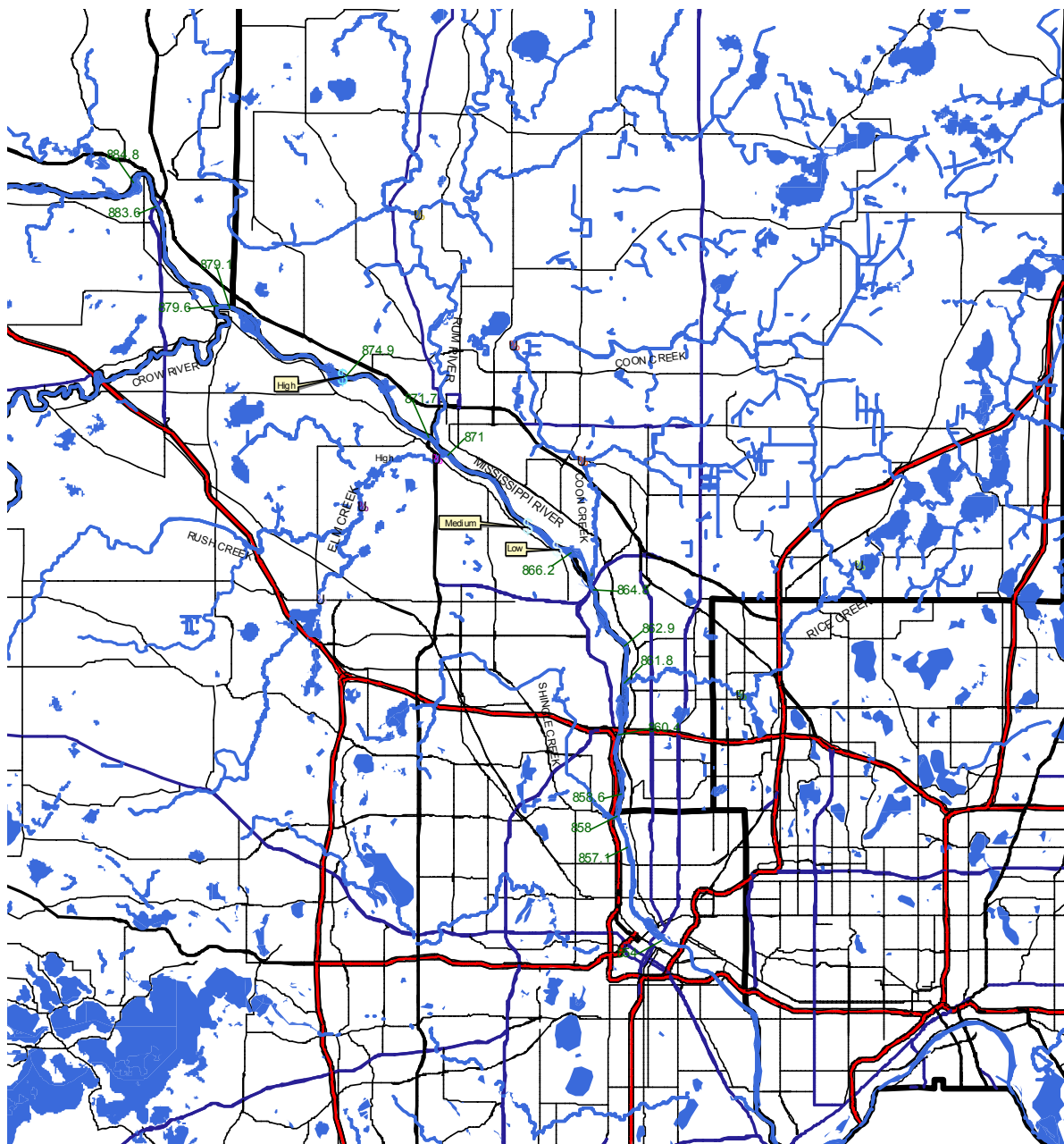


APPENDIX 4

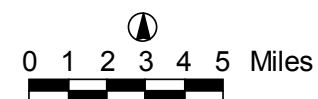
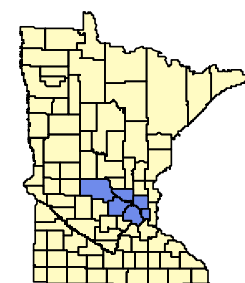
DATA MAPS USED TO DELINEATE SOURCE WATER PROTECTION PRIORITY AREA A



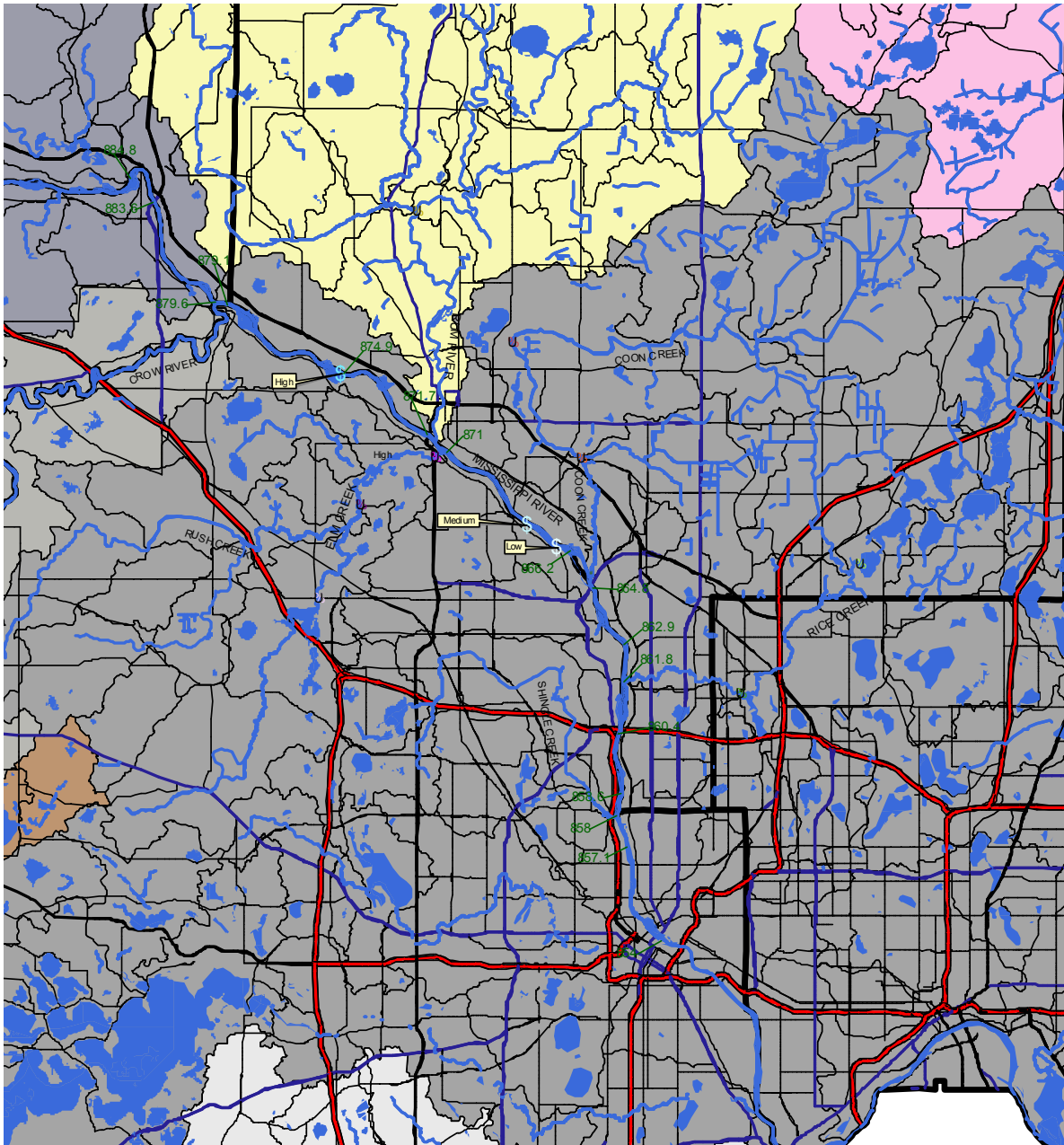
St. Paul

8-Hour Time of Travel

- u Baldwin Lake Outlet
- u Long Lake Rd
- u Elm Creek Road
- u US Hwy 169
- u 93rd Ave N
- u S Coon Creek Drive
- u Trott Brook
- u Northdale Blvd
- u St. Paul - High Flows
- u St. Paul - Medium Flows
- u St. Paul - Low Flows
- u Rivers & Streams
- u Lakes
- Roads
 - u Interstate Highway
 - u U.S. Highway
 - u MN Highway
 - u CSAH
 - u County Lines



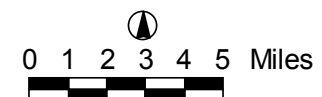
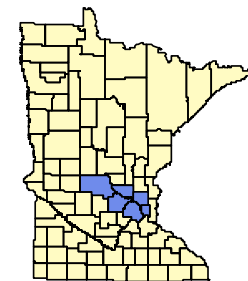
Priority Area A: Map 1



