

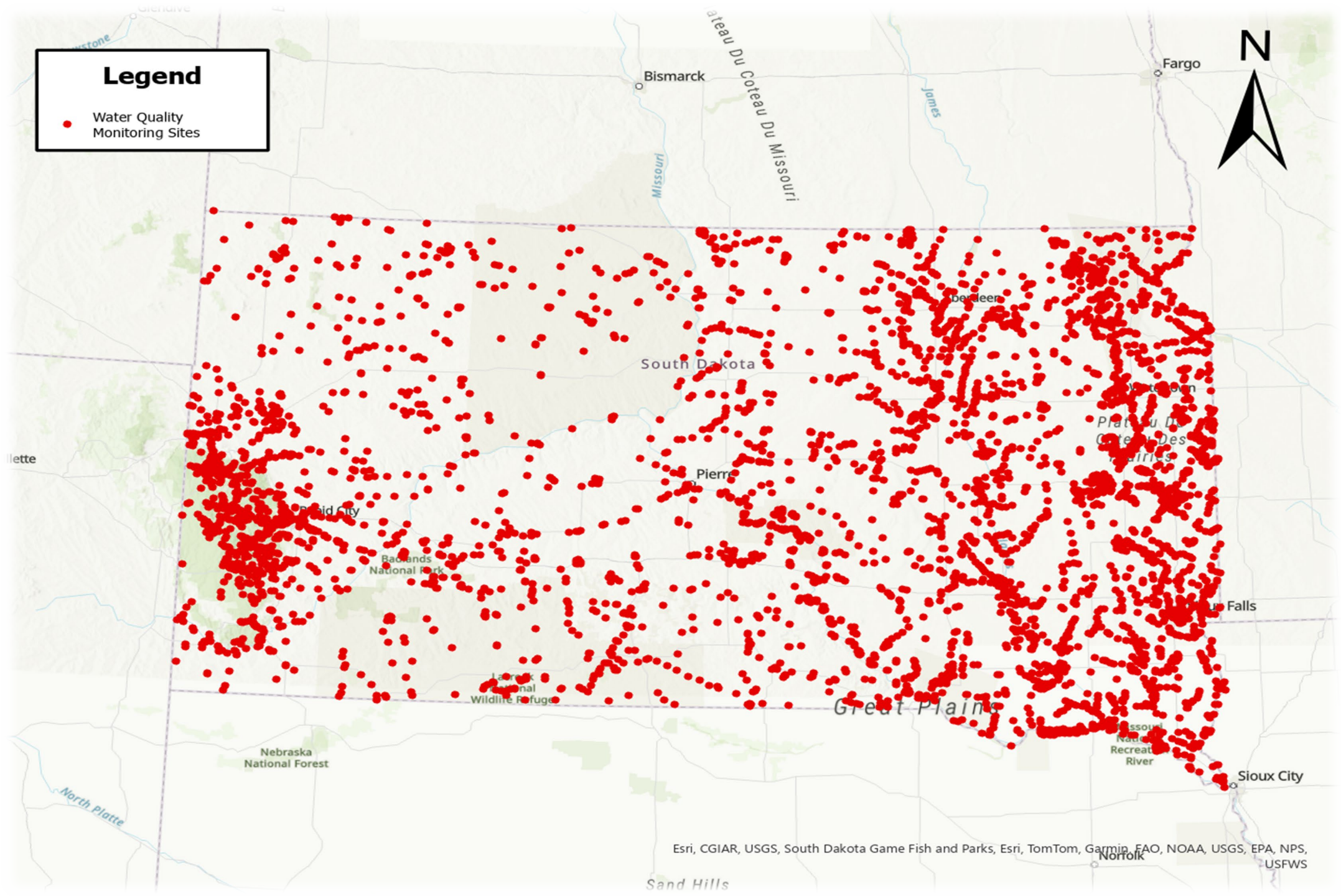
South Dakota's Surface Water Quality Assessment and Water Quality Improvement/Protection Strategies

