

# Door County Land and Water Resource Management Plan



Photo Location: Kangaroo Lake

# Tonight's Proceedings

- Information on land, water and natural resources in Door County
- Participatory discussion of the soil, water and natural resources in Door County
- Prioritize the issues

# Land and Water Resource Management Plan

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- Plans guide annual department work plans
- Plans are required to contain established key elements and follow an established process

# Plan Content

- **Assessment** of land and water resource needs
  - causes of impairments and pollutant sources by watershed
- **Implementation plan** to address resource needs
  - available programs, funding sources, and needed conservation practices
  - voluntary approach as well as state and local regulations
- **Goals** to address identified impairments
  - water quality objectives and pollutant load reduction targets
- **Work plan** to achieve established goals
  - multi-year with benchmarks for performance
  - anticipated costs for implementation

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# Plan Development Process

- Public input sessions - February
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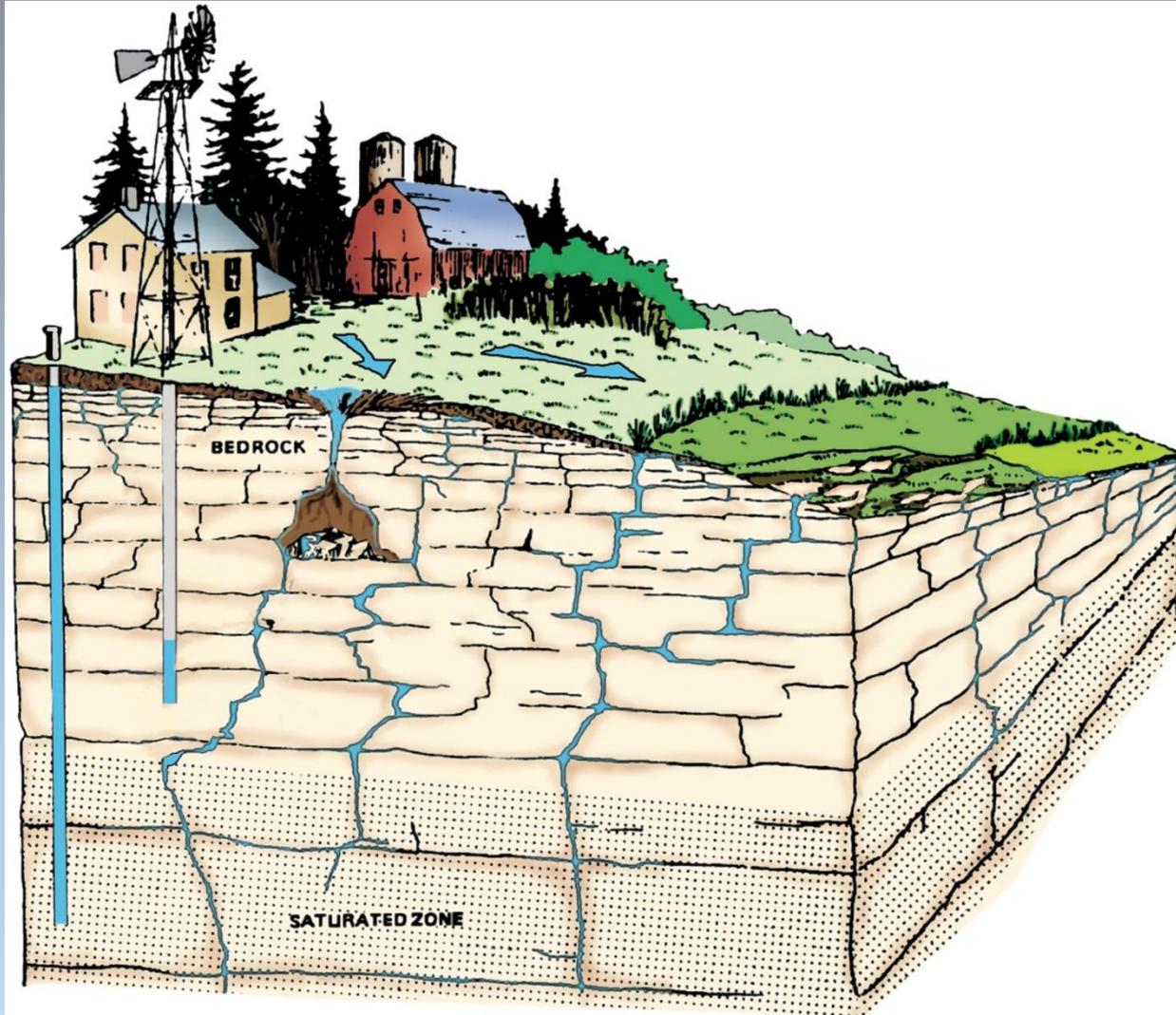
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# Natural Resource Concerns Identified in the 2010 Plan

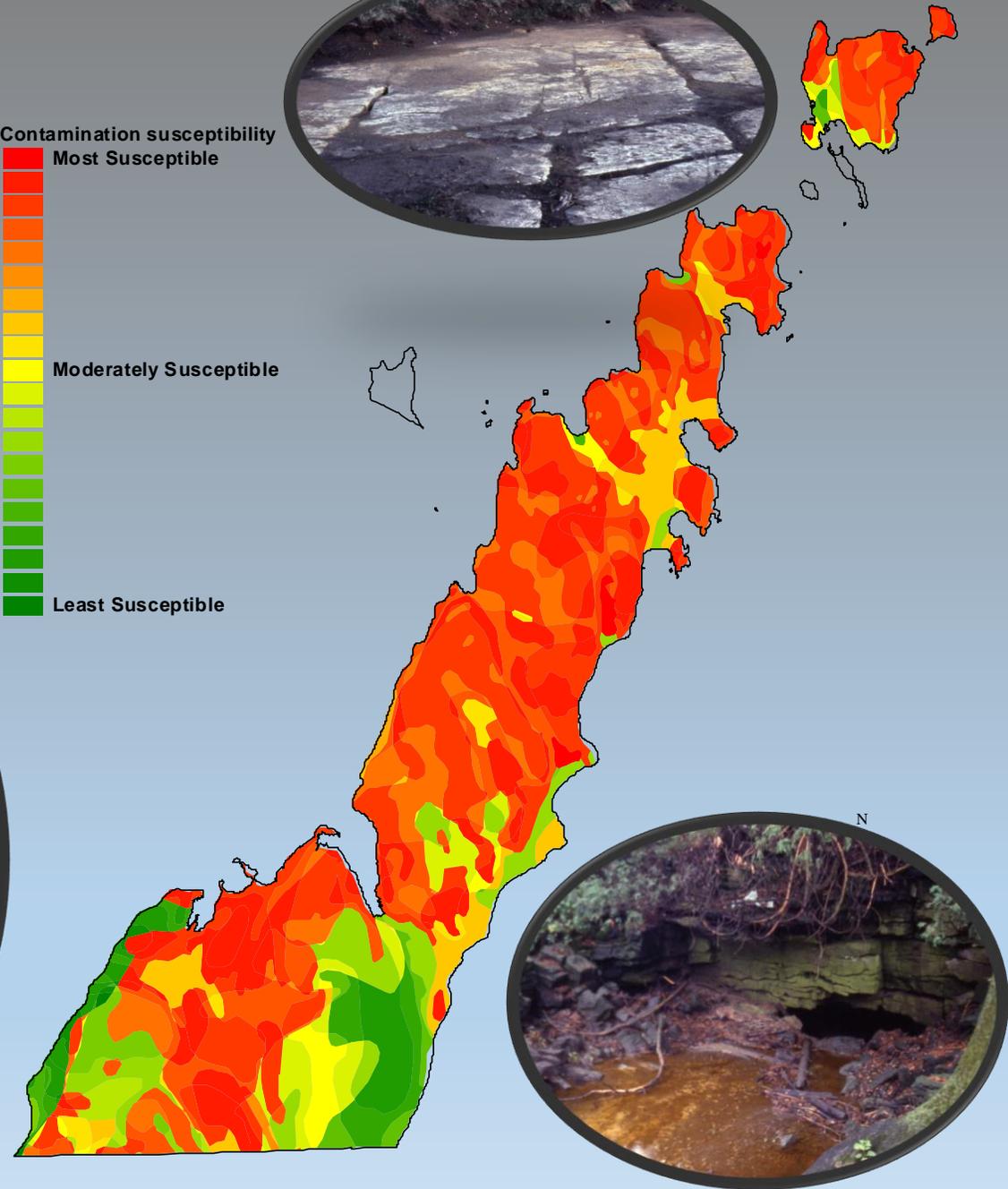
1. Groundwater Protection and Improvement
2. Surface Water Protection
3. Impacts of Development on Natural Resources
4. Human Waste Management
5. Animal Waste Management
6. Storm Water Management
7. Soil Erosion Control; Agricultural and Construction Site
8. Non-Metallic Mine Reclamation
9. Invasive Species
10. Beach Contamination
11. Agricultural Land Protection
12. Lack of Education on and Awareness of Environmental Issues and Sustainable Farming Practices

# Geology



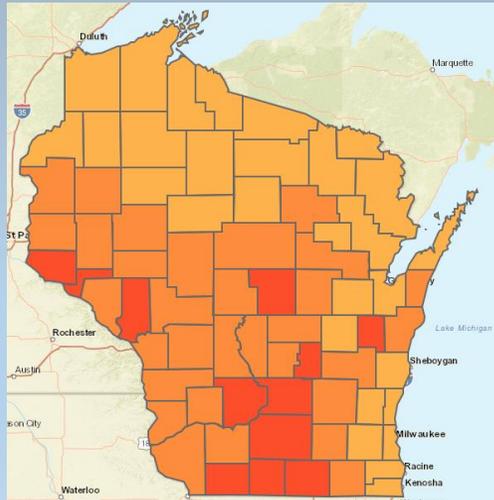
# Soil Characteristics

- Sinkholes/Karst Features
- Closed Depressions
- Solution Enlarged Crevices
- 22% less than 18 inches to bedrock
- 39% less than 36 inches to bedrock
- Filter between surface activities and our drinking water

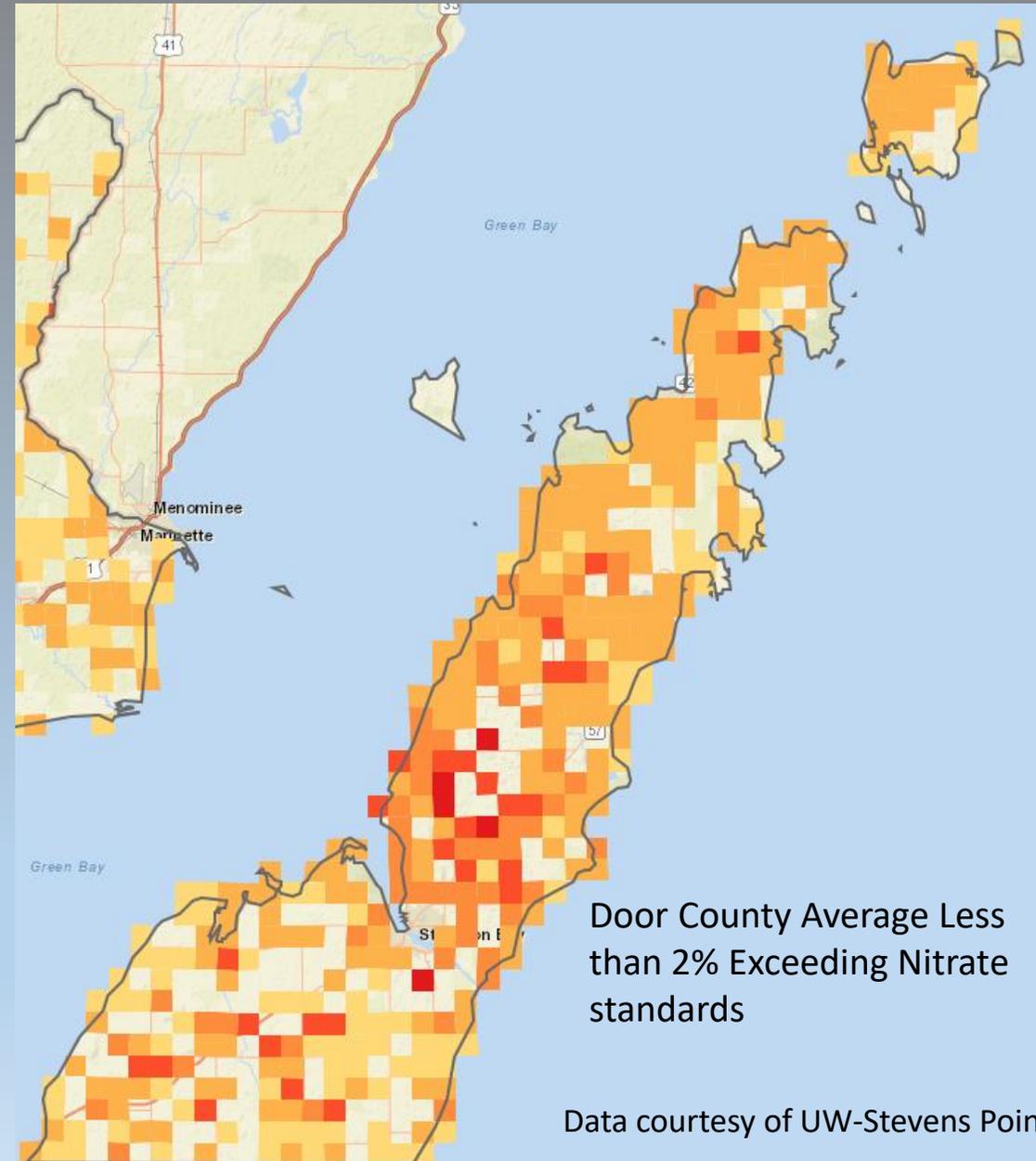
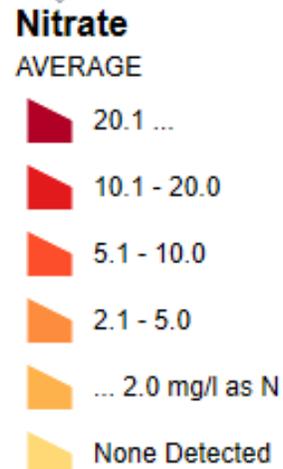


# Groundwater - Nitrate

- 2011-2015 - 557 Wells Sampled
  - 1% exceeded Nitrate standards
- 2015 – 477 Wells Sampled
  - 3% exceeded Nitrate standards
- 2016 – 392 Wells Sampled
  - 2% exceeded Nitrate standards
- 2019 – 148 Wells Sampled
  - 2% exceeded Nitrate standards



State Average ~10%  
Exceeding Nitrate standards

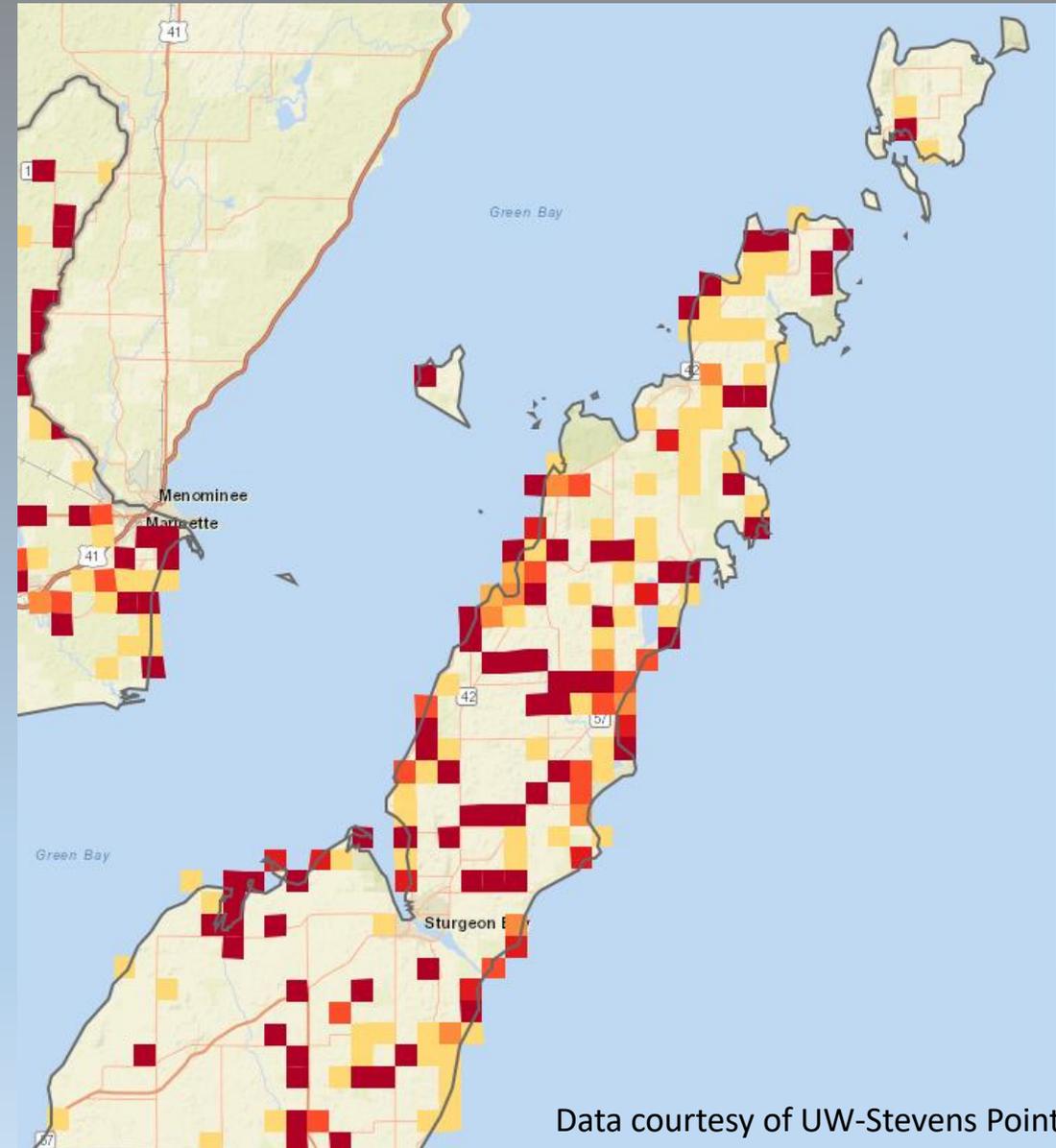
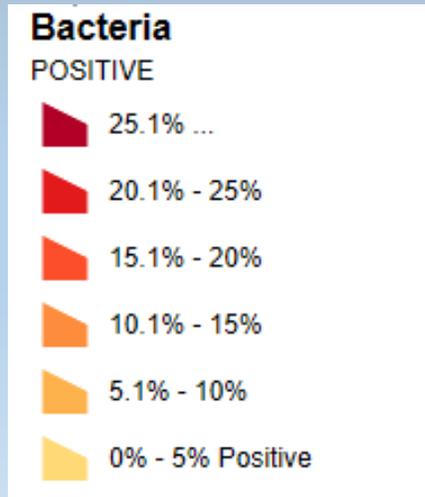
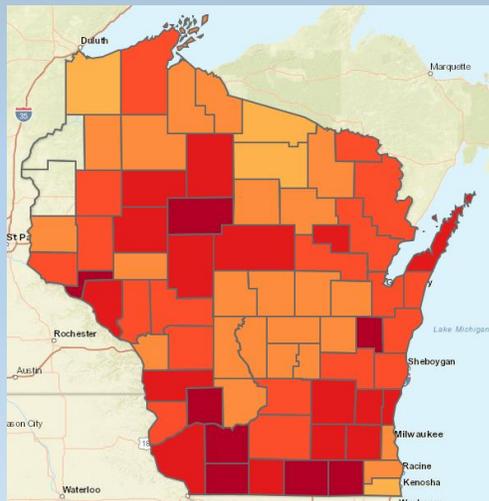