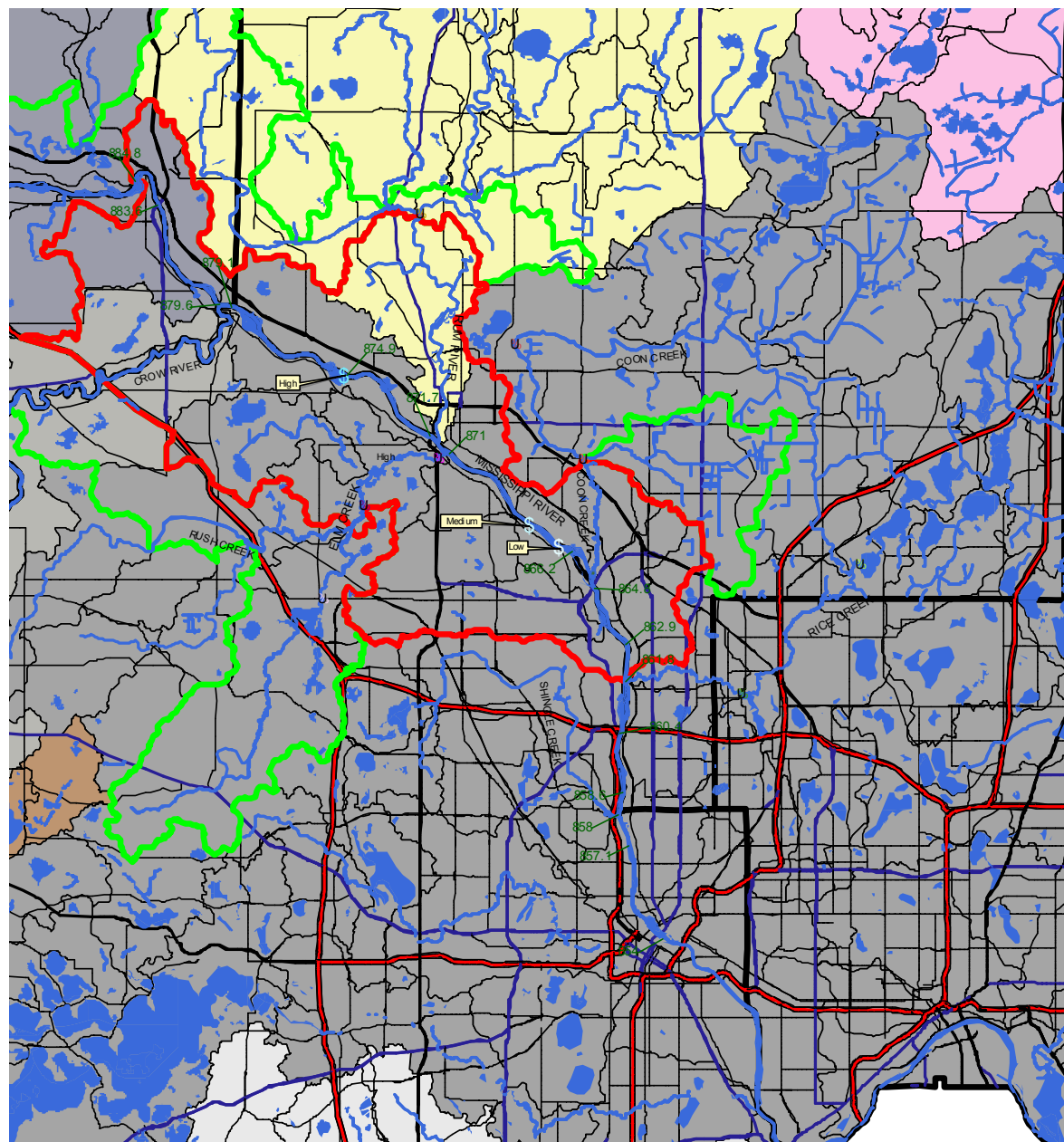
St. Paul

8-Hour Time of Travel

- U Baldwin Lake Outlet
- U Long Lake Rd
- U Elm Creek Road
- U US Hwy 169
- U 93rd Ave N
- U S Coon Creek Drive
- U Trott Brook
- U Northdale Blvd
- St. Paul - High Flows
- St. Paul - Medium Flows
- St. Paul - Low Flows
- Rivers & Streams
- Lakes
- Roads
 - Interstate Highway
 - U.S. Highway
 - MN Highway
 - CSAH
- County Lines
- Watersheds
 - Clearwater-Elk
 - North-Fork-Crow
 - Lower-Minnesota
 - Lower-St-Croix
 - Rum
 - South-Fork-Crow
 - Twin-Cities



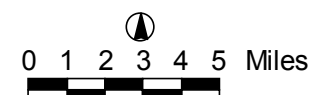
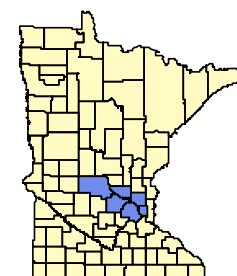
Priority Area A: Map 2



St. Paul

8-Hour Time of Travel

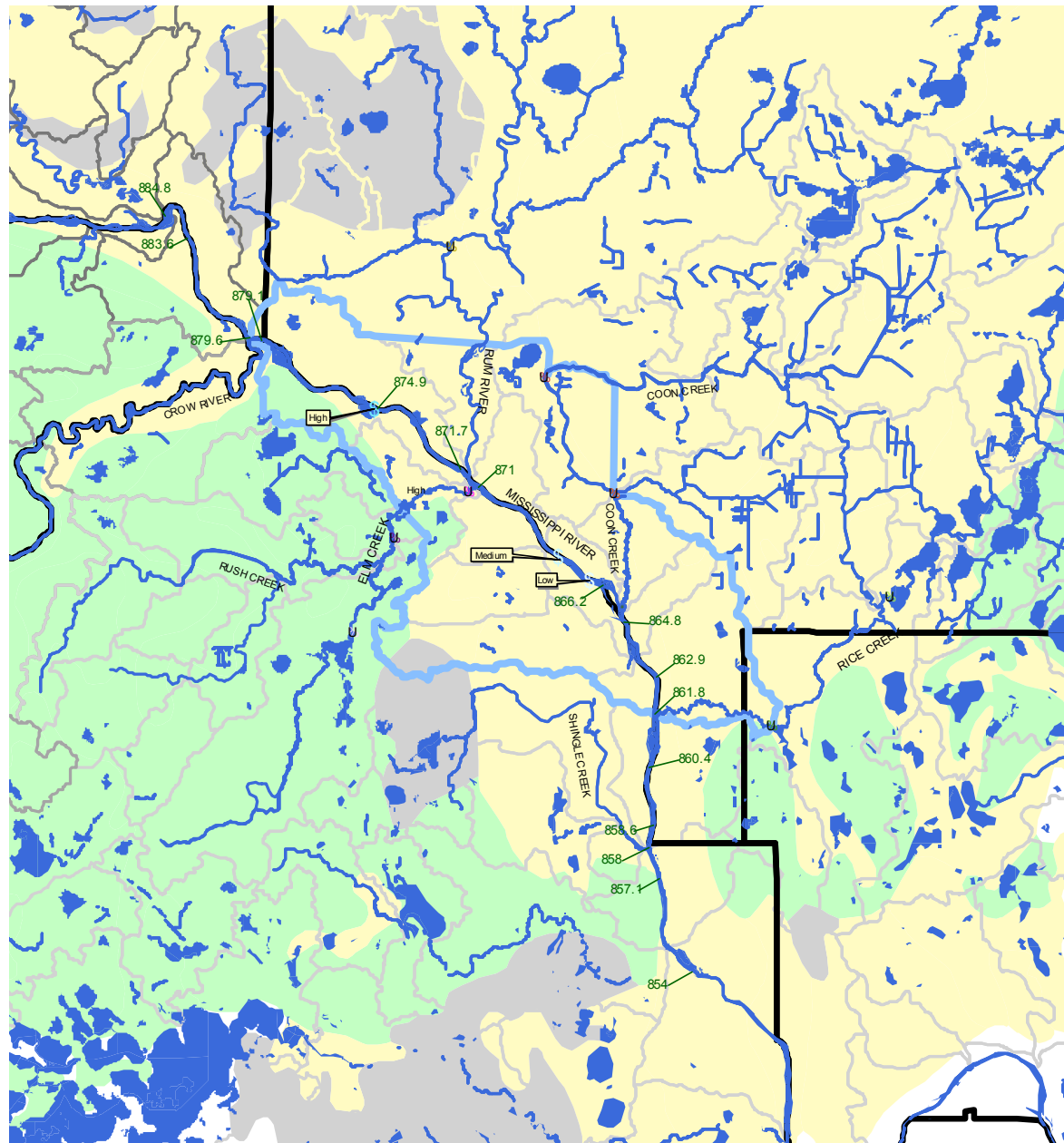
- U Baldwin Lake Outlet
- U Long Lake Rd
- U Elm Creek Road
- U US Hwy 169
- U 93rd Ave N
- U S Coon Creek Drive
- U Trott Brook
- U Northdale Blvd
- \$ St. Paul - High Flows
- \$ St. Paul - Medium Flows
- \$ St. Paul - Low Flows
- △ Rivers & Streams
- Lakes
- Inner Emergency Response Area
- Outer Source Water Management Area
- Roads**
- ▬ Interstate Highway
- ▬ U.S. Highway
- ▬ MN Highway
- ▬ CSAH
- ▬ County Lines
- Watersheds**
- Clearwater-Elk
- North-Fork-Crow
- Lower-Minnesota
- Lower-St-Croix
- Rum
- South-Fork-Crow
- Twin-Cities



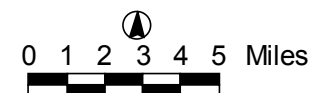
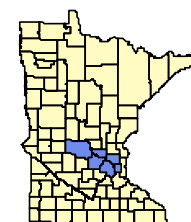
Priority Area A: Map 3

