

South Dakota NPS Task Force

Bert Garcia
April 20, 2010



Presentation Summary

- EPA Introductions

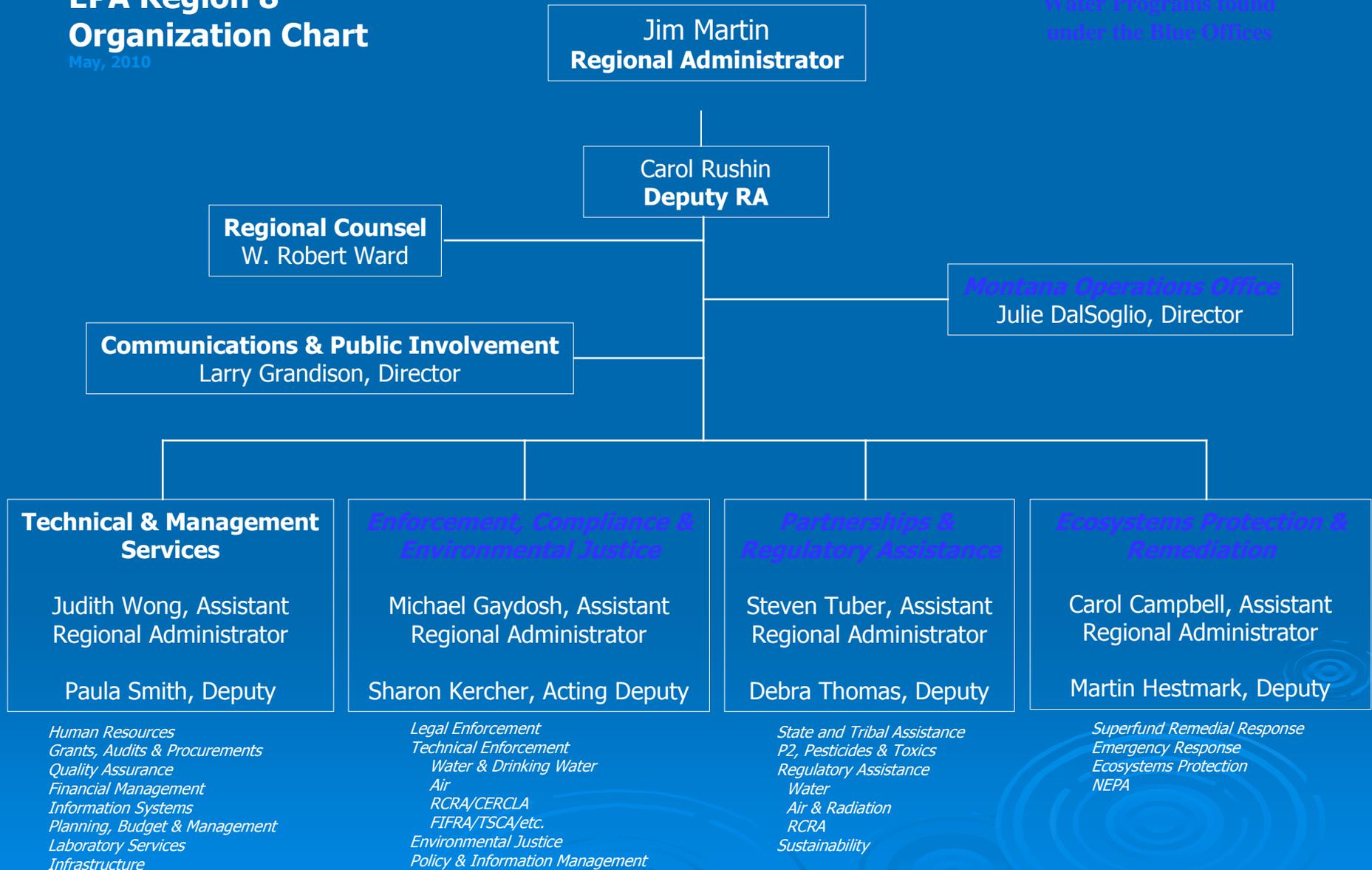
 - Presentation
 - National Nutrient effort
 - Region 8
 - South Dakota
 - Effects
 - Region 8 Approach