Door County Average Less  
than 2% Exceeding Nitrate  
standards

Data courtesy of UW-Stevens Point

# Groundwater - Bacteria

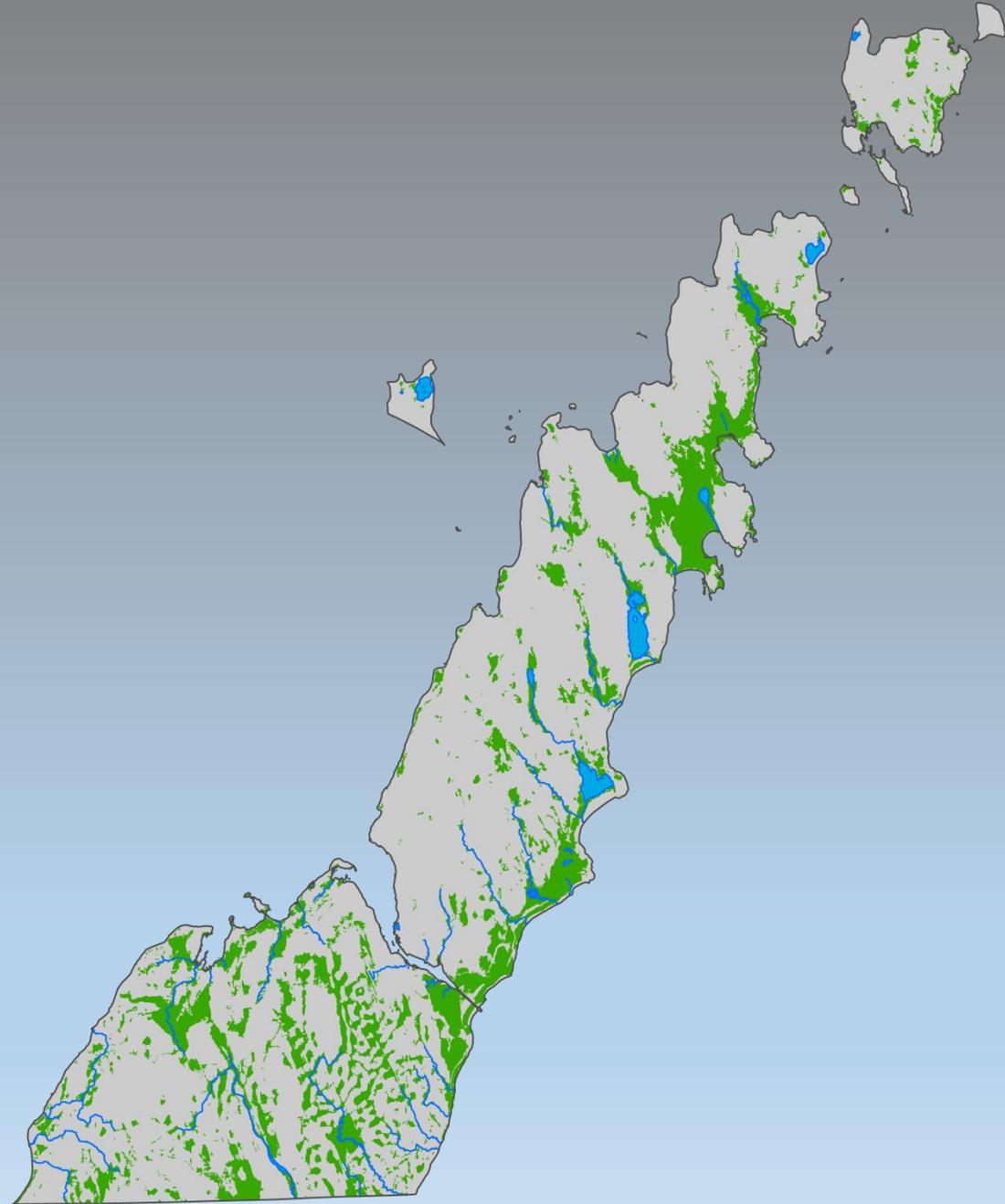
- 2011 – 2015
  - 21% exceeded standards for Total Coliform
  - 10% indicated the presence of E. coli
- 2015 – 477 Wells sampled
  - 12% exceeded standards for Total Coliform
  - 1% indicated the presence of E. coli
- 2016 – 392 Wells sampled
  - 22% exceeded standards for Total Coliform
  - 2% indicated the presence of E. coli
- 2019 – 148 Wells sampled
  - 16% exceeded standards for Total Coliform
  - No detects of E. coli



Data courtesy of UW-Stevens Point

# Surface Waters

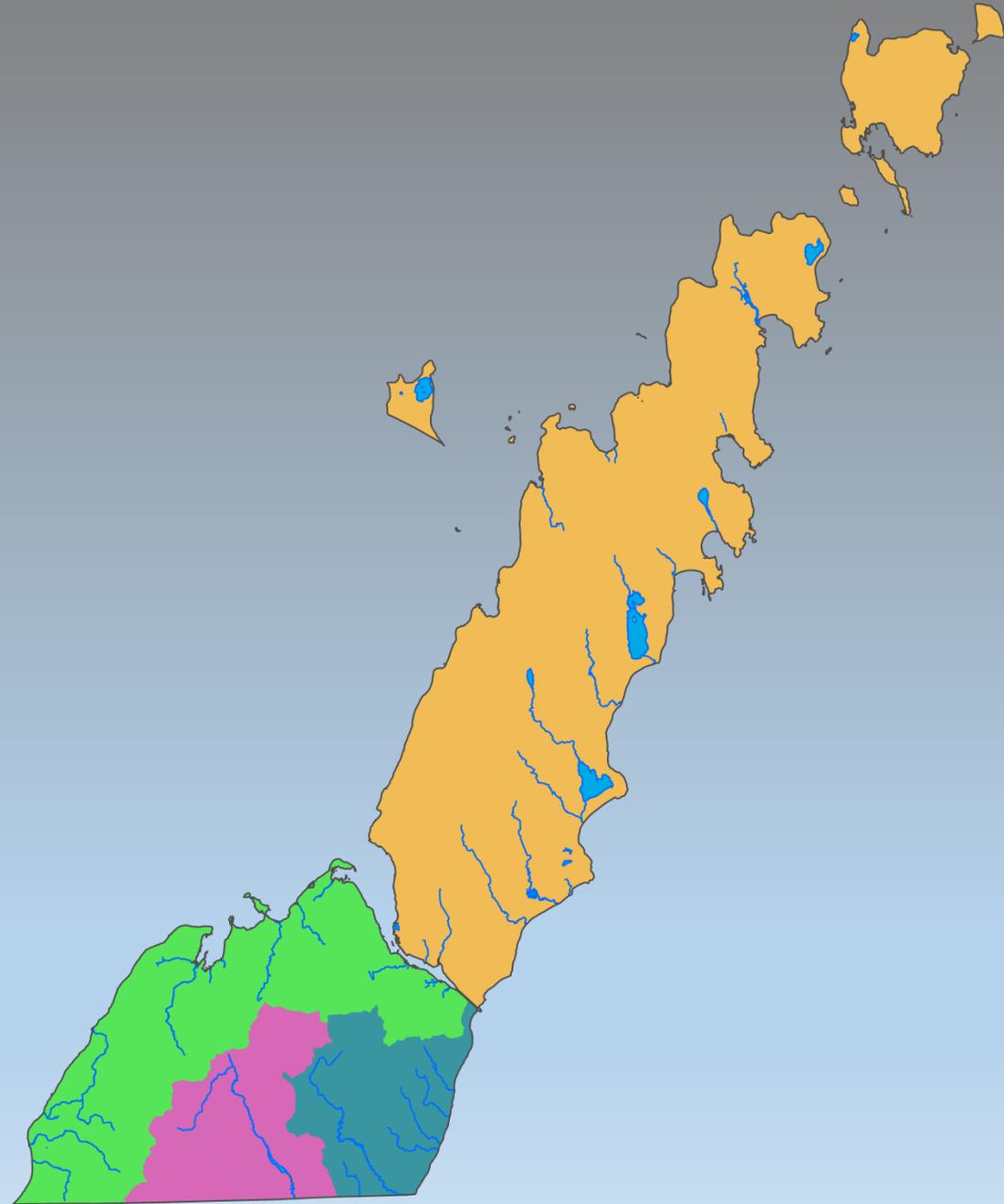
- Nearly 300 Miles of Shoreline
- 38 Named Streams
- 25 Named Lakes
- Nearly 55,000 Acres of Wetlands





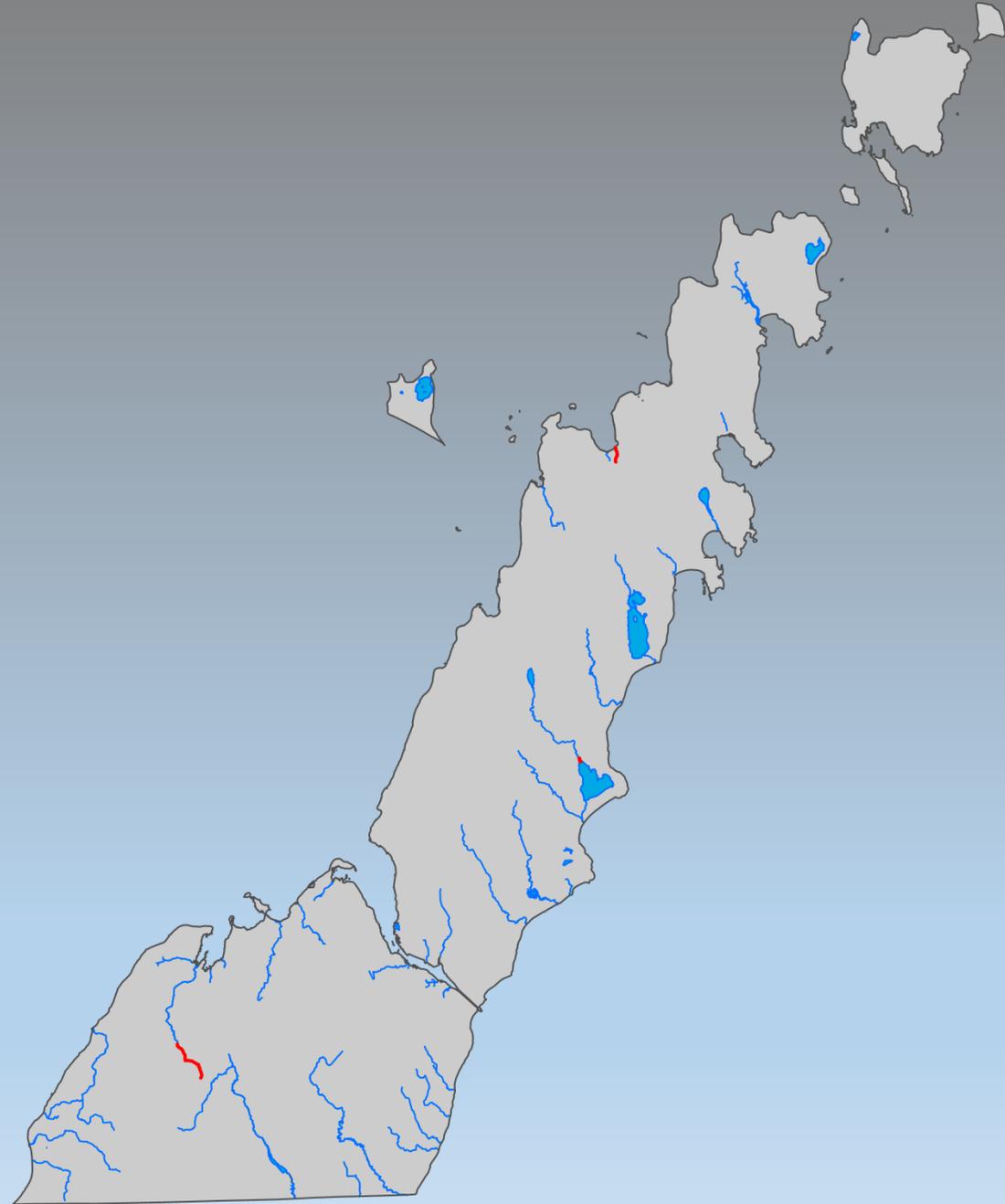
# Large-Scale Watersheds

- Upper Door
- Red River/Sturgeon Bay
- Stony Creek
- Ahnapee River



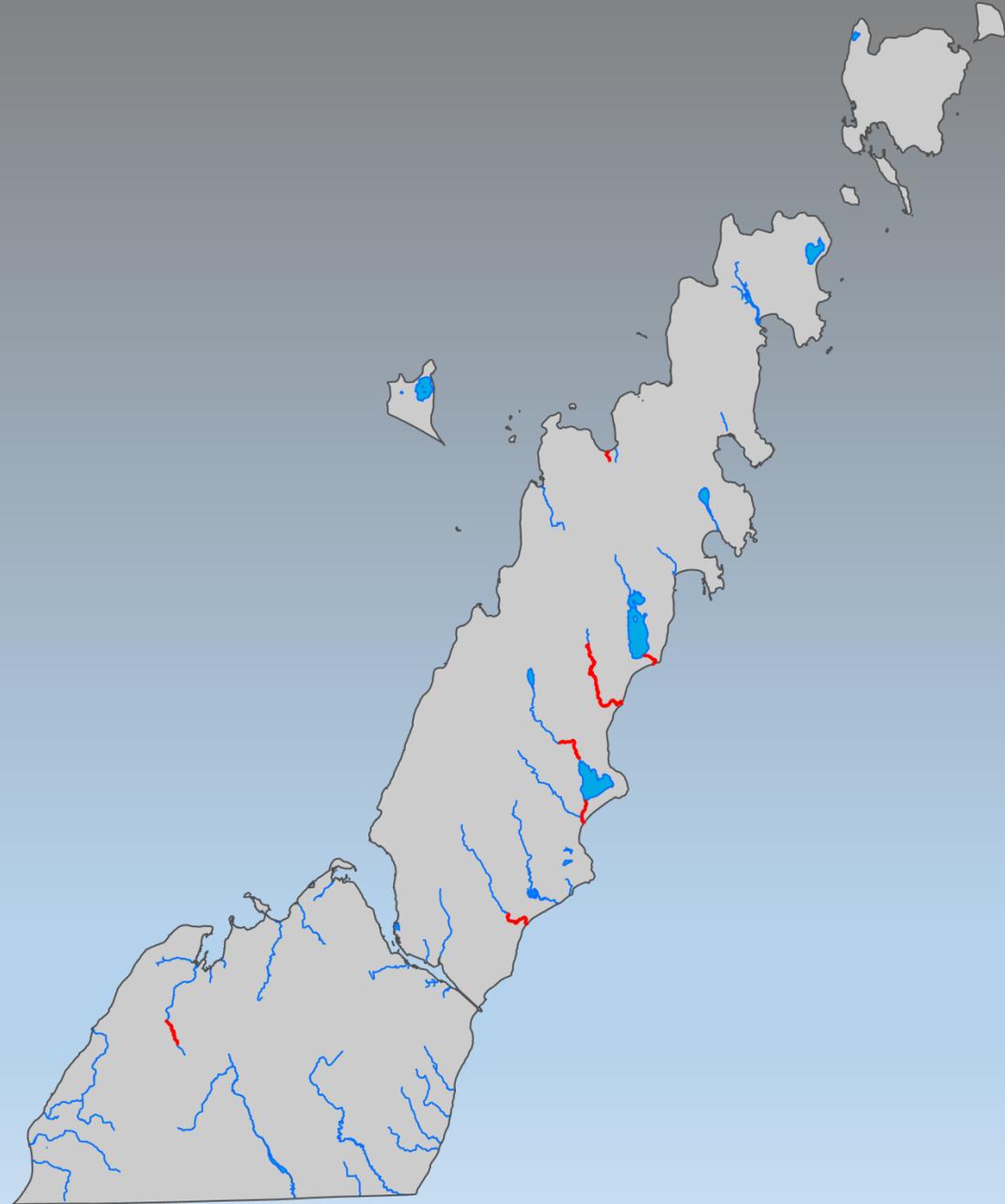
# Class I Trout Streams Waters

Streams are high-quality streams where trout populations are sustained by natural reproduction.



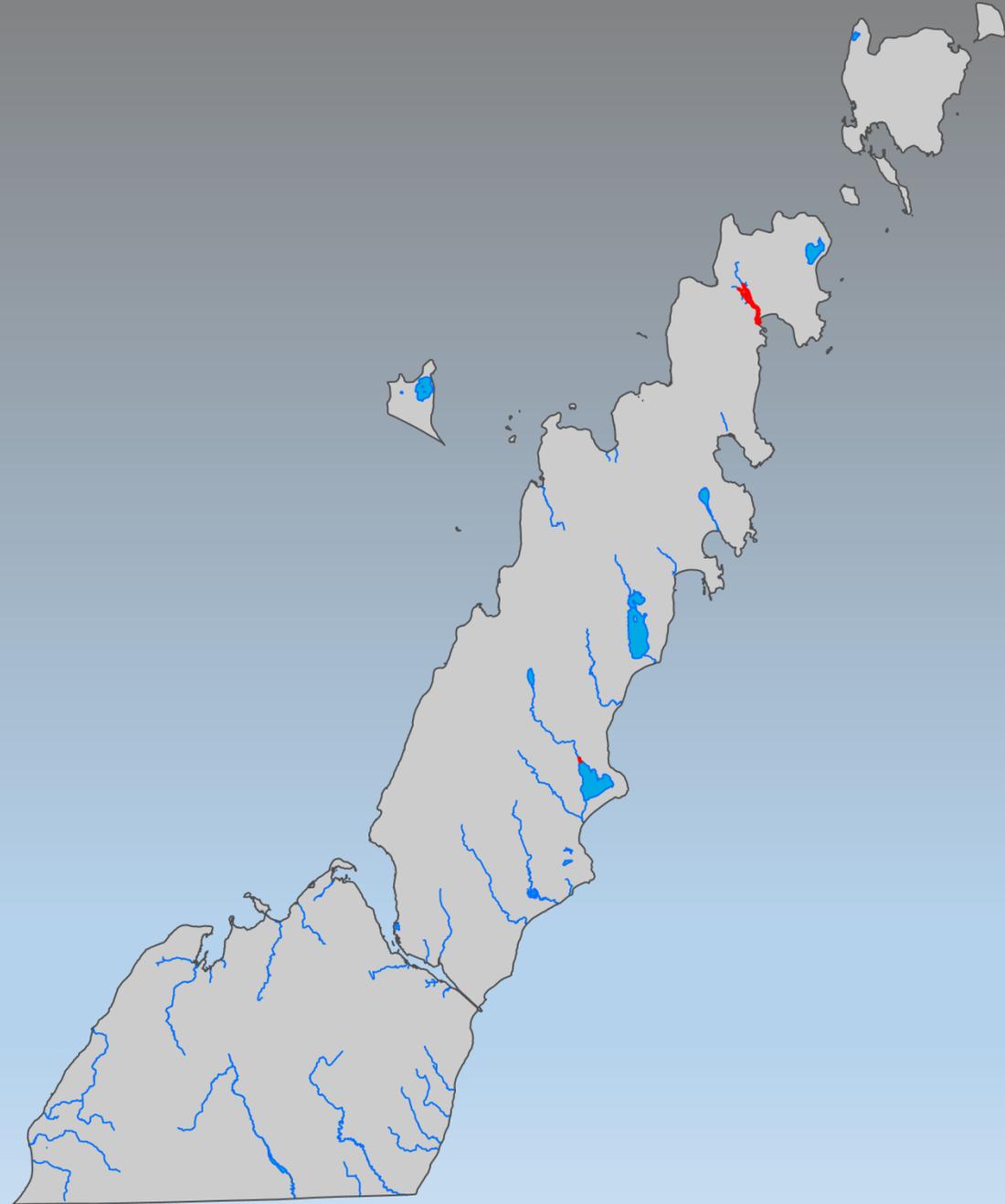
# Class II Trout Streams Waters

Streams have some natural reproduction of trout but need stocking to maintain a desirable fishery.