St. Paul

8-Hour Time of Travel



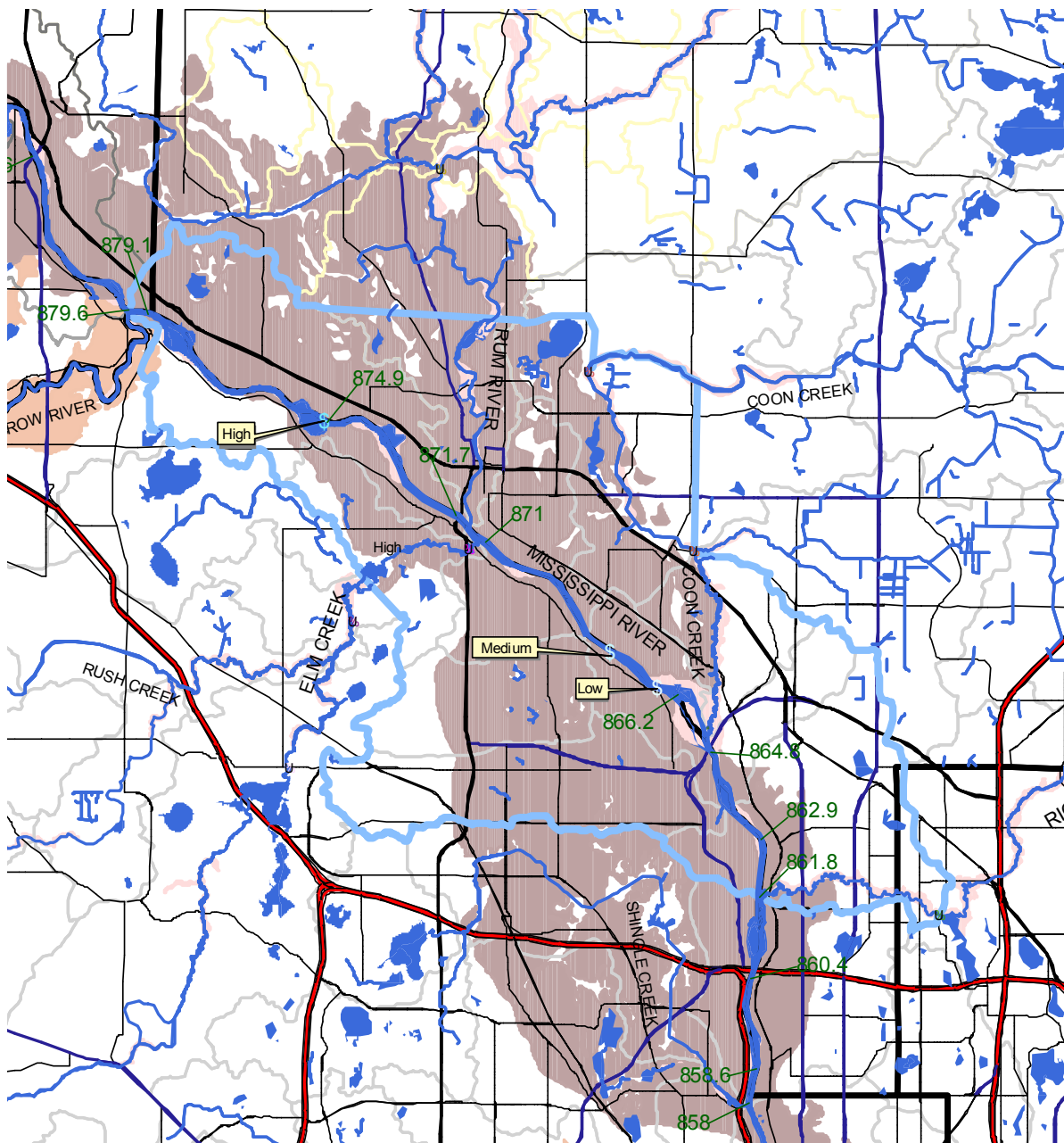
- U Baldwin Lake Outlet
- U Long Lake Rd
- U Elm Creek Road
- U US Hwy 169
- U 93rd Ave N
- U S Coon Creek Drive
- U Trott Brook
- U Northdale Blvd
- St. Paul - High Flows
- St. Paul - Medium Flows
- St. Paul - Low Flows
- Rivers & Streams
- Lakes
- Draft Priority A Source Water Protection Area
- County Lines
- Watersheds
- Cleanwater-Elk
- Crow
- Rum
- Twin-Cities
- Theme51.shp
- Antigo-Chetek-Mahtomedi
- Burkhardt-Mahtomedi-Chetek
- Erin-Kikenny-Boots
- Estherville-Dickman-Dakota
- Hayden-Boots-Burnsville
- Hayden-Cordova-Hamel
- Hayden-Nessel-Dundas
- Heyder-Rifle-Kingsley
- Hubbard-Isan-Duerm
- Kingsley-Mahtomedi-Quam
- Lester-Hamel-Le Sueur
- Lester-Hayden-Muskego
- Nymore-Rifle-Lino
- Rifle-Isanti-Markey
- Santiago-Kingsley-DeMontreville
- Waukegan-Chetek-Zimmerman
- Zimmerman-Isanti-Lino



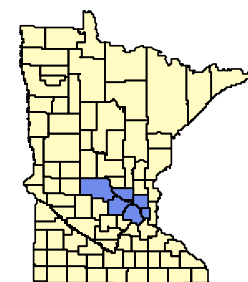
Priority Area A: Map 4

St. Paul

8-Hour Time of Travel

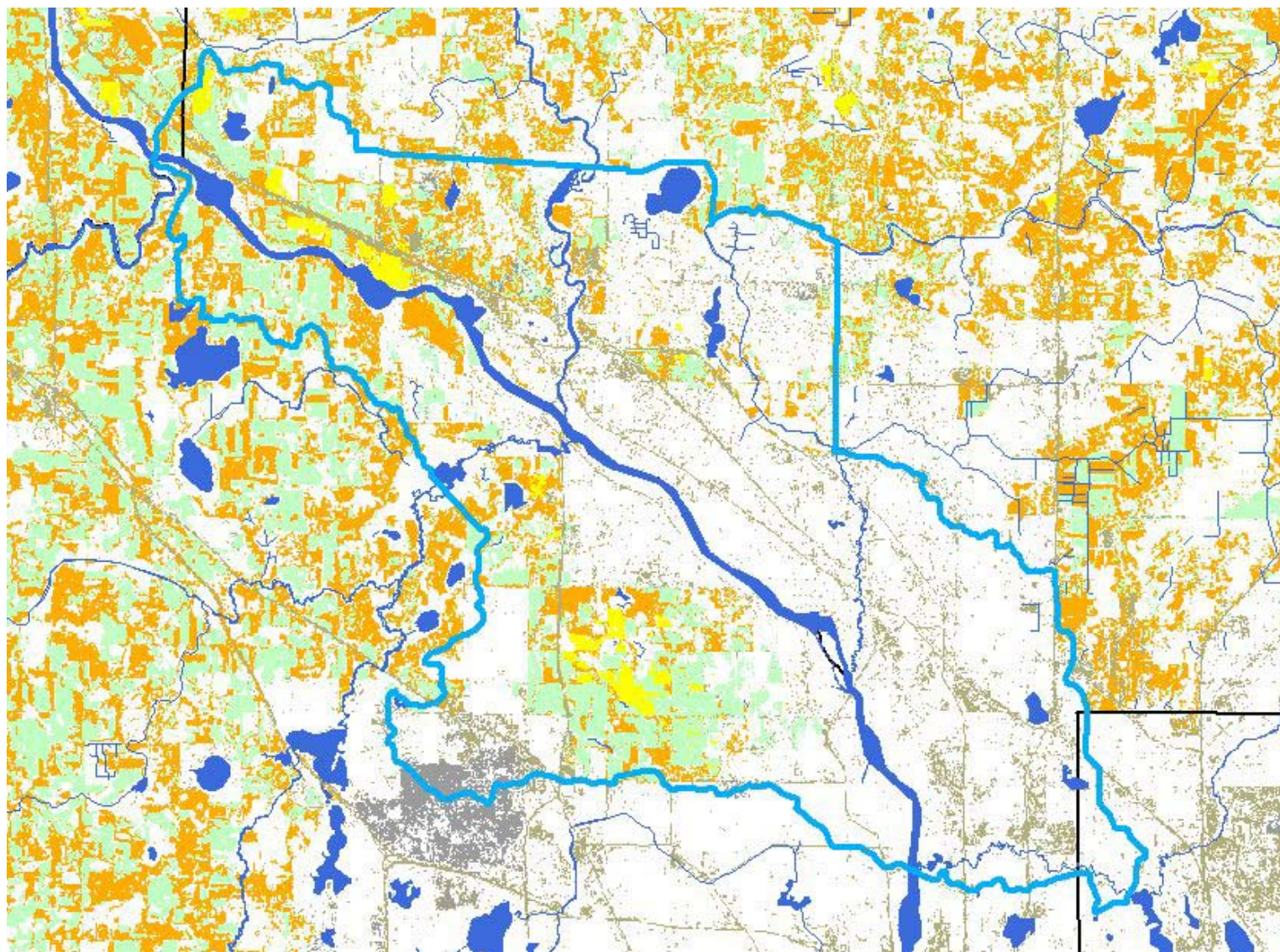


Priority Area A: Map 5

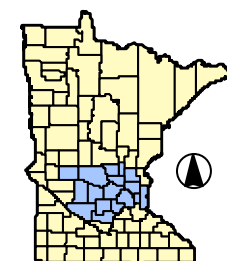


St. Paul

8-Hour Time of Travel



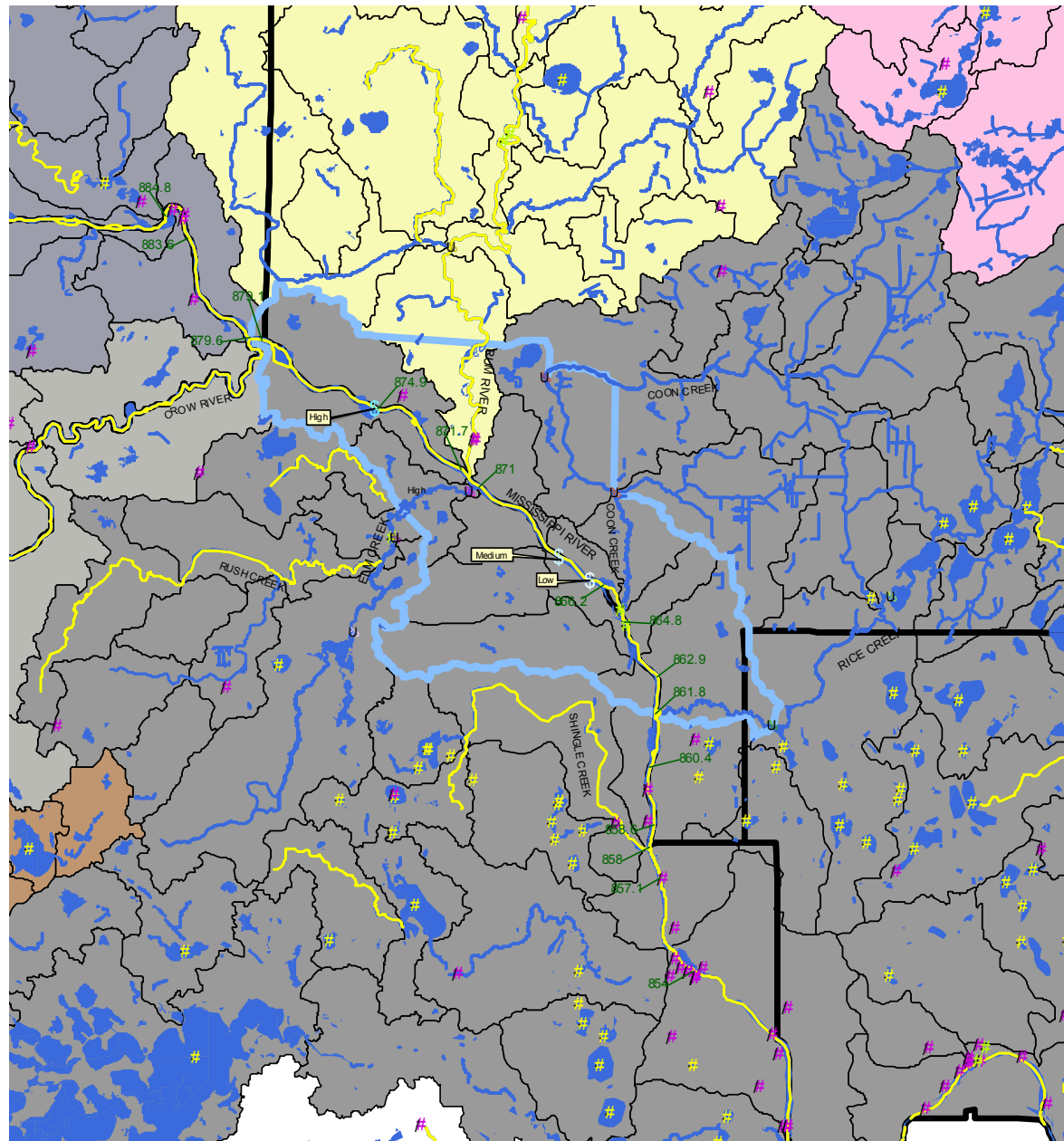
- St. Paul Priority ASWP Area
- Rivers & Streams
- Lakes
- County Lines
- 1992 Land Use
 - Commercial/Industrial/Transportation
 - Quarries/Strip Mines/Gravel Pits
 - Pasture/Hay
 - Row Crops
 - Small Gains



