

Wisconsin's Surface Water Quality Monitoring Network

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Wisconsin Department of Natural Resources

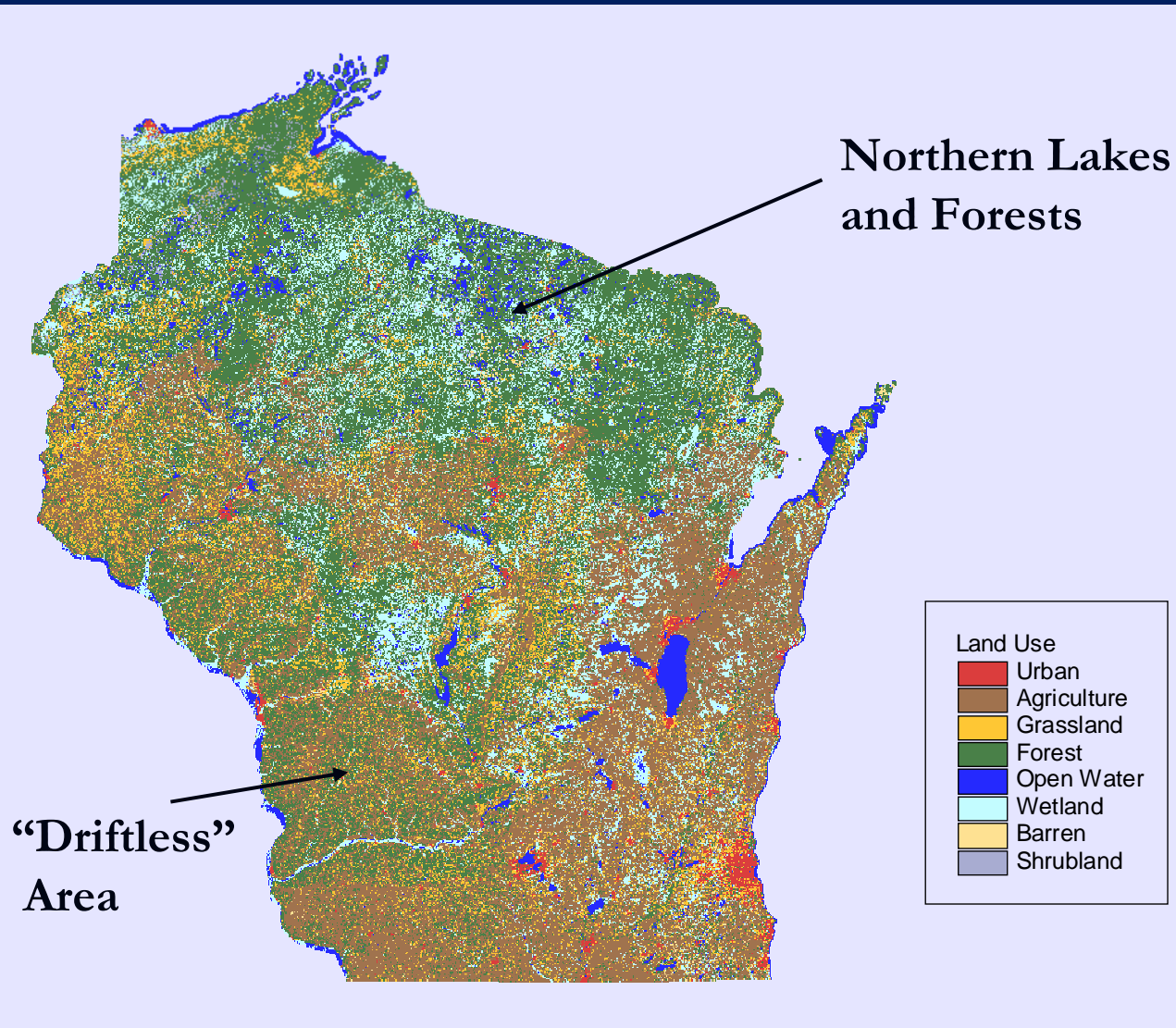


Wisconsin's Surface Water Resources

- 15,000 lakes (982,000 acres)
- 22,613 perennial streams(41,465 stream miles)
- 4,364 Great Lake shoreline miles