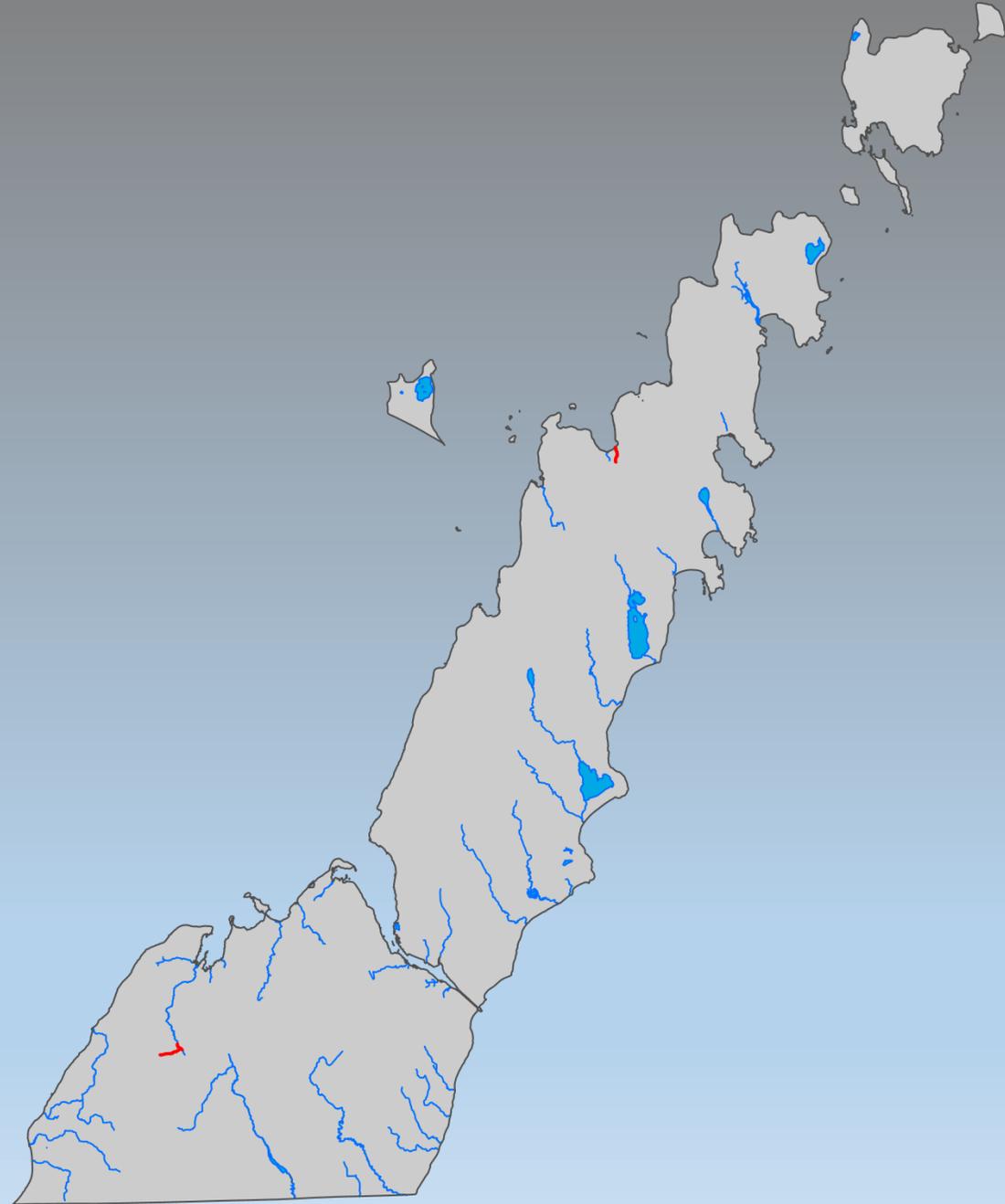
# Outstanding Resource Waters

An *outstanding resource water* is a lake, stream or flowage having excellent water quality, high recreational and aesthetic value and high quality fishing. ORW waters are free from point source or nonpoint source pollution.



# Exceptional Resource Waters

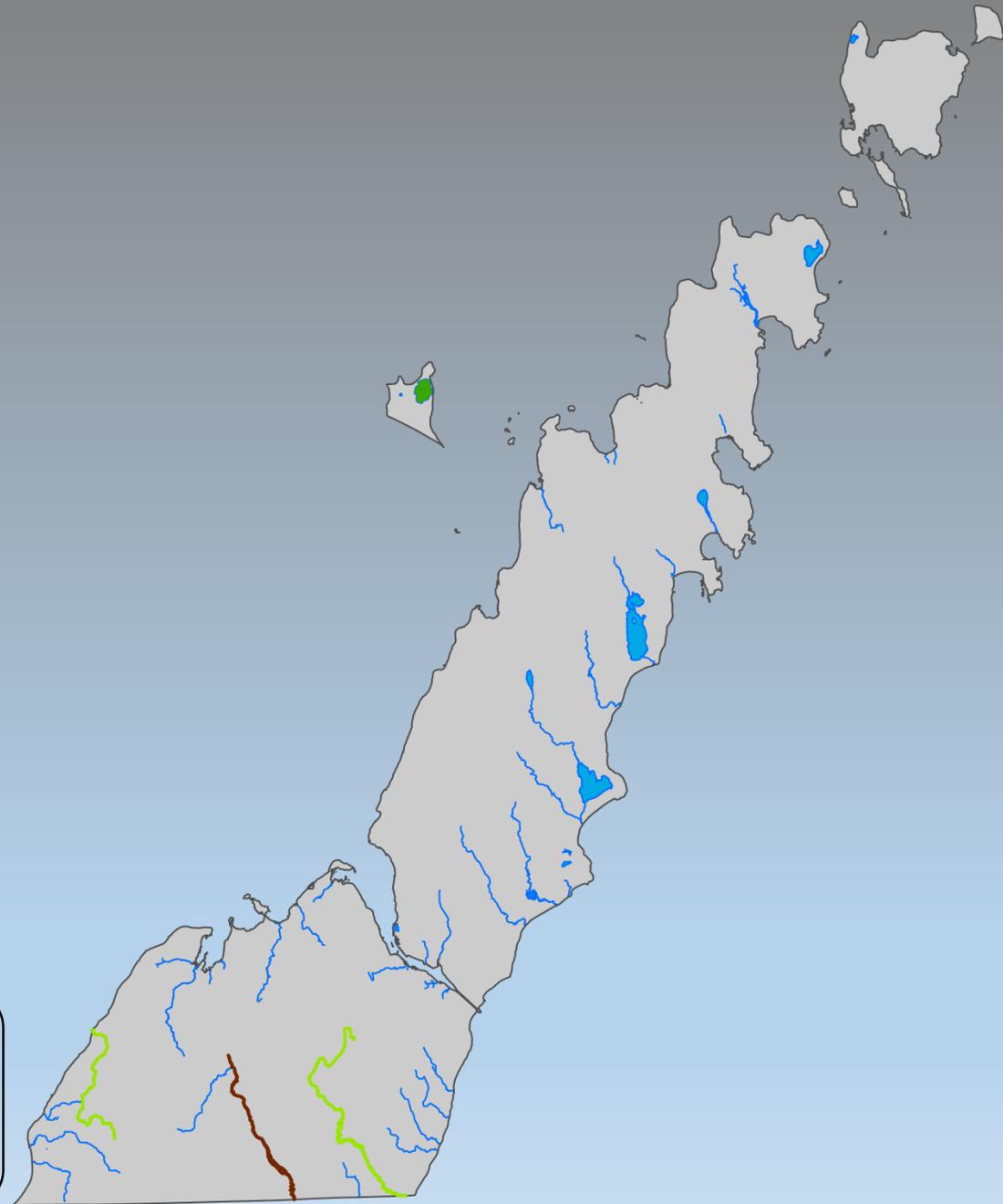
An *exceptional resource water* is a lake, stream, or flowage exhibiting the same high quality resource values as outstanding waters, but may be affected by point source pollution or have the potential for future discharge from a small sewer community.



# Impaired Waters

Every two years, Section 303(d) of the Clean Water Act requires states to publish a list of all waters that *do not meet* water quality standards. The list, also known as the Impaired Waters List, is updated to reflect waters that are newly added or removed based on new information or changes in water quality status

- Impaired for PCBS
- Impaired for Total Phosphorus
- Impaired for Atmospheric Deposition

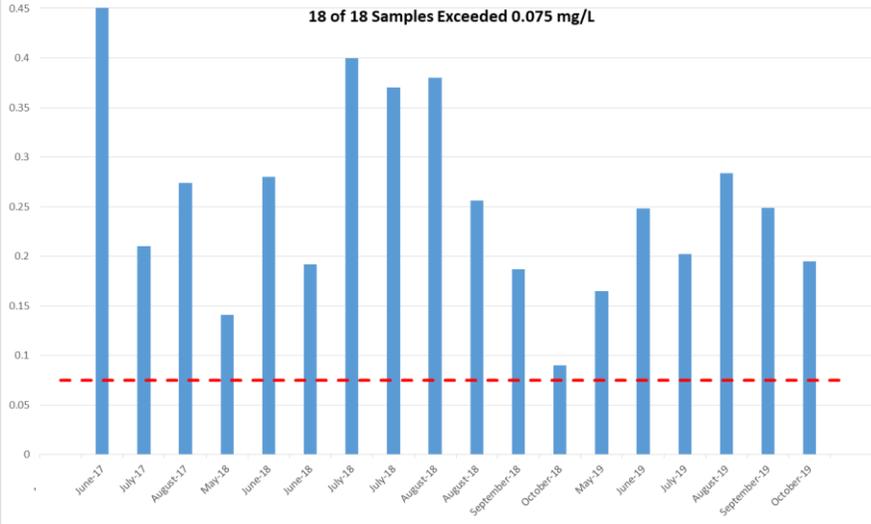


# Renard Creek - Silver Creek - Sugar Creek



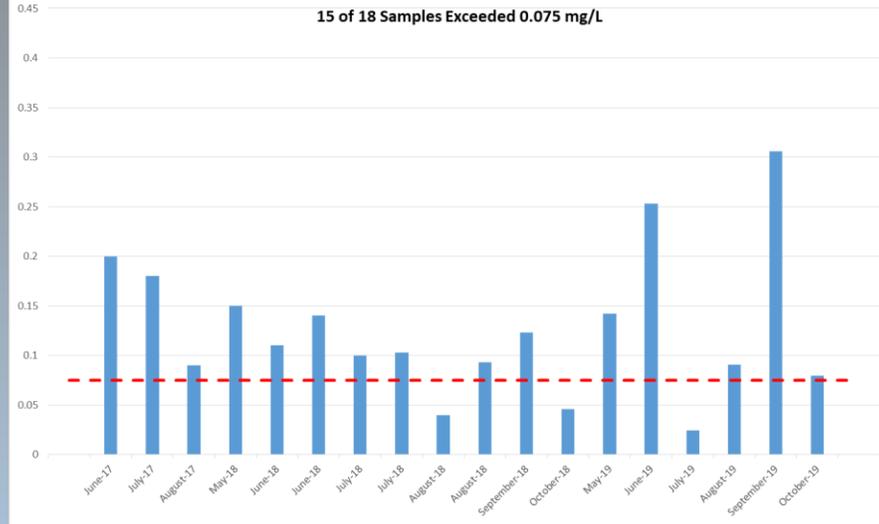
**Total Phosphorus - Silver Creek**

**18 of 18 Samples Exceeded 0.075 mg/L**



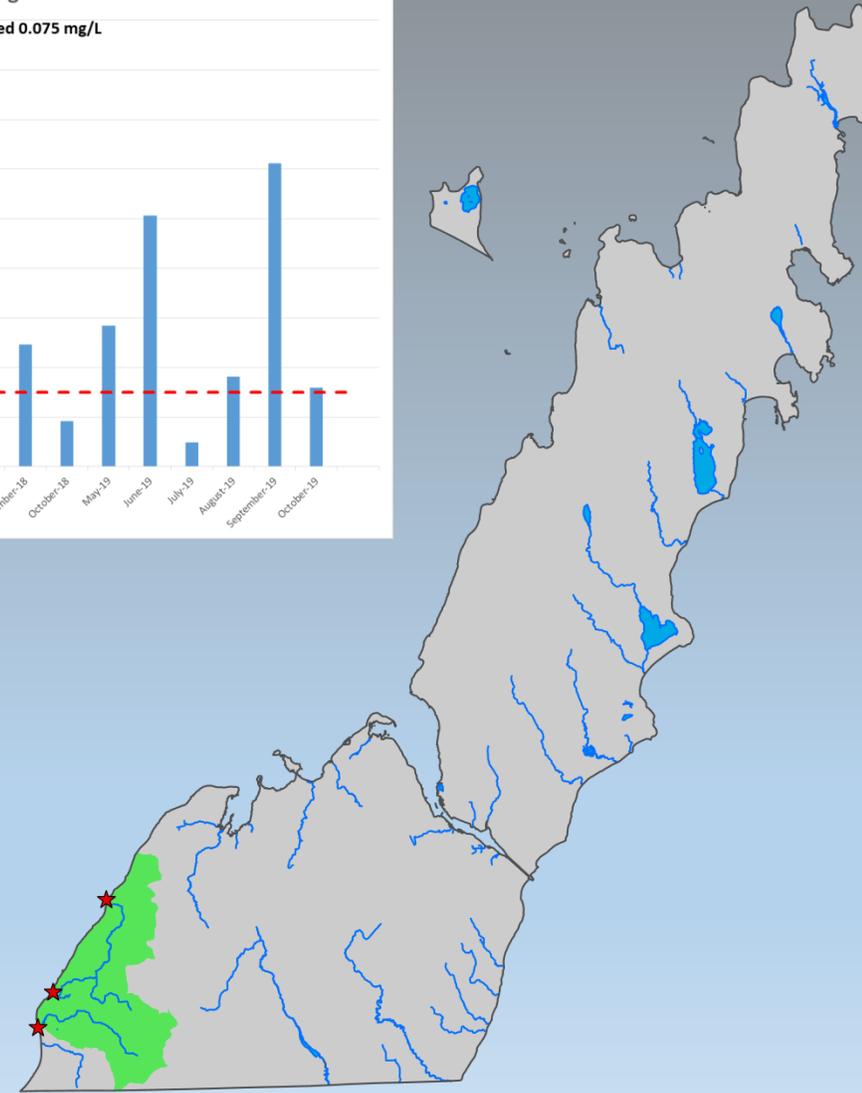
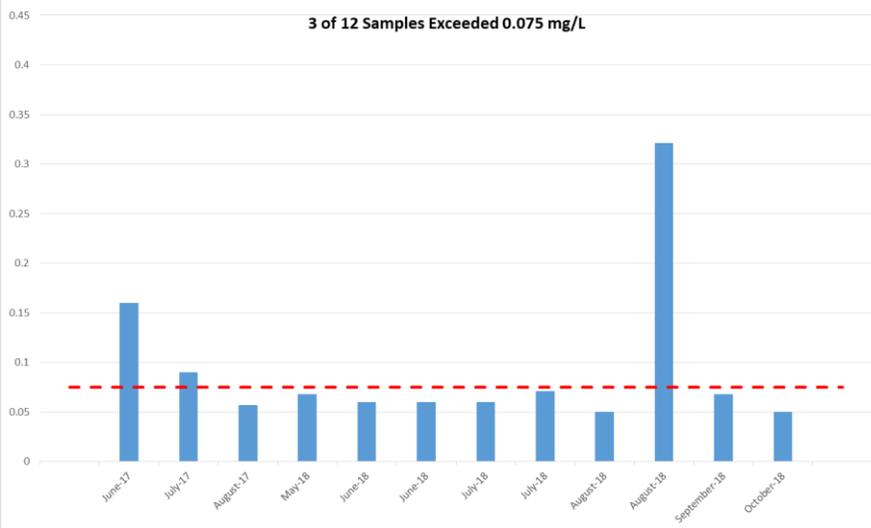
**Total Phosphorus - Sugar Creek**