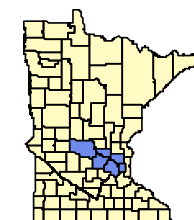
Priority Area A: Map 6

St. Paul

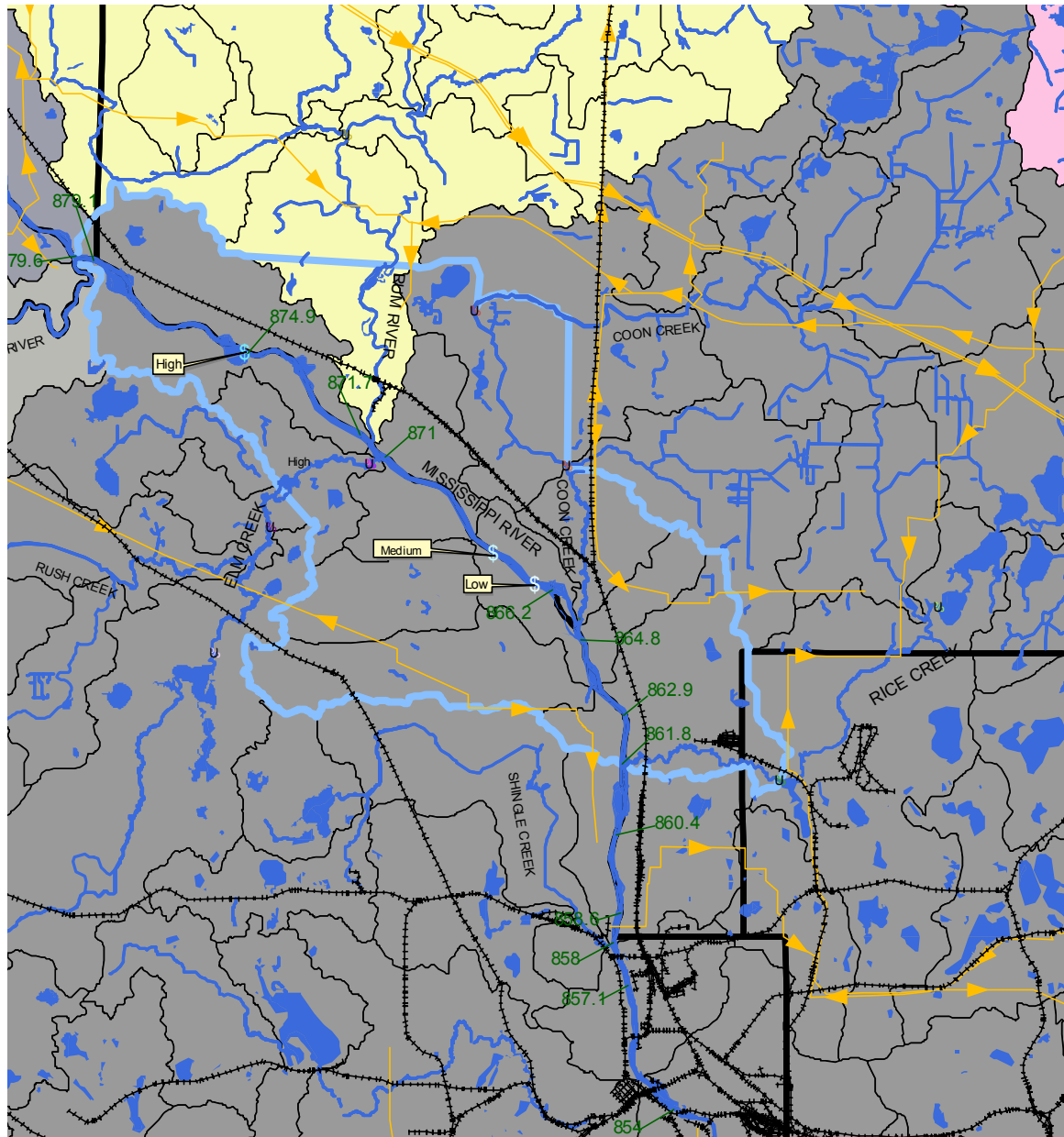
8-Hour Time of Travel



- U Baldwin Lake Outlet
- U Long Lake Rd
- U Elm Creek Road
- U US Hwy 169
- U 93rd Ave N
- U S Coon Creek Drive
- U Trott Brook
- U Northdale Blvd
- # USGS Gauging Stations
- # NPDES Permits
- St. Paul - High Flows
- St. Paul - Medium Flows
- St. Paul - Low Flows
- Impaired Streams
- Rivers & Streams
- Impaired Waters
- Lakes
- Draft Priority A Source Water Protection Area
- County Lines
- Watersheds
- Cleanwater-Elk
- Crow
- Lower-St-Croix
- Rum
- South-Fork-Crow
- Twin-Cities



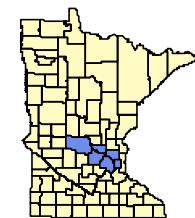
Priority Area A: Map 7



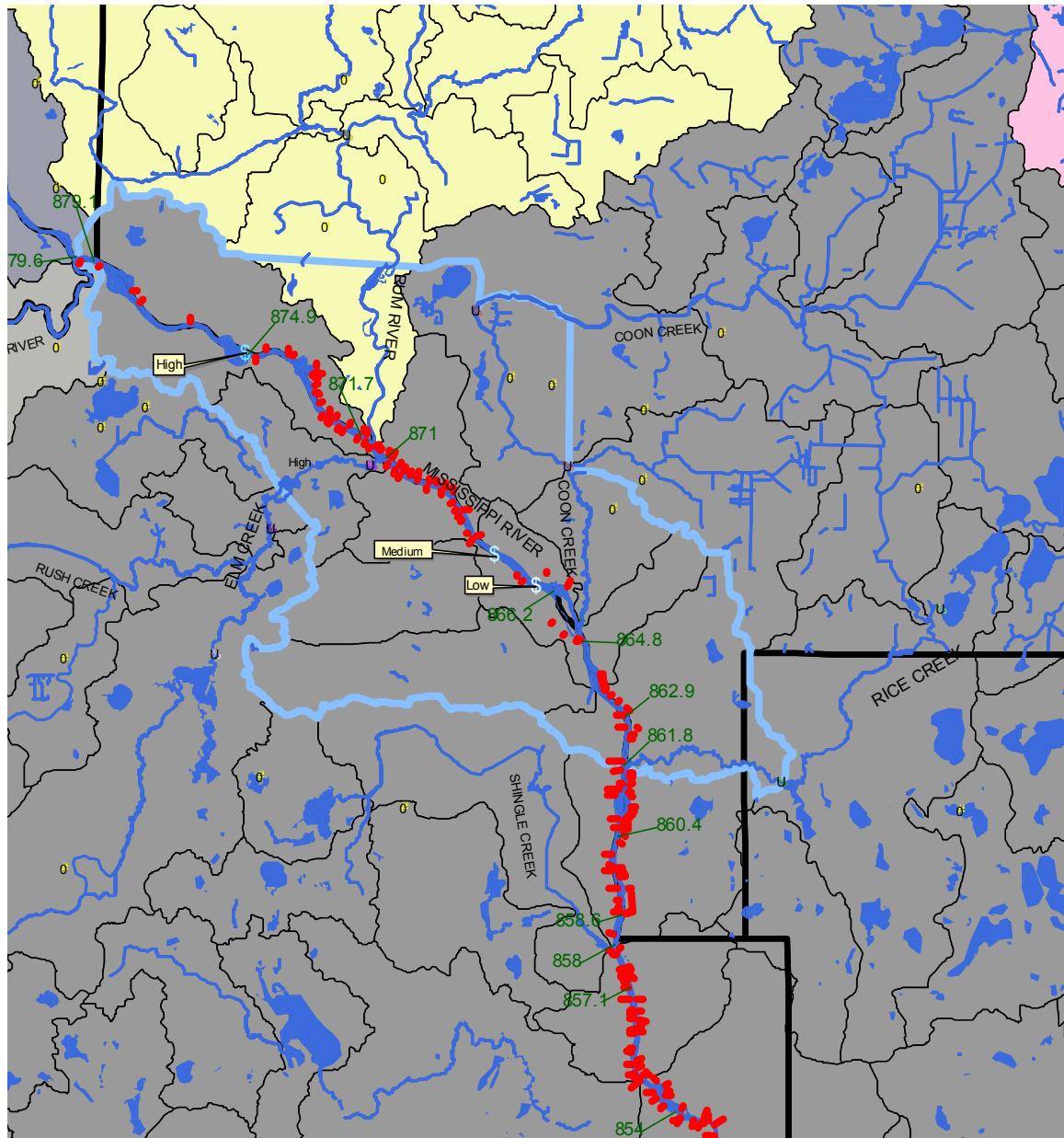
St. Paul

8-Hour Time of Travel

- U Baldwin Lake Outlet
- u Long Lake Rd
- u Elm Creek Road
- u US Hwy 169
- u 93rd Ave N
- u S Coon Creek Drive
- u Trott Brook
- u Northdale Blvd
- St. Paul - High Flows
- St. Paul - Medium Flows
- St. Paul - Low Flows
- Railroads
- Pipelines
- Rivers & Streams
- Lakes
- Draft Priority A Source Water Protection Area
- County Lines
- Watersheds
- Clearwater-Elk
- Crow
- Lower-St-Croix
- Rum
- South-Fork-Crow
- Twin-Cities