DANR Watershed Protection Program



Legend

- Water Quality Monitoring Sites



THE 2024 SOUTH DAKOTA
INTEGRATED REPORT FOR
SURFACE WATER QUALITY
ASSESSMENT



*Protecting South Dakota's
Tomorrow...Today*

Prepared By
SOUTH DAKOTA DEPARTMENT OF
AGRICULTURE AND NATURAL
RESOURCES

HUNTER ROBERTS, SECRETARY

Assessment Process

Beneficial Uses



Water Quality Criteria

E. coli bacteria limit 235



Sample Data Compared to Criteria

Timeframe (5 and 10 year)



Assessment Result:

Full Support: $\geq 90\%$ samples meet

Nonsupport: $< 90\%$ samples meet

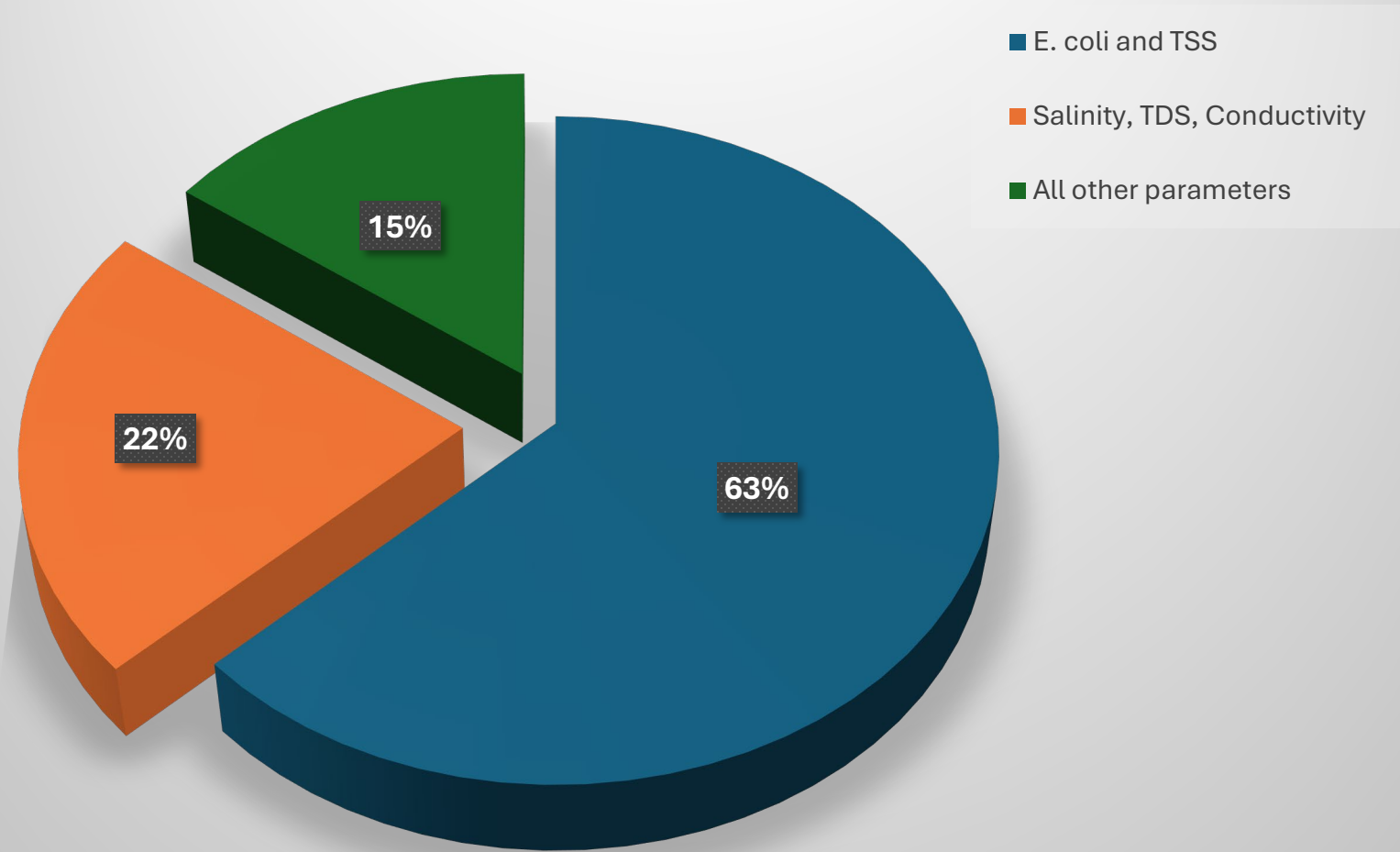
Beneficial Uses Support or Nonsupport ?