**15 of 18 Samples Exceeded 0.075 mg/L**

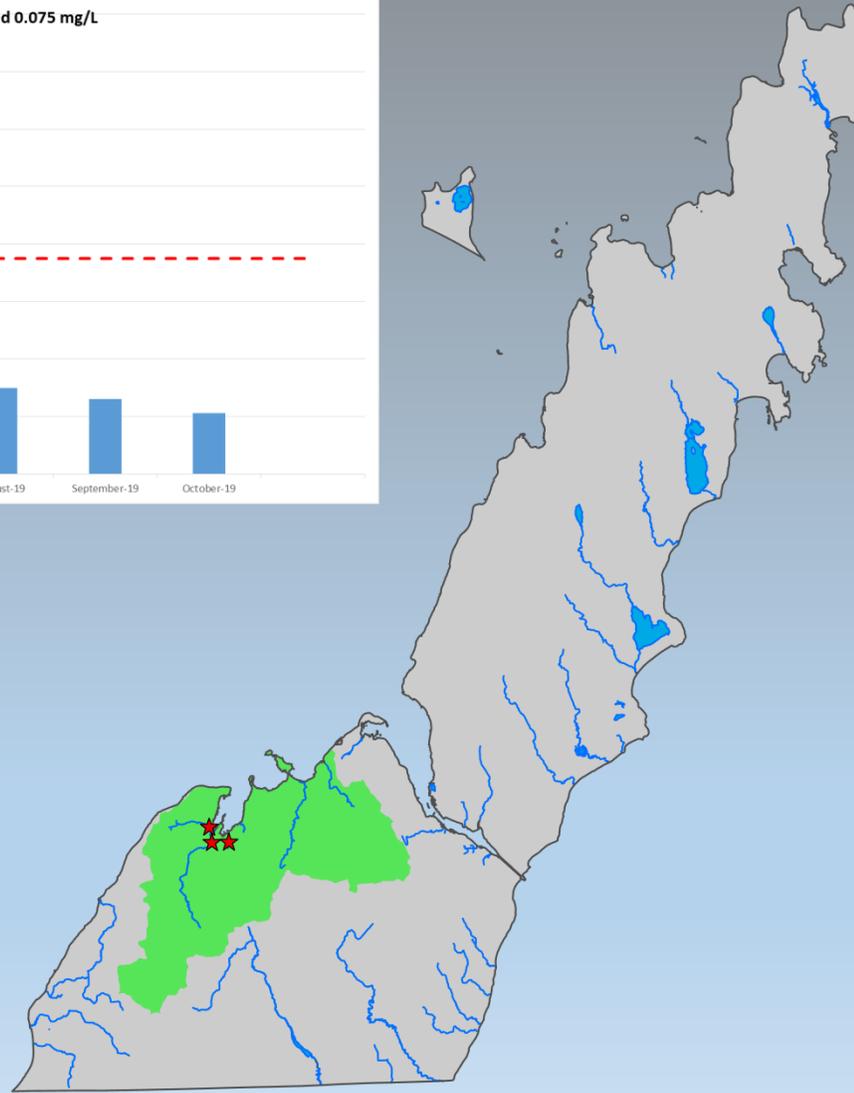


**Total Phosphorus - Renard Creek**

**3 of 12 Samples Exceeded 0.075 mg/L**

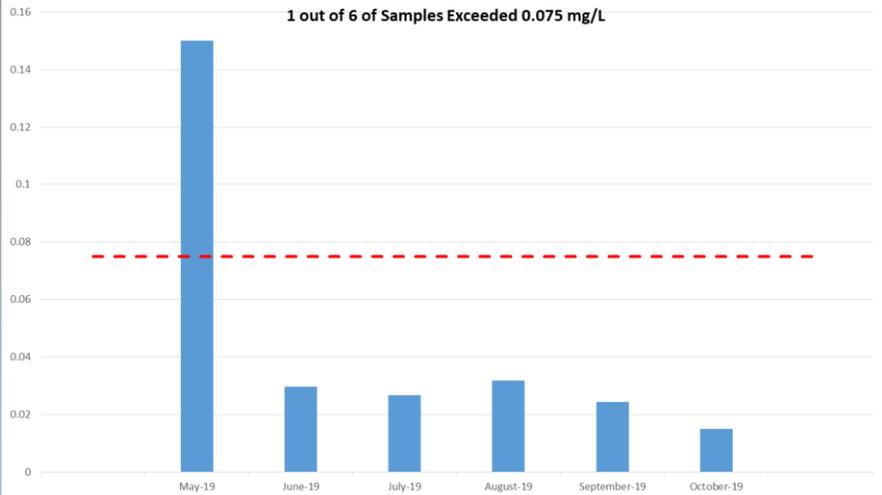


# Kayes Creek – Larson Creek



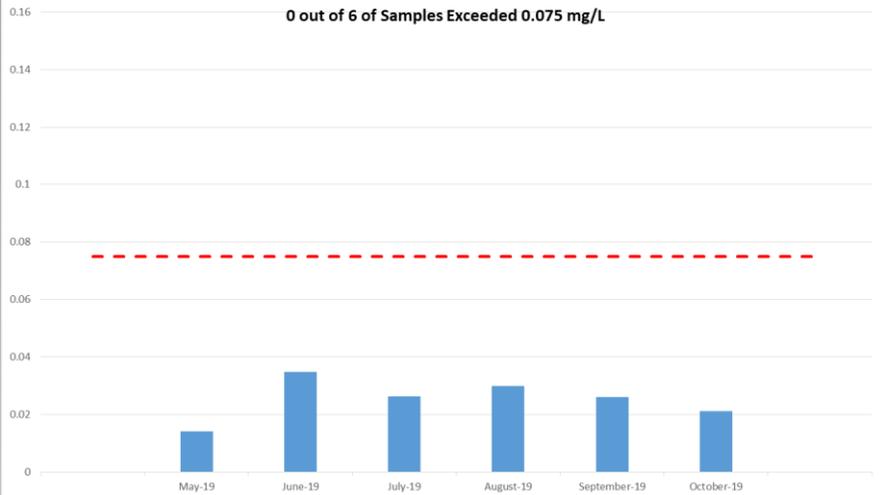
**Total Phosphorus - Kayes Creek**

**1 out of 6 of Samples Exceeded 0.075 mg/L**



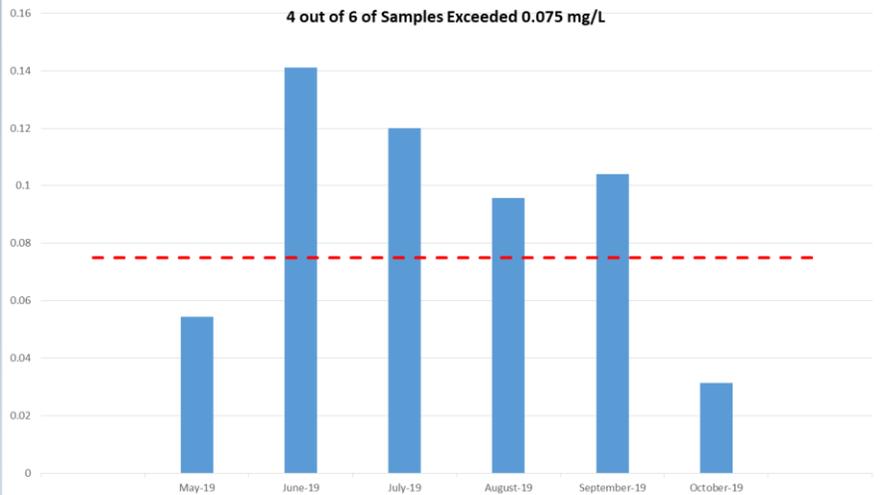
**Total Phosphorus - Malvitz Creek**

**0 out of 6 of Samples Exceeded 0.075 mg/L**

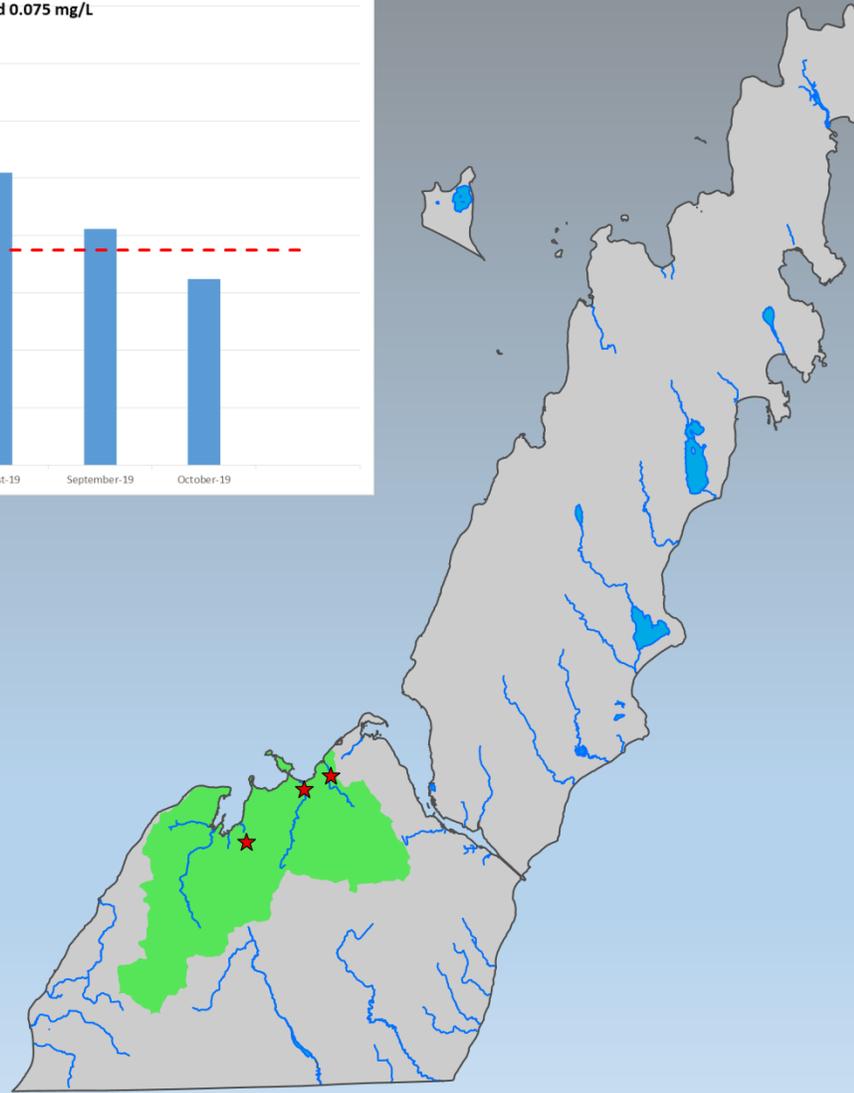


**Total Phosphorus - Twin Harbor Creek**

**4 out of 6 of Samples Exceeded 0.075 mg/L**

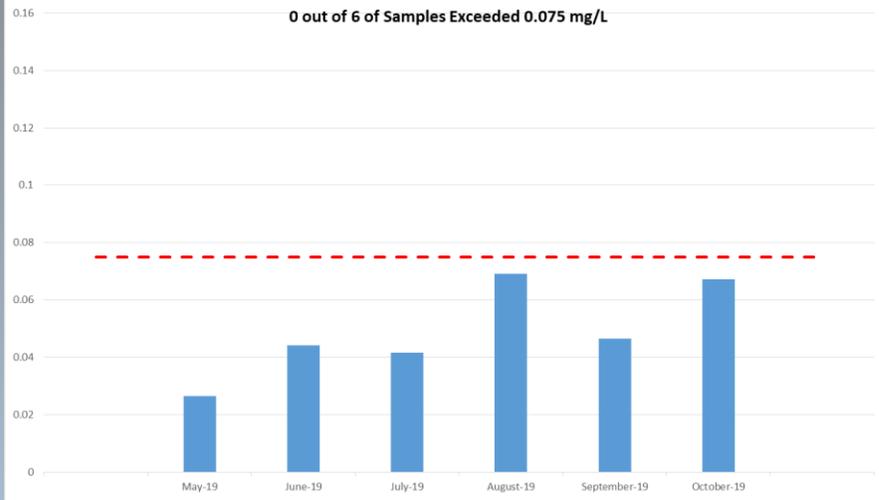


# Kayes Creek – Larson Creek



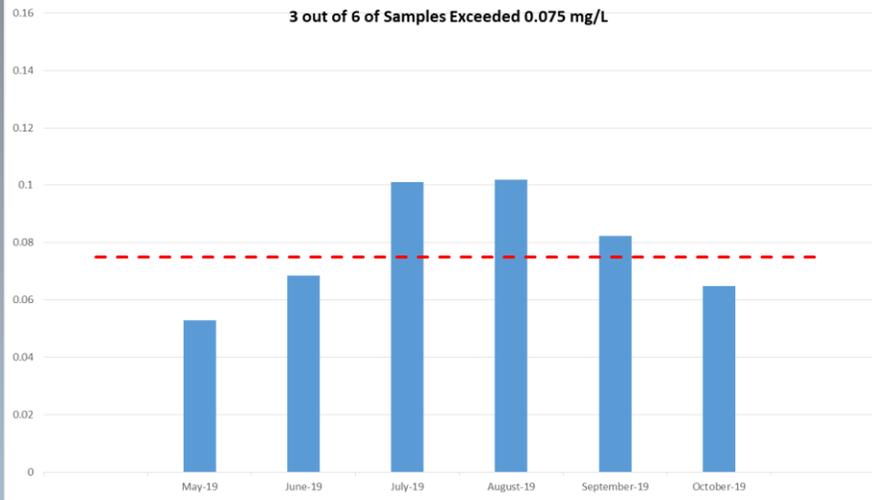
### Total Phosphorus - May Creek

0 out of 6 of Samples Exceeded 0.075 mg/L



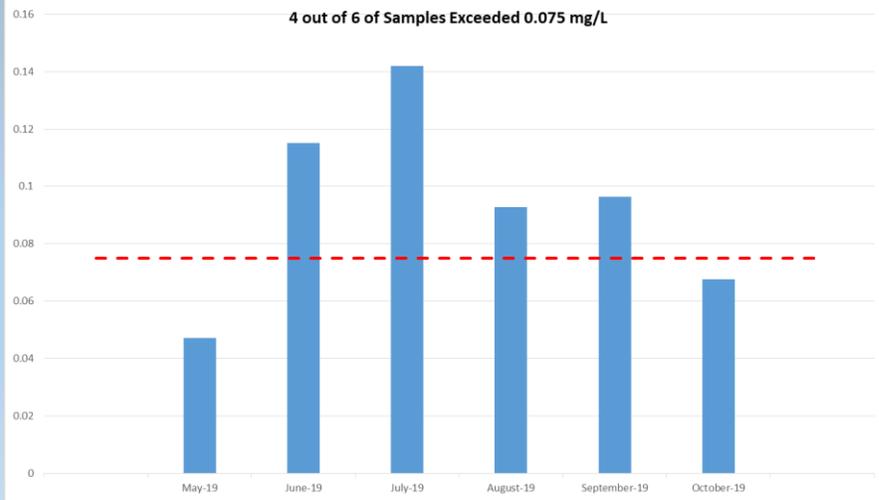
### Total Phosphorus - Larson Creek

3 out of 6 of Samples Exceeded 0.075 mg/L

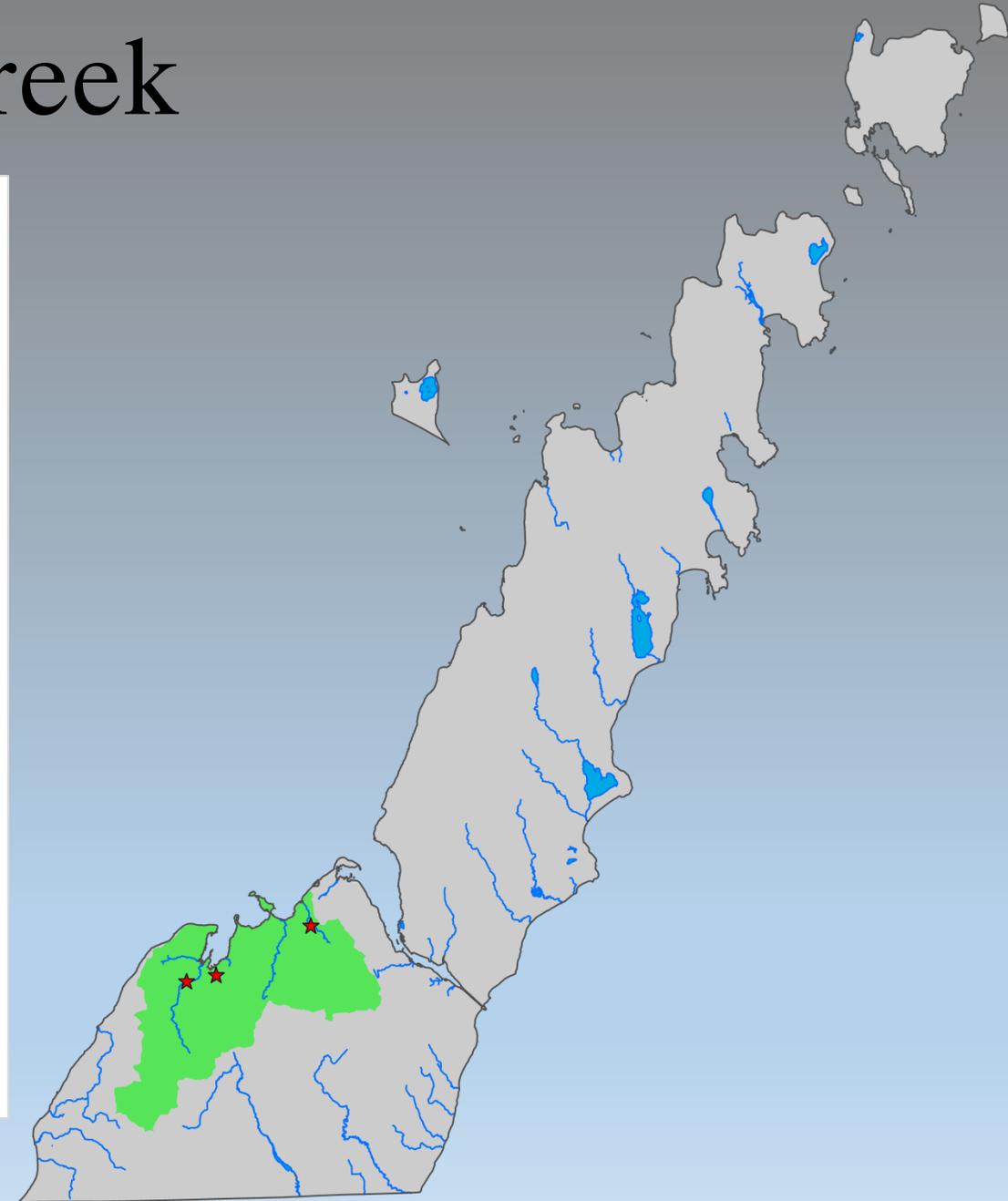
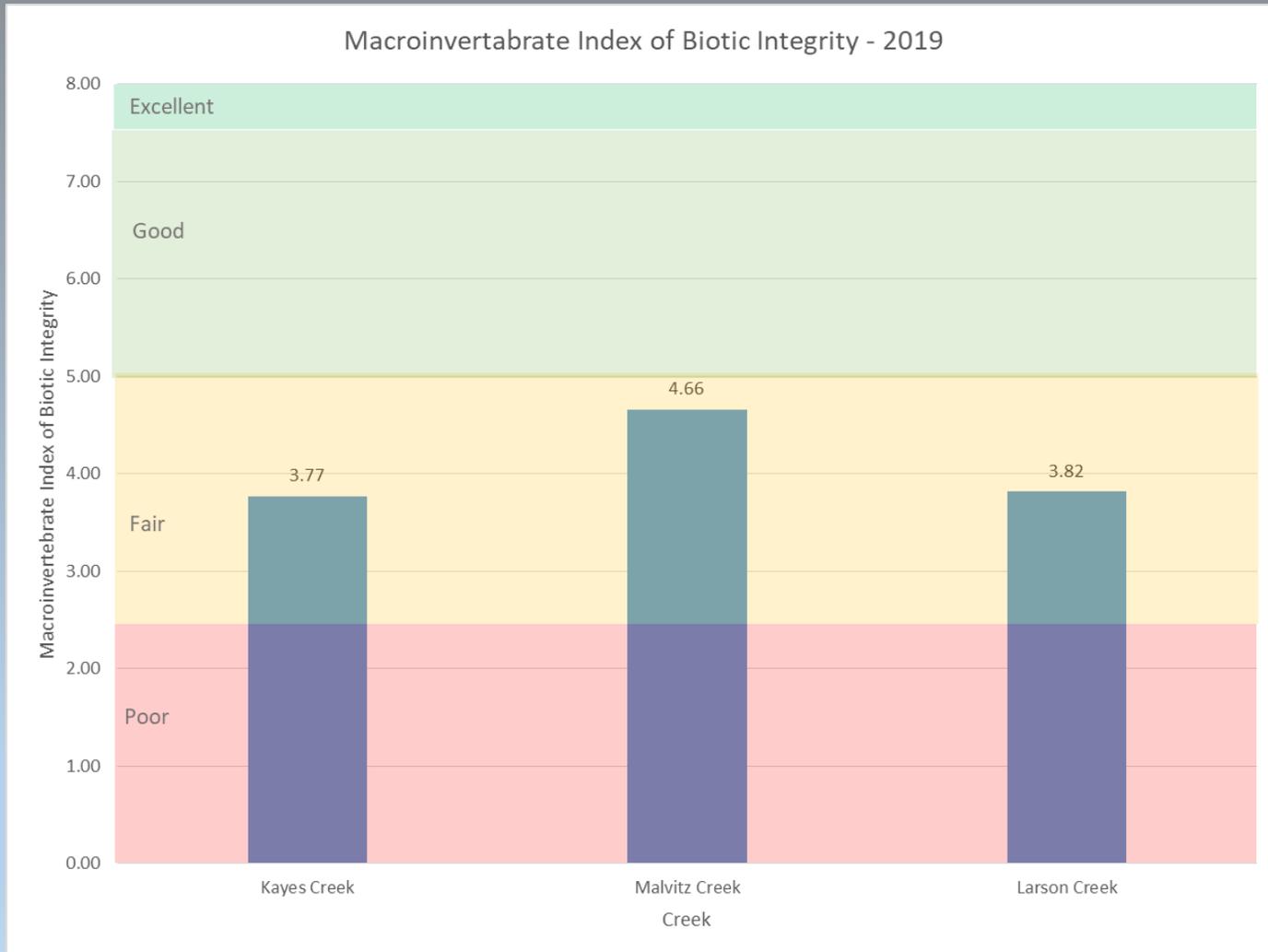