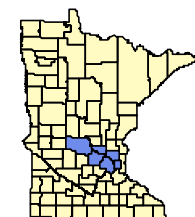
Priority Area A: Map 8



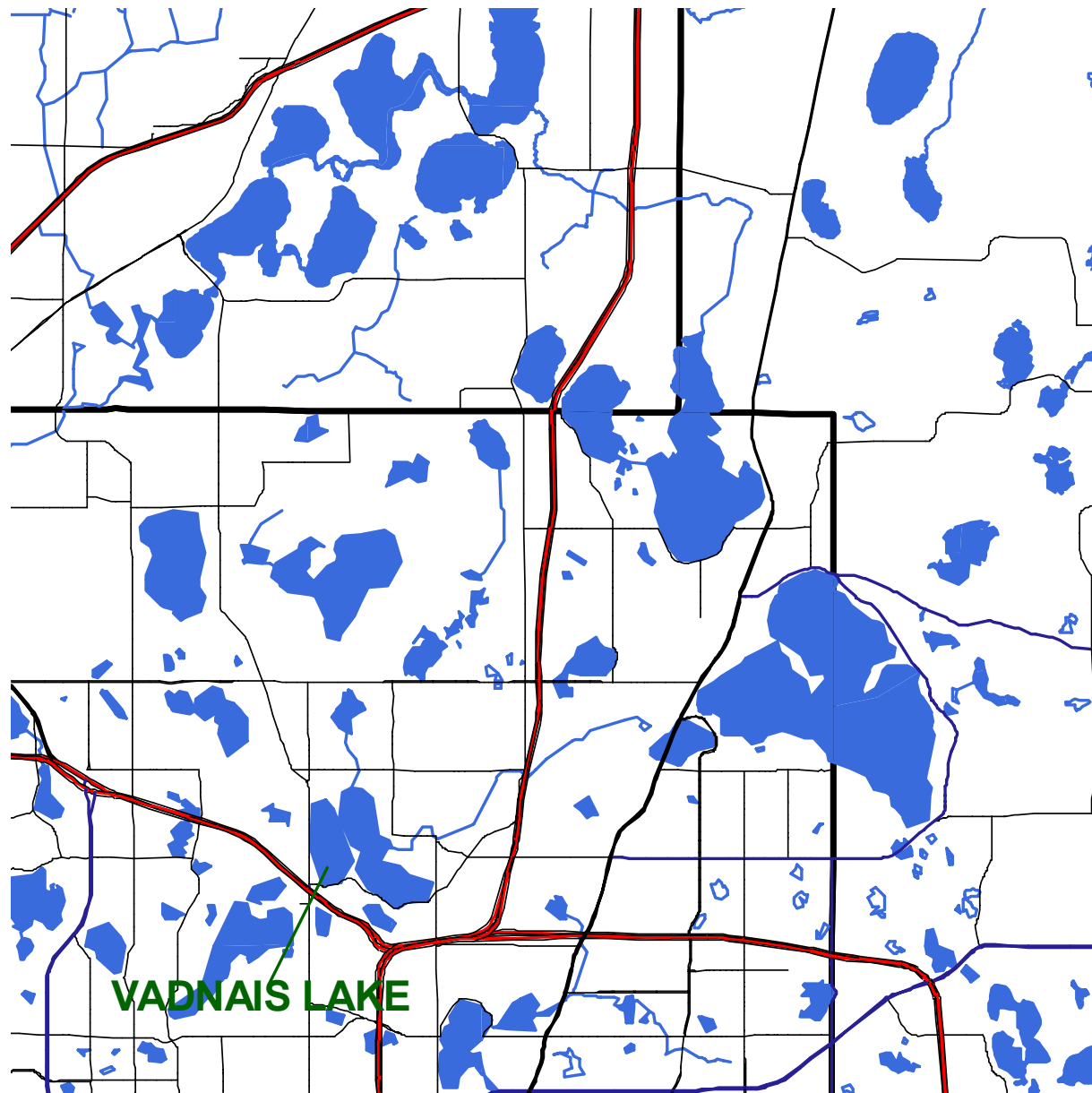
St. Paul

8-Hour Time of Travel

- U Baldwin Lake Outlet
- U Long Lake Rd
- U Elm Creek Road
- U US Hwy 169
- U 93rd Ave N
- U S Coon Creek Drive
- U Trott Brook
- U Northdale Blvd
- St. Paul - High Flows
- St. Paul - Medium Flows
- St. Paul - Low Flows
- Storm Sewer Outlets
- Feedlots
- Rivers & Streams
- Lakes
- Draft Priority A Source Water Protection Area
- County Lines
- Watersheds
 - Clearwater-Elk
 - Crow
 - Lower-St-Croix
 - Rum
 - South-Fork-Crow
 - Twin-Cities



Priority Area A: Map 9

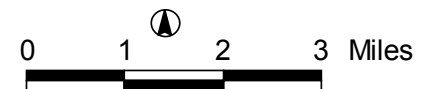
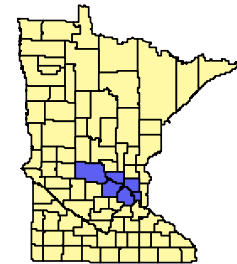


Vadnais Lake

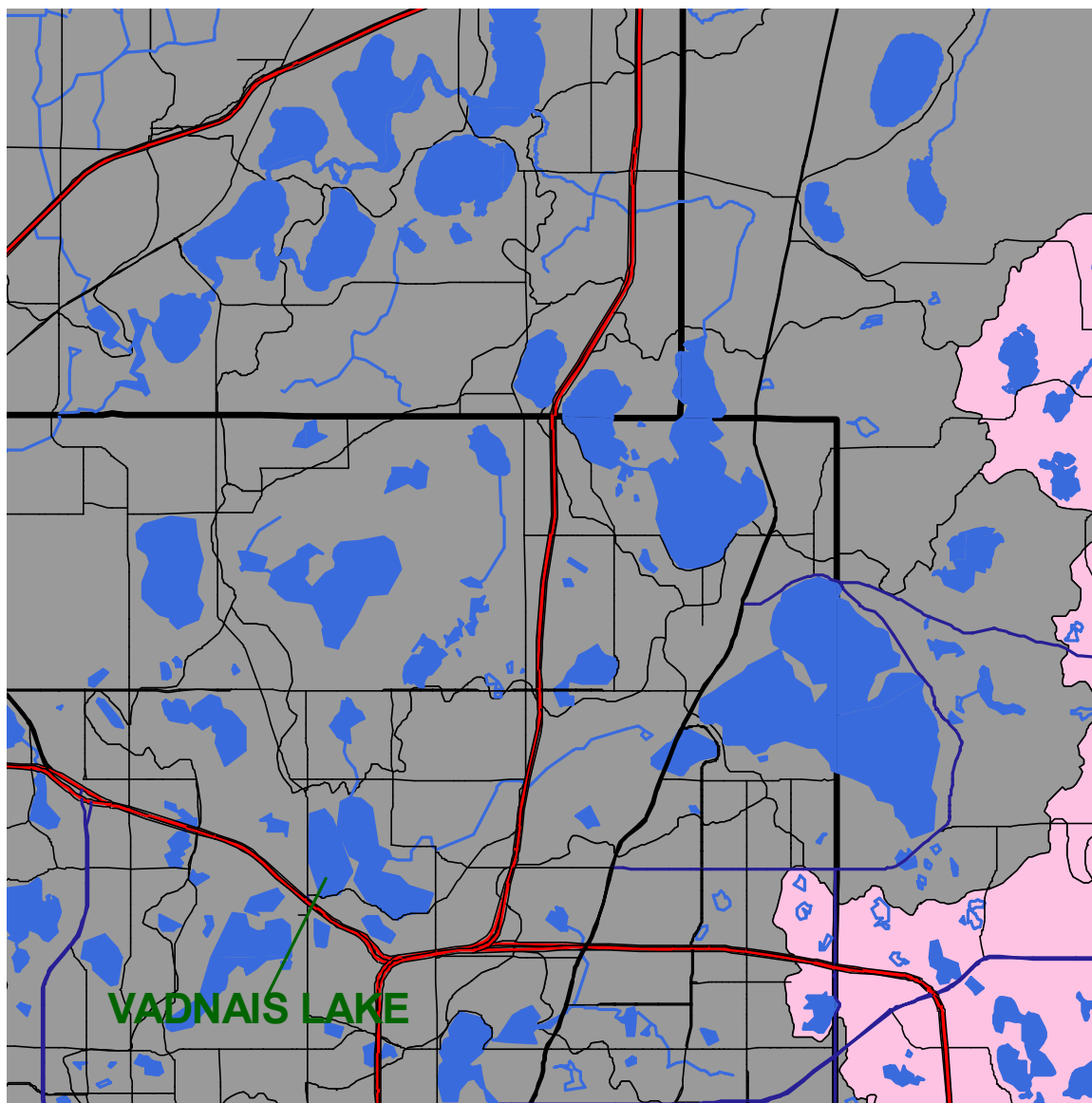
8-Hour Time of Travel

Roads

-  Interstate Highway
-  U.S. Highway
-  MN Highway
-  CSAH
-  Rivers & Streams
-  Lakes
-  County Lines



Priority Area A: Vadnais Lake Map 1



Vadnais Lake

8-Hour Time of Travel

Roads

- Interstate Highway
- U.S. Highway
- MN Highway
- CSAH
- Rivers & Streams

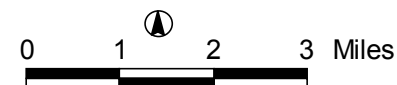
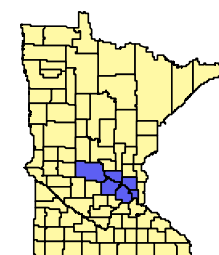
Lakes

