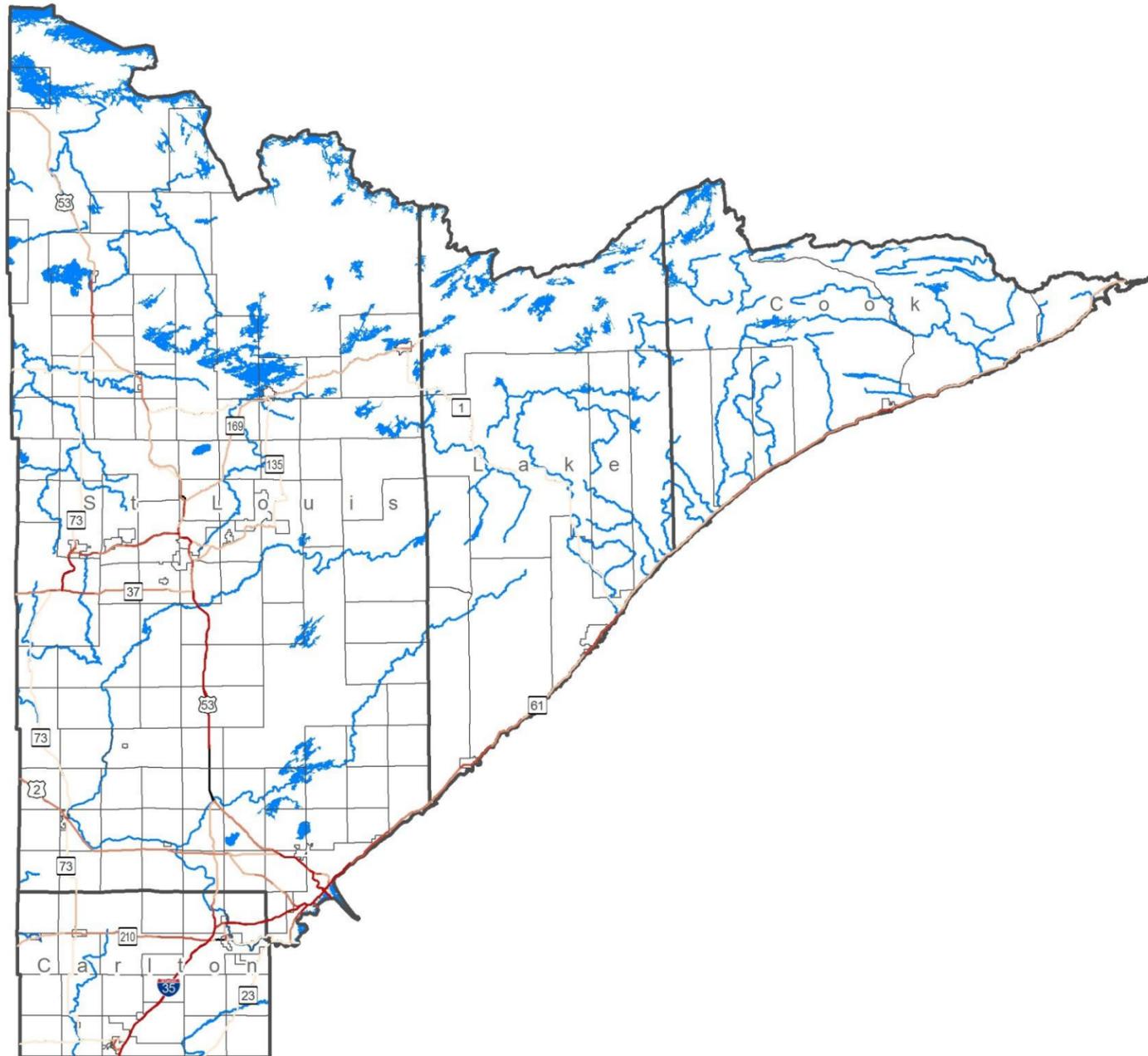
### Annual Average Daily Vehicle Miles Traveled Table