 - Initiating a conversation
- 

EPA Region 8 Organization Chart

May, 2010

Water Programs found
under the Blue Offices



Water Offices

Enforcement, Compliance & Environmental Justice

**Technical Enforcement Program
Clean Water & Drinking Water**
Darcy O'Connor, Acting Director

Wetlands Enforcement

NPDES Enforcement

Aaron Urdiales, Acting Unit
Chief

Drinking Water

Lisa Kahn, Team Leader

Policy, Information Management & Environmental Justice Program

Art Palomares, Director

Database Administration

*PCS,
ICIS-NPDES,
ICIS-FE&C,
SDWIS*

Partnerships & Regulatory Assistance

Water Program

Sadie Hoskie, Director

Wastewater

Sandy Stavnes, Unit Chief
NPDES

Ground Water

Steven Pratt, Unit Chief
UST/LUST
UIC/GW

Drinking Water

Jack Rychecky, Unit Chief
Gary Carlson, Unit Chief

Direct Implementation
Oversight

Technical and Financial Services

Diane Sanelli, Unit Chief
SRF

Tribal Set-Aside Grants
Special Appropriations

Ecosystems Protection & Remediation

Ecosystems Protection Program

Bert Garcia, Director

Water Quality

Karen Hamilton, Unit Chief
Water Quality Standards
TMDLs
Monitoring & Assessment

Wetlands & Tribal

Karen Reed, Unit Chief
Wetlands
Tribal Coordination

Watershed & Aquifer Protection

Ayn Schmit, Unit Chief
Ground Water
Source Water Protection
Nonpoint Source & Watersheds