Land Use Patterns in Wisconsin

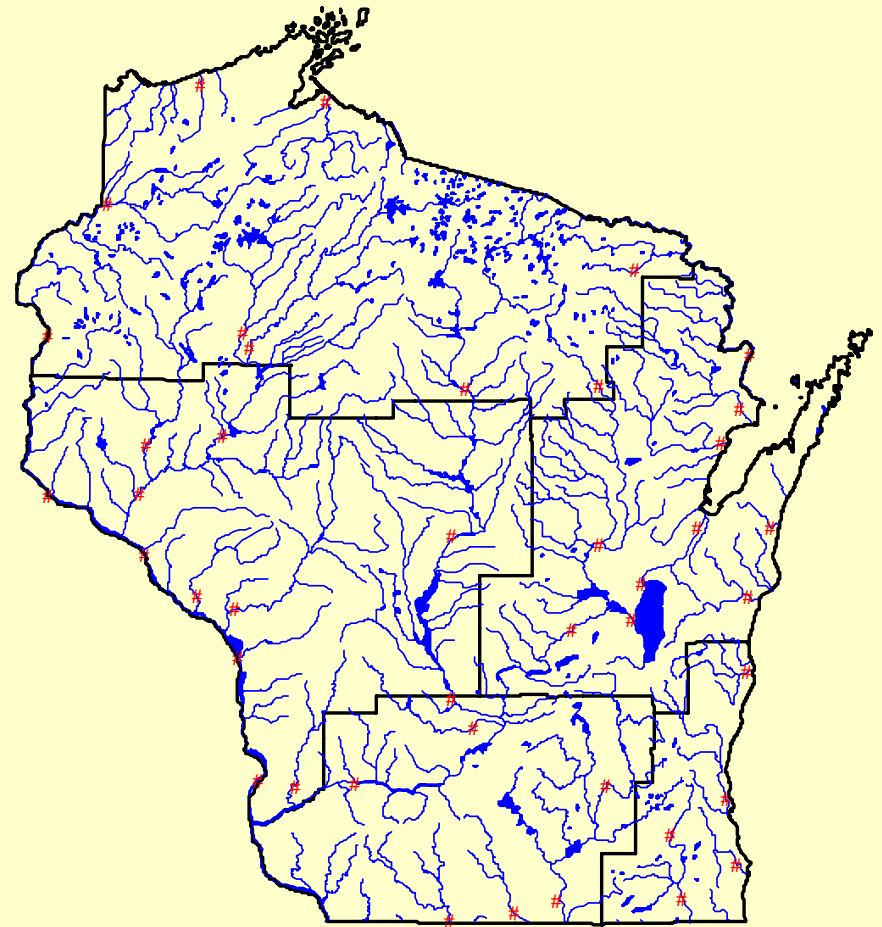


Wisconsin Department of Natural Resources Administrative Regions



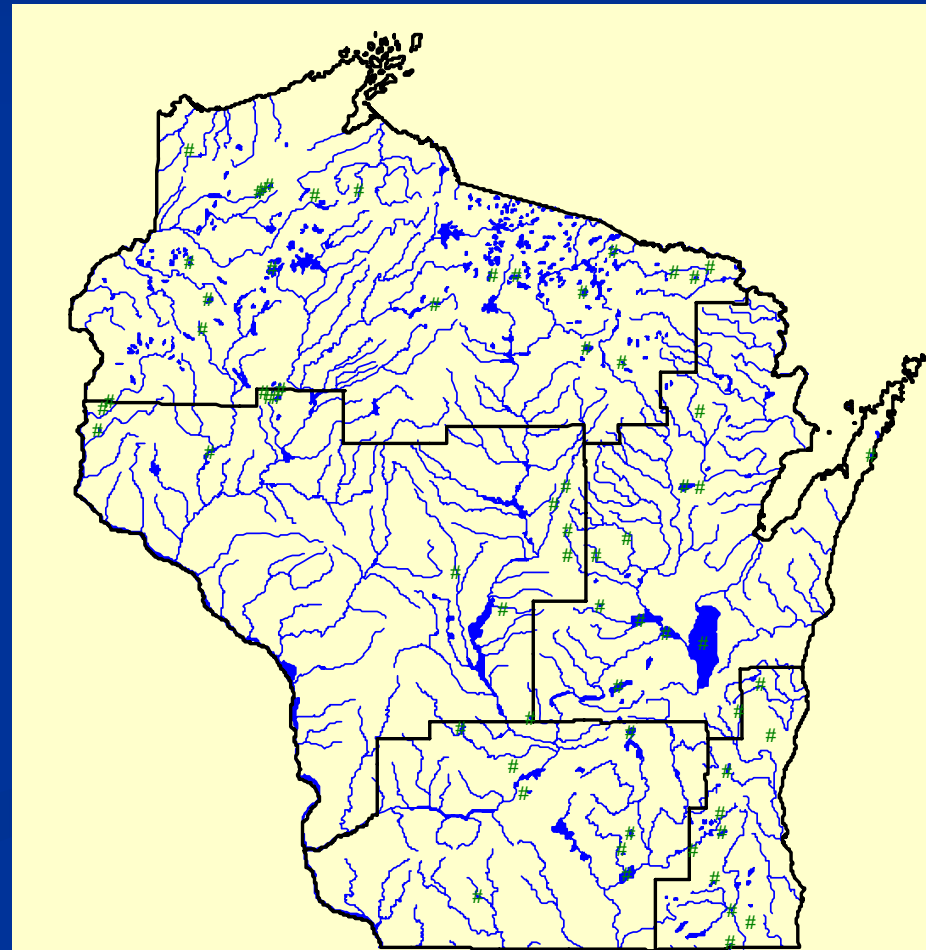
Wisconsin's Surface Water Quality Monitoring Network

- River trend monitoring network consists of:
 - 42 large river sites



Wisconsin's Surface Water Quality Monitoring Network

- Lake trend monitoring network consists of:
 - 55 lake sites



Wisconsin's River Trend Monitoring Network

■ History:

- Monitoring has been conducted at some sites for 30+ years.
- Program revised in 2000
- Program review in 2005-06
 - Includes data collected from 2001-2005

Wisconsin's River Water Quality Trend Monitoring Network

- Site Selection Criteria:
 - Spatial distribution across state and ecoregions
 - Availability of historical data
 - Most sites located near mouth of major rivers
 - Presence of USGS gauging stations

Wisconsin's River Water Quality Trend Monitoring Network

- Sampling Frequency:
 - 24 quarterly sites, 28 monthly sites
- Parameters:
 - Nutrients (P&N), total suspended solids, chlorides, chlorophyll *a*, hardness, bacteria, metals, etc.

Wisconsin's River Monitoring Network

Total Phosphorus

Medians (range):

0.02 – 0.369 mg/L

Means (range):

0.021 – 0.396 mg/L

Total Phosphorus

Median Total Phosphorus (mg/L)