Route Type	Length (miles)	Annual Average Daily Vehicle Miles Traveled
Interstate	95.6	2,111,031
US Highway	321.1	2,491,478
MN Highway	626.7	2,103,212
County State Aid Highway	2081.9	1,932,121
Municipal State Aid Street	232.9	744,032
County Road	1962.9	207,634
Township Road	9.3	770
Municipal Street	0.5	1,311
<b>Total Northeast Region</b>	<b>5330.8</b>	<b>9,591,588</b>

Annual Average Daily Vehicle Miles Traveled (AAD VMT) is the number of vehicles that travel a section of road per day (averaged for 365 days in one year) multiplied by the length of the section of road. If 2 vehicles traveled a 2 mile section of road every day over the course of one year, the AAD VMT for that section of road would be 4. The AAD VMT should be used when comparing routes for traffic volume given that it provides a normalized comparison for traffic measurements (the Annual Average Daily Traffic count can be skewed by the presence of multiple sections of a Route Type).

# Heavy Commercial Annual Average Daily Traffic

## Northeast Landscape Region



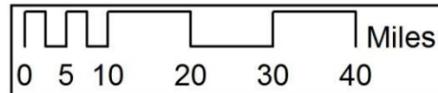
### Heavy Commercial Annual Average Daily Traffic (2010 - 2012)

- 5 - 125
- 126 - 280
- 281 - 415
- 416 - 620
- 621 - 2700

Class breaks by quantile.

### Other Features

- ▭ County Boundaries
- ▭ Municipal Boundaries
- Lakes
- Rivers



Sources: HCAADT - MNDOT; Other Features - MNDNR Data Deli



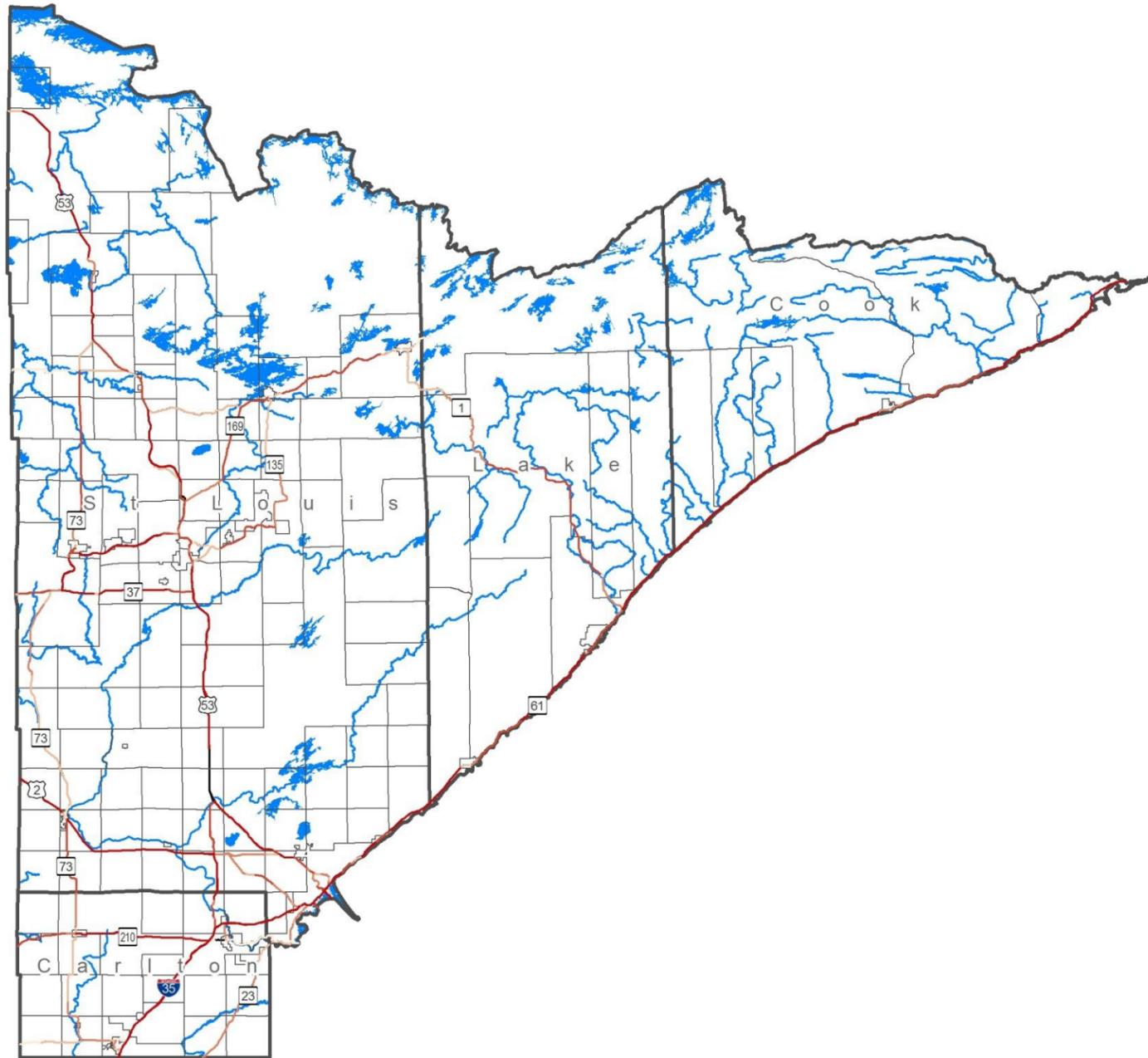
### Heavy Commercial Annual Average Daily Traffic Table