Montana Operations Office

Ron Steg
All Water Programs

Recent History

➤ May 2009

- State Environmental and Agriculture Executives meeting with EPA

➤ Summer 2009

- Conference Call with State Agriculture Executives

➤ Winter 2009

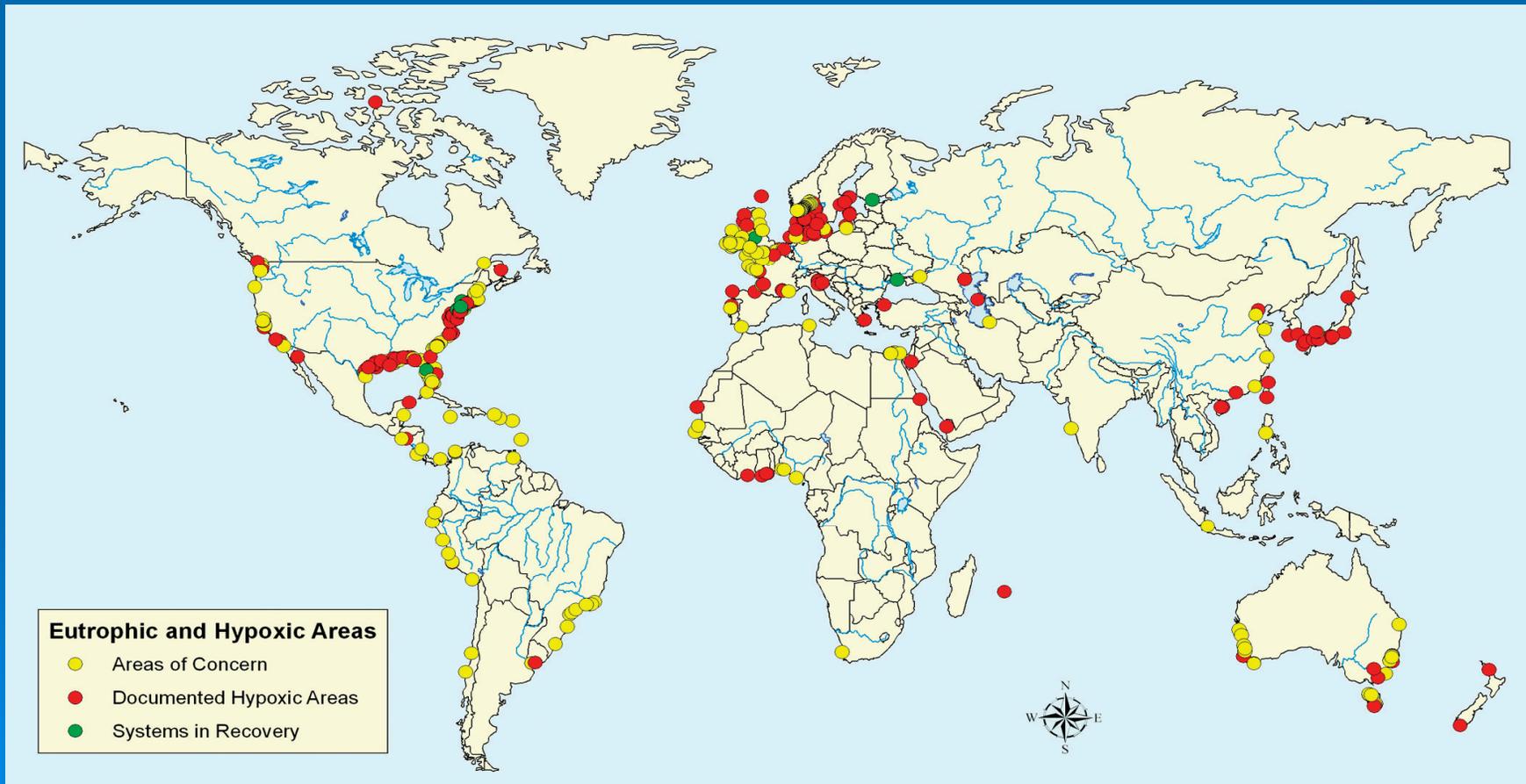
- Identifying forums to further discuss

National Issues



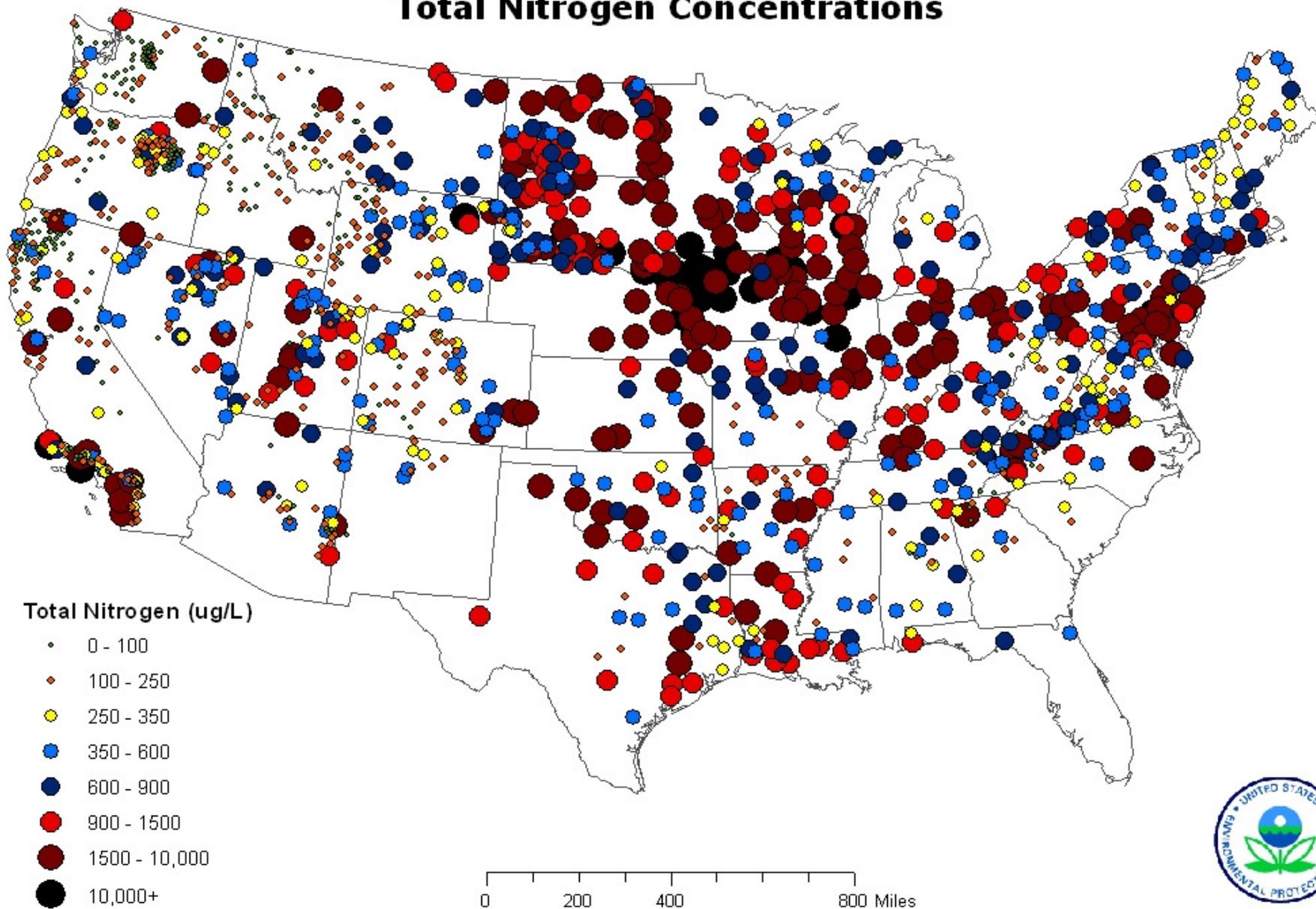
Photo Courtesy of N. Rabalais, Louisiana Universities Marine Consortium