Nonsupport does not necessarily mean the water body is unusable

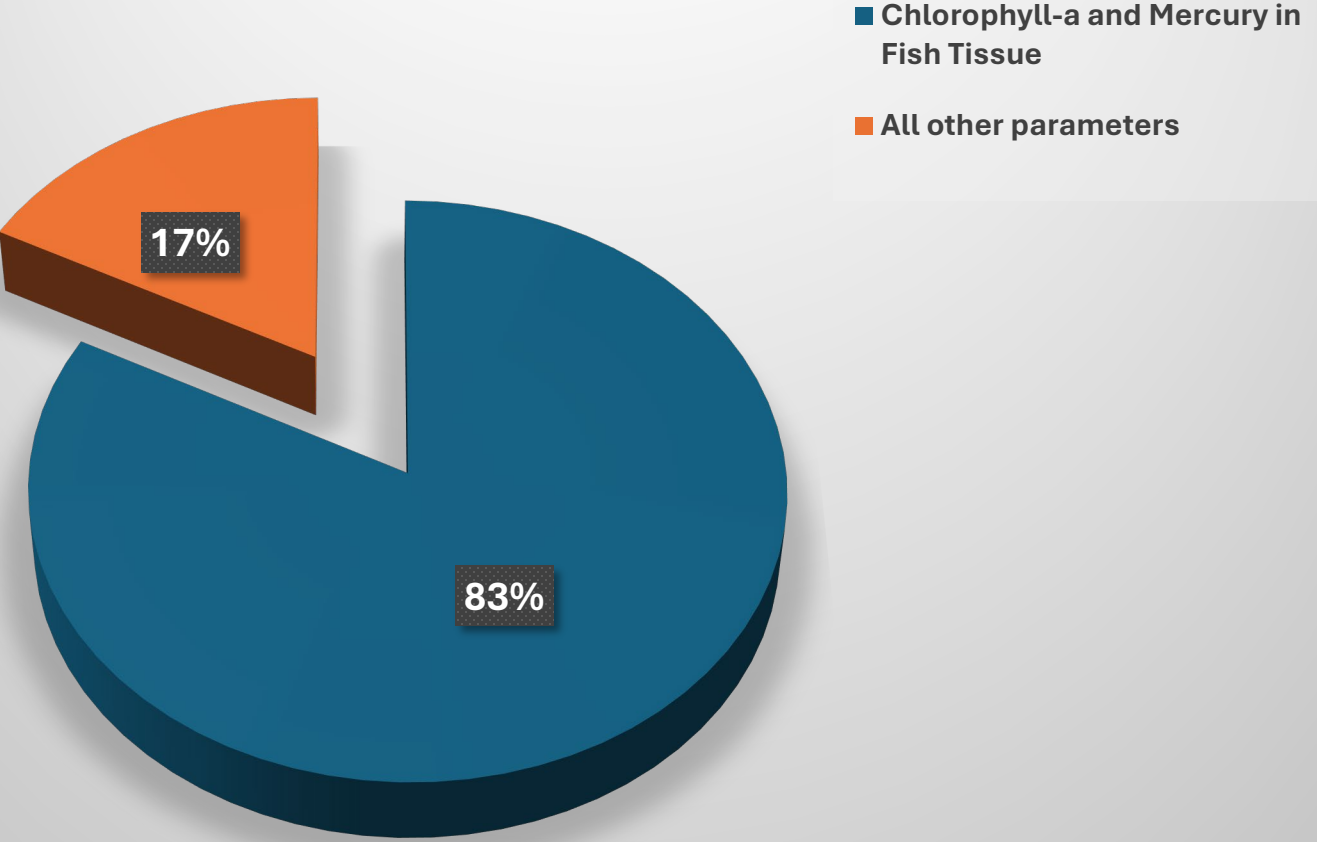
- In many nonsupport waters, only a few samples exceed water quality criteria.
 - Ex. 2026 IR; Big Sioux River segment 14 (Harrisburg)—22.5% of E. coli samples exceeded.
- Most nonsupport waterbodies are productive fisheries that provide recreational opportunities.
 - Bitter Lake nearly 40,000 angling hours-2019.
- Nonsupport parameters “pollutants of concern” rather than “too polluted”.
- Water quality criteria for human health conservative - **Risk Based**.
 - E. coli criteria 235 based on 8 in 1,000 humans developing illness.