### Total Phosphorus - Krueger Creek

4 out of 6 of Samples Exceeded 0.075 mg/L



# Kayes Creek – Larson Creek

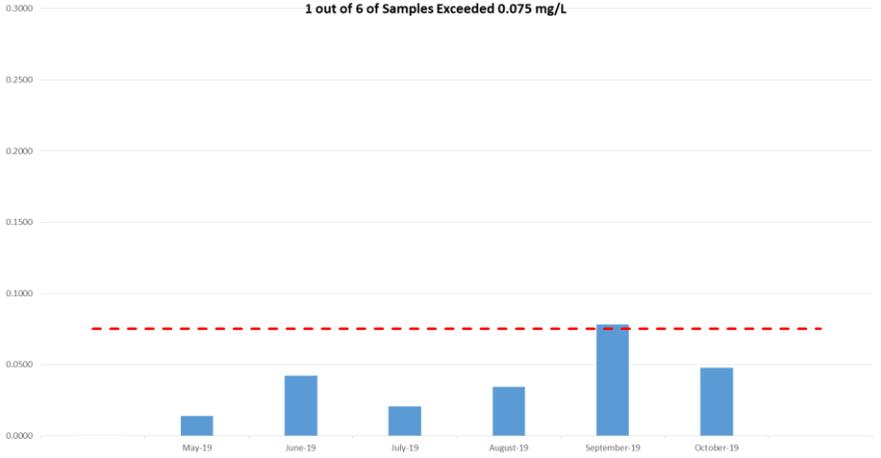


# Ahnapee River



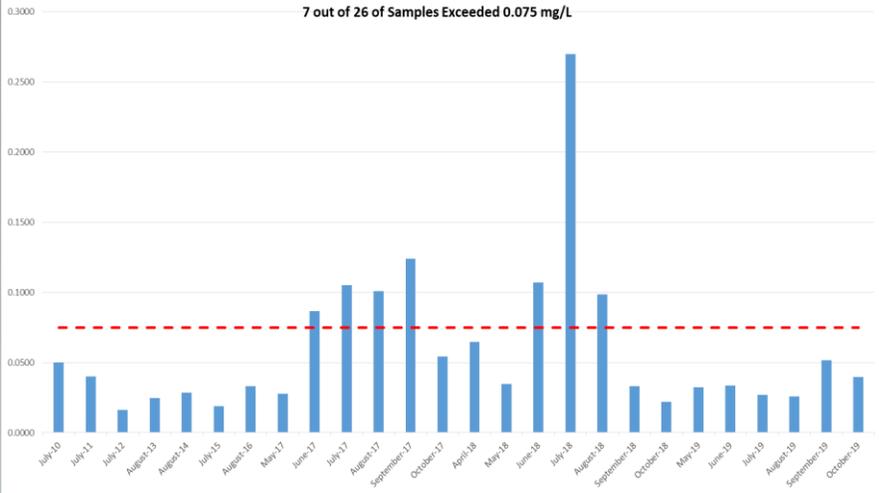
**Total Phosphorus - Silver Creek**

**1 out of 6 of Samples Exceeded 0.075 mg/L**



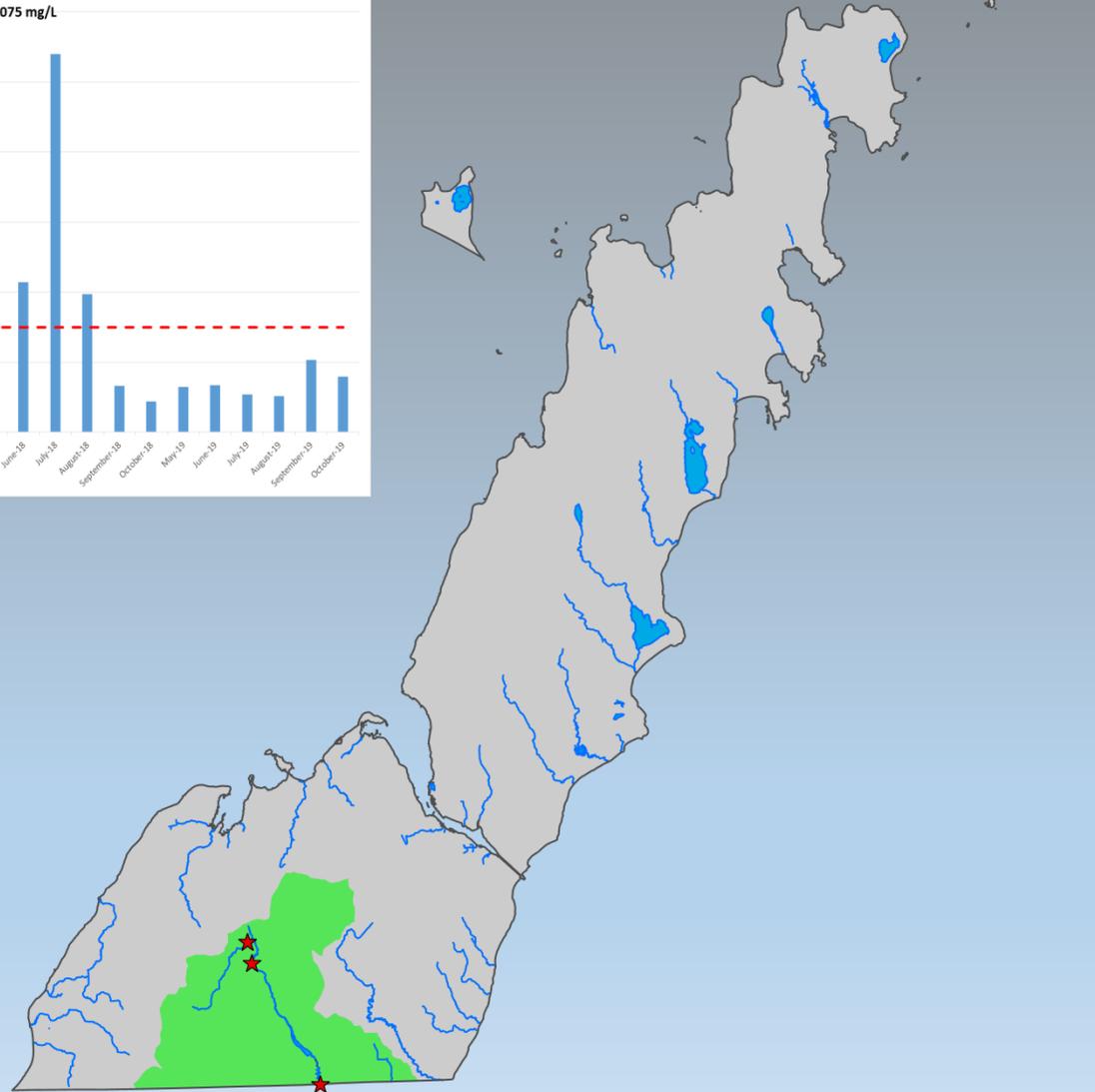
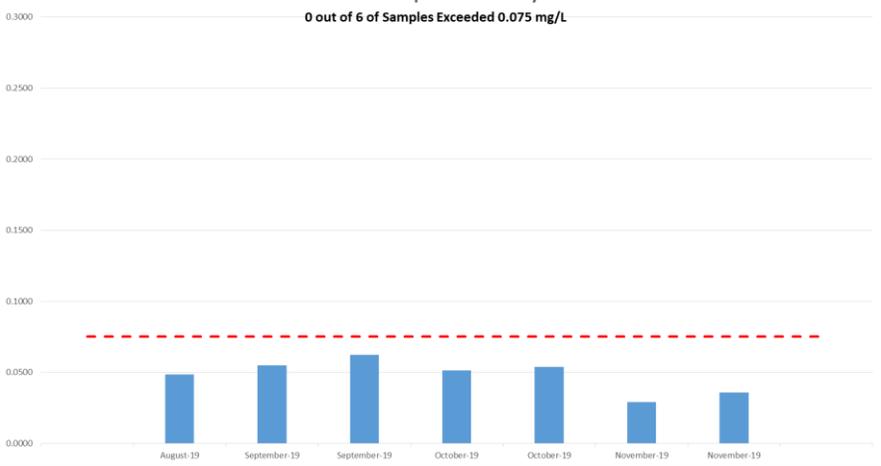
**Total Phosphorus - County H**

**7 out of 26 of Samples Exceeded 0.075 mg/L**



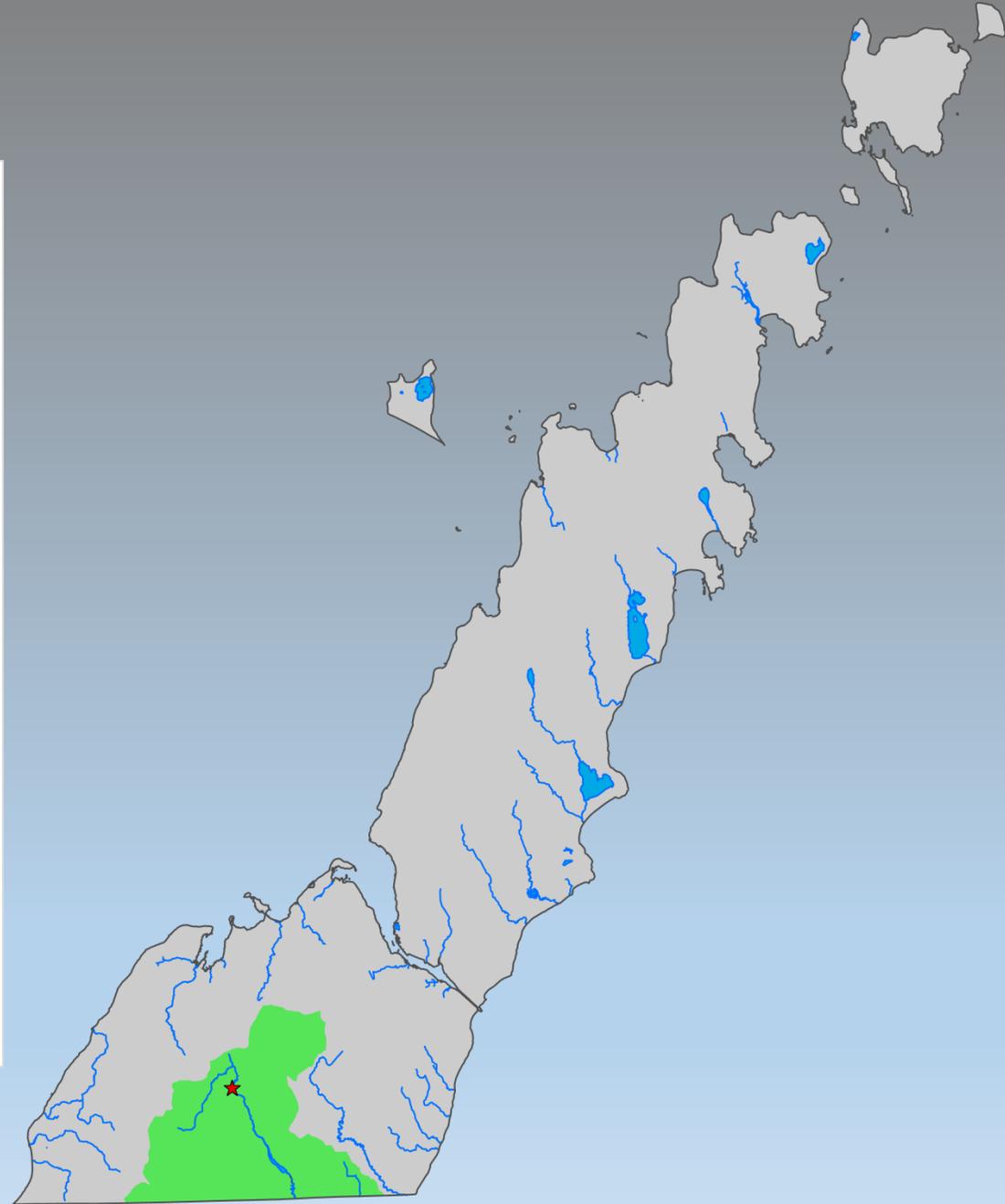
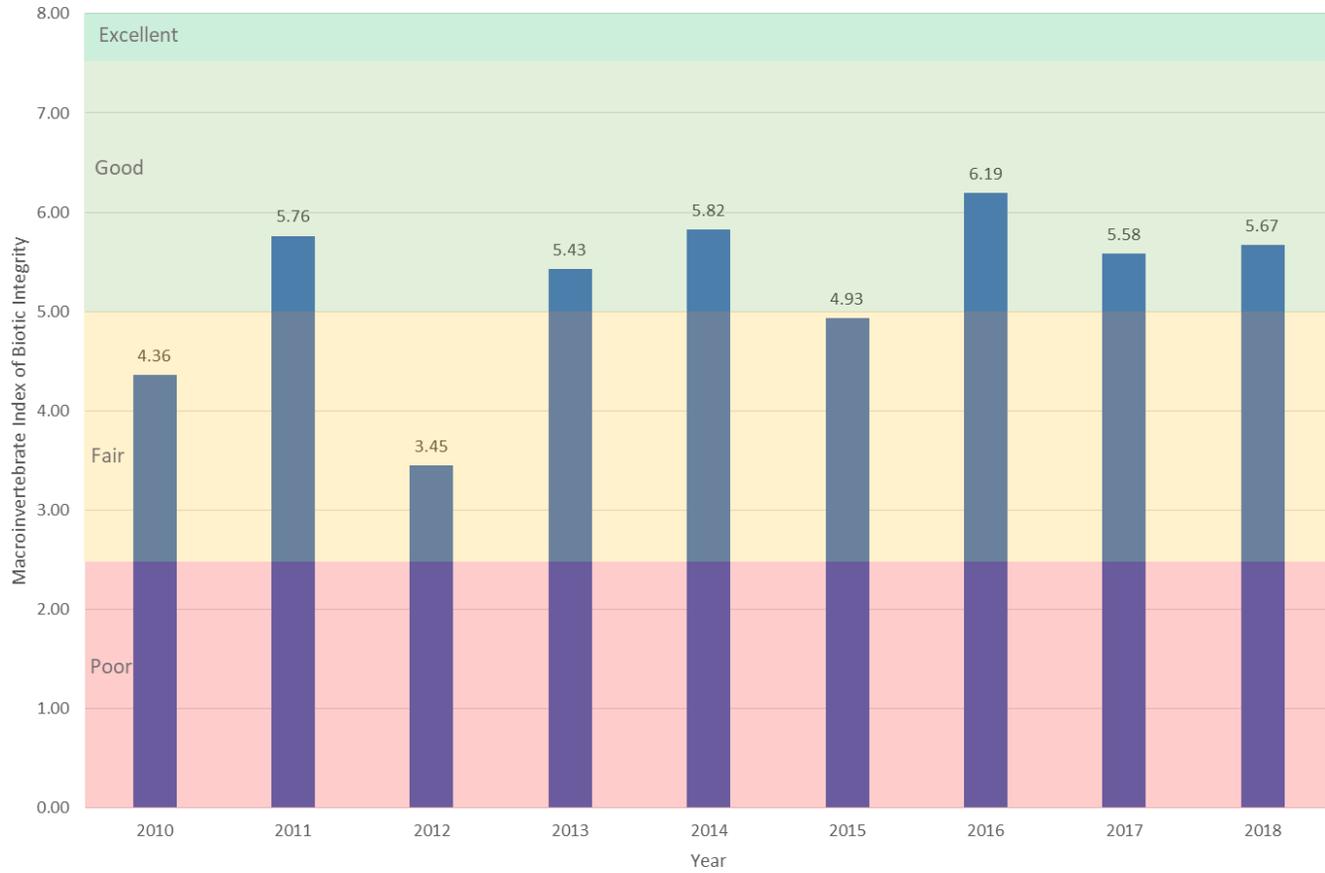
**Total Phosphorus - County J**

**0 out of 6 of Samples Exceeded 0.075 mg/L**

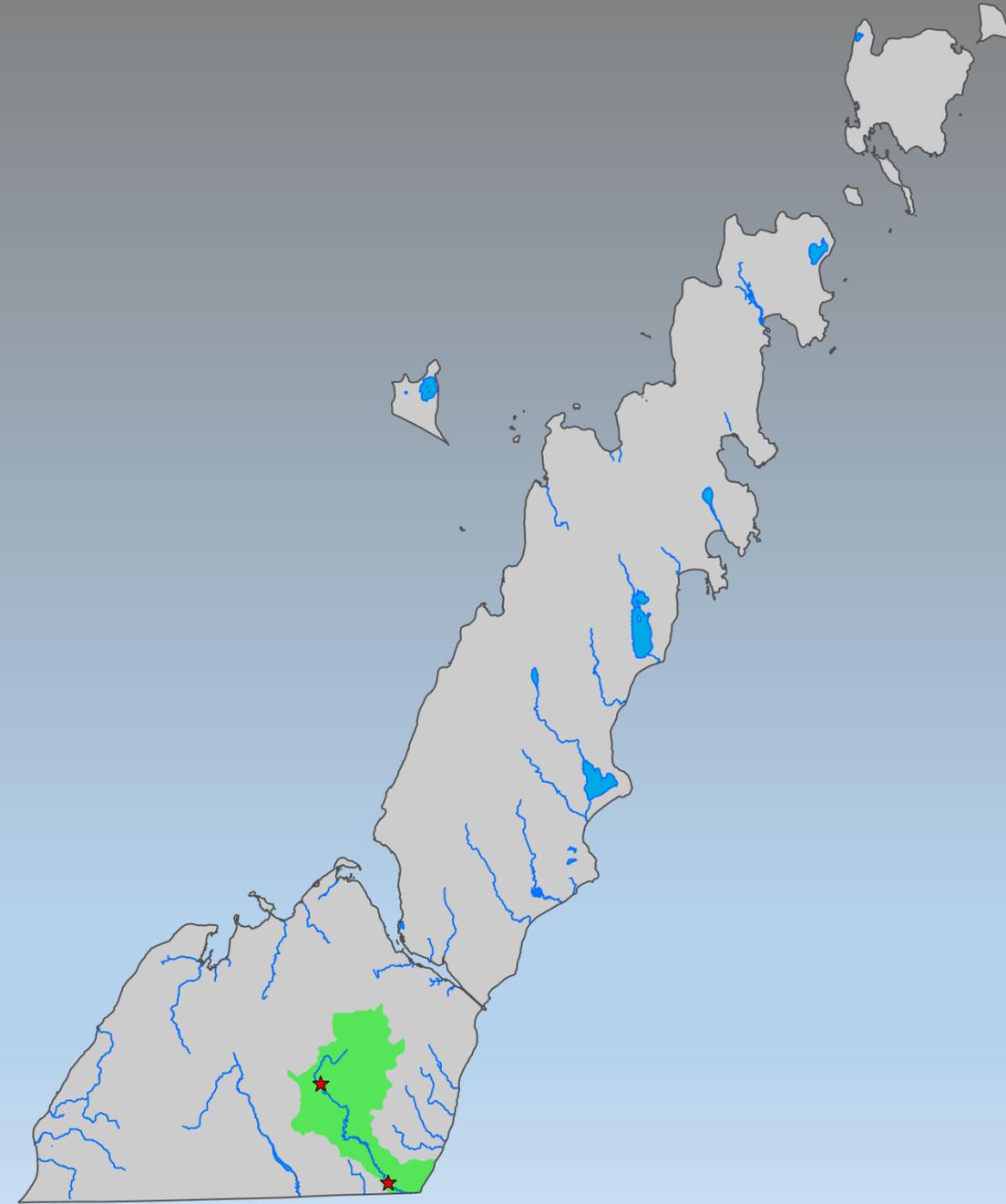
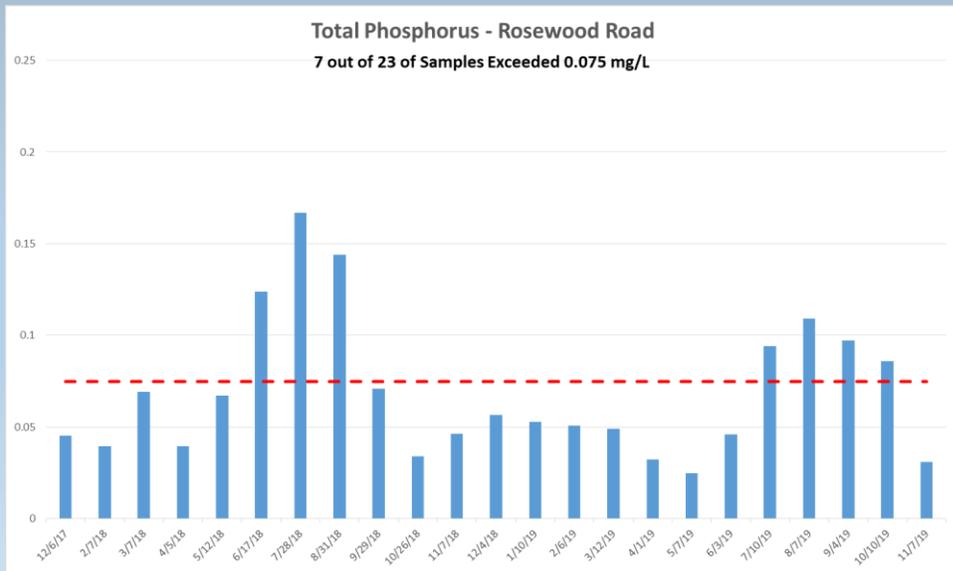
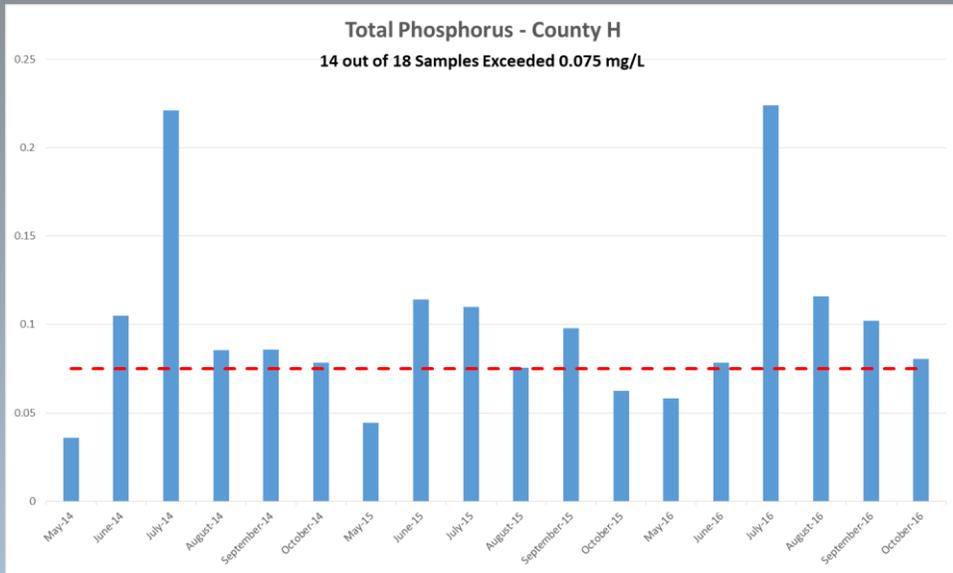


