Maps in Watershed Restoration and Protection Strategy (WRAPS) reports

This guidance document includes a list of maps for WRAPS reports. The intent of this guidance is to support the development of WRAPS reports and maps that are consistent and comparable for watersheds across Minnesota. The intent is not to limit the number or type of maps included in WRAPS reports, but rather to provide a list of basic maps that should be included in each WRAPS report. Maps from relevant monitoring and assessment reports, stressor ID reports, and Total Maximum Daily Load studies should be reused in WRAPS reports when possible.

Overview maps

1. Overview map: general reference map with cities, towns, major roads, rivers, and major landscape features
2. Land cover map: with seven land cover classes
3. Maps of AUIDs: one for stream AUIDs and one for lake AUIDs

Impaired waters maps

4. Monitoring locations (biology, chemistry, other)
5. Assessed waters showing full support, non-support, not assessed, and inconclusive
    - One map for aquatic life (AQL) and one map for aquatic recreation (AQR) impairments
    - If needed, maps for drinking water (DW) and aquatic consumption (AQC) impairments
6. Impaired waters by parameter
7. Biological stressors

Point source and non-point source maps

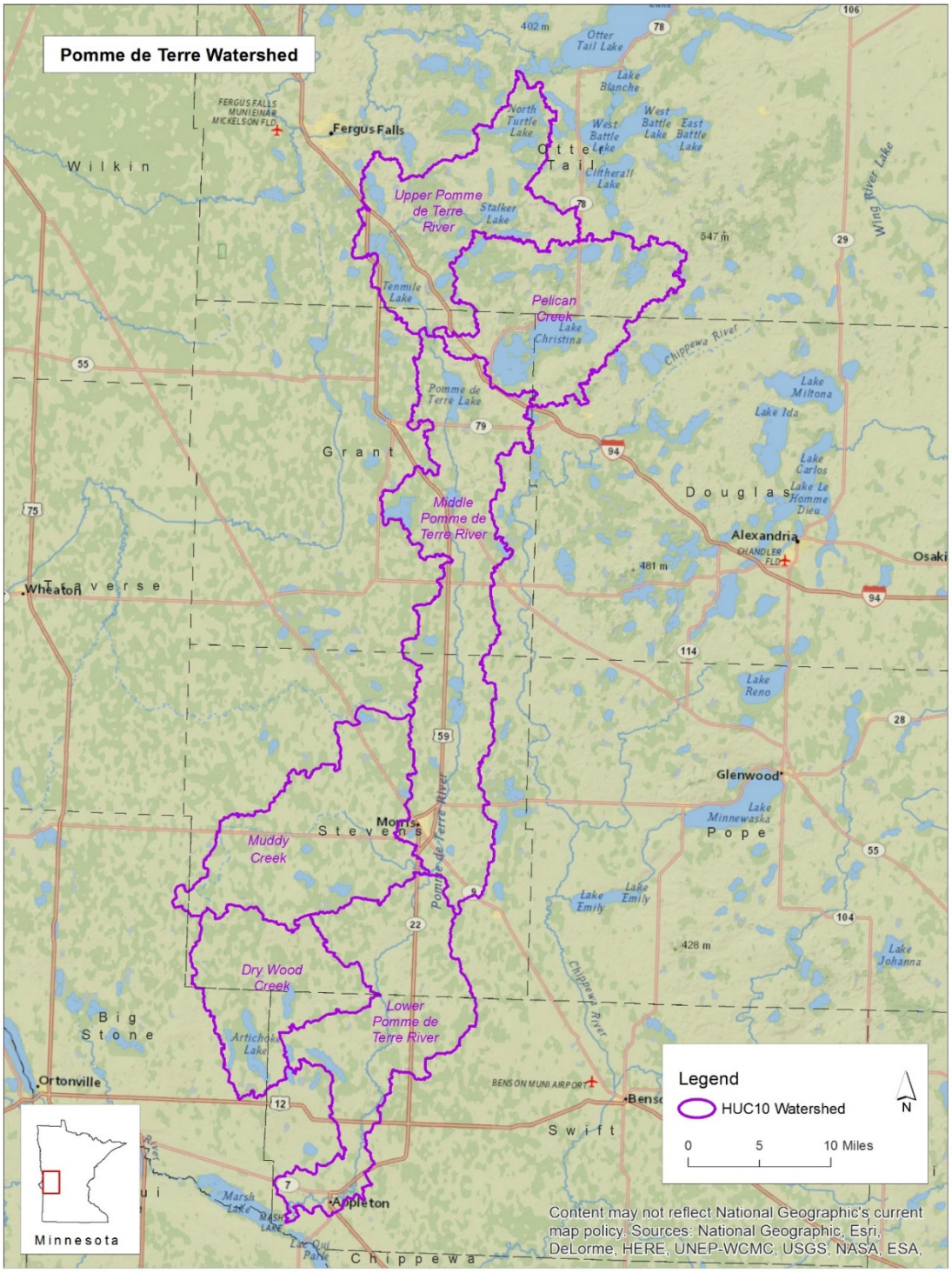
8. Wastewater from municipal and industrial sources, and stormwater from municipal, industrial, construction, and MS4 sources
9. Feedlots showing size, permit type, and shore land status
10. Additional options:
    - Modeling (HSPF – SAM, SWAT, SPARROW, others)
    - Monitoring data (Minnesota Watershed Pollutant Load Monitoring Network, others)
    - Agricultural conservation planning framework (ACPF)
    - Prioritize, target, measure application (PTM App)
    - Environmental benefits index (EBI)
    - Terrain analysis with lidar
    - Slope, soil, and riparian conditions, extent of tile drainage
    - Sites for wetland restoration