Route Type	Heavy Commercial Annual Average Daily Traffic
Interstate	31,080
US Highway	35,960
MN Highway	38,005
<b>Total Northeast Region</b>	<b>105,045</b>

Heavy Commercial Annual Average Daily Traffic (HCAADT) is the number of trucks with at least 2 axles and 6 tires that travel a section of road per day (averaged for 365 days in one year). MNDOT measures traffic for road sections every 2-4 years. Note that HCAADT is per section of road. If more sections of road exist for a Route Type, more HCAADT will be reported for that Route Type in the table above. For a normalized comparison of the amount of traffic on each route type, refer to the Heavy Commercial Annual Average Daily Vehicle Miles Traveled map.

# Heavy Commercial Annual Average Daily Vehicle Miles Traveled

## Northeast Landscape Region

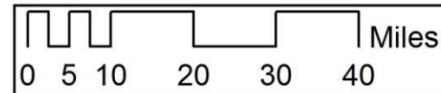


### Heavy Commercial Annual Average Daily Vehicle Miles Traveled (2010 - 2012)

- 0.00 - 164.93
- 164.94 - 438.48
- 438.49 - 928.33
- 928.34 - 2346.99
- 2347.00 - 34124.82
- Class breaks by quantile.
- No Data Available

### Other Features

- County Boundaries