Percent Nonsupport WQ Parameter for Streams



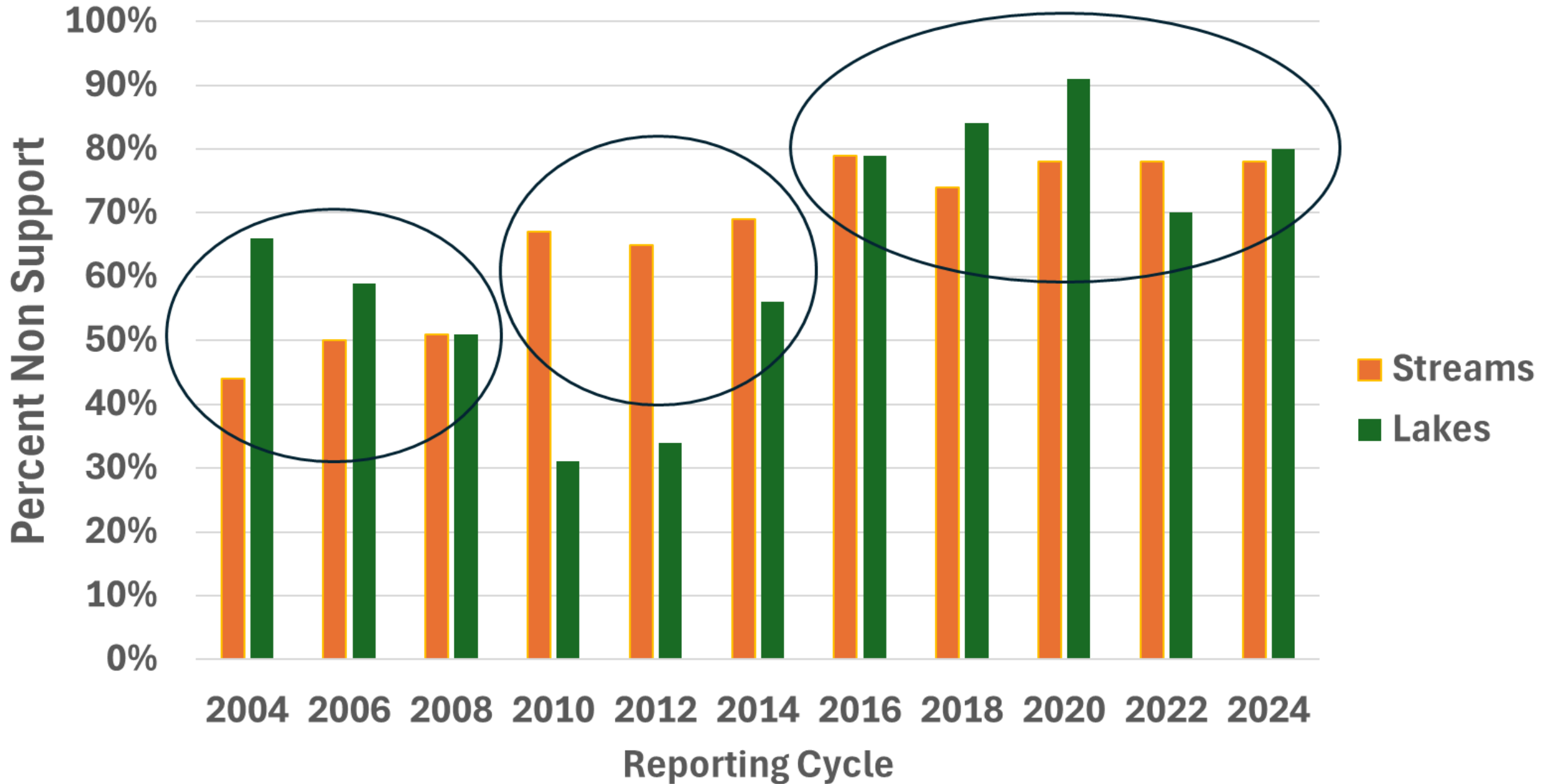
Parameter	Percent Exceedance
E. coli	37%
Total Suspended Solids	26%
Salinity	10%
Mercury in Fish Tissue	7%
Total Dissolved Solids	6%
Specific Conductivity	5%
Dissolved Oxygen	5%
Sodium Adsorption Ratio	2%
Temperature	0.7%
PH	0.2%
Total Selenium	0.009%
Ammonia-Nitrogen	0.0%
Nitrate	0.0%
Dissolved Selenium	0.0%
Alkalinity	0.0%
Arsenic	0.0%
Radium	0.0%
Uranium	0.0%
Cadmium	0.0%
Zinc	0.0%
Copper	0.0%
Nickel	0.0%
Lead	0.0%
Total Mercury	0.0%
Chromium	0.0%
Silver	0.0%
Chloride	0.0%
Sulfate	0.0%
Cyanide	0.0%
Total	100%