# Ahnapee River

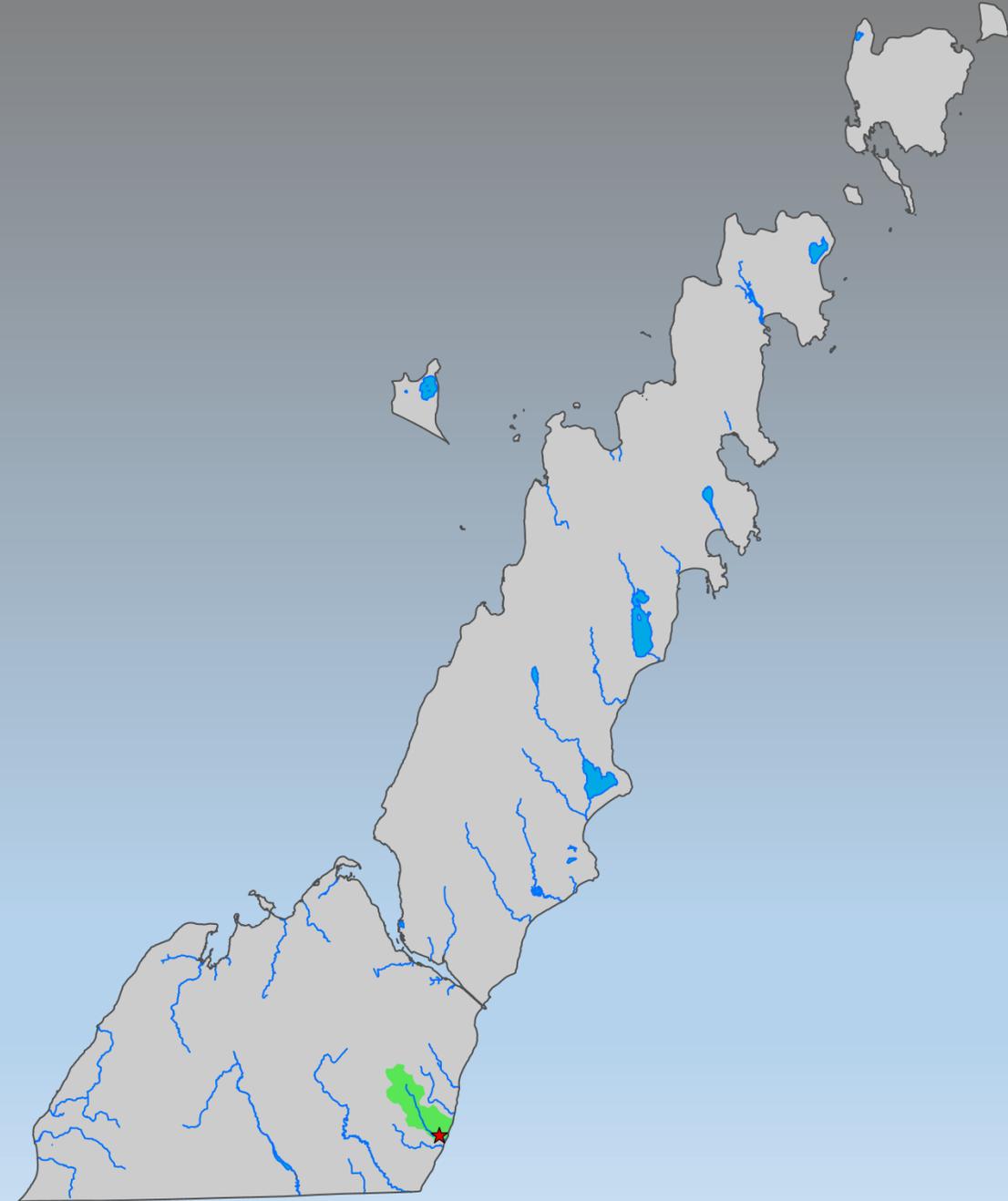
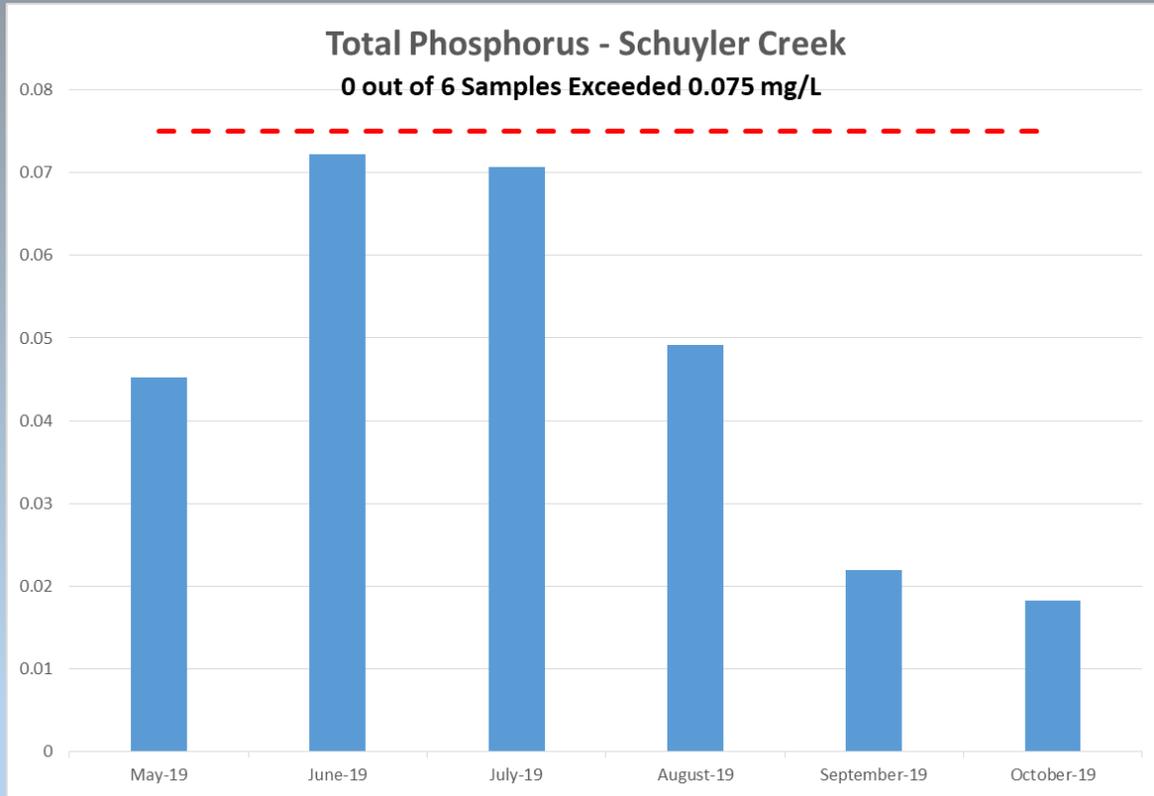
Macroinvertebrate Index of Biotic Integrity, 2010 - 2018  
Ahnapee River at CTH H near Forestville - Station 153161



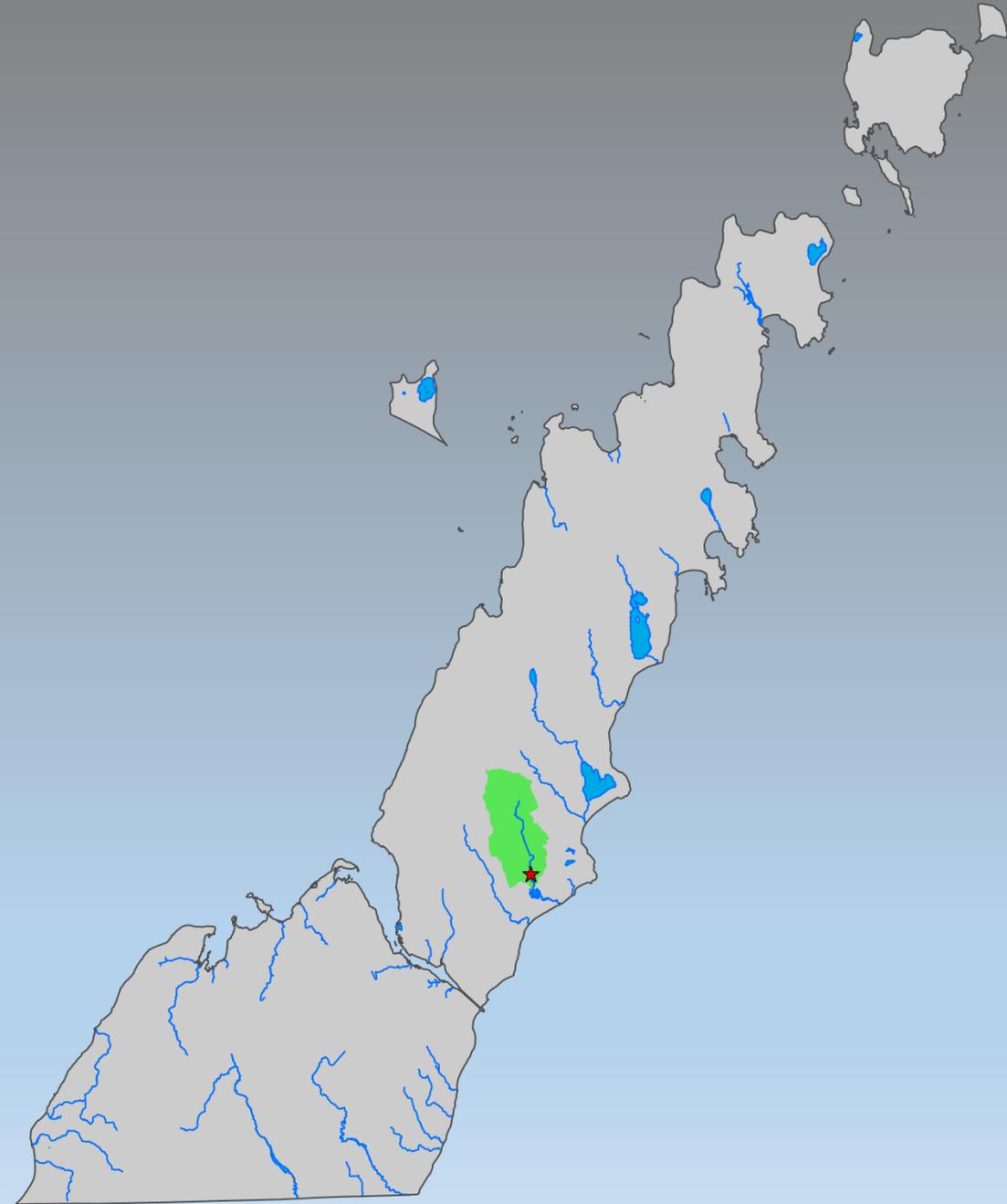
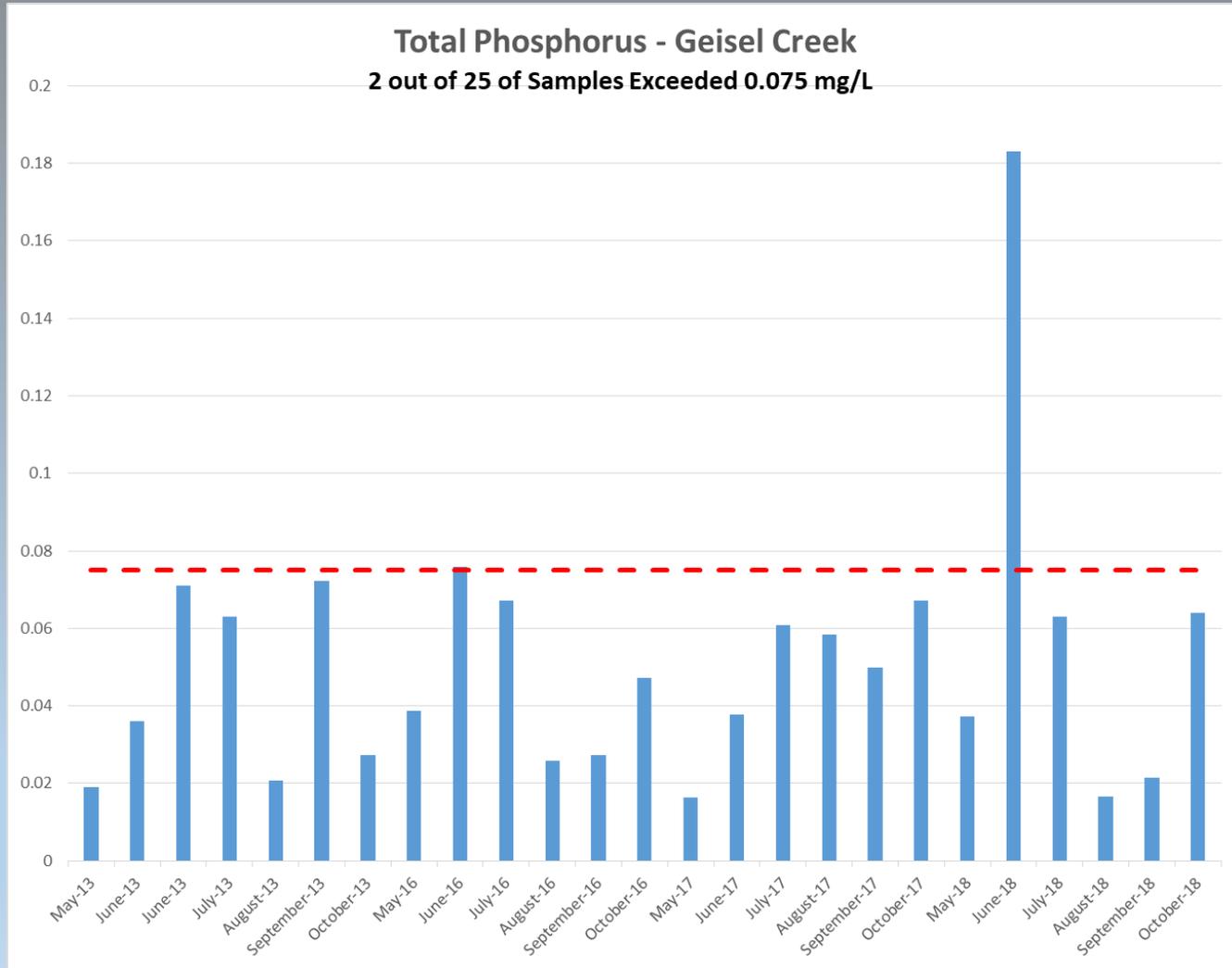
# Stony Creek



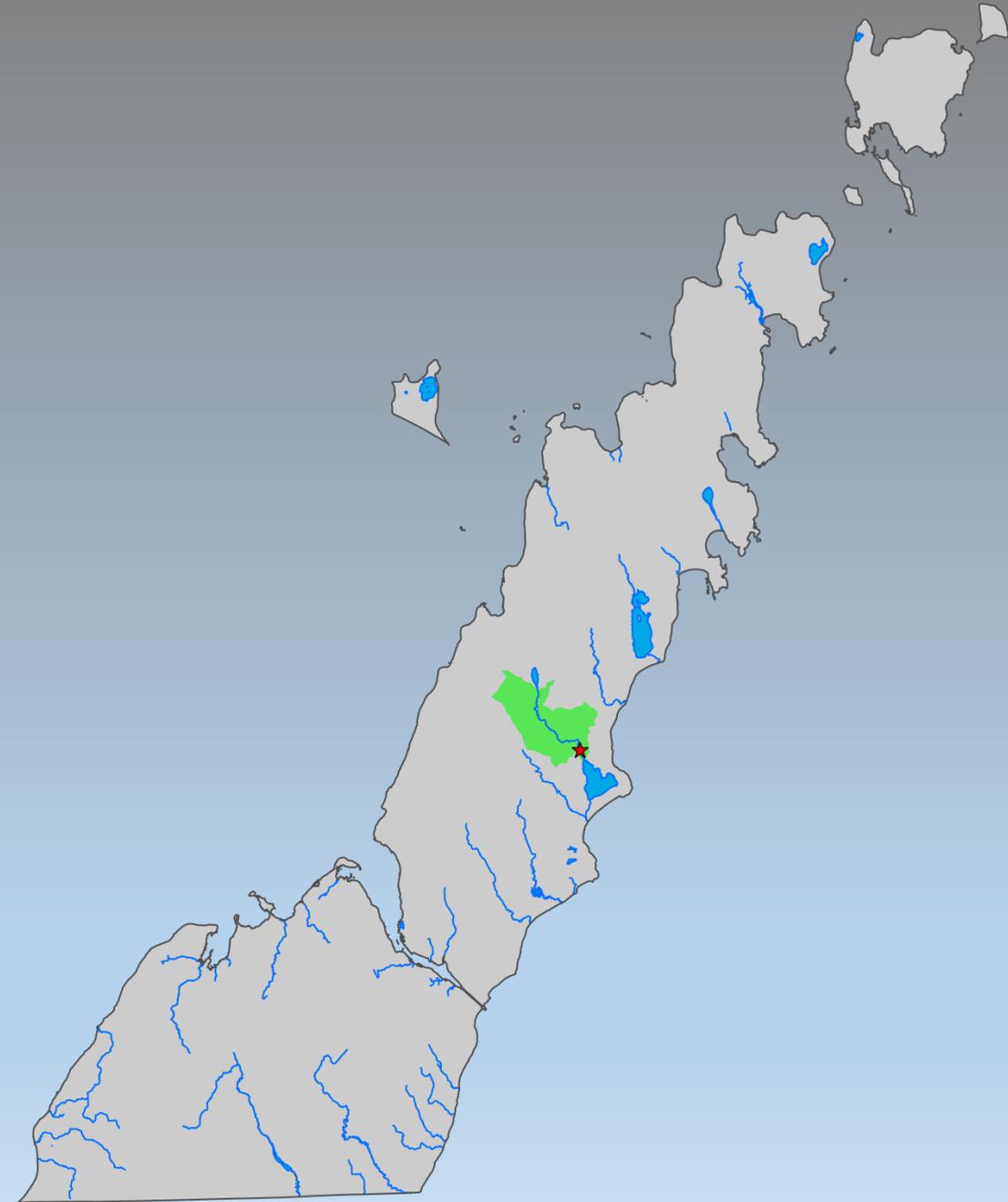
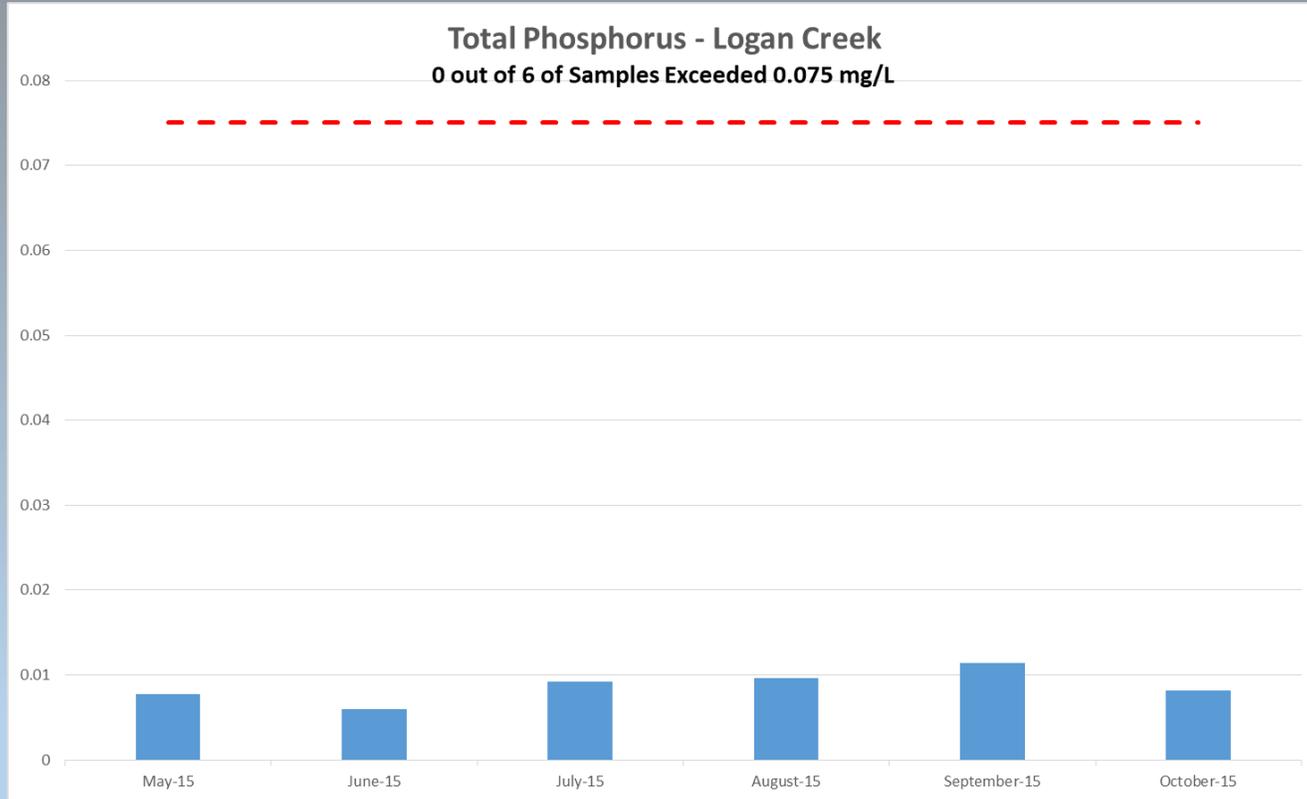
# Schuyler Creek