Hypoxic areas in the U.S. have increased dramatically over the last 50 Years



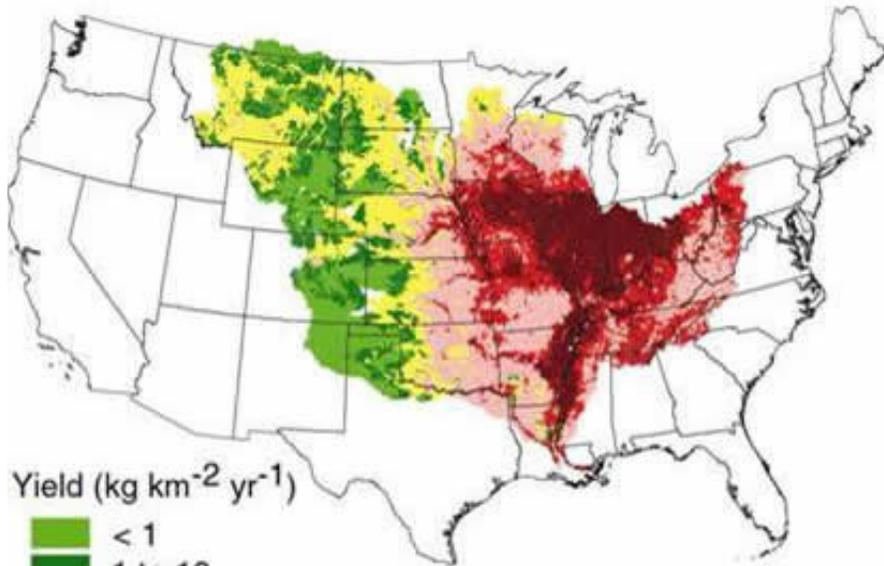
Source: [Science/World Resources Institute.](#)