- Unsewered communities
- Nutrient reduction strategy

Protection maps

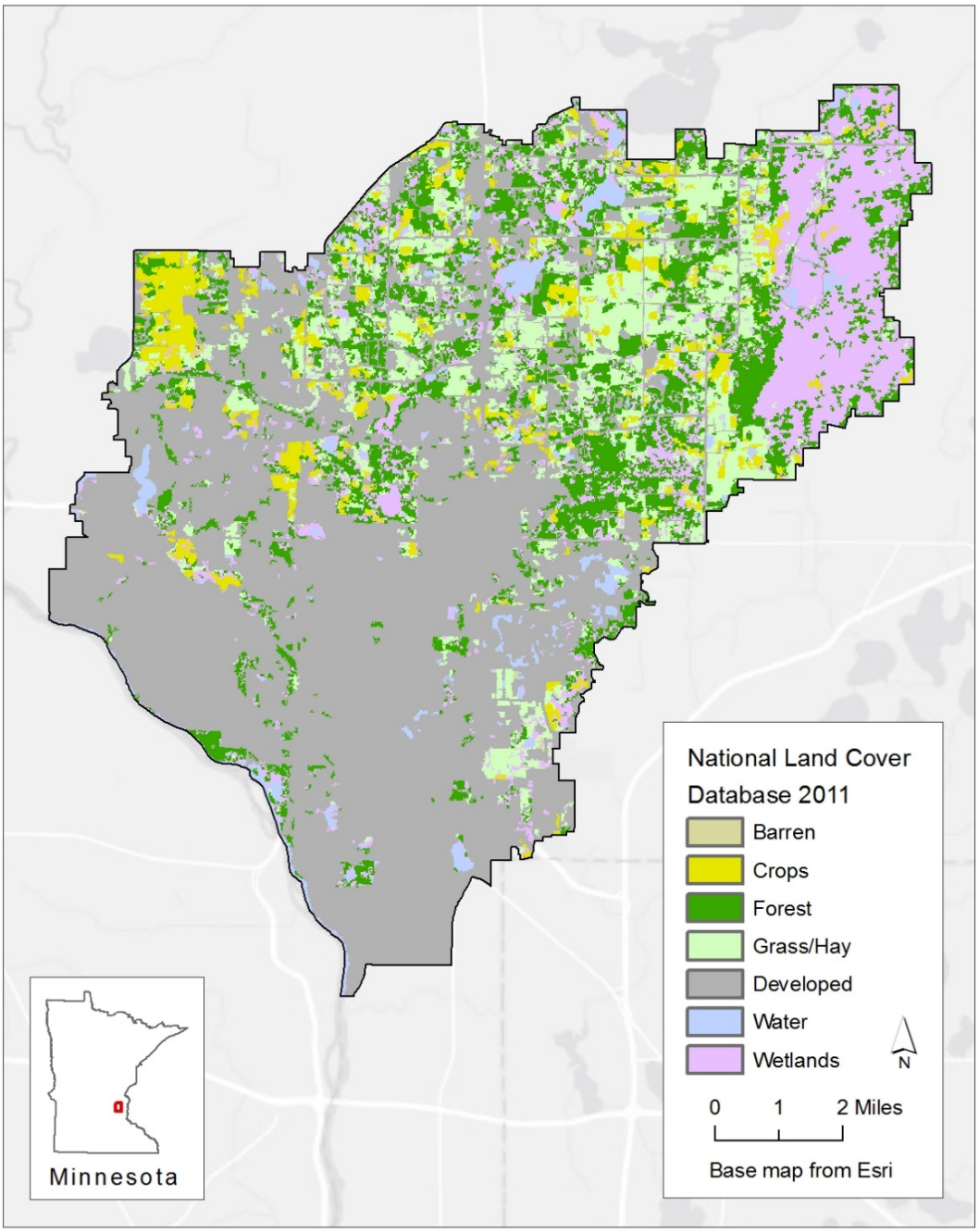
11. Protection strategies, some options include:
    - Lake protection strategy
    - Riparian, forest, and wetland areas
    - Zonation
    - Lakes and streams that are nearly or barely impaired (MPCA EAO data)
    - Conservation planning datasets such as the Minnesota Prairie Conservation Plan, the Minnesota Statewide Conservation and Preservation Plan, others
    - Professional judgement