Percent Nonsupport WQ parameters for Lakes



Parameter	Percent Exceedance
Mercury in Fish Tissue	52%
Chlorophyll-a	31%
PH	7%
Dissolved Oxygen	4%
Salinity	3%
Temperature	1%
E. Coli	1%
PH, High	1%
Specific Conductivity	0.02%
TDS	0.02%
Nitrate	0.02%
Selenium	0.02%
TSS	0.0%
Alkalinity	0.0%
Ammonia-Nitrogen	0.0%
Chloride	0.0%
Total	100%

Percent Non Support for Lakes and Streams by Reporting Cycle



Point Source pollution

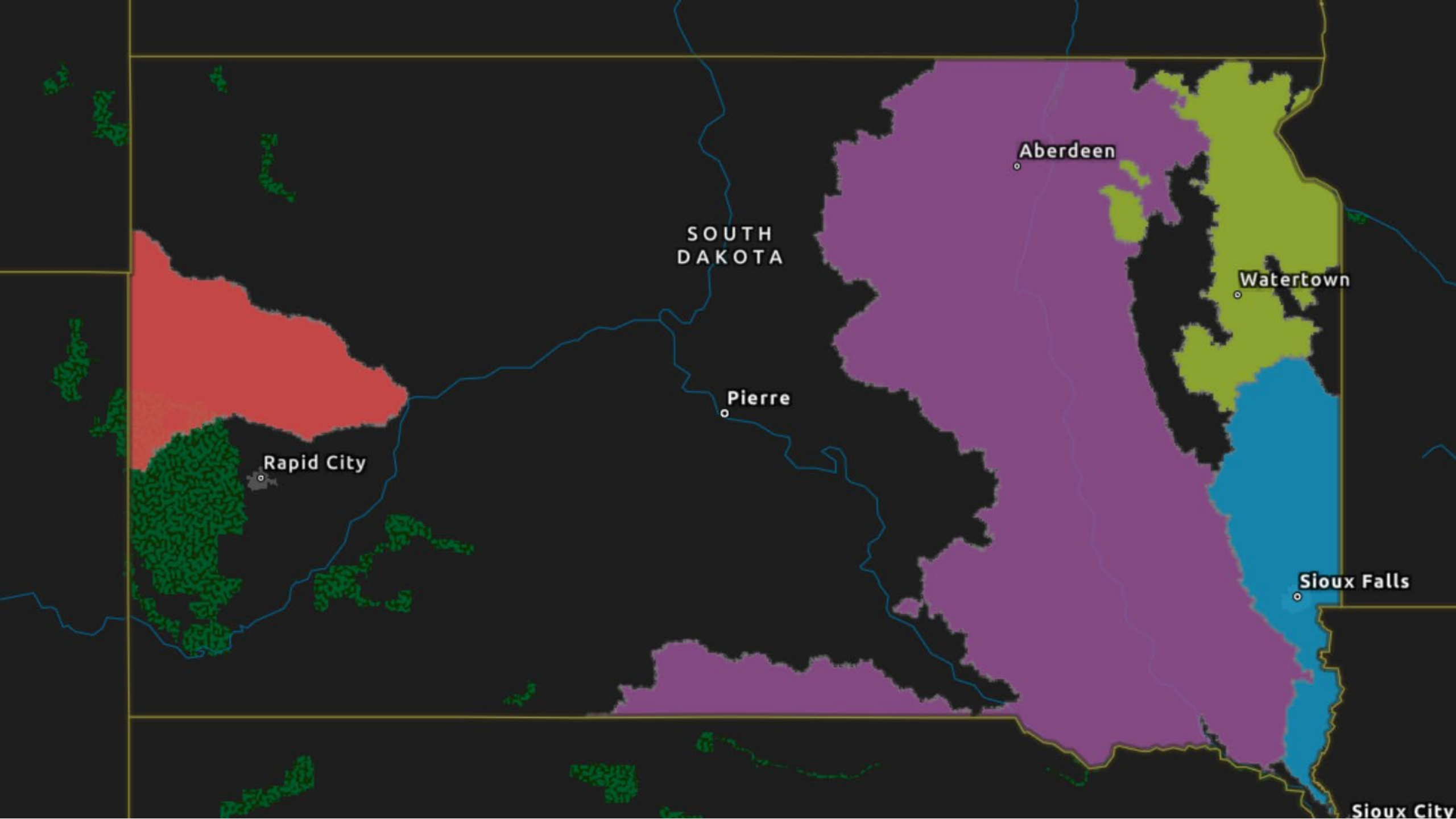
Regulatory Approach

- Regulatory oversight through the permitting process ensures compliance with Clean Water Act and state laws.
- Permit Requirements imposed on municipal wastewater discharge facilities, municipal and construction stormwater runoff, Concentrated Animal Feeding Operations (CAFOs) and Groundwater Protections.
- Examples: CAFO permit, wastewater effluent limits (end of pipe), MS4 activities etc.