- Municipal Boundaries
- Lakes
- Rivers



Sources: HC AAD VMT - MNDOT; Other Features - MNDNR Data Deli



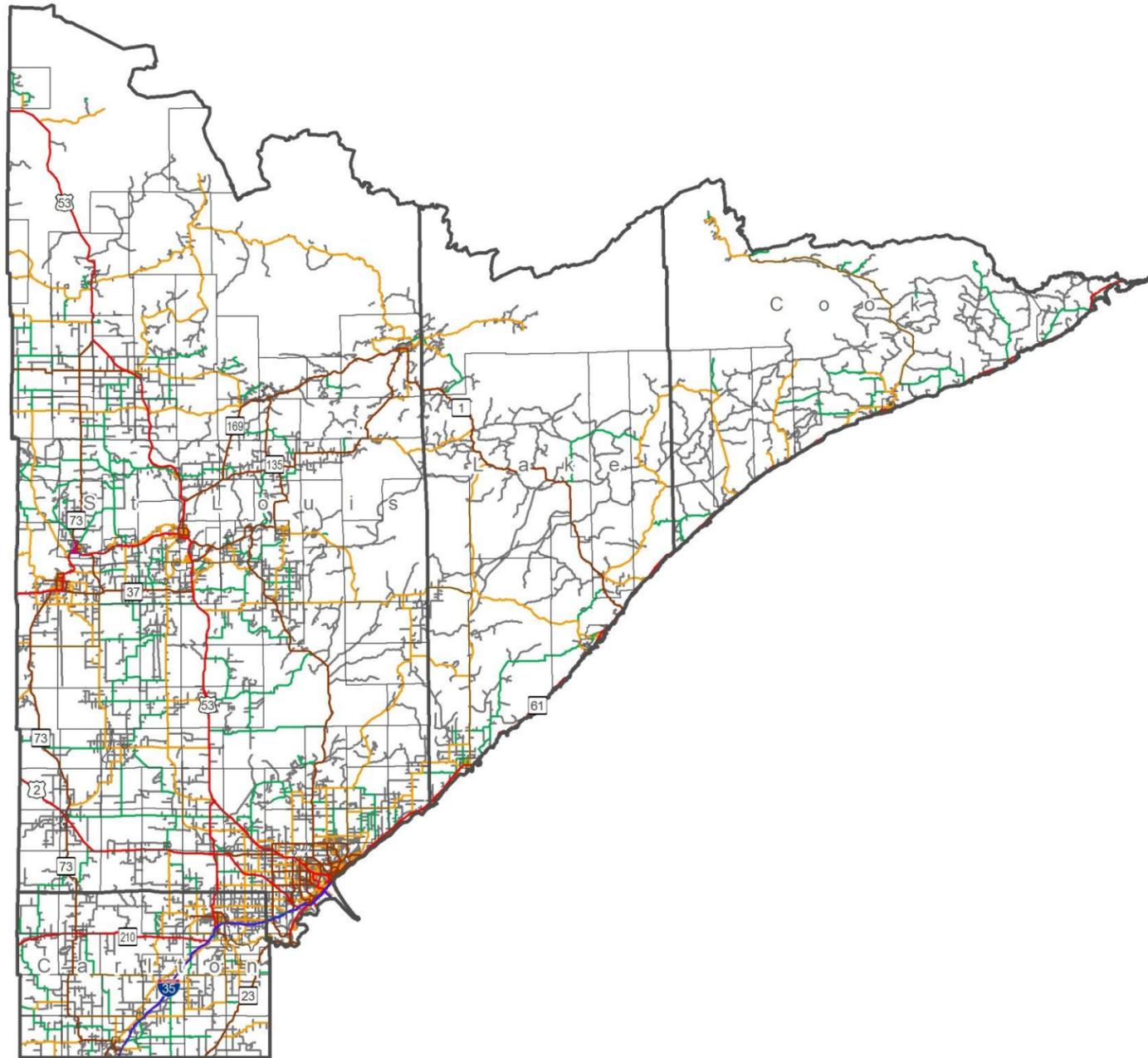
## Heavy Commercial Annual Average Daily Vehicle Miles Traveled Table

Route Type	Length (miles)	Heavy Commercial Annual Average Daily Vehicle Miles Traveled
Interstate	95.6	122,602
US Highway	320.7	159,879
MN Highway	625.1	124,850
<b>Total Northeast Region</b>	<b>1041.4</b>	<b>407,332</b>

Heavy Commercial Annual Average Daily Vehicle Miles Traveled (HCAAD VMT) is the number of trucks with at least 2 axles and 6 tires that travel a section of road per day (averaged for 365 days in one year) multiplied by the length of the section of road. If 2 trucks traveled a 2 mile section of road every day over the course of one year, the HCAAD VMT for that section of road would be 4. The HCAAD VMT should be used when comparing routes for traffic volume given that it provides a normalized comparison for traffic measurements (the Heavy Commercial Annual Average Daily Traffic count can be skewed by the presence of multiple sections of a Route Type).