§ 0.021 - 0.108

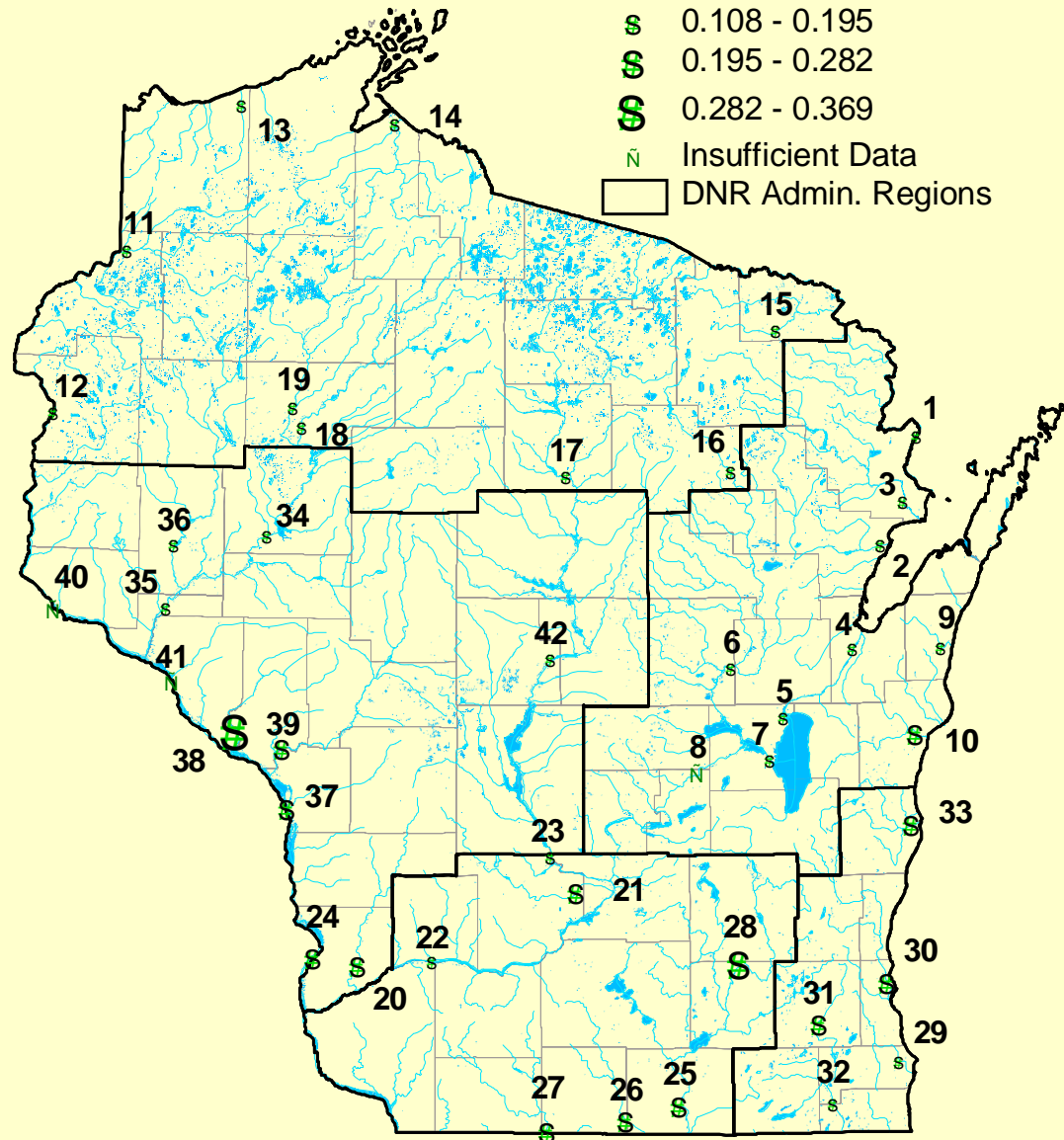
§ 0.108 - 0.195

§ 0.195 - 0.282

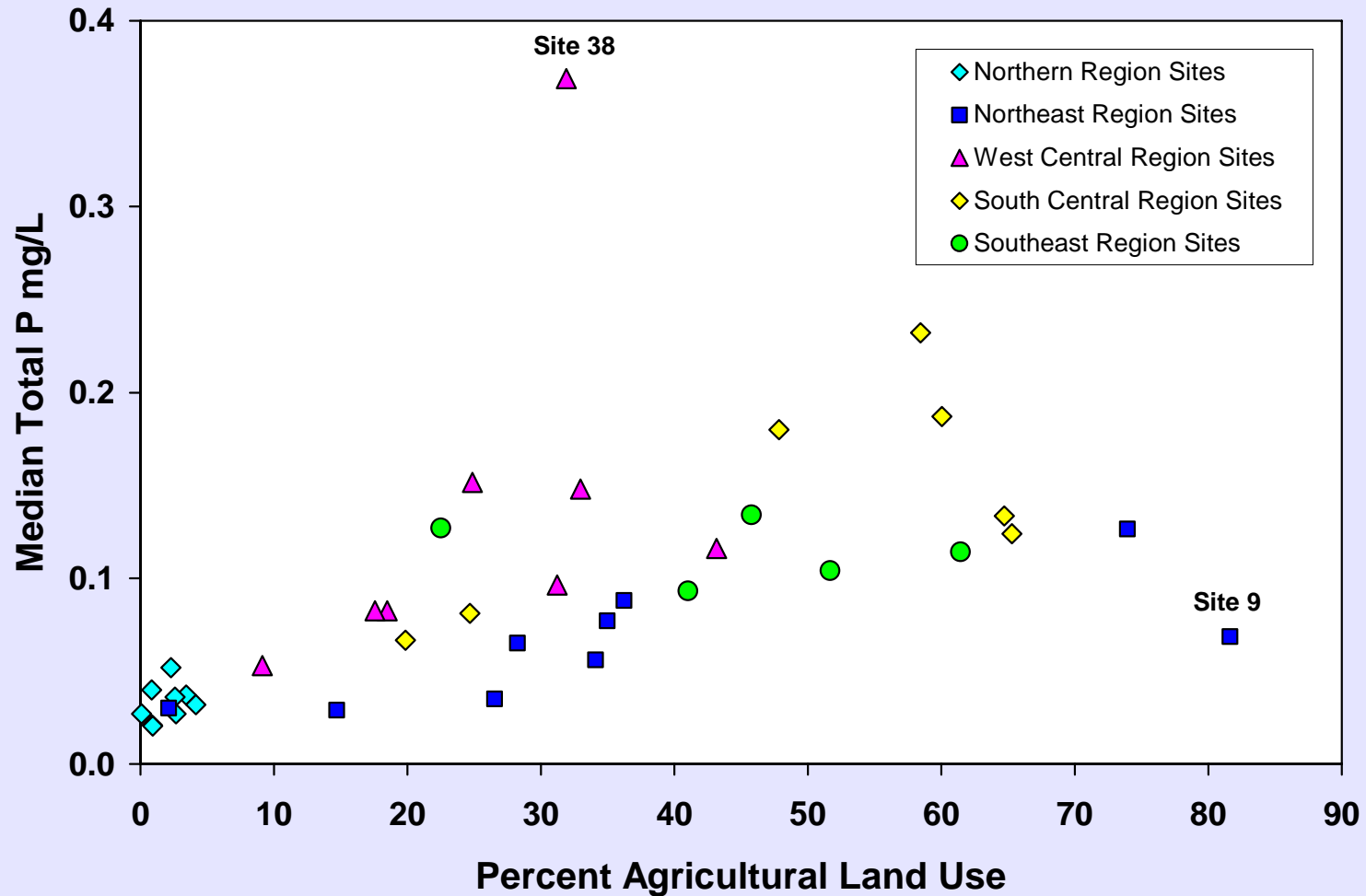
§ 0.282 - 0.369

N Insufficient Data

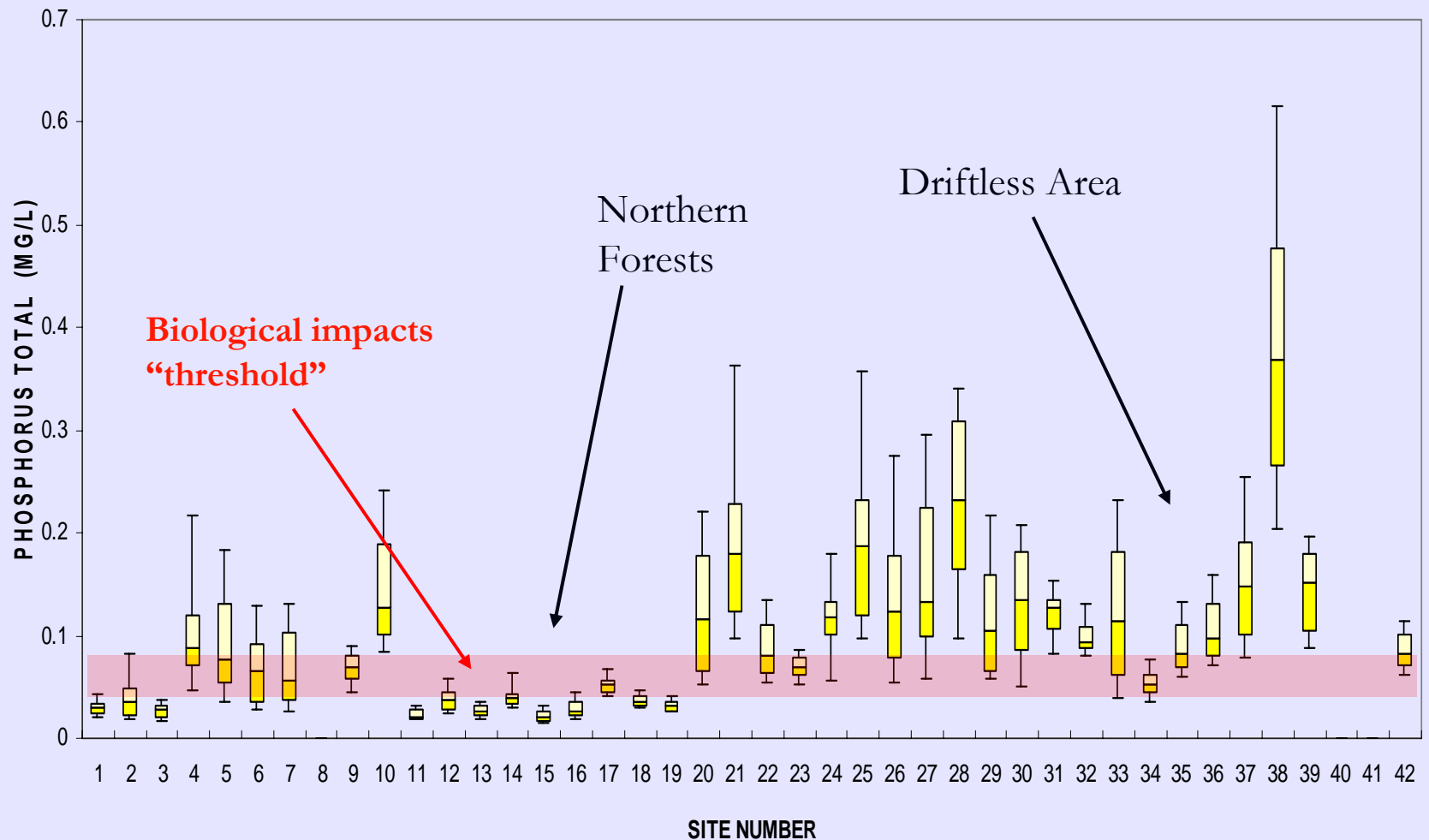
□ DNR Admin. Regions



Wisconsin's River Water Quality Trend Monitoring Network



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Wisconsin's River Water Quality Trend Monitoring Network

Total Suspended Solids

Medians (range):

2.0 – 49 mg/L

Means (range):

2.7 – 57.2 mg/L

Total Suspended Solids

Median T Suspended Solids (mg/L)

