Iowa's Nutrient Criteria

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Iowa Administrative Code 567 IAC Chapter 61.3(2)(c)

c. Such waters shall be free from materials attributable to wastewater discharges or agricultural practices producing objectionable color, odor or other aesthetically objectionable conditions.

- Class C Drinking Water – surface water intakes – 10 mg/l standard for nitrate – is this a nutrient standard?

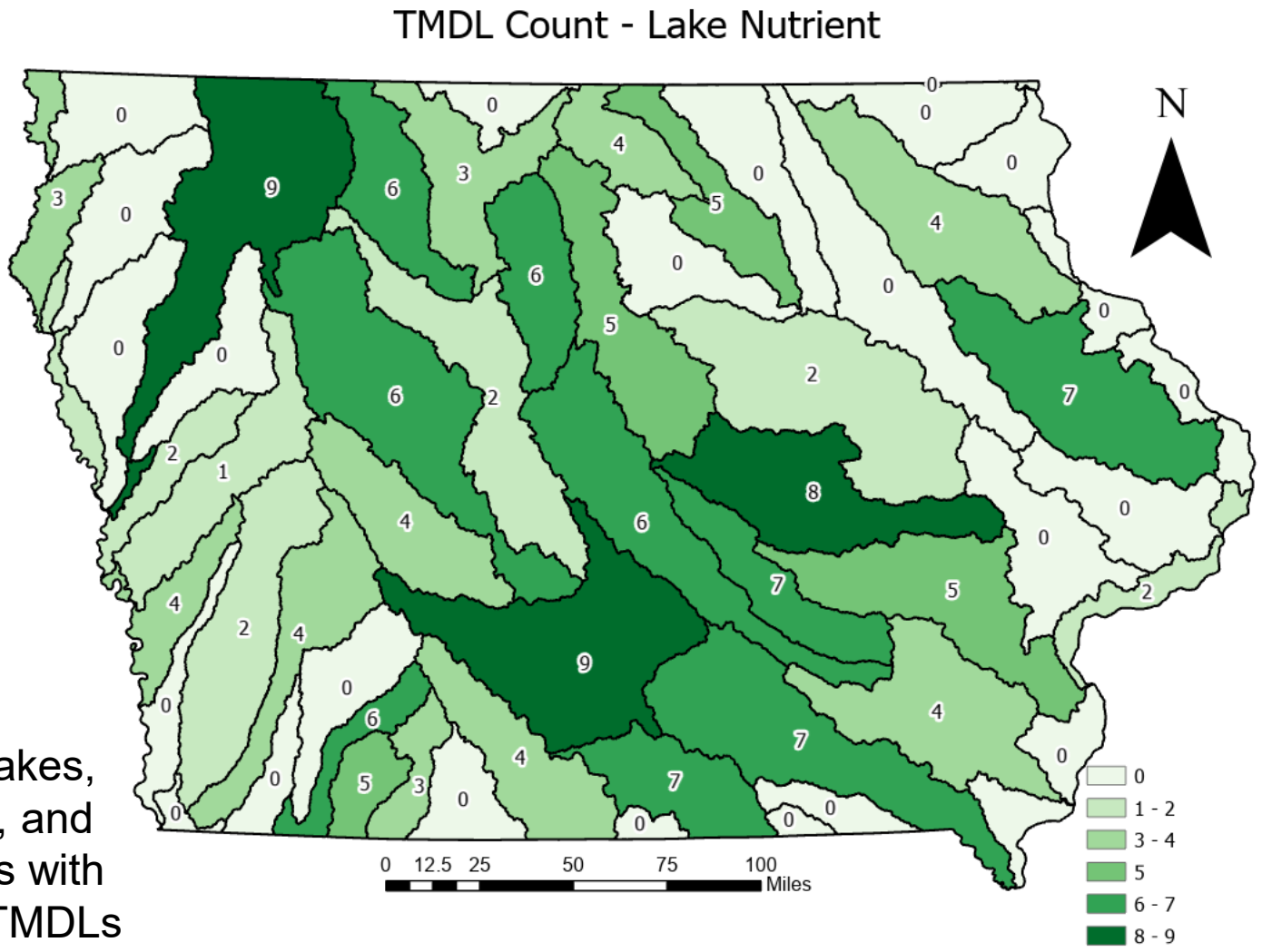
How are they applied?