County Lines

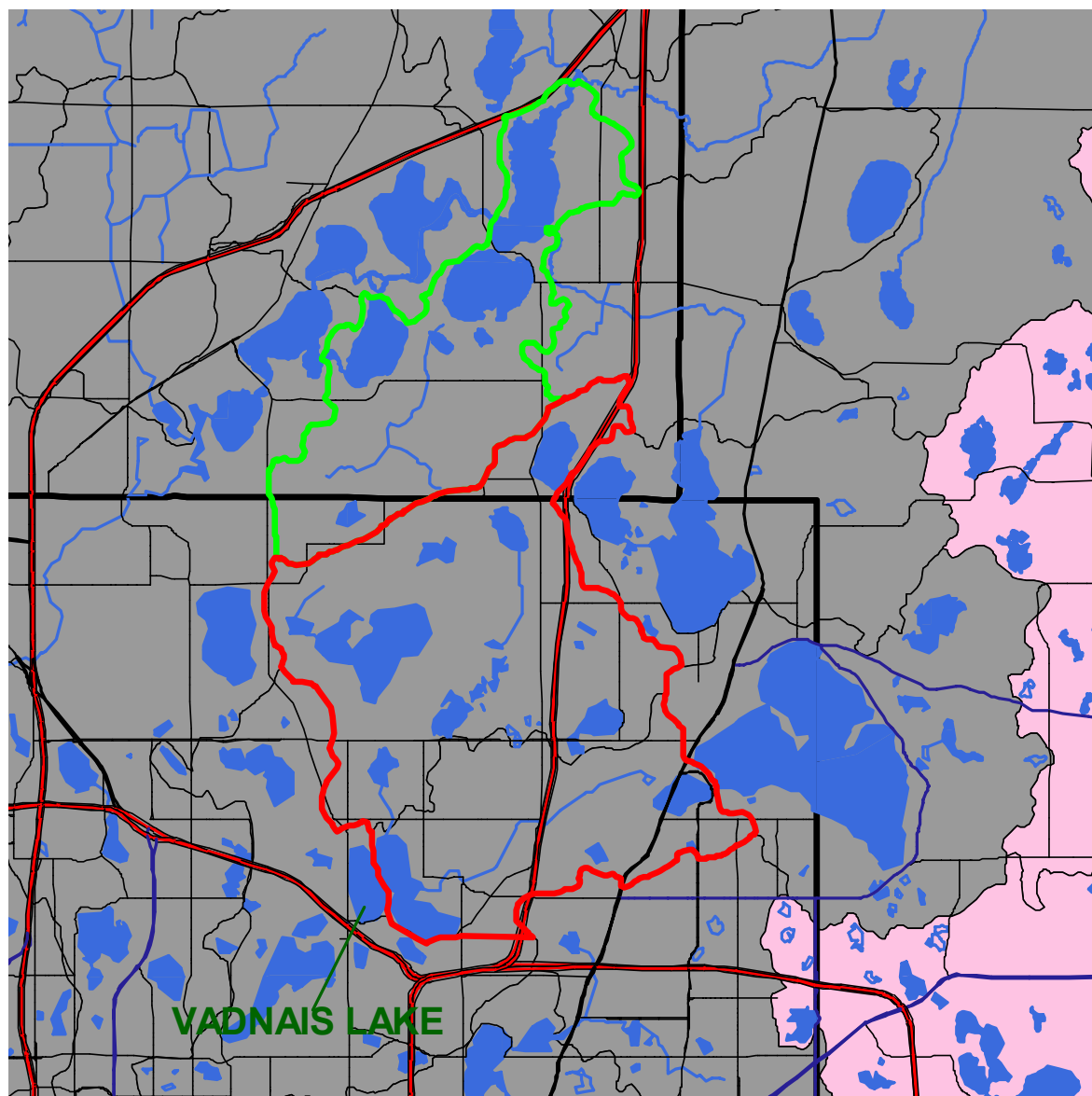
- Lower-St-Croix
- Twin-Cities

Watersheds

- Lower-St-Croix
- Twin-Cities



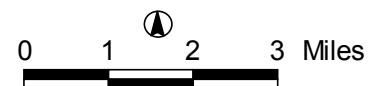
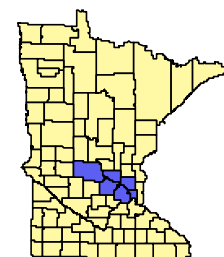
Priority Area A: Vadnais Lake Map 2



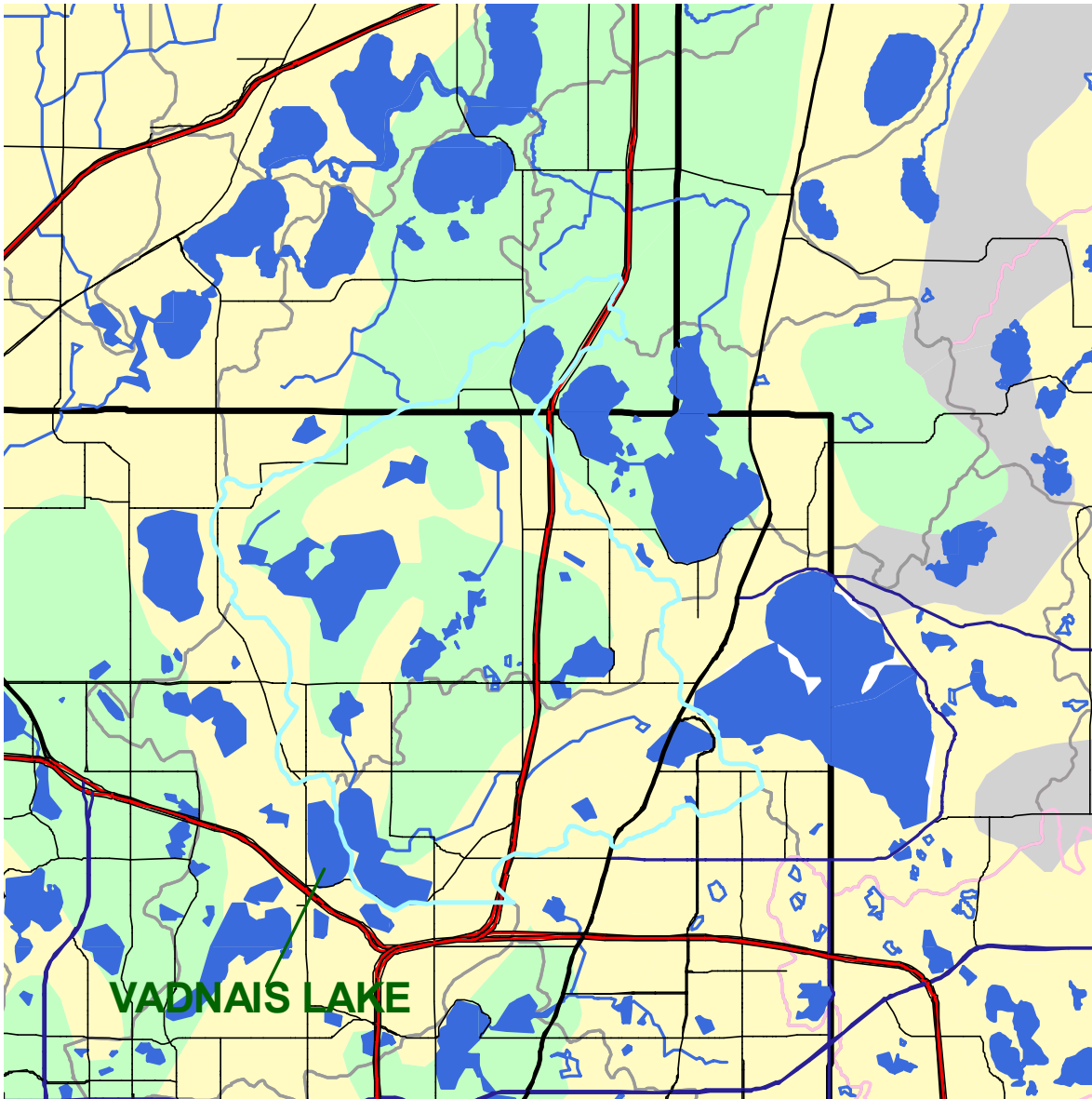
Vadnais Lake

8-Hour Time of Travel

- ▬ Inner Emergency Response Area
- ▬ Outer Source Water Management Area
- Roads**
 - ▬ Interstate Highway
 - ▬ U.S. Highway
 - ▬ MN Highway
 - ▬ CSAH
- ▬ Rivers & Streams
- ▬ Lakes
- County Lines**
- Watersheds**
 - ▬ Lower-St-Croix
 - ▬ Twin-Cities



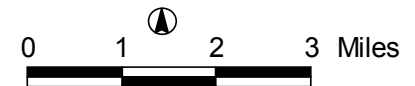
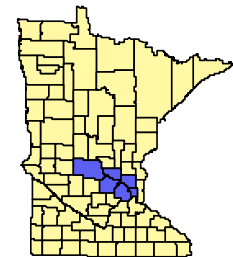
Priority Area A: Vadnais Lake Map 3