WSA Survey Results: Total Nitrogen Concentrations

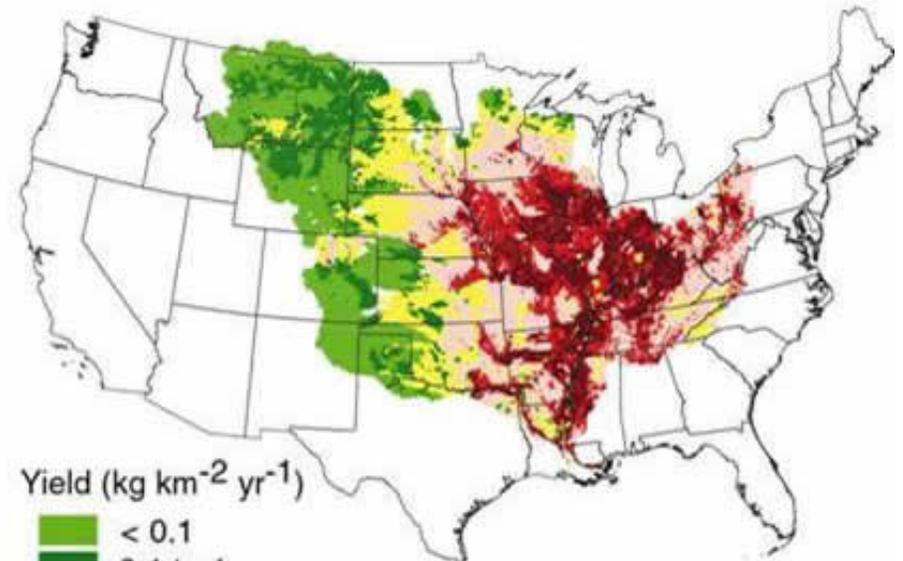


Nutrient Loading to the Gulf of Mexico

Total Nitrogen



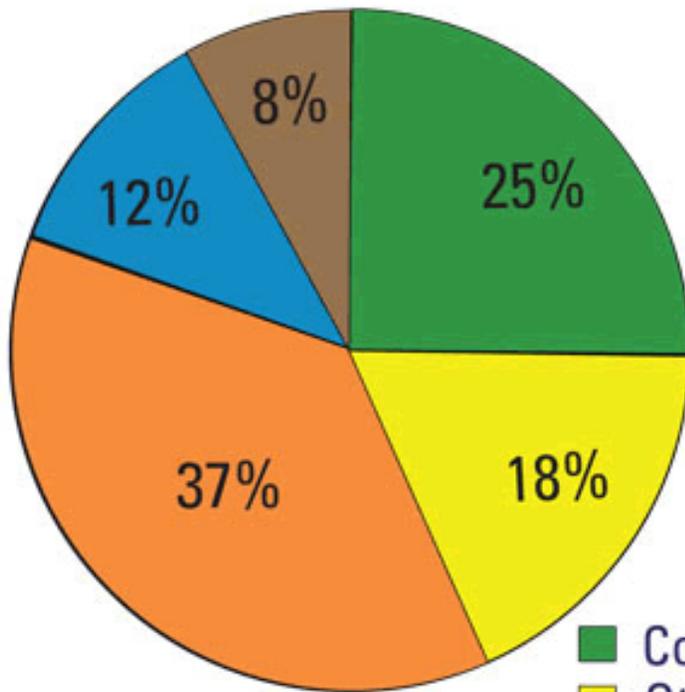
Total Phosphorus



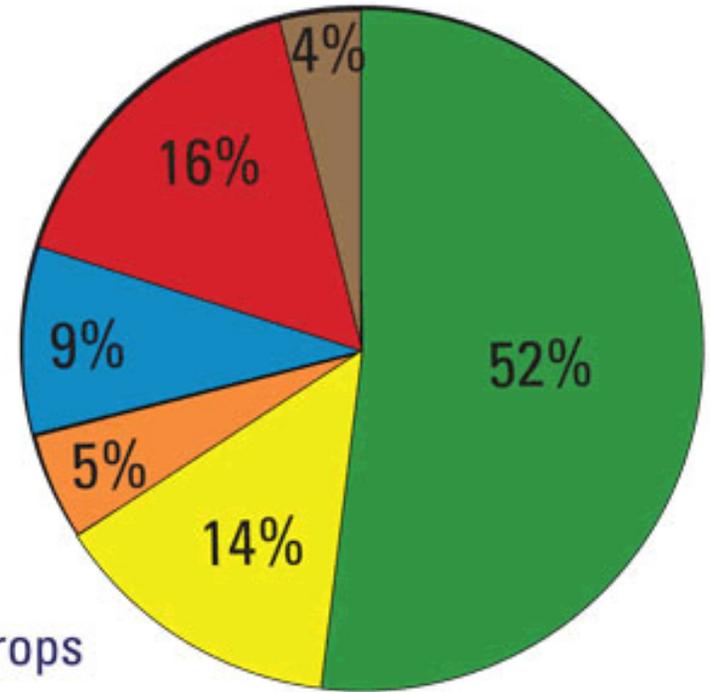
Courtesy of USGS

Sources of nutrients delivered to the Gulf of Mexico

PHOSPHORUS



NITROGEN



Sources

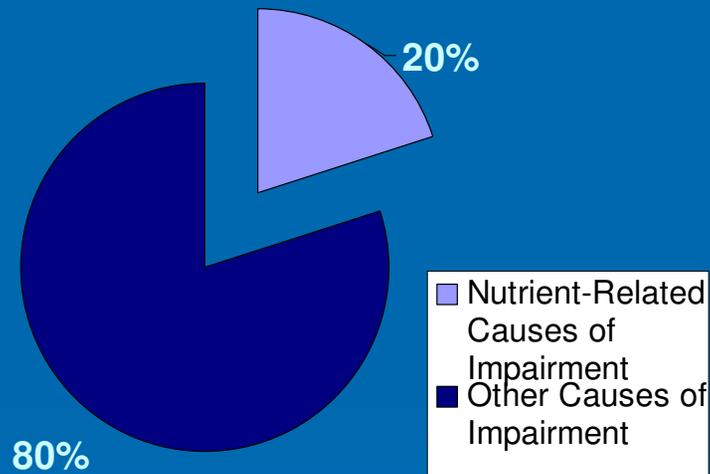
- Corn and soybean crops
- Other crops
- Pasture and range
- Urban and population-related sources
- Atmospheric deposition
- Natural land

National Scope of Nutrient Problem

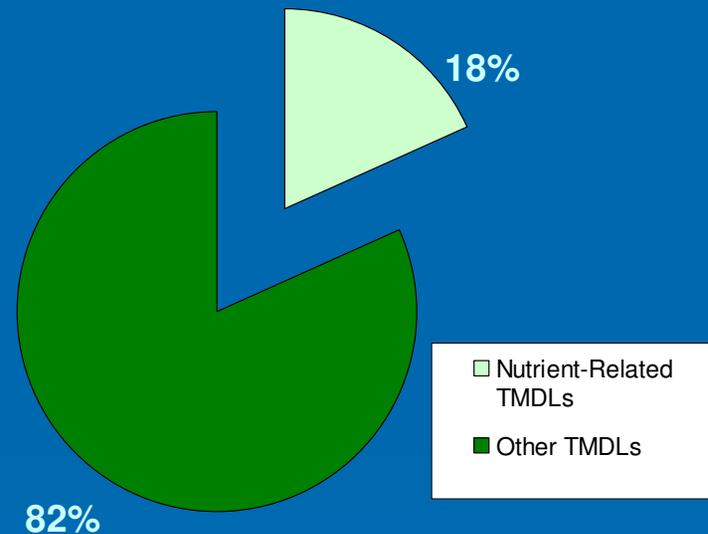
- **14,000 Nutrient-related Impairment Listings in 49 States**
- **Approximately 50% of Streams have medium to high levels of nutrients**
- **One third of U.S. estuaries eutrophic**

Status of nutrient-related listing and TMDLs

"Nutrient-Related" Causes of Impairment Compared to "Other" Causes of Impairment on 303(d) Lists



"Nutrient-Related" TMDLs Compared to "Other" TMDLs



- Of 39,583 TMDLS nationwide, 7262 (18%) are “nutrient-related”
- Of 75,675 impairments nationwide, 15,101 (20%) are “nutrient-related” (defined as ‘nutrients, organic enrichment/oxygen depletion, noxious plants, algal growth, and ammonia’).

Stakeholder Attention Growing

- Multiple instances of litigation and petitions
 - Chesapeake Bay Executive Order
 - EPA Inspector General Report
 - State-EPA NITG Report
 - Next Generation of Tools and Actions
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Nutrient Problem Characteristics

- Complex – multiple stakeholders/interests
 - Legal challenges
 - Many resources at risk
 - Significant costs
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Region 8



Surface Water

30-40% of Region 8 stream miles show problems from nutrients (wadeable stream survey)



Region 8 Sources

- Agriculture
- Urban stormwater
- POTWs (regulated)