- Use narrative translators

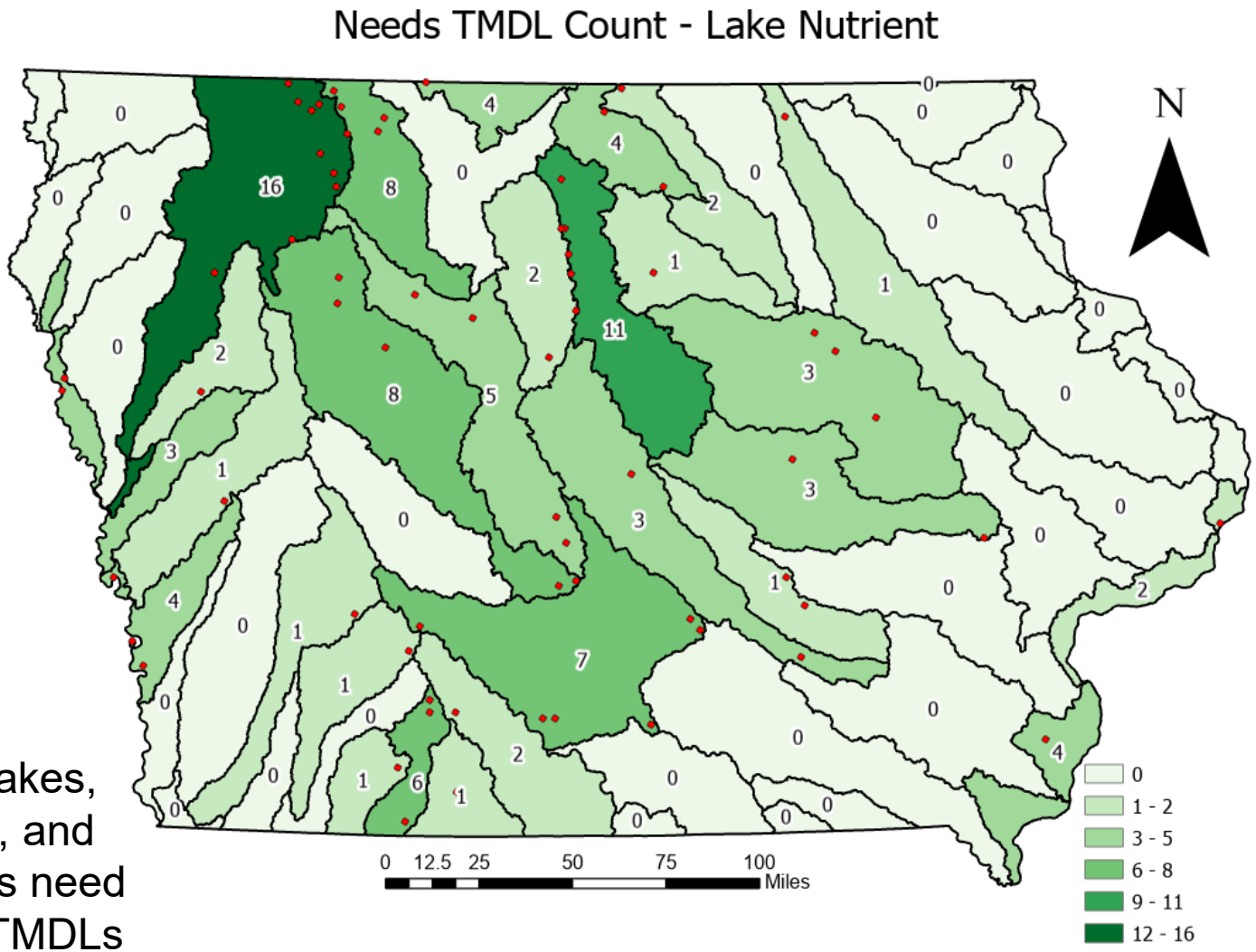
- The narrative criteria is used to assess for impairments and issue TMDLs (which can impact NPDES permits).

- Translate using Carlson TSI

– **For standard lakes**, Carlson TSI's for secchi and chlorophyll a thresholds are used to assess the Class A recreational use only. **For shallow lakes**, the Carlson TSI for chlorophyll a is used to assess the Class A the recreational use and a submerged aquatic vegetation (SAV) threshold utilizing TSS is used to assess the Class BLW aquatic life use.