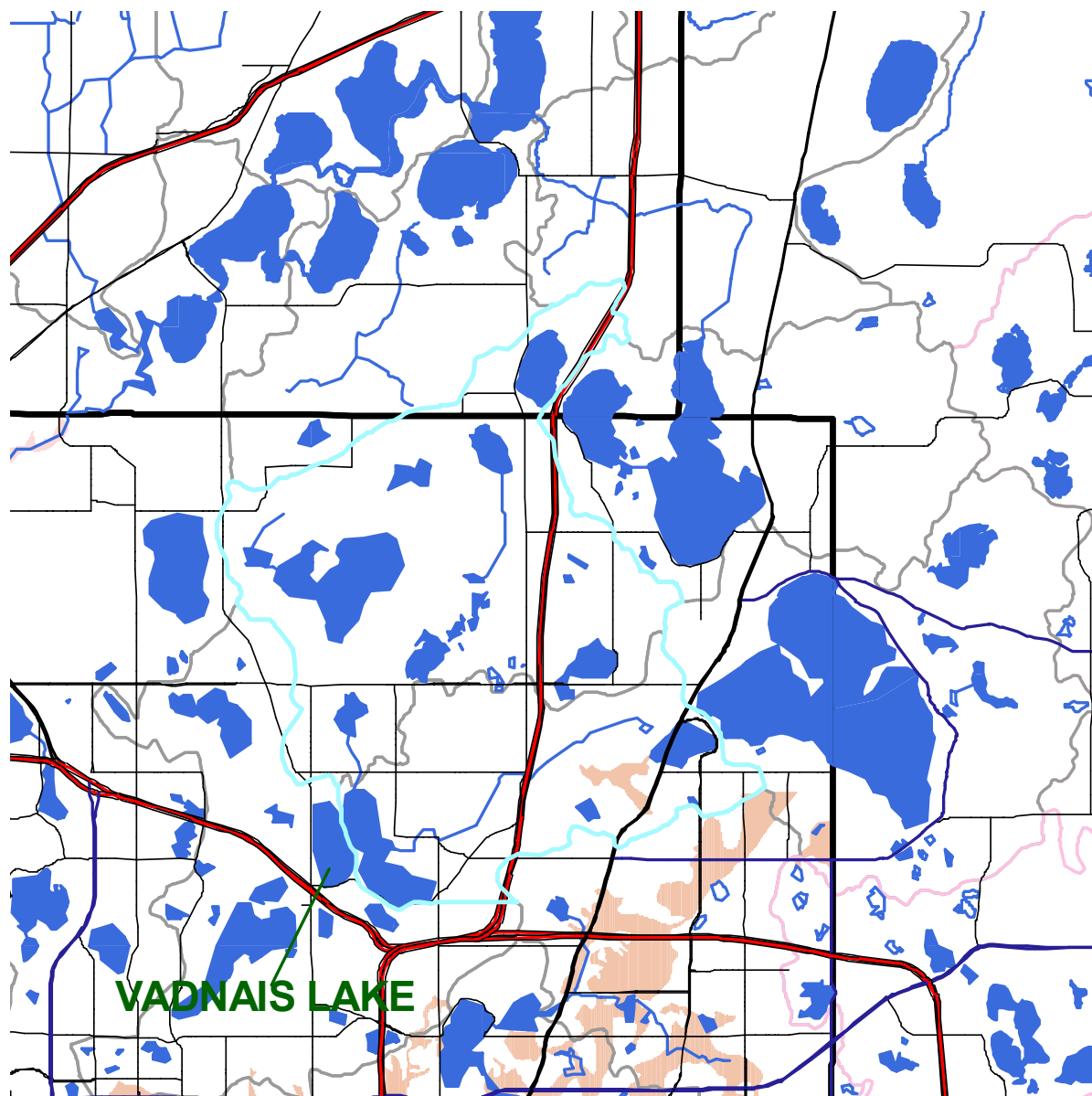
Vadnais Lake

8-Hour Time of Travel

- Priority A SWP Area
- Roads**
 - Interstate Highway
 - U.S. Highway
 - MN Highway
 - CSAH
- Rivers & Streams
- Lakes
- County Lines
- Watersheds**
 - Lower-St-Croix
 - Twin-Cities
- Soils**
 - Antigo-Chetek-Mahtomedi
 - Antigo-Comstock-Crystallake
 - Estherville-Dickman-Dakota
 - Hayden-Cordova-Hamel
 - Hayden-Nessel-Dundas
 - Heyder-Rifle-Kingsley
 - Hubbard-Isan-Duelm
 - Kingsley-Mahtomedi-Quam
 - Rifle-Isanti-Markey
 - Santiago-Kingsley-DeMontreville
 - Waukegan-Chetek-Zimmerman
 - Zimmerman-Isanti-Lino



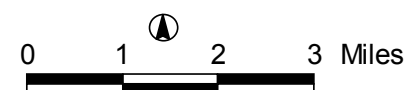
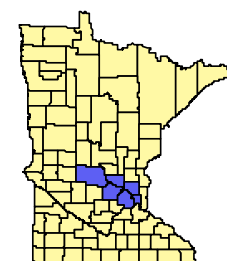
Priority Area A: Vadnais Lake Map 4



Vadnais Lake

8-Hour Time of Travel

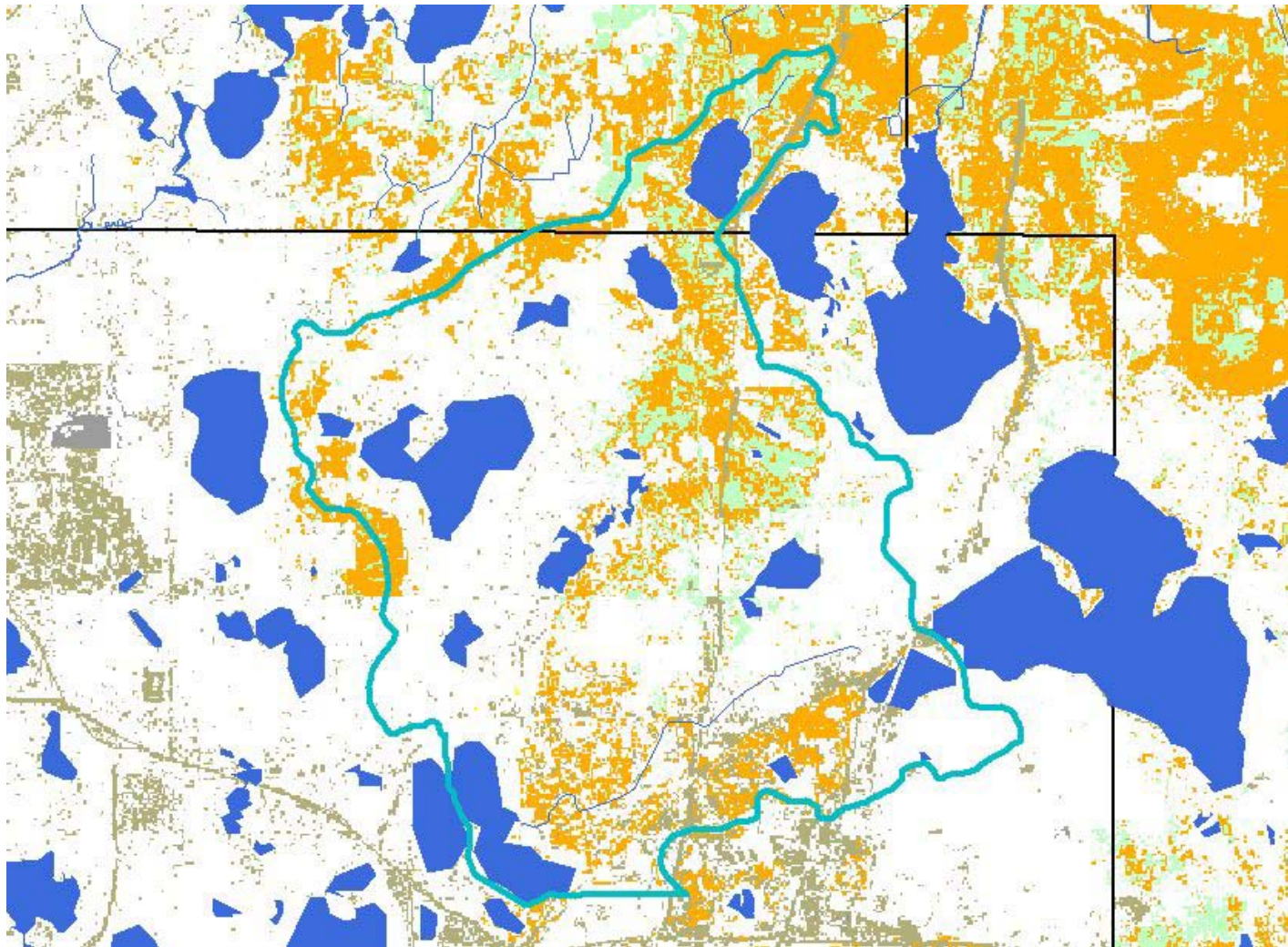
- Priority A SWP Area
- Roads
 - Interstate Highway
 - U.S. Highway
 - MN Highway
 - CSAH
- Rivers & Streams
- Lakes
- County Lines
- Watersheds
 - Lower-St-Croix
 - Twin-Cities
 - Alluvium Areas
 - Outwash Areas
 - Terrace Areas



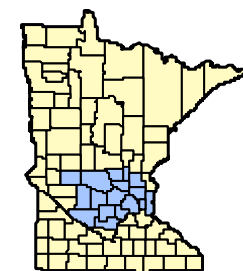
Priority Area A: Vadnais Lake Map 5

Vadnais Lake

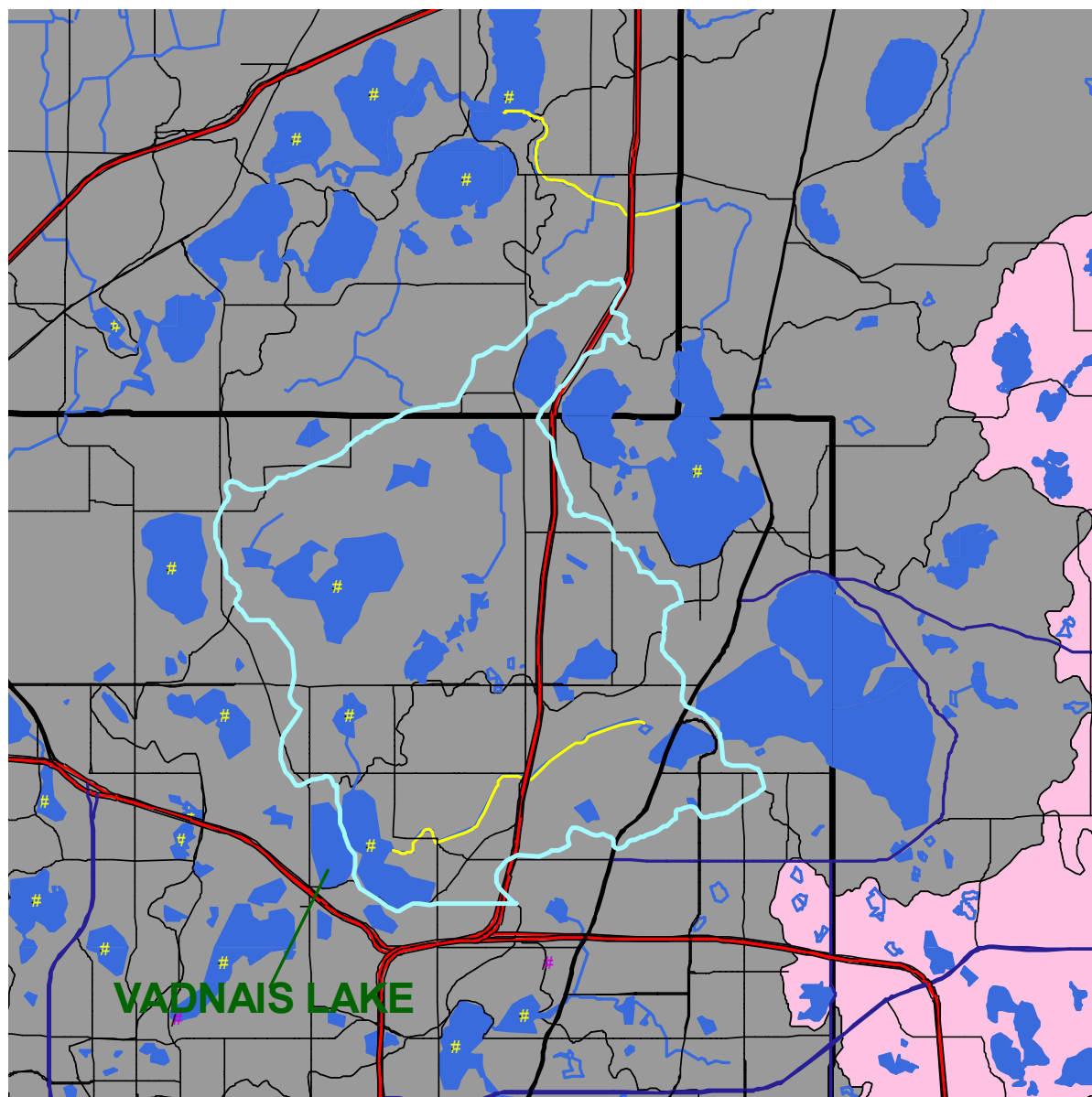
8-Hour Time of Travel



- Vadnais Lake Priority A SWP Area
- Rivers & Streams
- Lakes
- County Lines
- 1992 Land Use**
 - Commercial/Industrial/Transportation
 - Quarries/Strip Mines/Gravel Pits
 - Pasture/Hay
 - Row Crops
 - Small Grains