Nonpoint Source Pollution

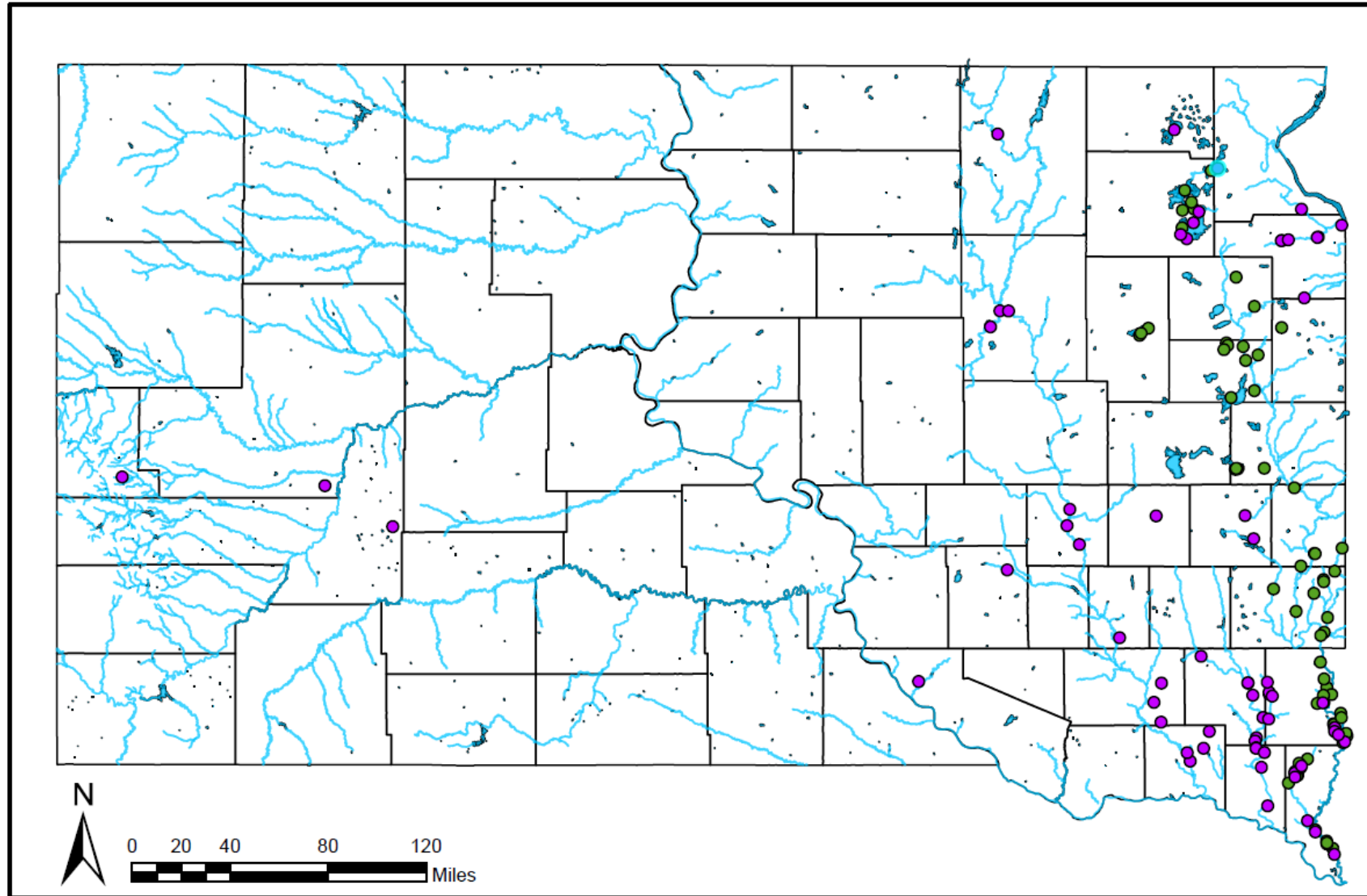
Voluntary-Incentive-Based Approach

- Farms and ranches cover more than 87% of the total land area in South Dakota.
 - 85% of SD's cropland is managed with conservation tillage; soil health and sustainability.
- DNR's nonpoint source program manages watershed-scale projects that work with agricultural producers to implement conservation practices on private lands to reduce pollution.
- Project success relies heavily on producer participation and partnerships.
 - Ex. NRCS, Conservation Districts, GFP, PF, DU, FWS and others.
- Since 2014, NPS projects have led to the following pollutant reductions:
 - 160,000 tons of sediment
 - 390,000 pounds of phosphorus
 - 1.7 million pounds of nitrogen



Current as of:
06/03/2026

RBI Contracted Projects Map



Legend

- RBI Contract Statewide
- RBI Contract HB1265

Contracted Statewide RBI Projects

Number of Projects: 63
Total Acres: 2,191
Linear Footage: 823,466
Miles: 156.14
Money Spent: \$4,351,288.69

Contracted HB1265 RBI Projects

Number of Projects: 67
Total Acres: 1,218.69
Linear Footage: 436,184
Miles: 83
Money Spent: \$3,000,000