2 - 14

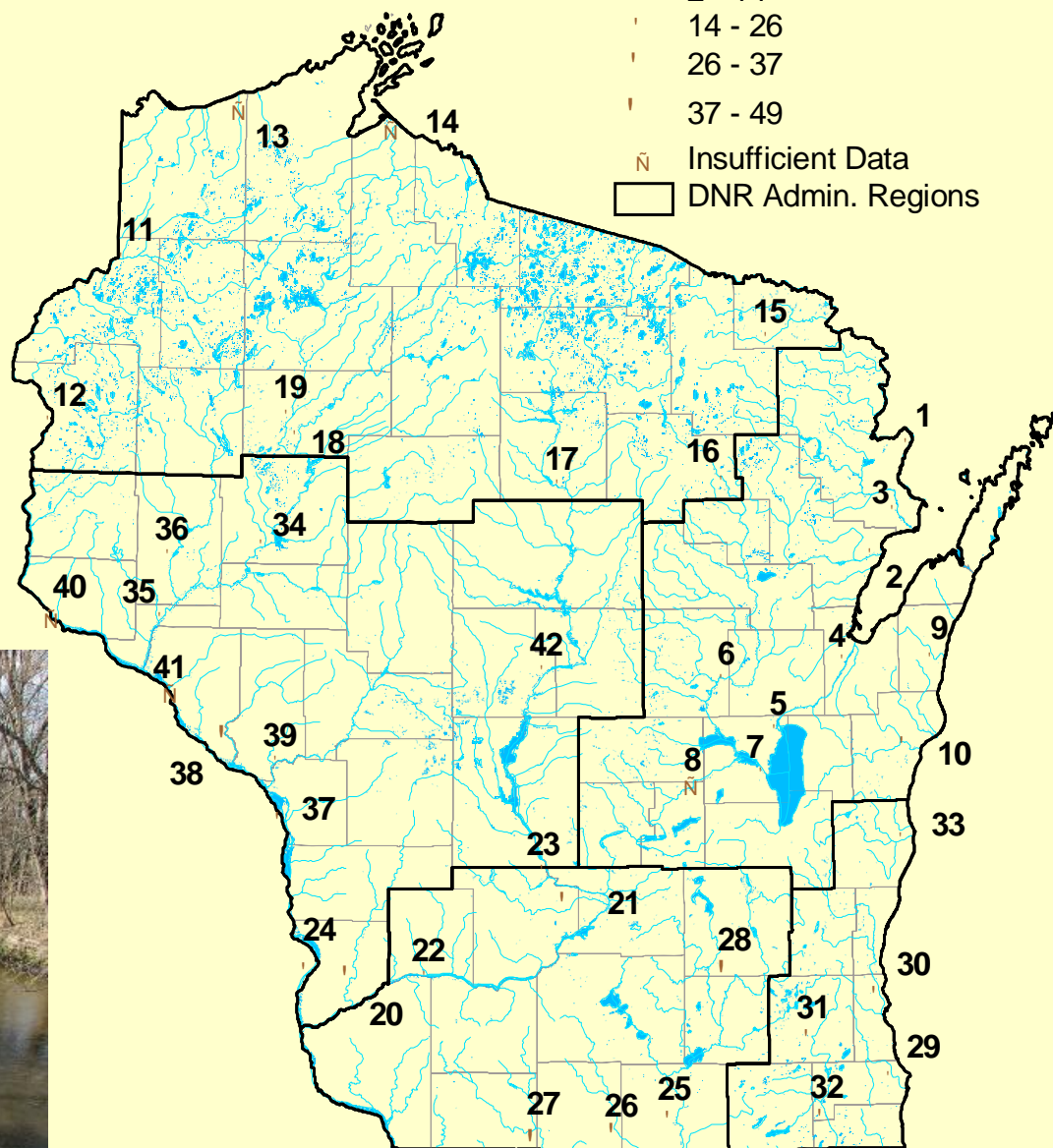
14 - 26

26 - 37

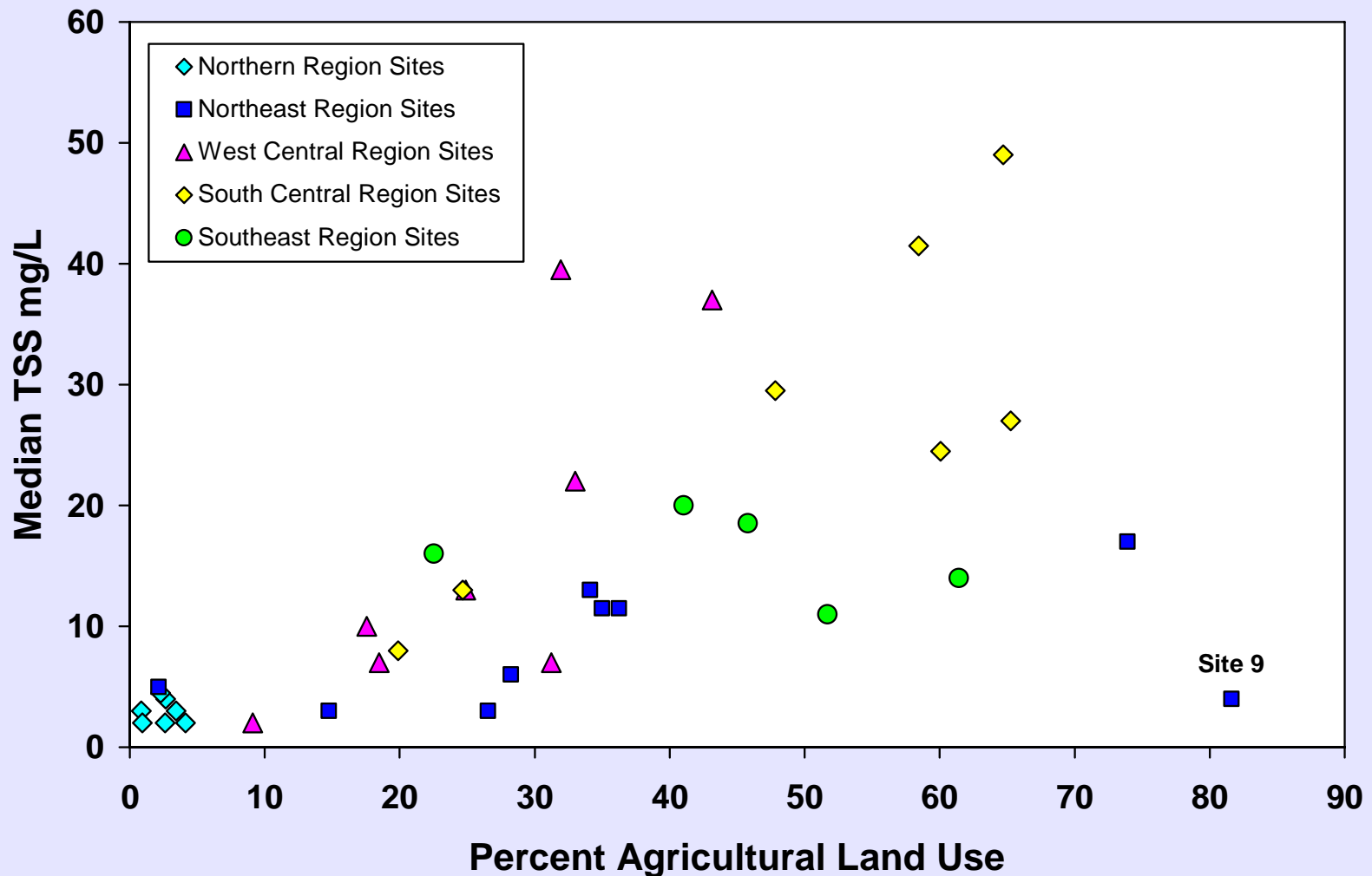
37 - 49

N Insufficient Data

DNR Admin. Regions



Wisconsin's River Water Quality Trend Monitoring Network



Wisconsin's River Water Quality Trend Monitoring Network

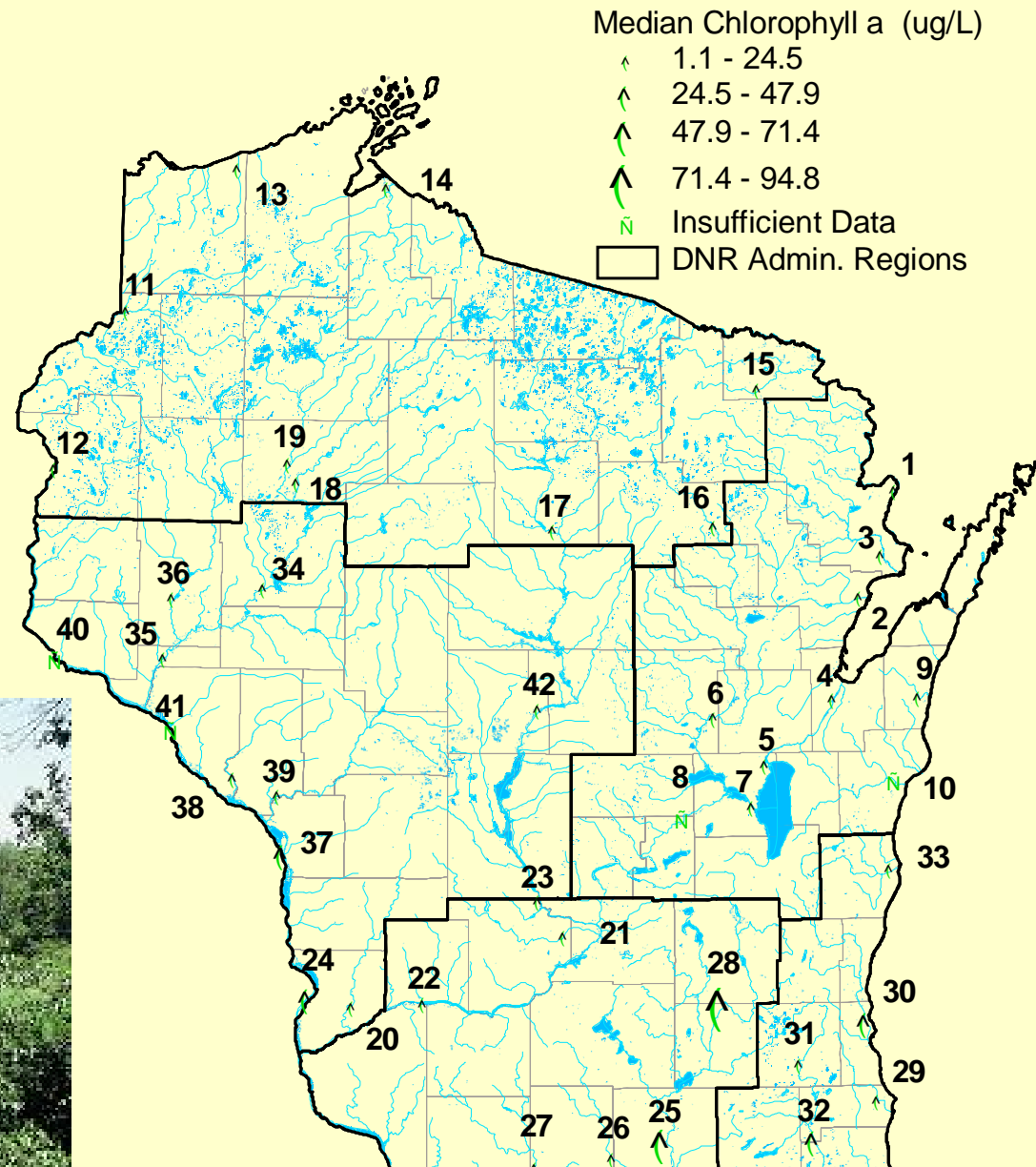
Chlorophyll a

Medians (range):
0.99 – 94.8 mg/L

Means (range):
1.39 – 91.9 mg/L



Chlorophyll a



Wisconsin's River Water Quality Trend Monitoring Network

Chloride

Medians (range):