1. Overview map



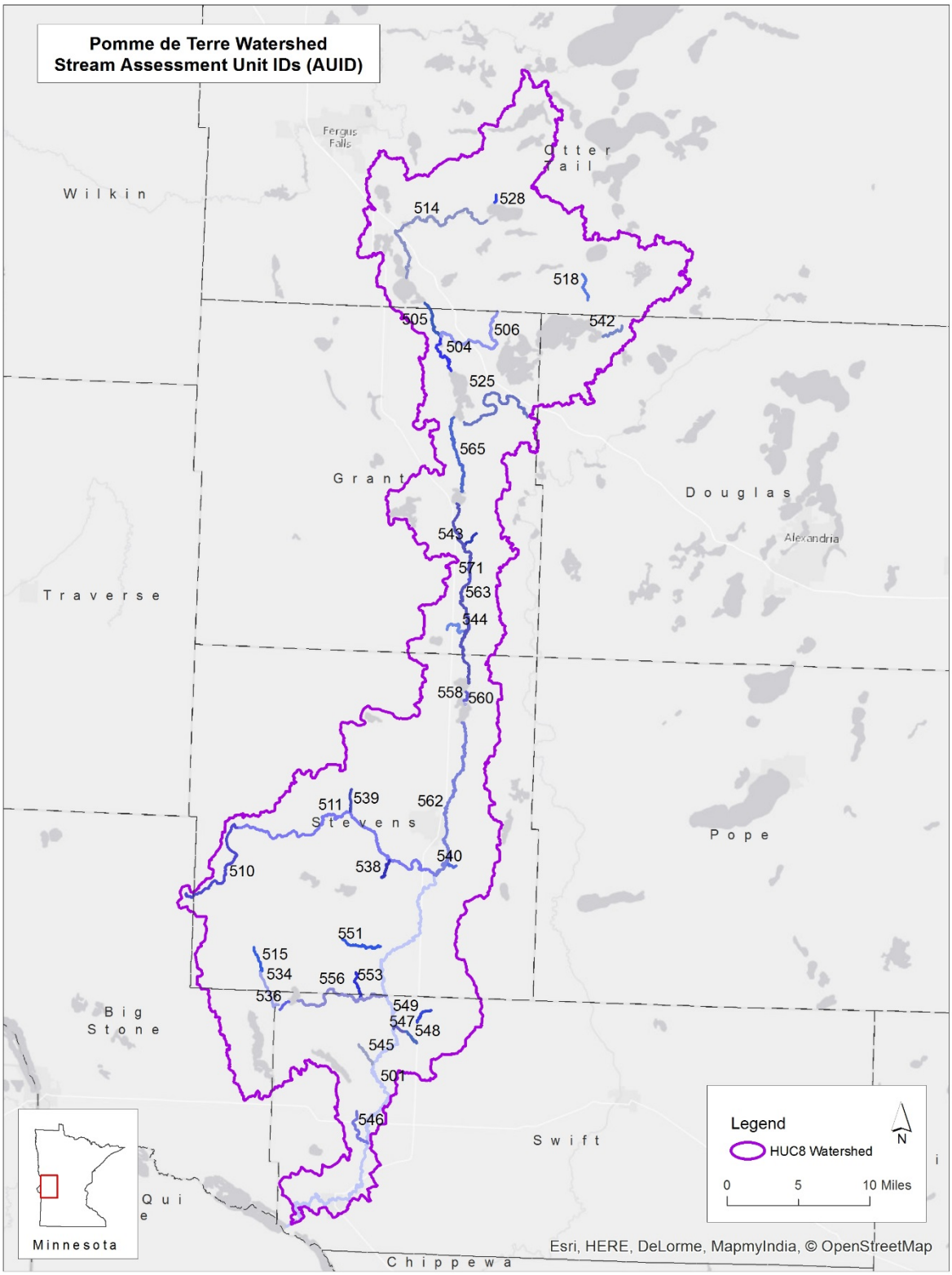
2. Land cover

Coon Creek Watershed Management Organization



3. Map of AUIDs

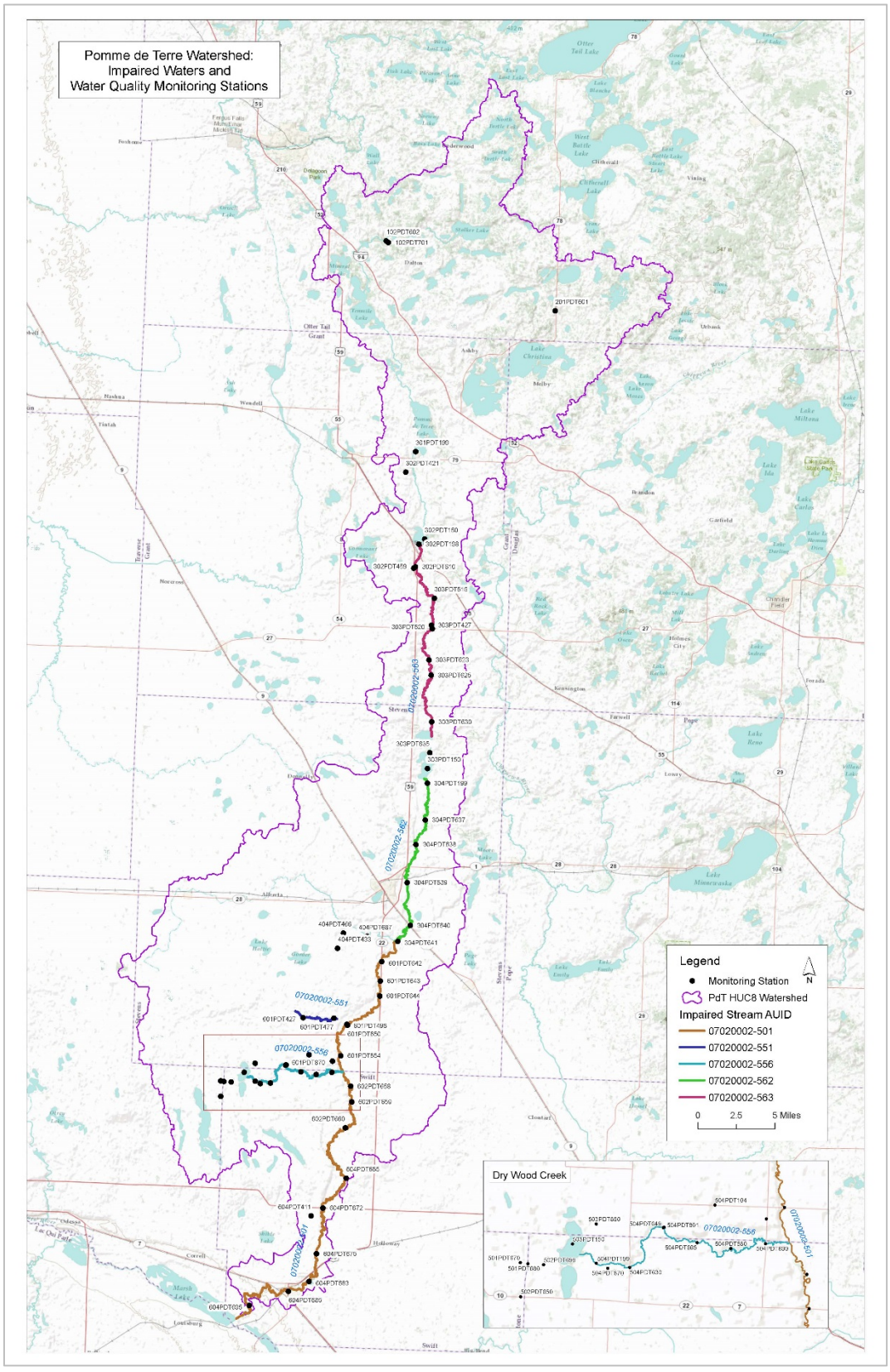
Stream AUIDs



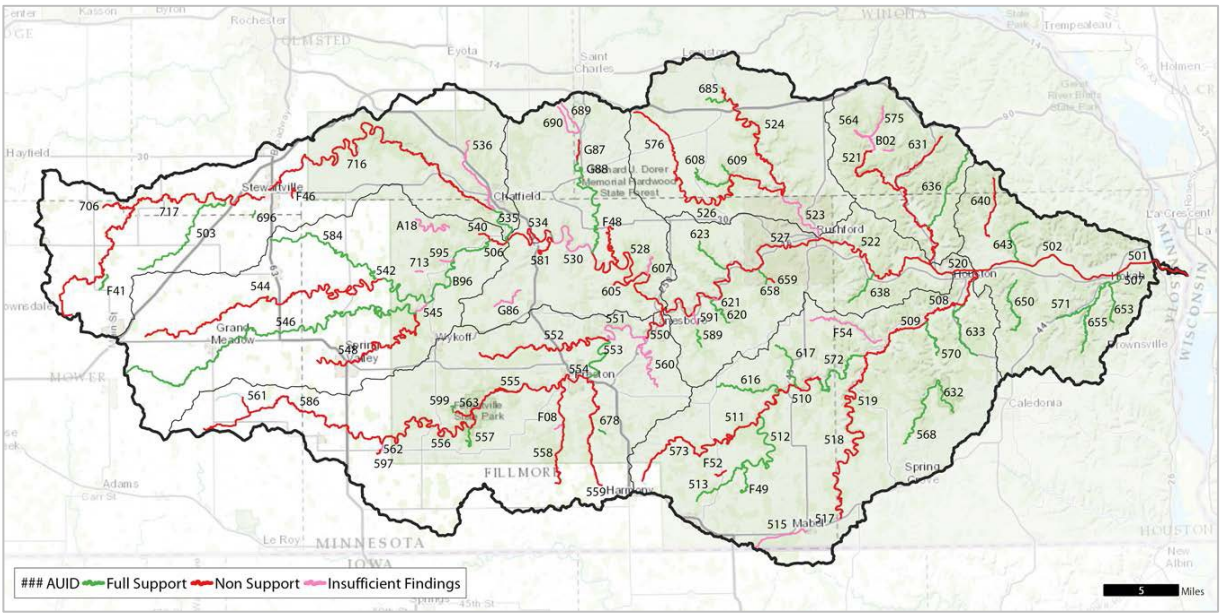
Lake AUIDs


Pomme de Terre Watershed
Lake Assessment Unit IDs (AUID)
56-0379-00
56-0377-00
56-0430-00
56-0639-00
56-0651-00
56-0781-00
56-0437-00
56-0390-00
56-0589-00
56-0393-00
56-0252-00
56-0251-00
56-0253-00
56-0559-00
56-0604-00
56-0613-00
56-0408-00
56-0100-00
21-0375-00
21-0353-00
26-0002-00
26-0097-00
26-0095-00
26-0040-00
75-0061-00
75-0074-00
75-0075-00
75-0117-00
75-0097-00
75-0200-00
76-0169-00
76-0149-00
76-0146-02
06-0002-00
76-0146-01
Wilkin
Grant
Douglas
Traverse
Stevens
Pope
Big Stone
Swift
Chippewa
Fergus Falls
Alexandria
Minnesota
Legend
Assessed Lake
HUC8 Watershed
0
5
10 Miles
N
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap

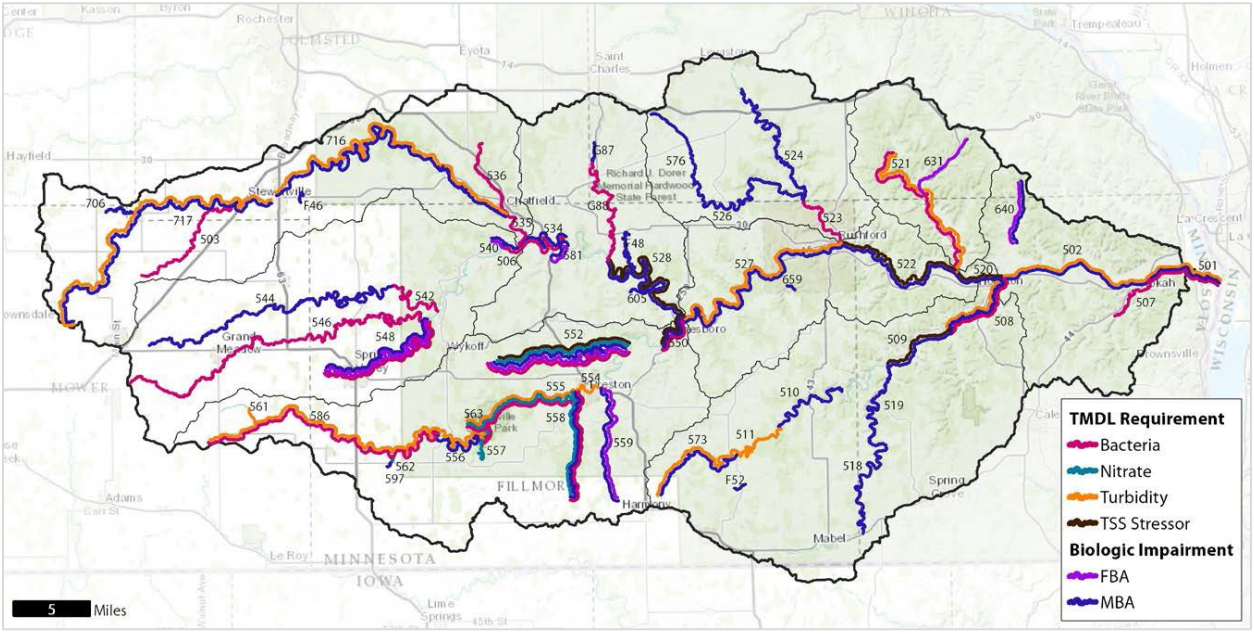
4. Monitoring locations



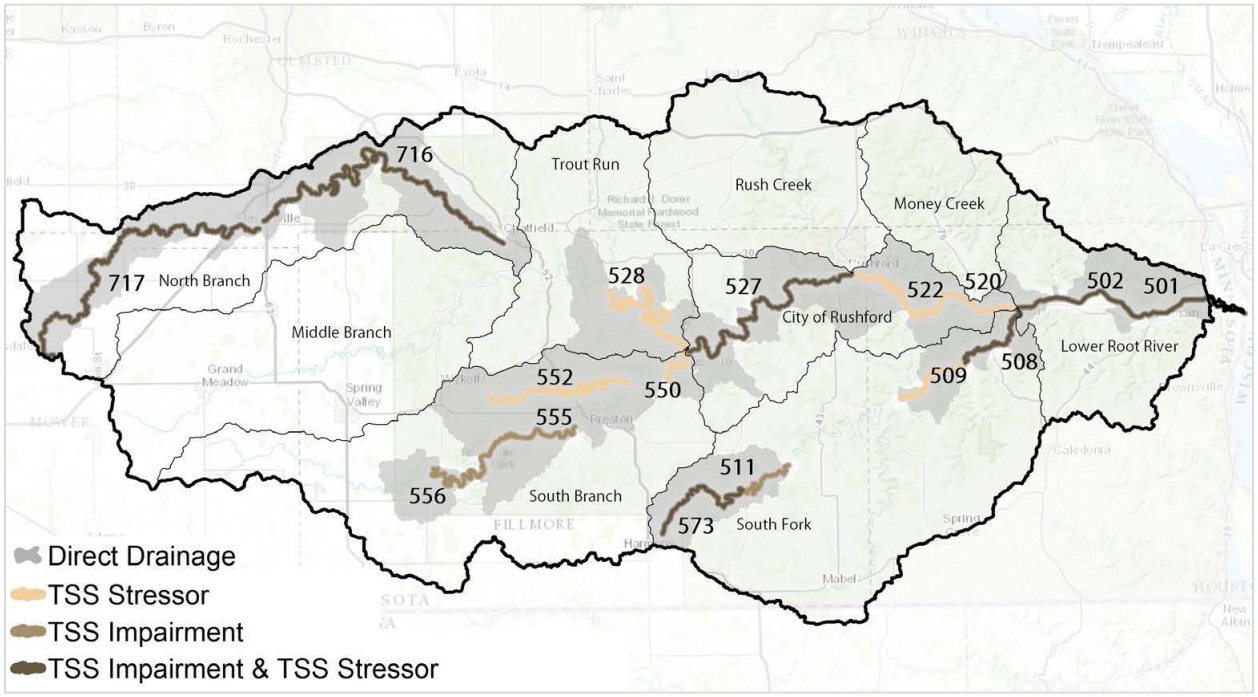
5. Assessed waters

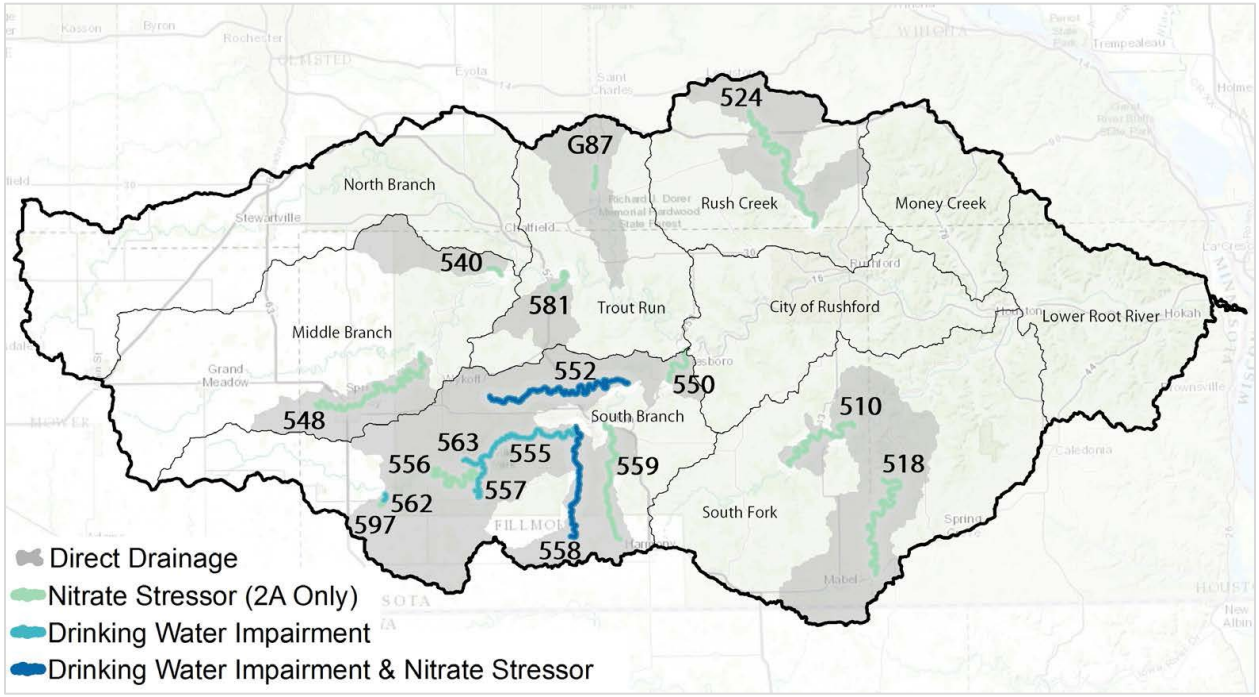


6. Impaired waters

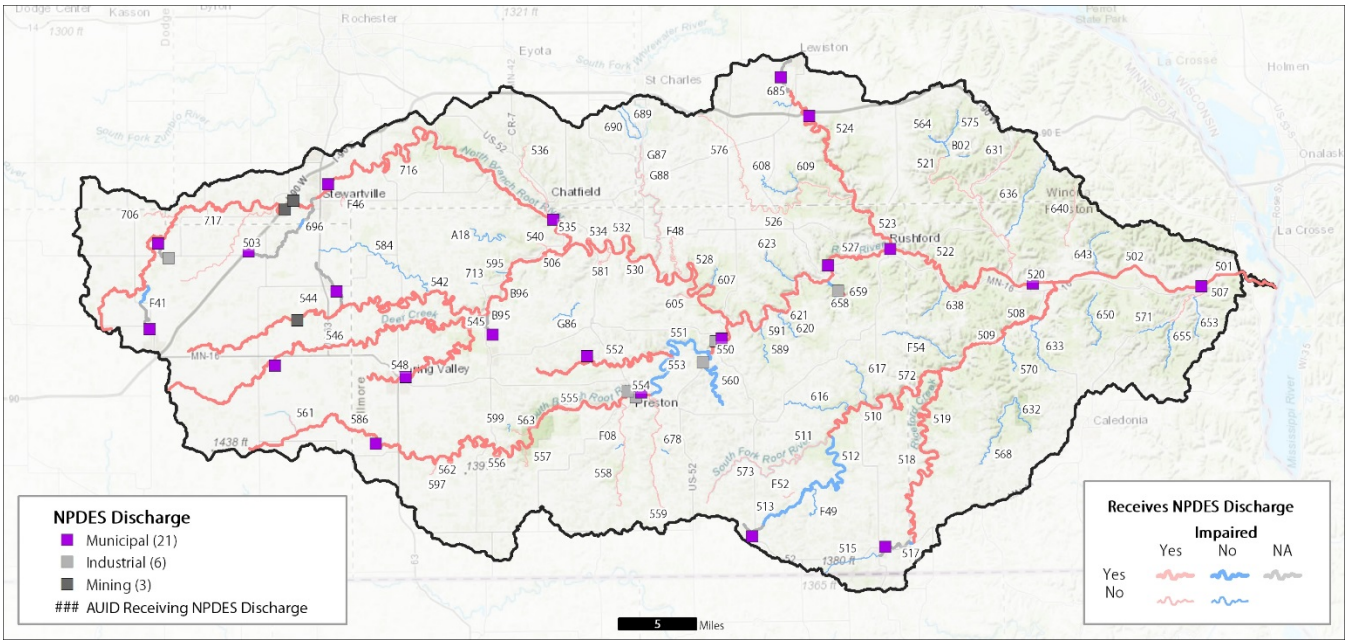