# Geisel Creek

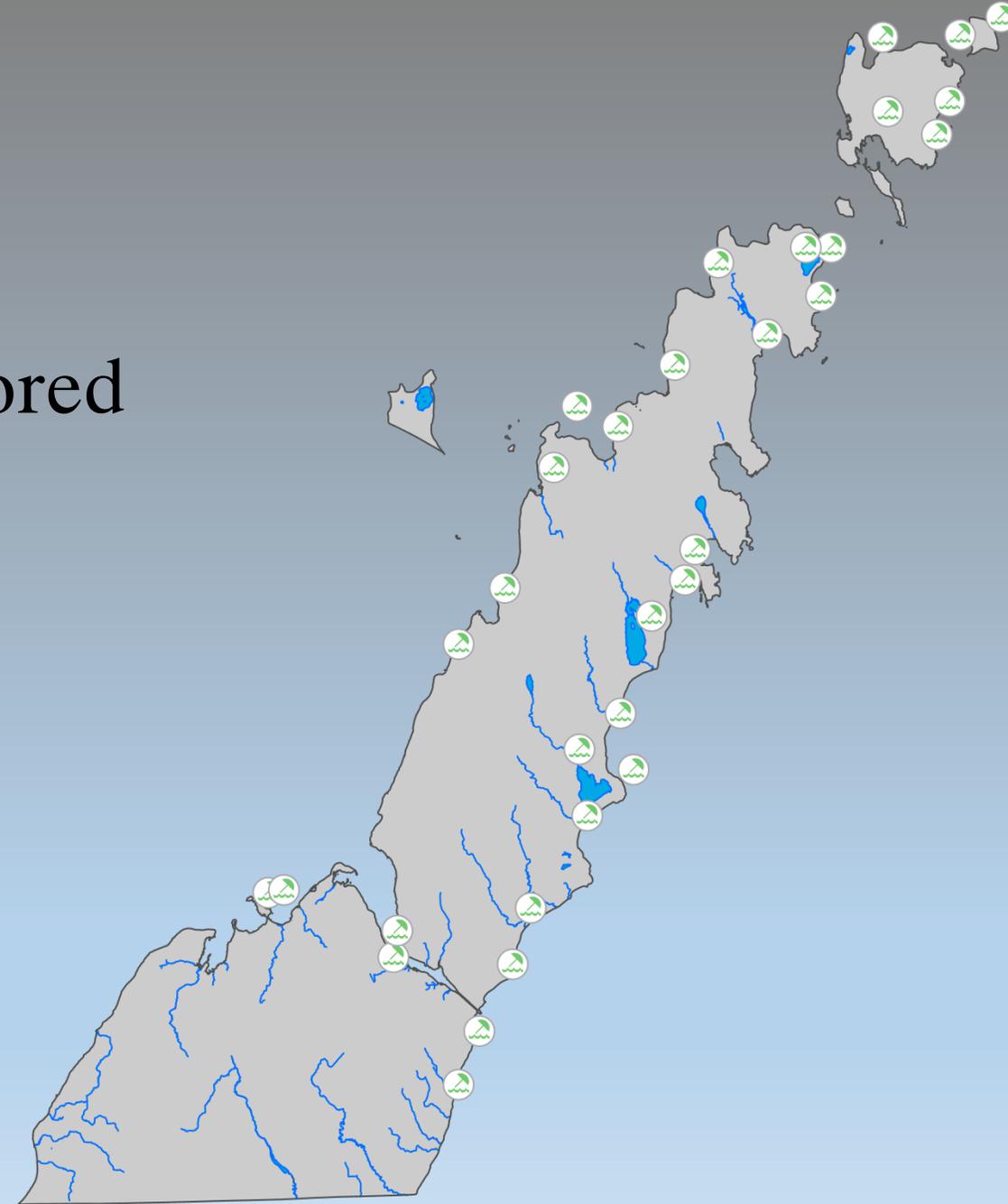


# Logan Creek



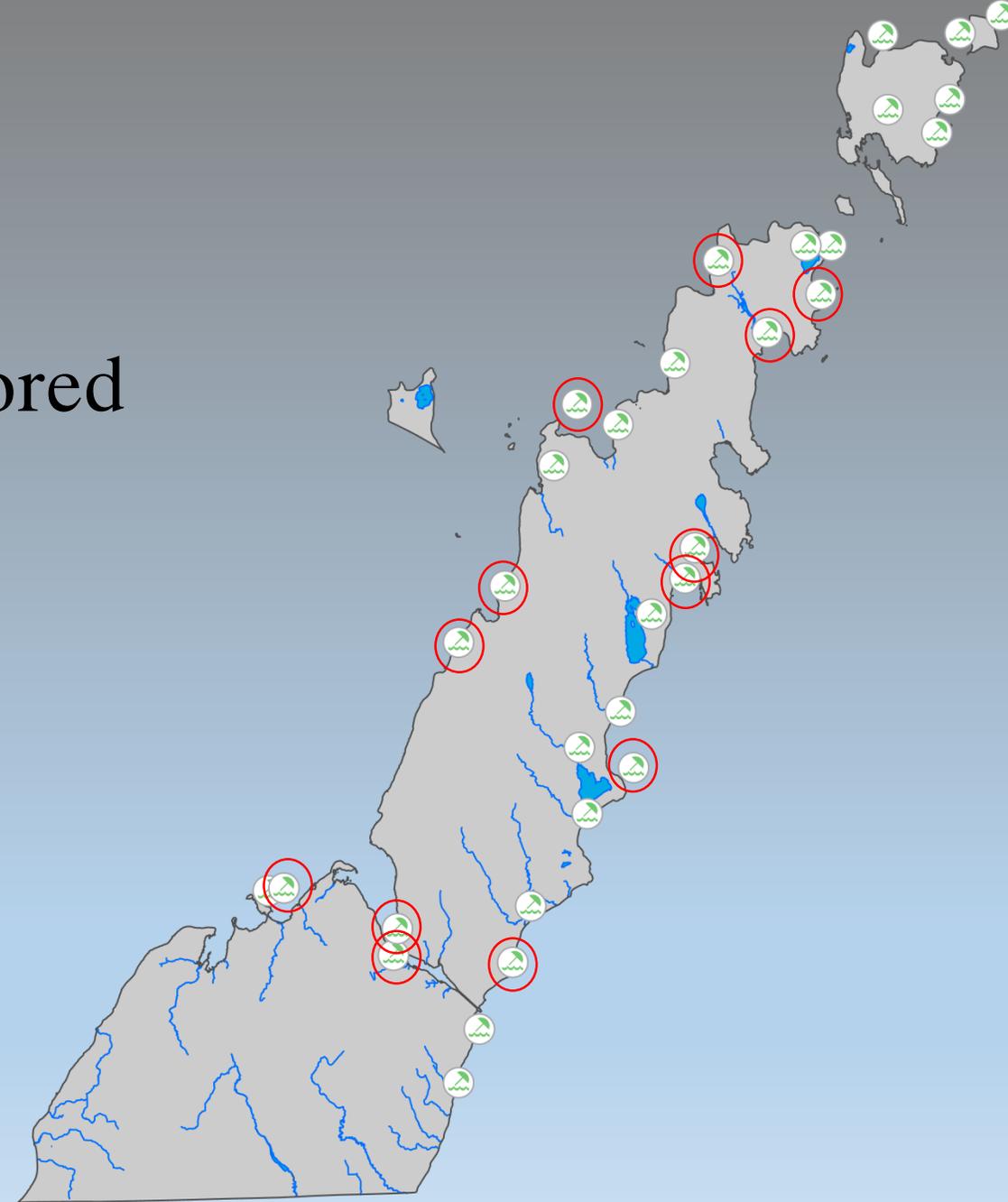
# Beach Monitoring

- Approximately 30 Beaches monitored



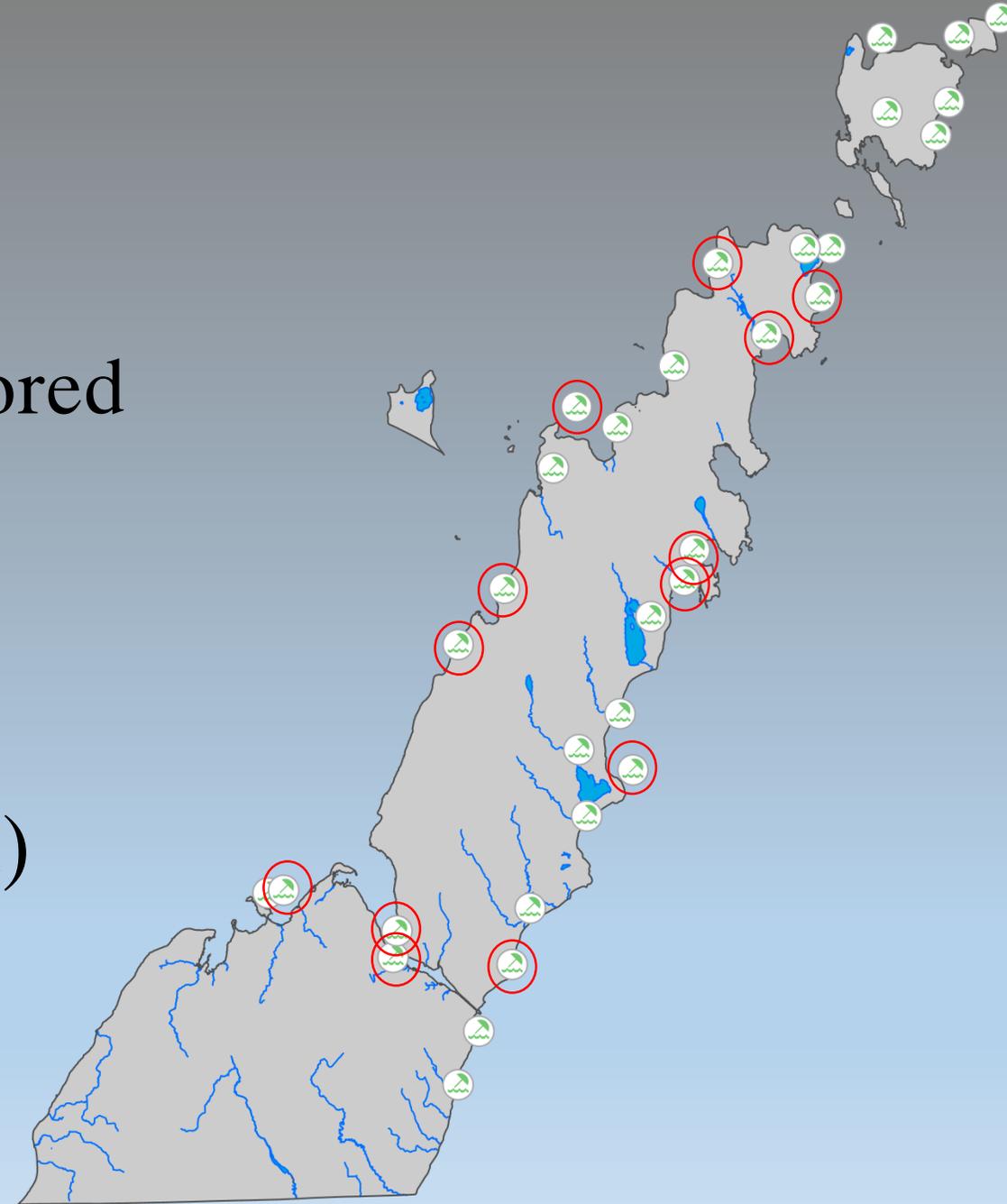
# Beach Monitoring

- Approximately 30 Beaches monitored
- 13 Beaches with Installed BMPs



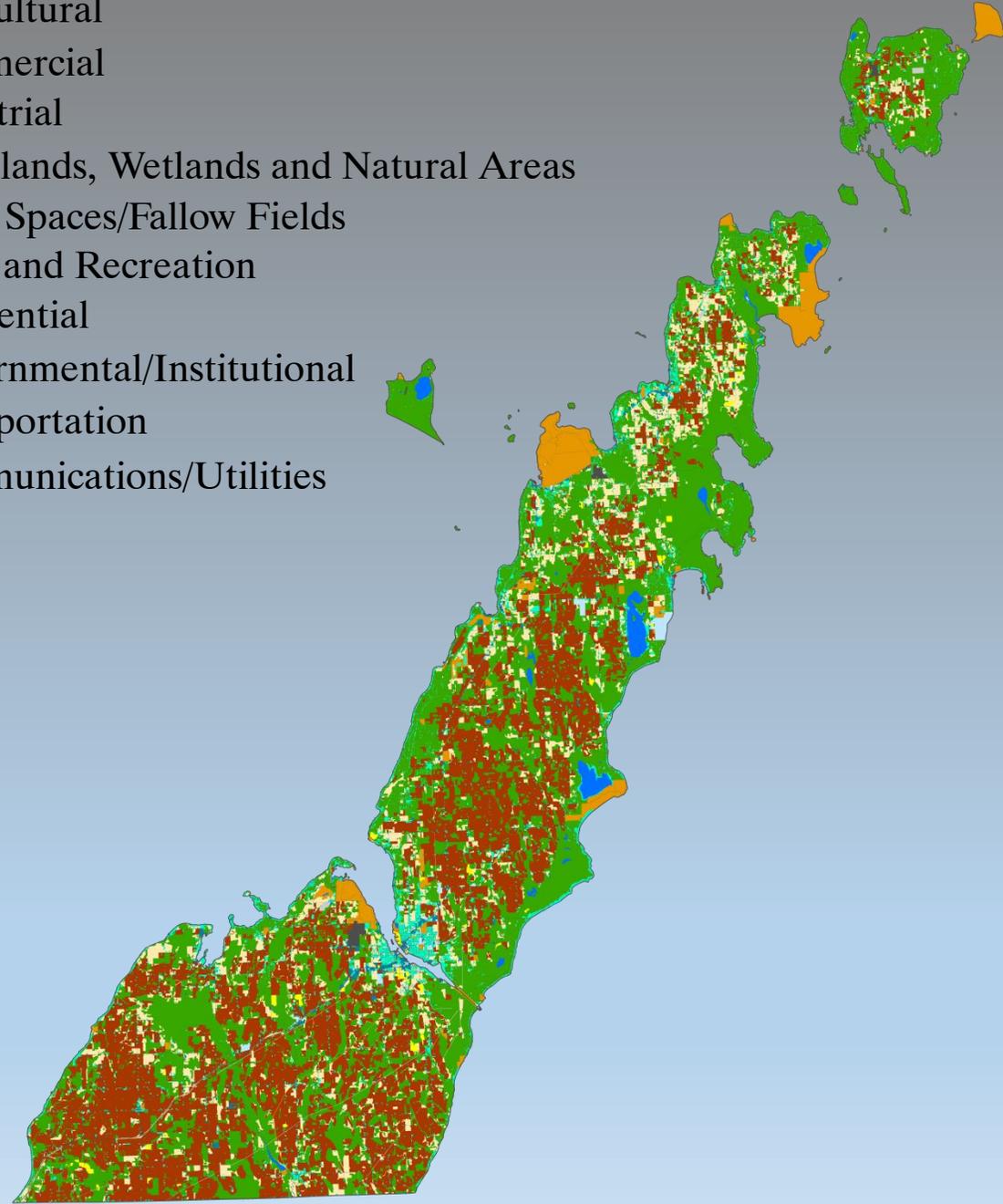
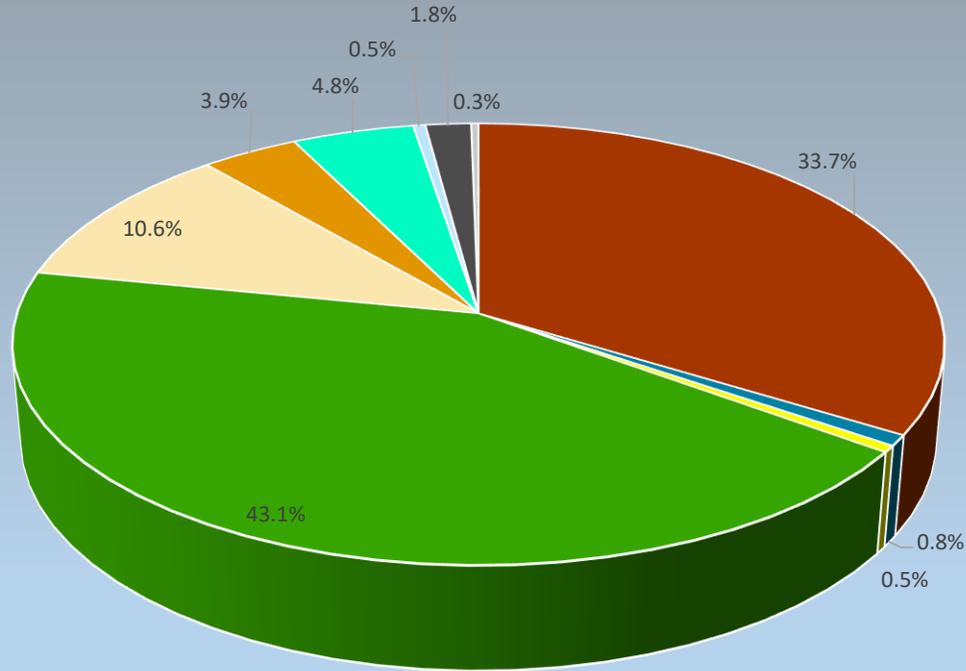
# Beach Monitoring

- Approximately 30 Beaches monitored
- 13 Beaches with Installed BMPs
- 2019 – 1,060 Samples Collected
  - 25 Advisories (235 CFU/100 ml)
  - 8 Closures (1,000 CFU/100 ml)