2.3 – 213 mg/L

Means (range):

3.1 – 261 mg/L

Chloride

Median Chloride (mg/L)

P% 2.3 - 55

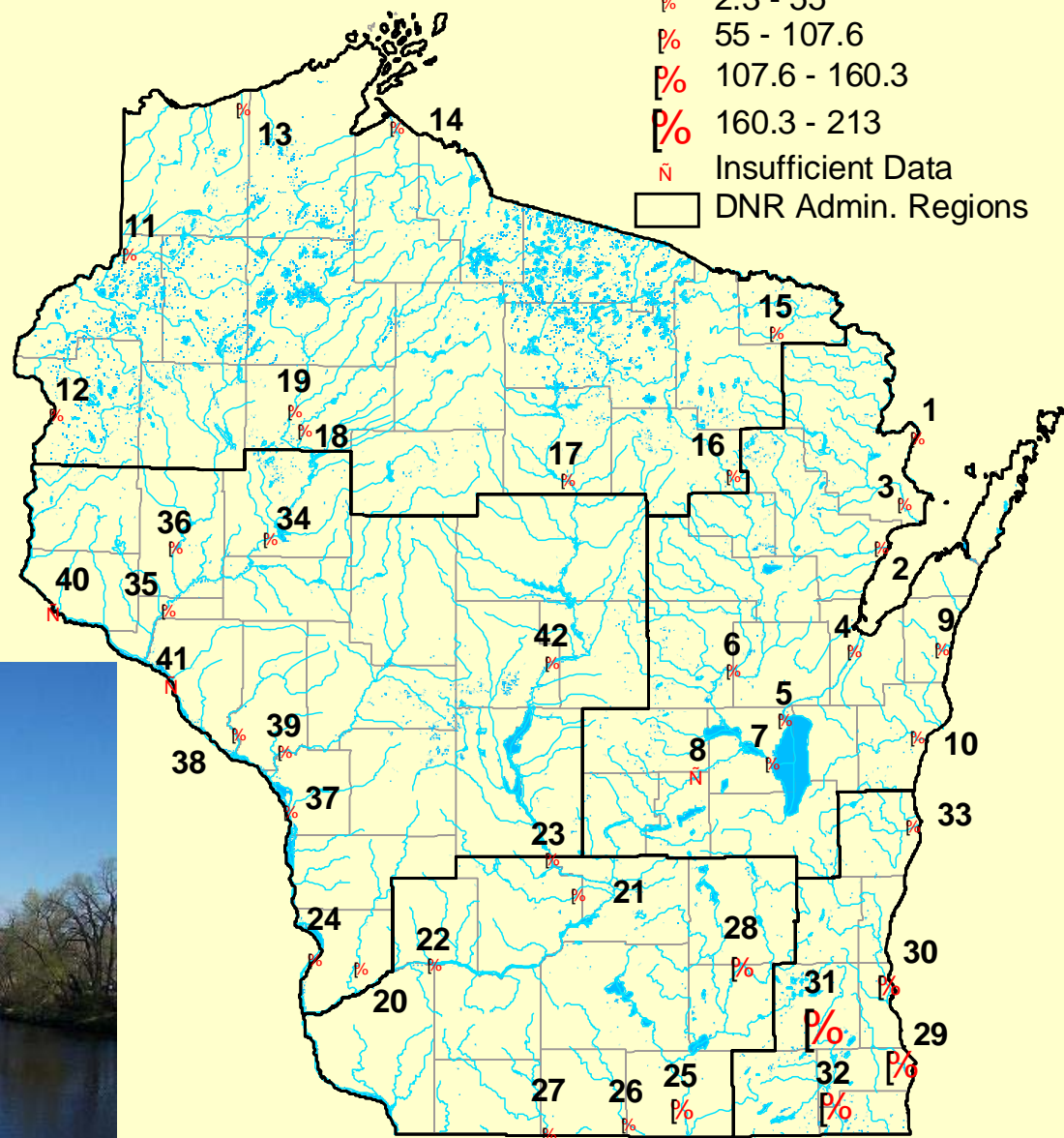
P% 55 - 107.6

P% 107.6 - 160.3

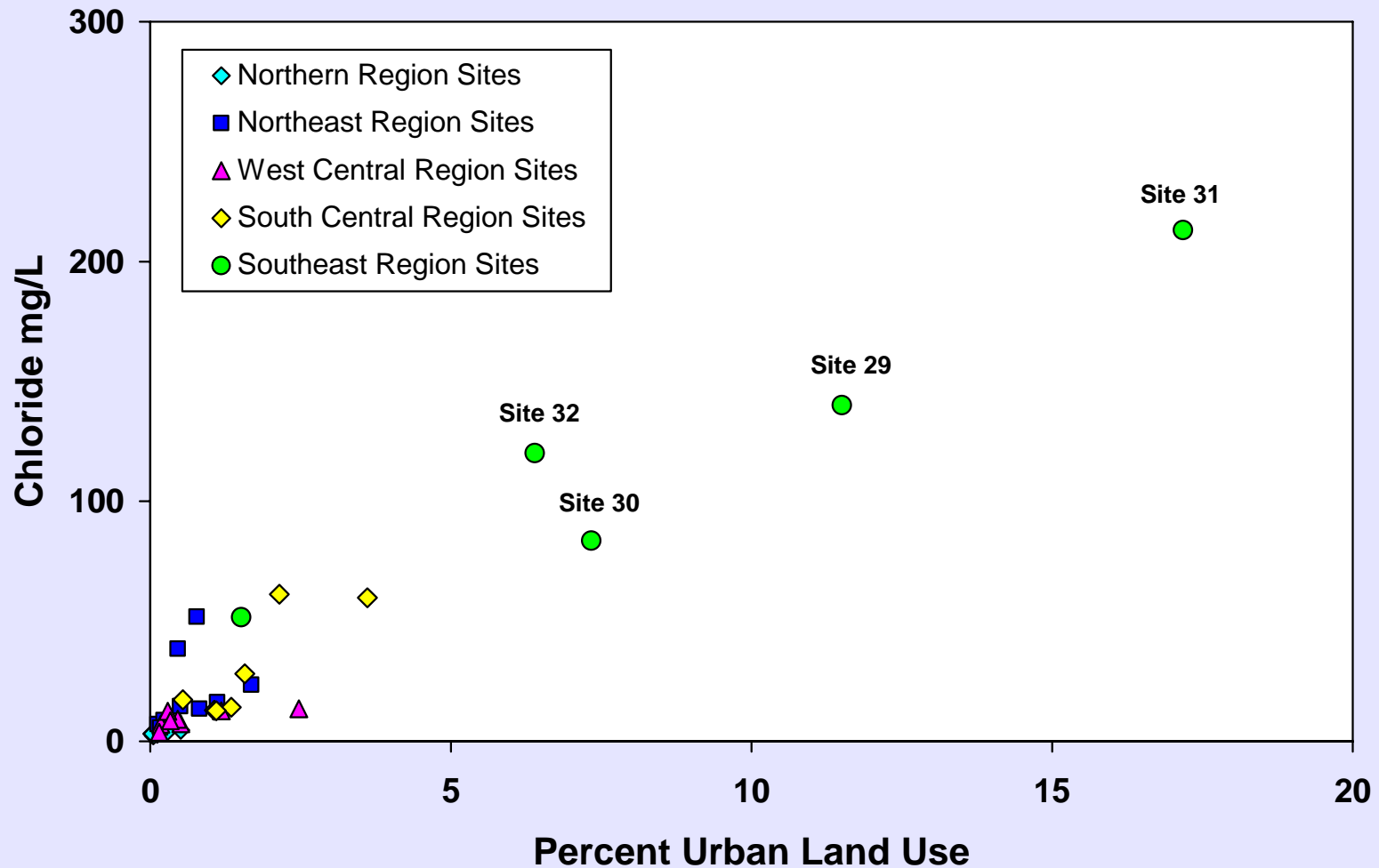
P% 160.3 - 213

N Insufficient Data

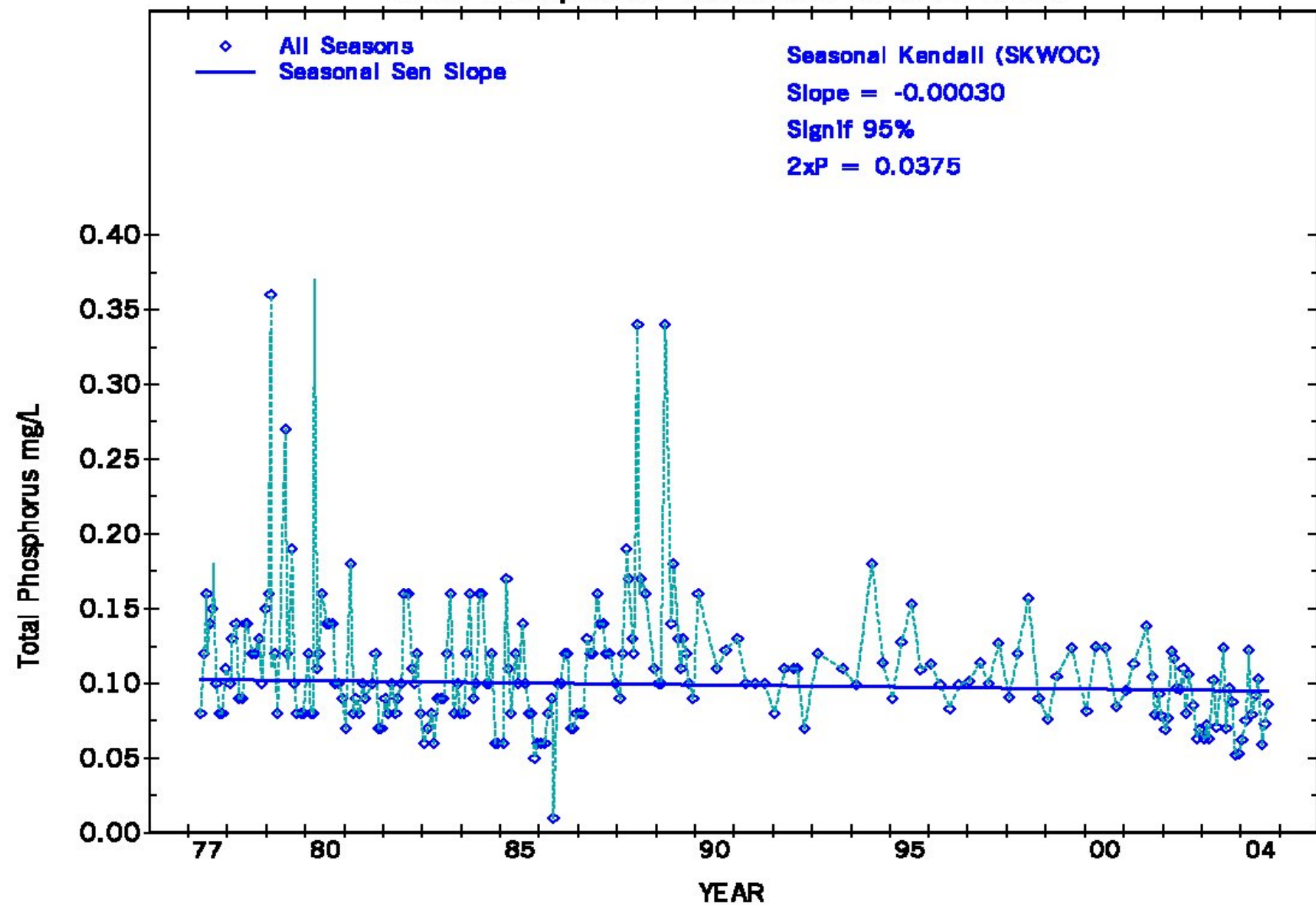
DNR Admin. Regions



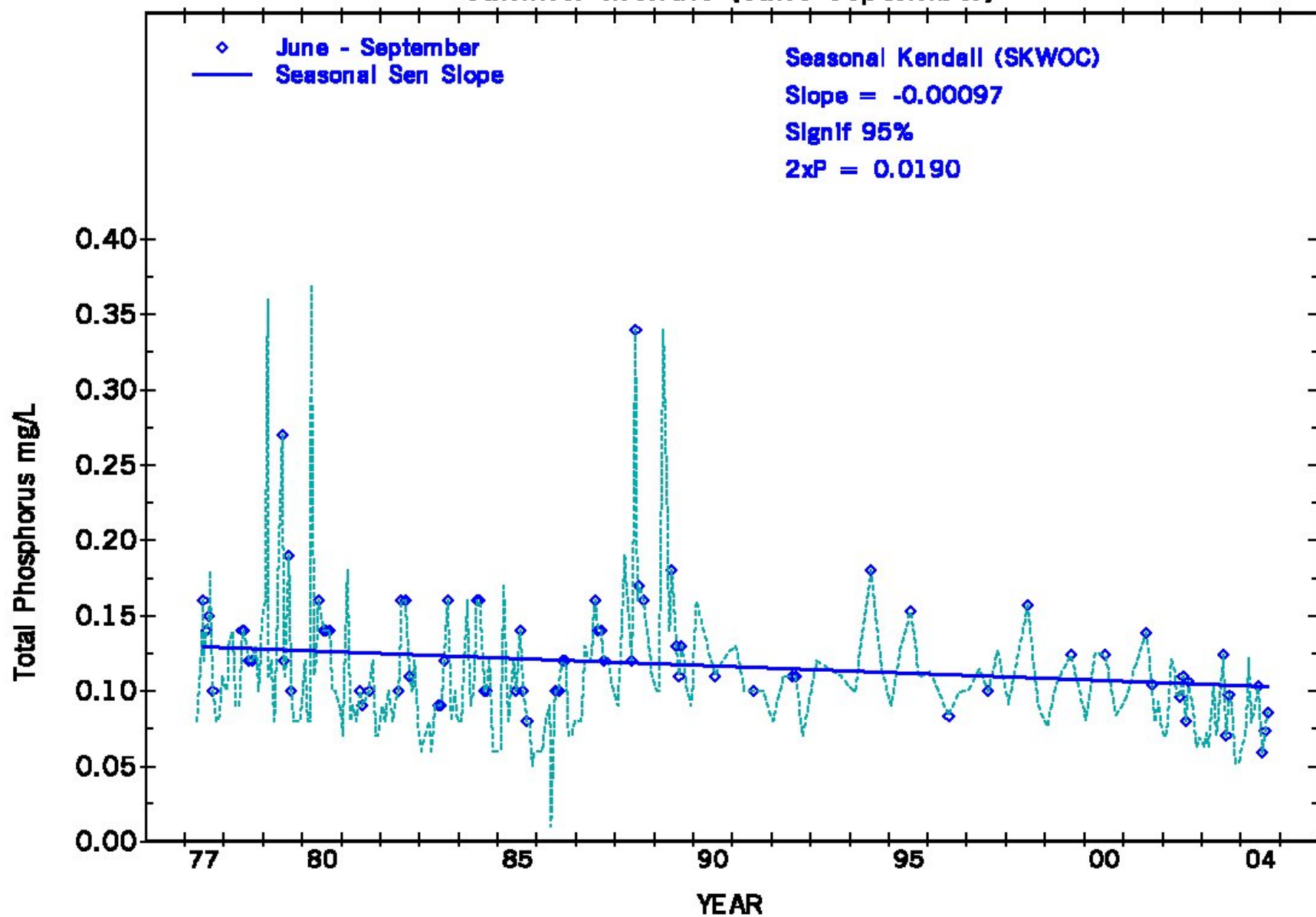
Wisconsin's River Water Quality Trend Monitoring Network