Blue Dog -
Before



Blue Dog -
After



Big Sioux River E. coli Percent Exceedance by Year

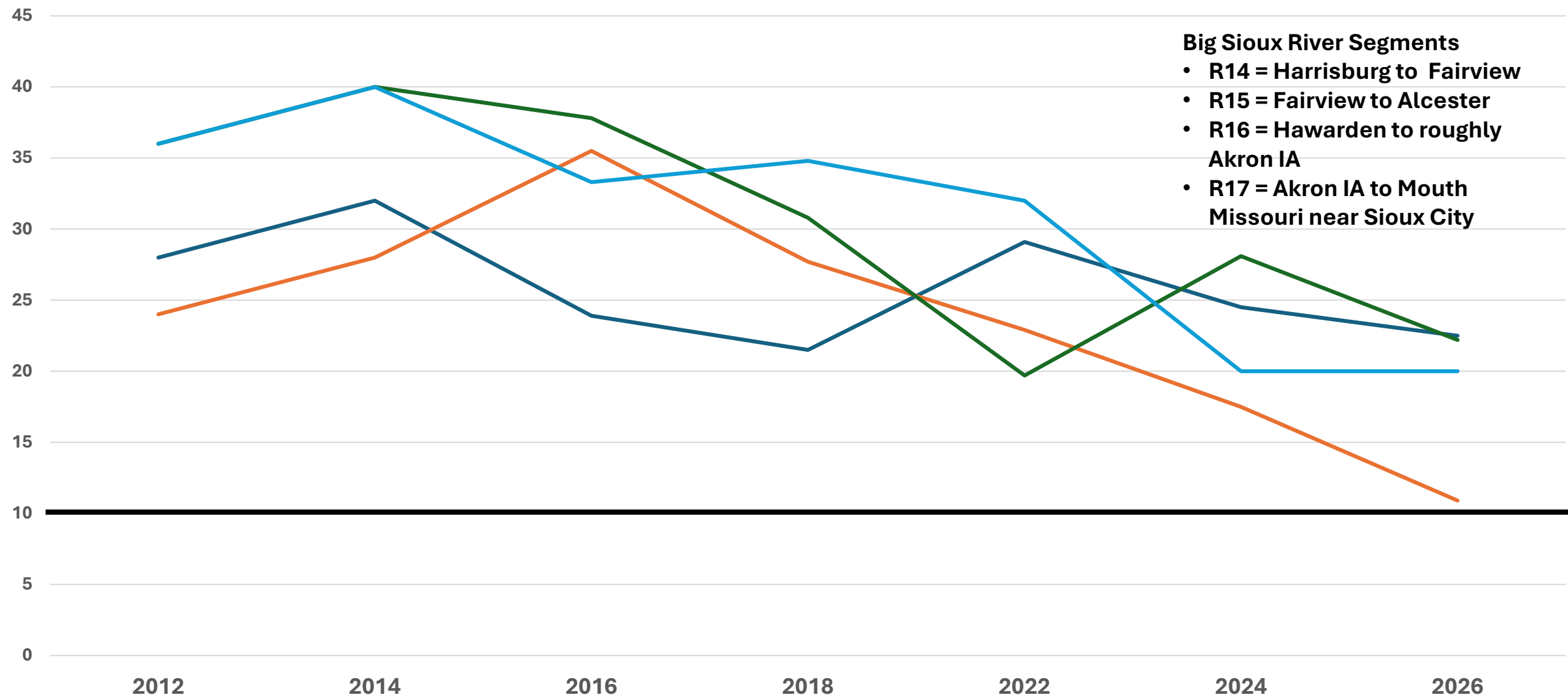
Percent Exceedance

- Big Sioux River Segments**
- R14 = Harrisburg to Fairview
 - R15 = Fairview to Alcester
 - R16 = Hawarden to roughly Akron IA
 - R17 = Akron IA to Mouth Missouri near Sioux City

2012 2014 2016 2018 2022 2024 2026

Big Sioux River Segments

14 15 16 17





South Dakota's 2026 Surface Water Quality Assessment

Department of Agriculture and Natural Resources

<https://arcg.is/1v0Ofm2>

Transparency

Executive Summary

- The Surface Water Quality Assessment used to have executive summary on first page, which stated the % of waters that are non-support for at least one beneficial use.
 - Removed in 2026 Cycle.
 - Want audience to go through the whole report
- 2026 is first cycle with new reporting mechanism (Story Map vs. 200-page report)
 - User-Friendly interactive application.
 - Includes all raw data used to make support determinations.
 - Make improvements based on public comments.