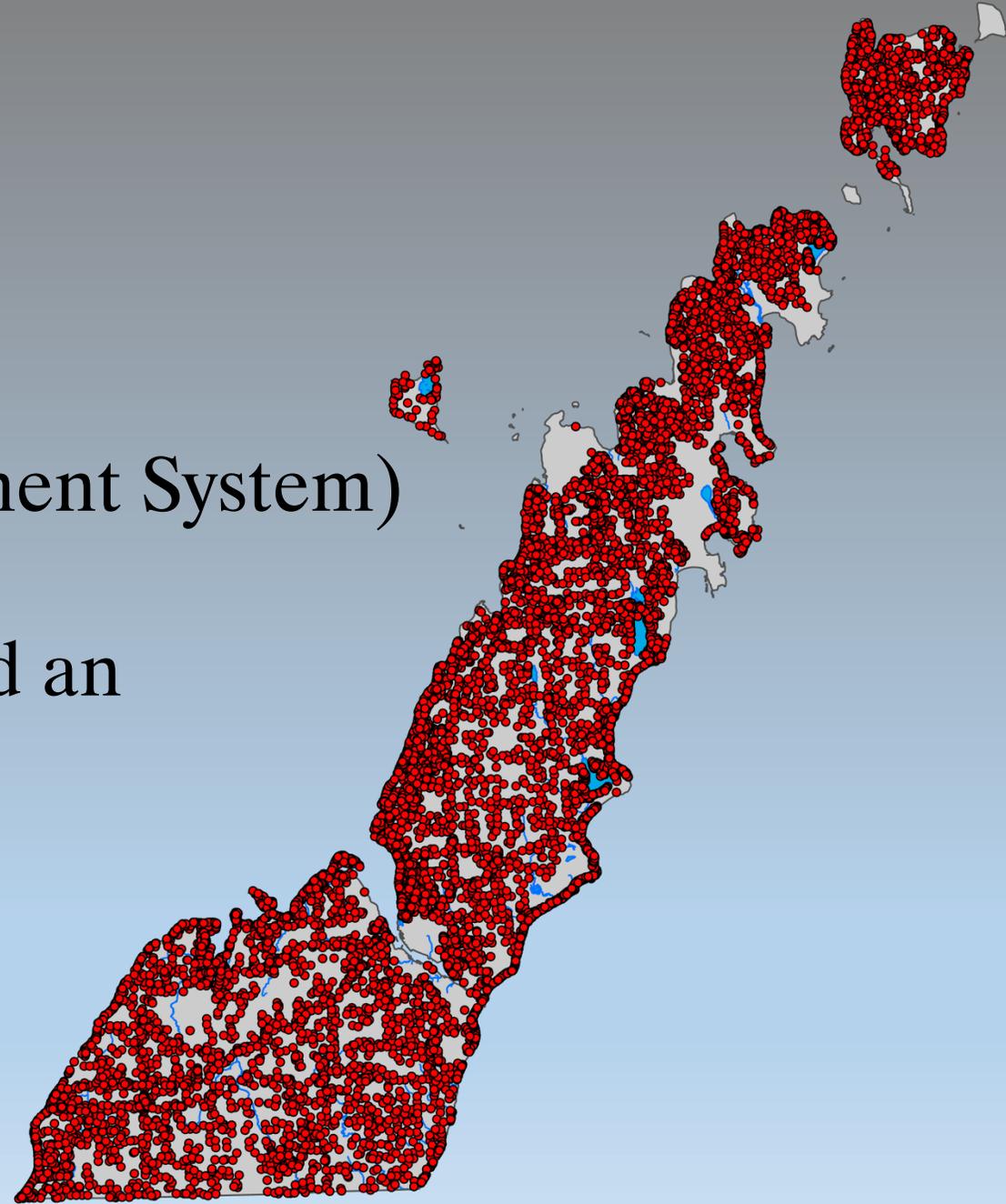
# Land Use

- Agricultural
- Commercial
- Industrial
- Woodlands, Wetlands and Natural Areas
- Open Spaces/Fallow Fields
- Parks and Recreation
- Residential
- Governmental/Institutional
- Transportation
- Communications/Utilities



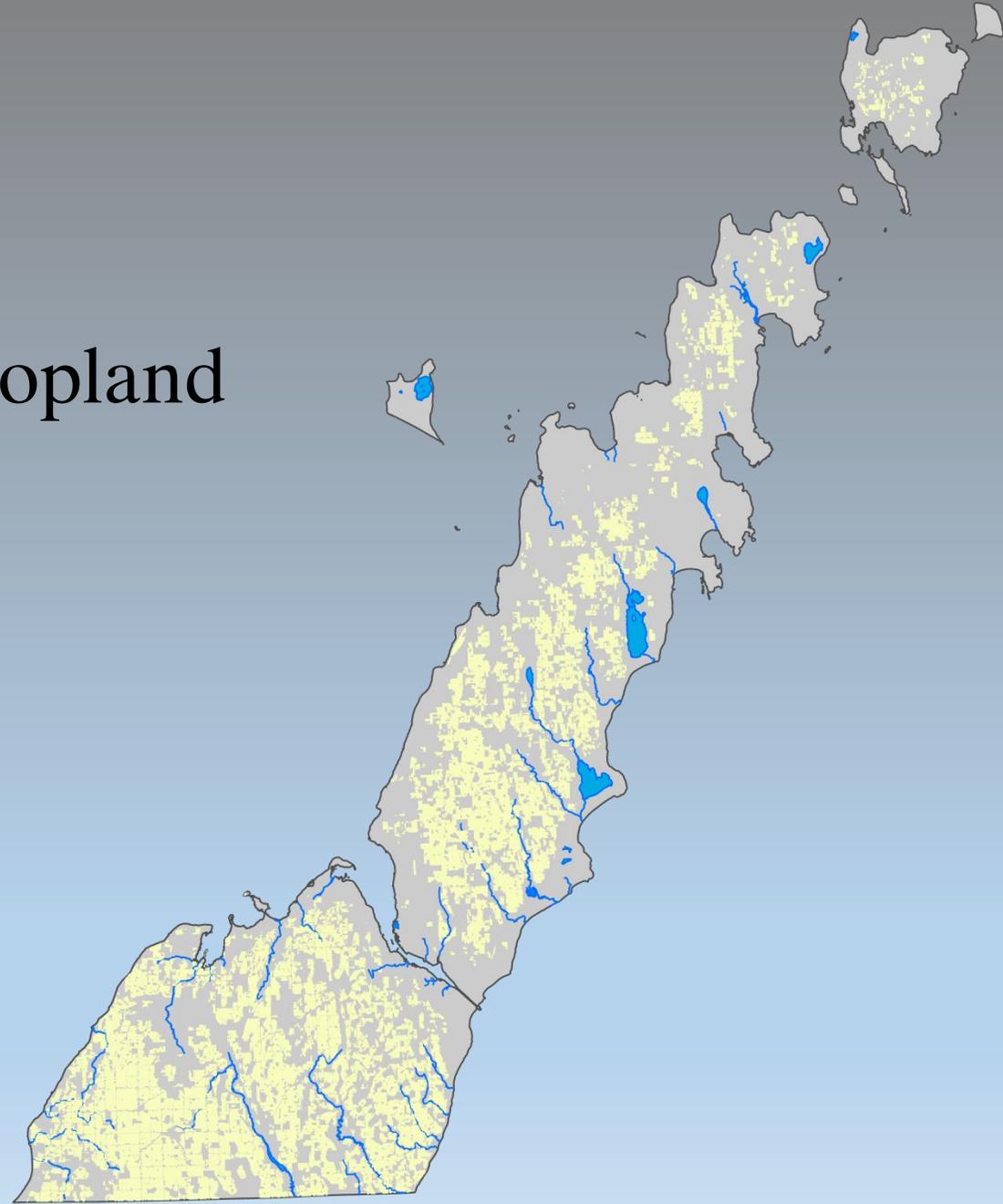
# Rural Development

- Approximately 12,000 POWTS  
(Private Onsite Wastewater Treatment System)
- Sanitary Survey Complete in 2015
- Inspections from 1986 – 2015 yielded an average failure rate of 26%



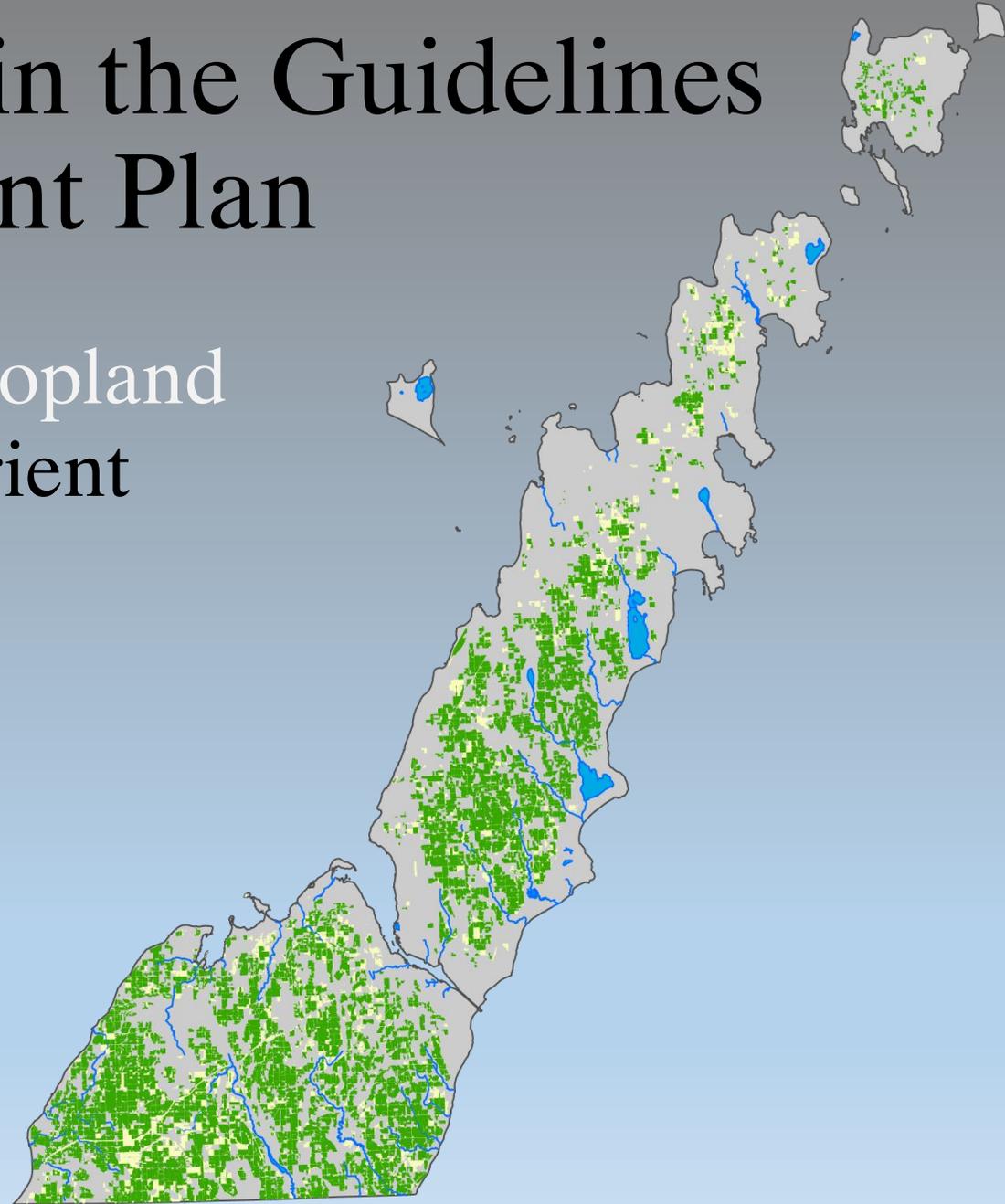
# Cropland

- Approximately 83,807 Acres of Cropland



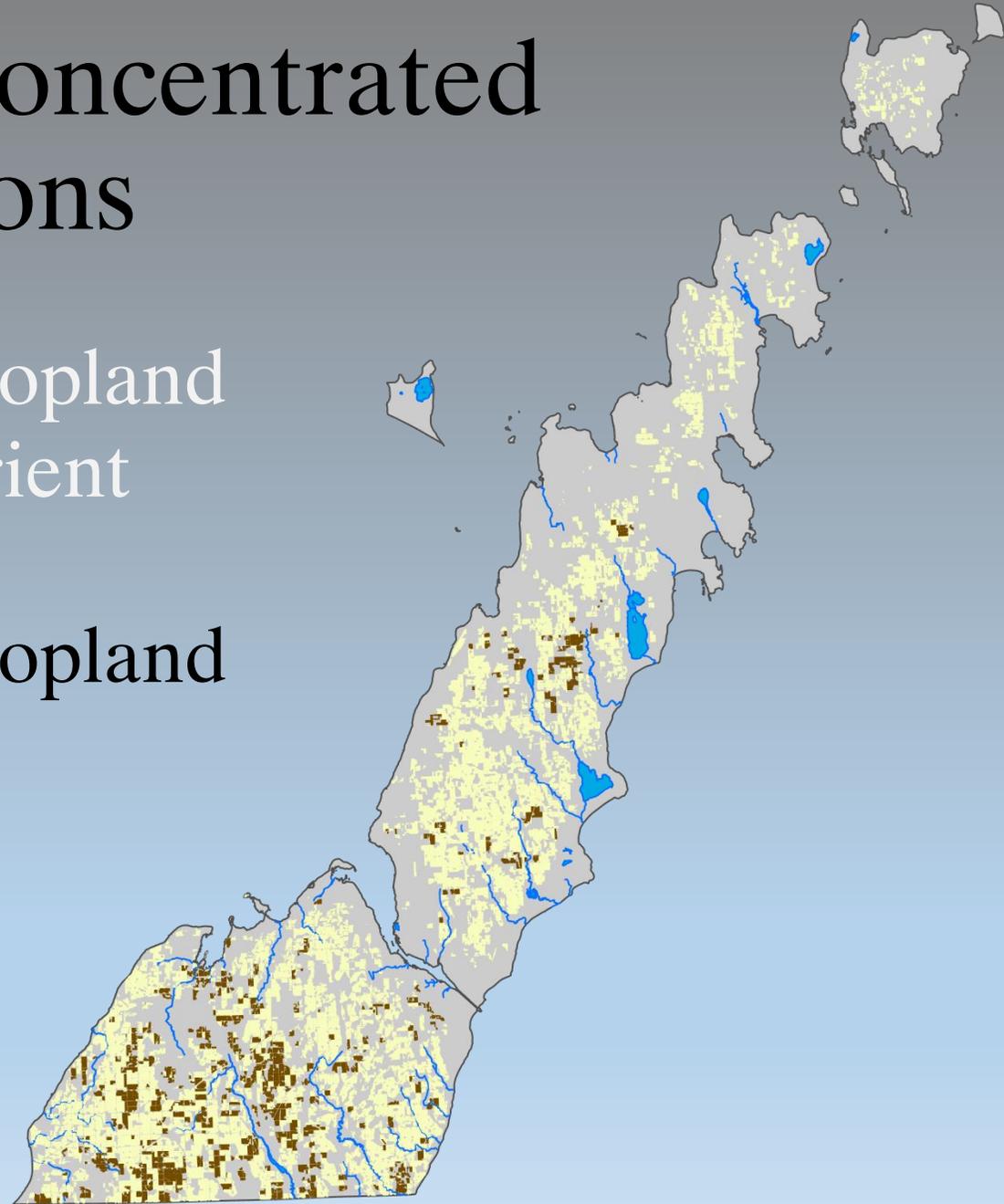
# Cropland Operated within the Guidelines of a Nutrient Management Plan

- Approximately 83,807 Acres of Cropland
- Approximately 93% Acres in Nutrient Management Plans



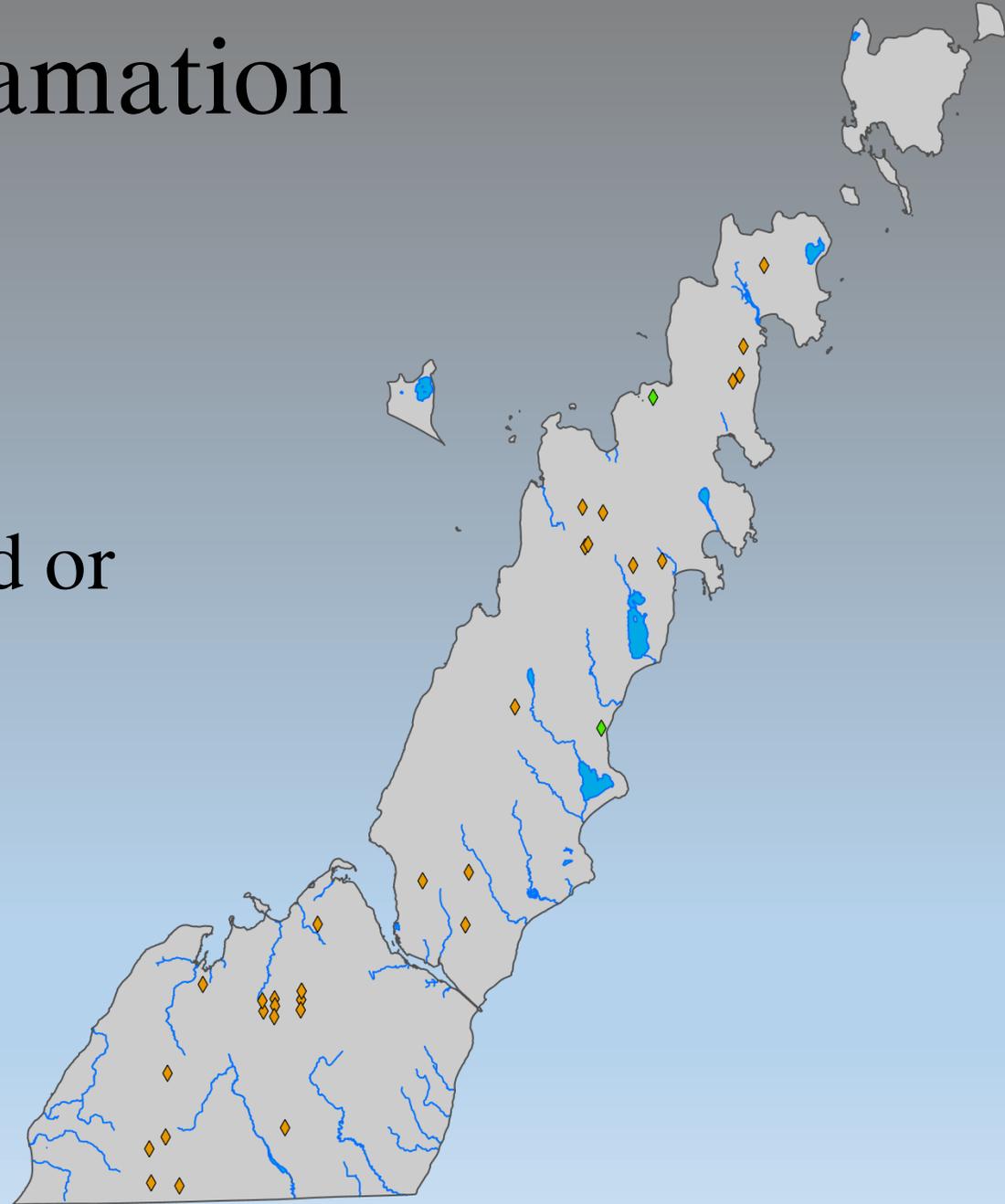
# Cropland Operated by Concentrated Animal Feeding Operations

- Approximately 83,807 Acres of Cropland
- Approximately 93% Acres in Nutrient Management Plans
- Approximately 16,618 Acres of Cropland Operated by CAFOs (20%)



# Non-Metallic Mine Reclamation

- 50 Permitted Mines
- 1,684 Potential Mine Acres and Approximately 840 Actively Mined or Un-reclaimed Acres



# Aggressive Invasive Non-Indigenous Species

- Russian/Autumn Olive
- Garlic Mustard
- Japanese Barberry
- Phragmites
- Dame's Rocket
- Common Buckthorn
- Bush Honeysuckle
- Japanese Knotweed
- Purple Loosestrife
- Teasel
- Glossy Buckthorn
- Hound's Tongue
- Leafy Spurge
- Reed Canary Grass
- Wild Parsnip

# Aggressive Invasive Non-Indigenous Species



Teasel – 11 Acres



Phragmites – 102 Acres



Japanese Knotweed – 2 Acres



Wild Parsnip – 20 Acres

# Questions?

This presentation and the current  
plan can be downloaded:  
<http://map.co.door.wi.us/swcd>

What are the most important soil, water and other natural resource issues facing Door County over the next decade?

# Plan Development Process

- Public input sessions - February
- Local Advisory Group & Land Conservation Committee Meetings – Jan - May
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