# Road Functional Classes

## Northeast Landscape Region

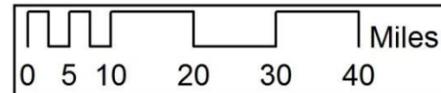


### Road Functional Classes

- Principal Arterial - Interstate
- Principal Arterial - Other Freeways & Expressways
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector
- Local

### Other Features

- County Boundaries
- Municipal Boundaries



Sources: Road Functional Classes - MNDOT; Other Features - MNDNR Data Deli



### Road Functional Classes Table

Road Functional Class	Miles
Principal Arterial - Interstate	96
Principal Arterial - Other Freeways & Expressways	6
Principal Arterial - Other	578
Minor Arterial	601
<b>Total Arterial</b>	<b>1,282</b>
Major Collector	1,365
Minor Collector	912
<b>Total Collector</b>	<b>2,278</b>
Local	5,551
<b>Total Local</b>	<b>5,551</b>
<b>Total Northeast Region</b>	<b>9,111</b>

# Bibliography

- EDD Maps. Early Detection & Distribution Mapping System. <http://www.eddmaps.org/>
- MDA EAB. Minnesota Department of Agriculture Emerald Ash Borer Early Detection & Rapid Response. <http://www.mda.state.mn.us/plants/pestmanagement/eab>
- MFRC. Minnesota Forest Resources Council. <http://mn.gov/frc/>
- MN Audubon. Audubon Minnesota Important Bird Areas. <http://mn.audubon.org/important-bird-areas-3>
- MNDNR Data Deli. Minnesota Department of Natural Resources GIS Data Deli. <http://deli.dnr.state.mn.us/>
- MNDNR HCVF. Minnesota Department of Natural Resources High Conservation Value Forests. <http://www.dnr.state.mn.us/forestry/certification/hcvf.html>
- MNDNR FOR. Minnesota Department of Natural Resources, Division of Forestry
- MNDNR Forestry PFM Program. Minnesota Department of Natural Resources, Division of Forestry, Private Forest Management Program [gary.michael@state.mn.us](mailto:gary.michael@state.mn.us)
- MNDNR WHAF. Watershed Health Assessment Framework. <http://www.dnr.state.mn.us/whaf/index.html>
- MN Geo. Minnesota Geospatial Information Office. <http://www.mngeo.state.mn.us/>
- MNDOT. Minnesota Department of Transportation. <http://www.dot.state.mn.us/>
- MPCA. Minnesota Pollution Control Agency. <http://www.pca.state.mn.us/index.php/data/spatial-data.html>
- MRLC. Multi-Resolution Land Characteristics Consortium. <http://www.mrlc.gov/>
- NRCS Web Soil Survey. National Resources Conservation Service Web Soil Survey. <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
- NRRI. Geospatial Modeling of Native Plant Communities of Minnesota's Laurentian Mixed Forest. [http://gisdata.nrri.umn.edu/projects/NPC2012/20131226/PotentialNPC\\_20131226.zip](http://gisdata.nrri.umn.edu/projects/NPC2012/20131226/PotentialNPC_20131226.zip)
- US Census. United States Census Bureau TIGER Products. <http://www.census.gov/geo/maps-data/data/tiger.html>
- USFS SAP. United States Forest Service Spatial Analysis Project. <http://www.fs.fed.us/na/sap/products/mn.shtml>
- USFS SNF. <http://www.fs.usda.gov/superior>