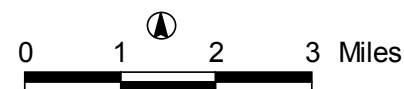
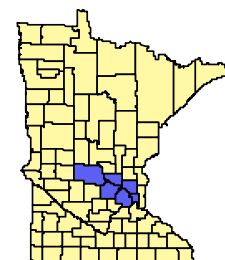
Priority Area A: Vadnais Lake Map 6



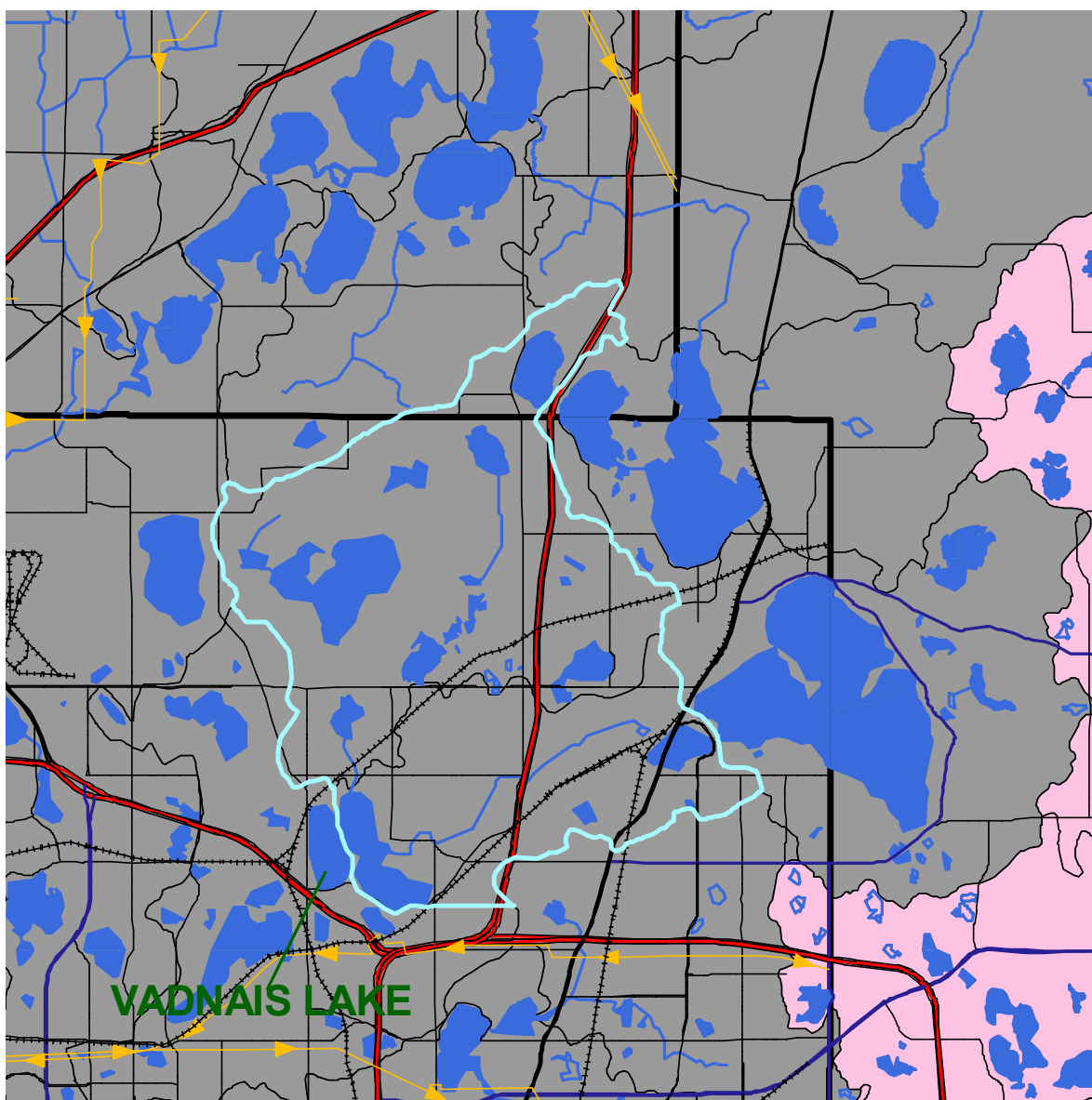
Vadnais Lake

8-Hour Time of Travel

- Priority A SWP Area
- # NPDES Permits
- Roads**
 - Interstate Highway
 - U.S. Highway
 - MN Highway
 - CSAH
- Impaired Streams
- Rivers & Streams
- # Impaired Lakes
- Lakes
- County Lines
- Watersheds**
 - Lower-St-Croix
 - Twin-Cities



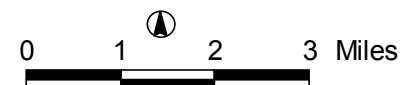
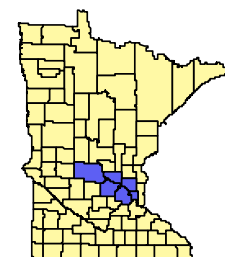
Priority Area A: Vadnais Lake Map 7



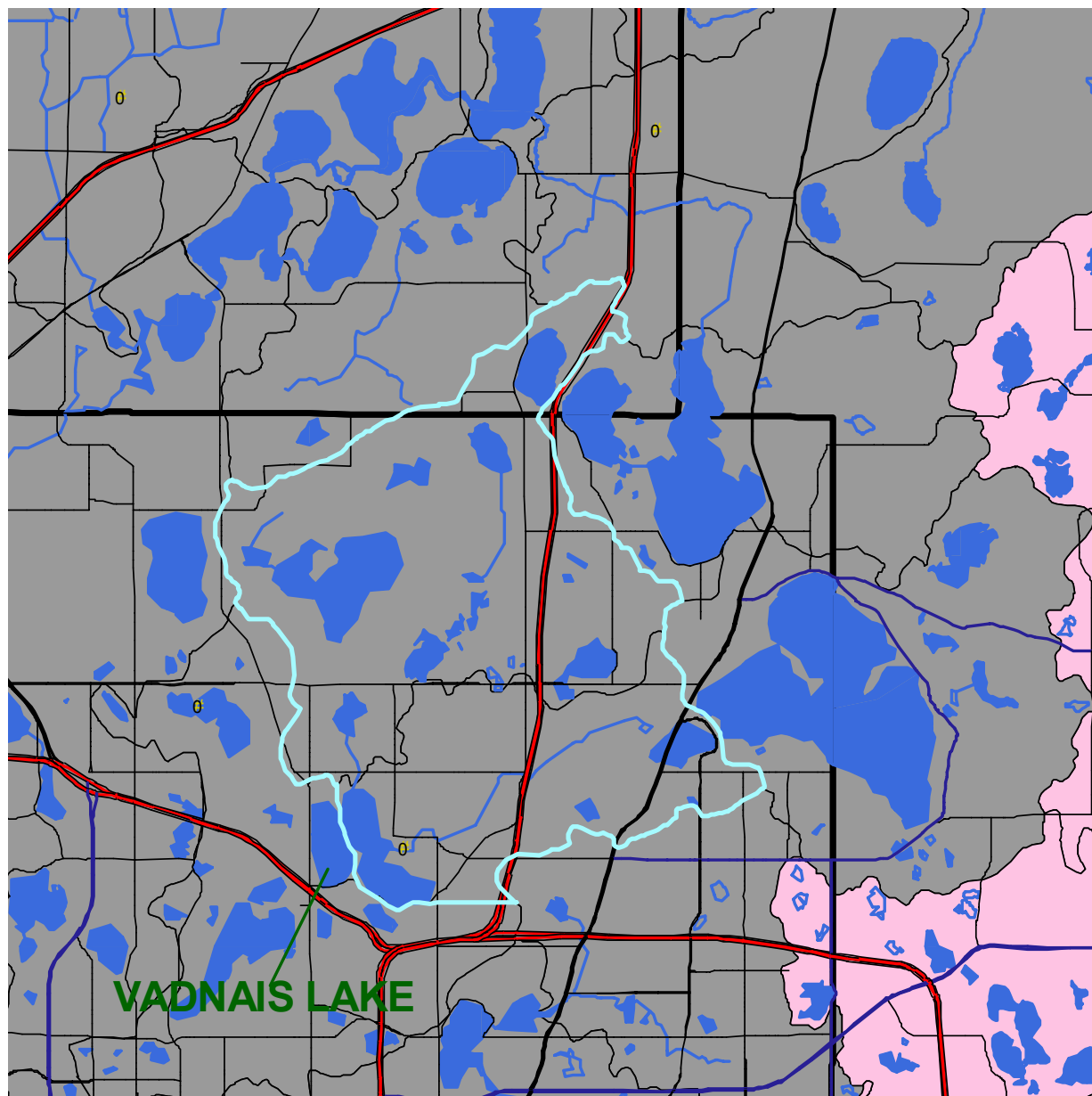
Vadnais Lake

8-Hour Time of Travel

- Priority A SWP Area
- Railroads_counties.shp
- Pipeline_counties.shp
- Roads**
 - Interstate Highway
 - U.S. Highway
 - MN Highway
 - CSAH
 - Rivers & Streams
- Lakes
- County Lines
- Watersheds**
 - Lower-St-Croix
 - Twin-Cities



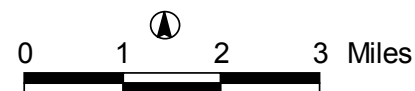
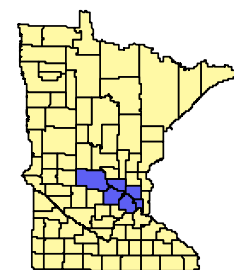
Priority Area A: Vadnais Lake Map 8



Vadnais Lake

8-Hour Time of Travel

- Priority A SWP Area
- Feedlots
- Roads**
 - Interstate Highway
 - U.S. Highway
 - MN Highway
 - CSAH
 - Rivers & Streams
- Lakes
- County Lines
- Watersheds**
 - Lower-St-Croix
 - Twin-Cities



Priority Area A: Vadnais Lake Map 9