7. Biological stressors

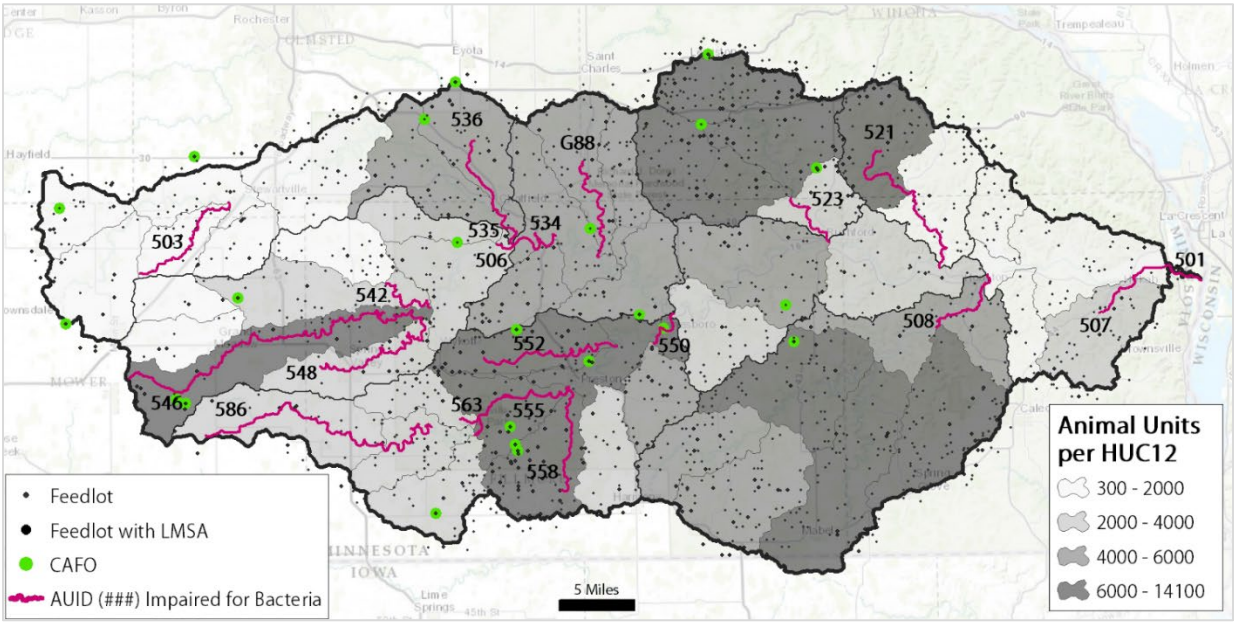




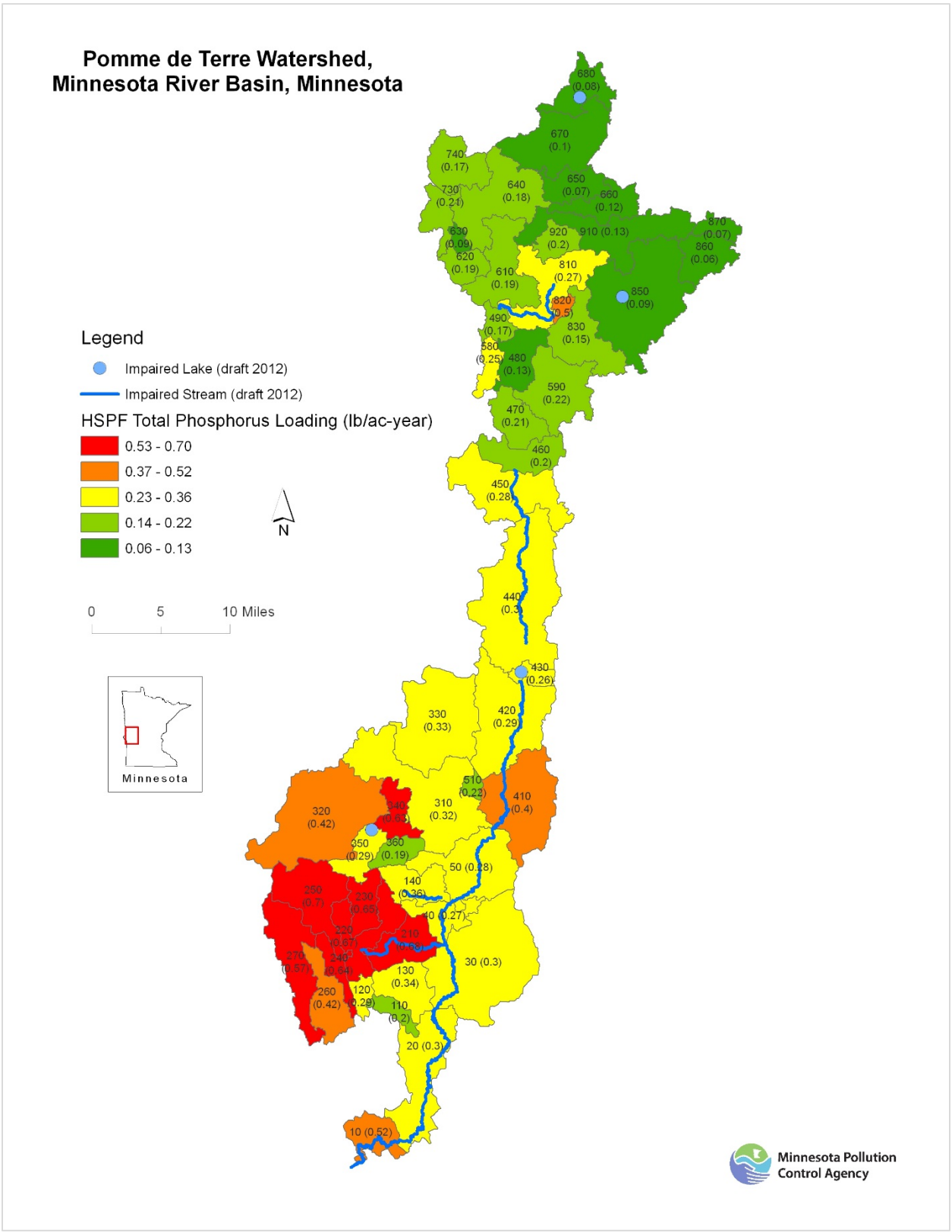
8. Point sources

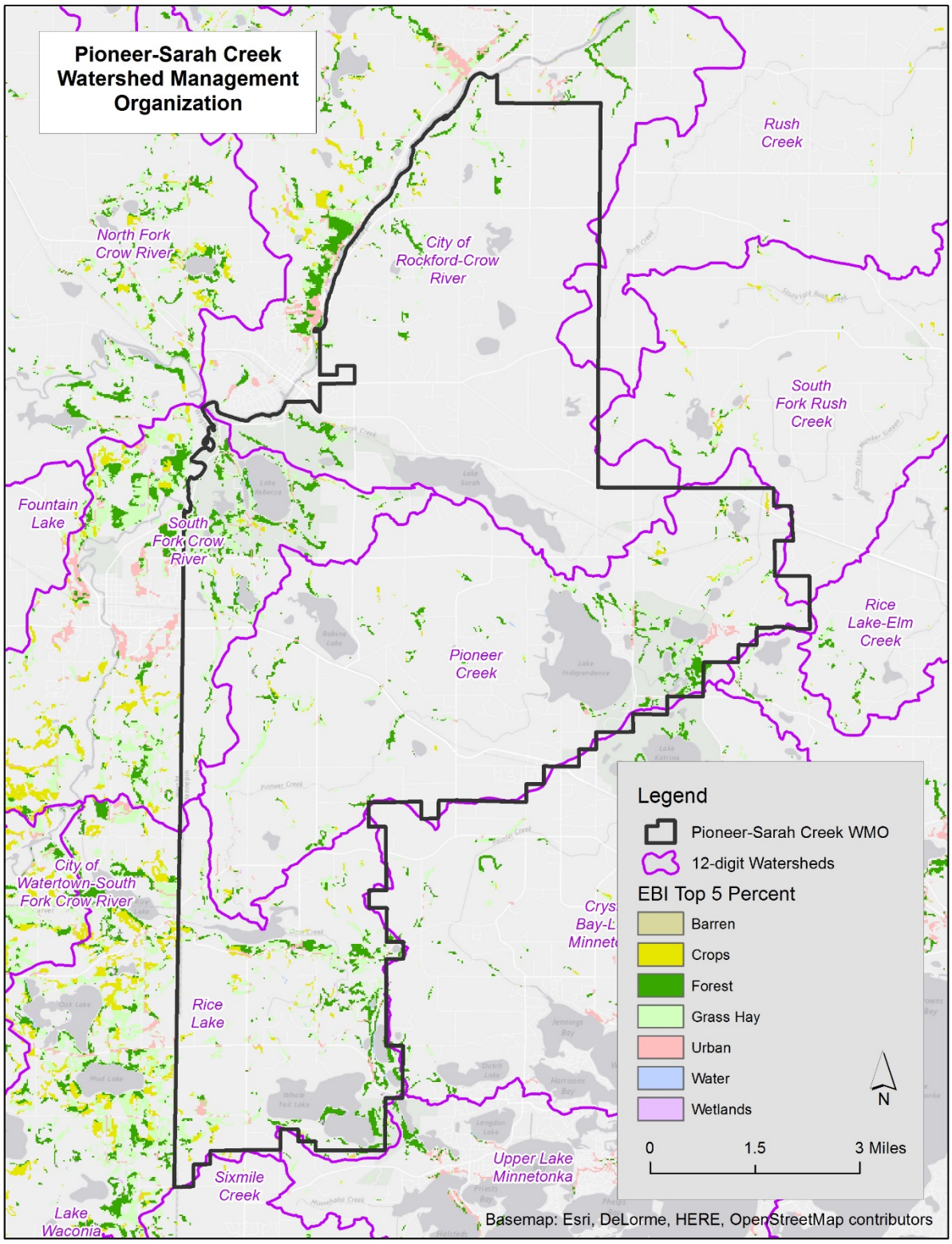


9. Feedlots



10. Point and non-point sources




Pioneer-Sarah Creek Watershed Management Organization
Rush Creek
North Fork Crow River
City of Rockford-Crow River
South Fork Rush Creek
Fountain Lake
South Fork Crow River
Rice Lake-Elm Creek
Pioneer Creek
City of Watertown-South Fork Crow River
Rice Lake
Sixmile Creek
Upper Lake Minnetonka
Lake Waconia
Legend
Pioneer-Sarah Creek WMO
12-digit Watersheds
EBI Top 5 Percent
Barren
Crops
Forest
Grass Hay
Urban
Water
Wetlands
N
0
1.5
3 Miles
Basemap: Esri, DeLorme, HERE, OpenStreetMap contributors

11. Protection maps