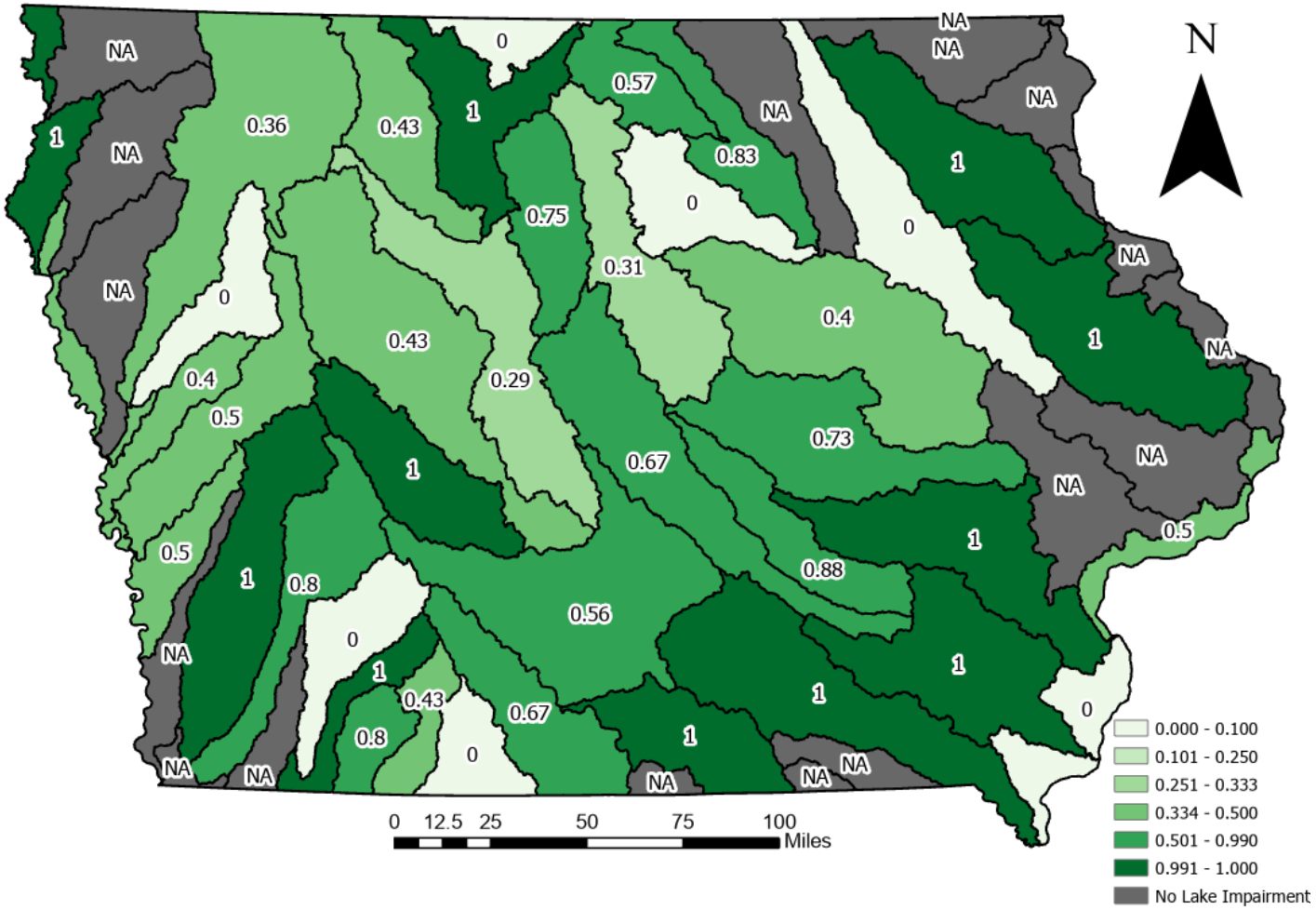


- 83 lakes, shallow lakes, wetlands, and reservoirs with nutrient TMDLs
- 148 impairments covered



- 69 lakes, shallow lakes, wetlands, and reservoirs need nutrient TMDLs
- 100 impairments to go

Percent of TMDLs Done - Lake Nutrient



~60% Done

Iowa's Preliminary Total Phosphorus (TP) Benchmark (0.10 mg/L) for Protection of Wadeable, Warmwater Stream Aquatic Life Uses

Analysis of nutrient and biological response data from 100 random stream sites - Perennial Stream Probabilistic Stream Survey (2002-2006)

	TP Benchmark Pass	TP Benchmark Fail
All 3 Nutrient Response Benchmarks (Chla, diel DO, range, diel DO minima) Pass	17% (Agree)	38% Type I error (False Positive)
1 or more Nutrient Response Benchmark Fail	6% Type II error (False Negative)	39% (Agree)

Source: Development of Nutrient Enrichment Criteria for Iowa Streams, Table 67. August 23, 2013 (DRAFT) Iowa Department of Natural Resources http://www.iowadnr.gov/InsideDNR/RegulatoryWater/WaterQualityStandards/Nutrients.aspx