Total Phosphorus Wisconsin River at Biron

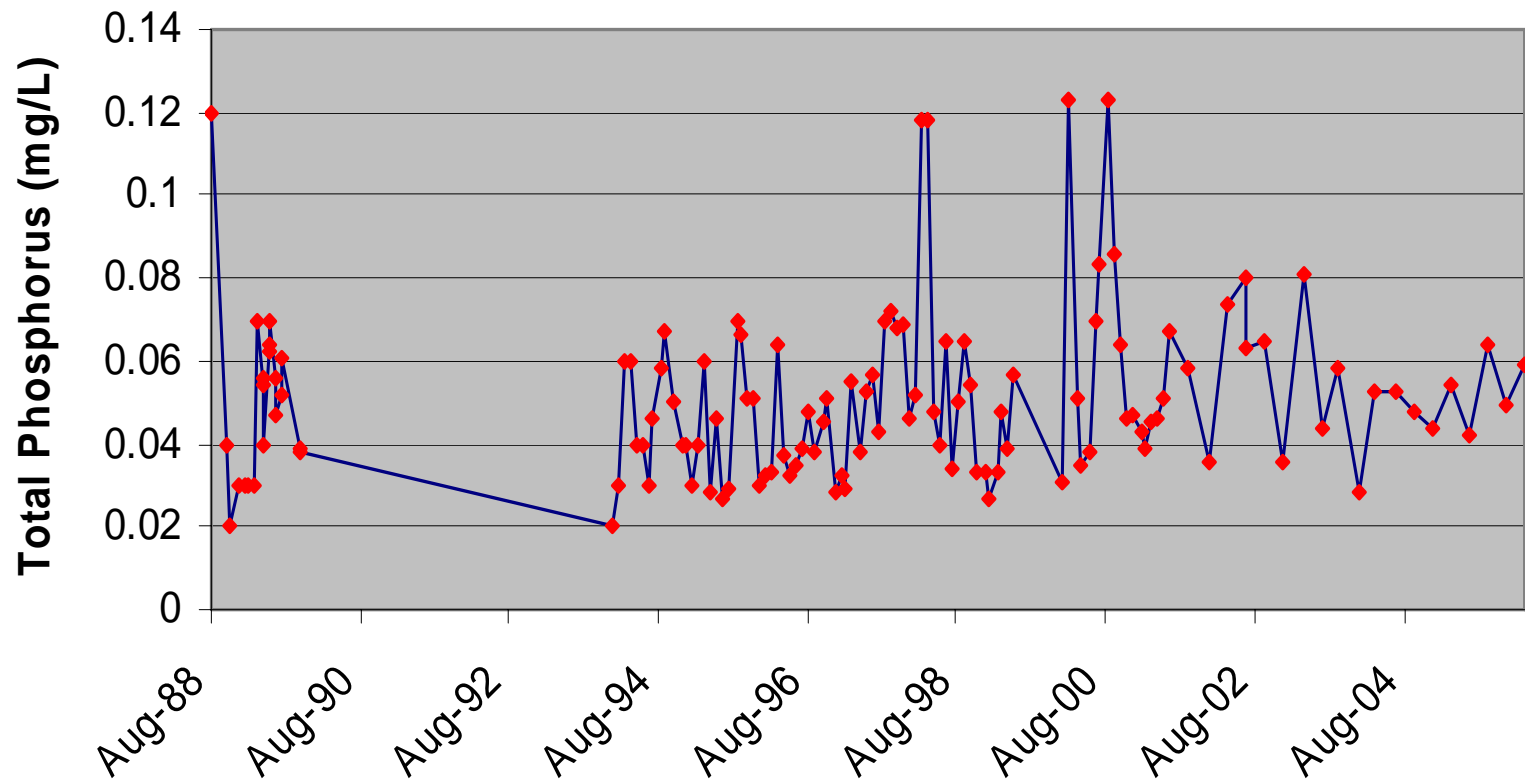


Total Phosphorus Wisconsin River at Biron Summer Months (June-September)



Wisconsin's River Water Quality Trend Monitoring Network

Chippewa River @ Chippewa Falls, WI



Wisconsin's Surface Water Quality Trend Monitoring Network

- Program challenges:
 - Lack of continuity
 - Changing Department priorities
 - Changing staff responsibilities
 - Data use and inconsistencies
 - Insufficient coordination

A scenic view of a river flowing through a forested landscape. The river is blue and turbulent, with white rapids visible on the right side. The banks are rocky and covered with sparse vegetation. In the background, a dam is visible across the river. The sky is clear and blue.

Questions?