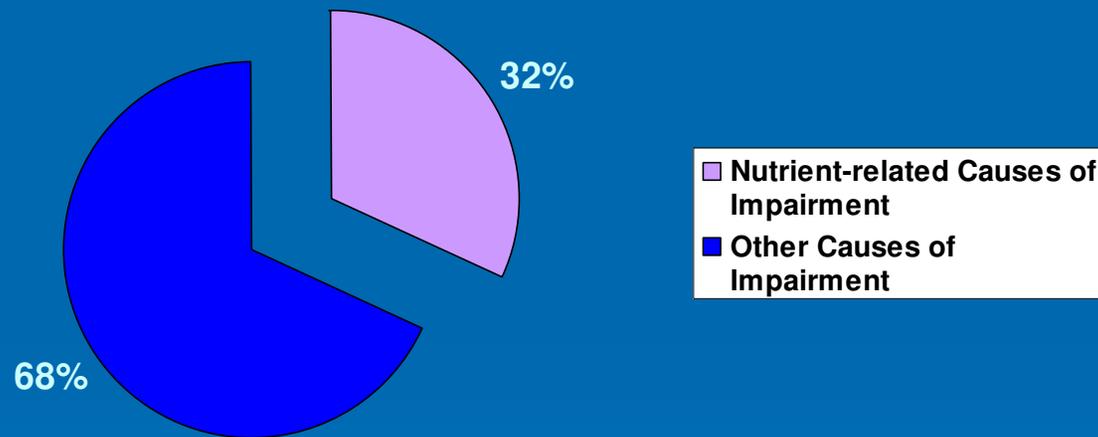


South Dakota



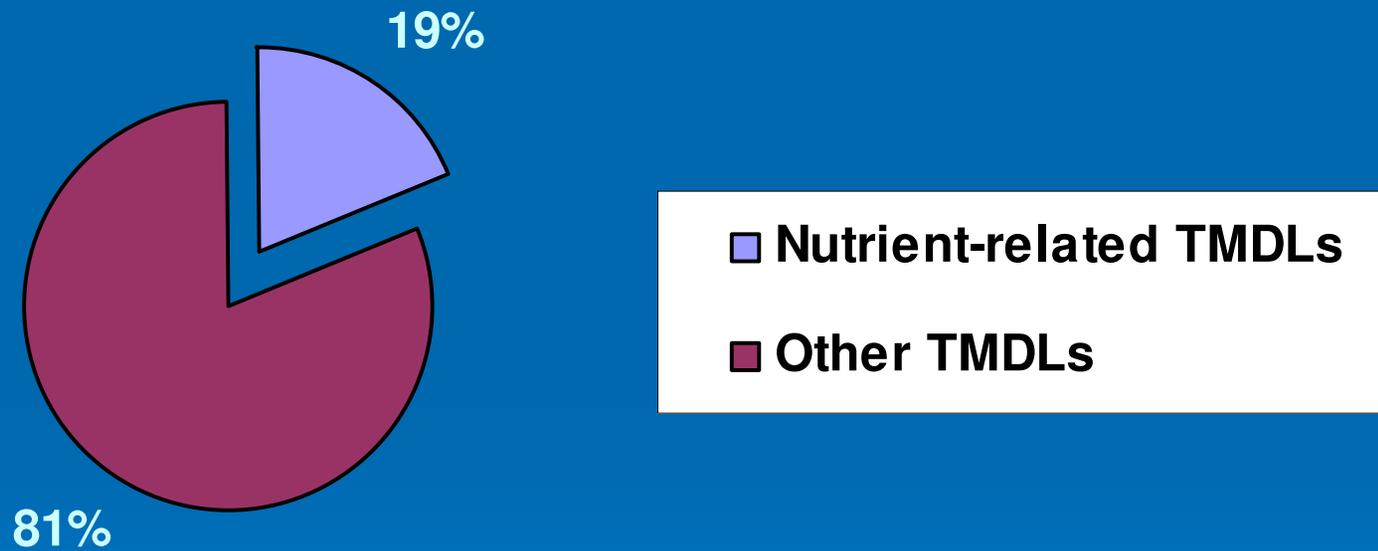
2008 nutrient-related listings in SD

“Nutrient-Related” Causes of Impairment compared to other Causes of Impairments

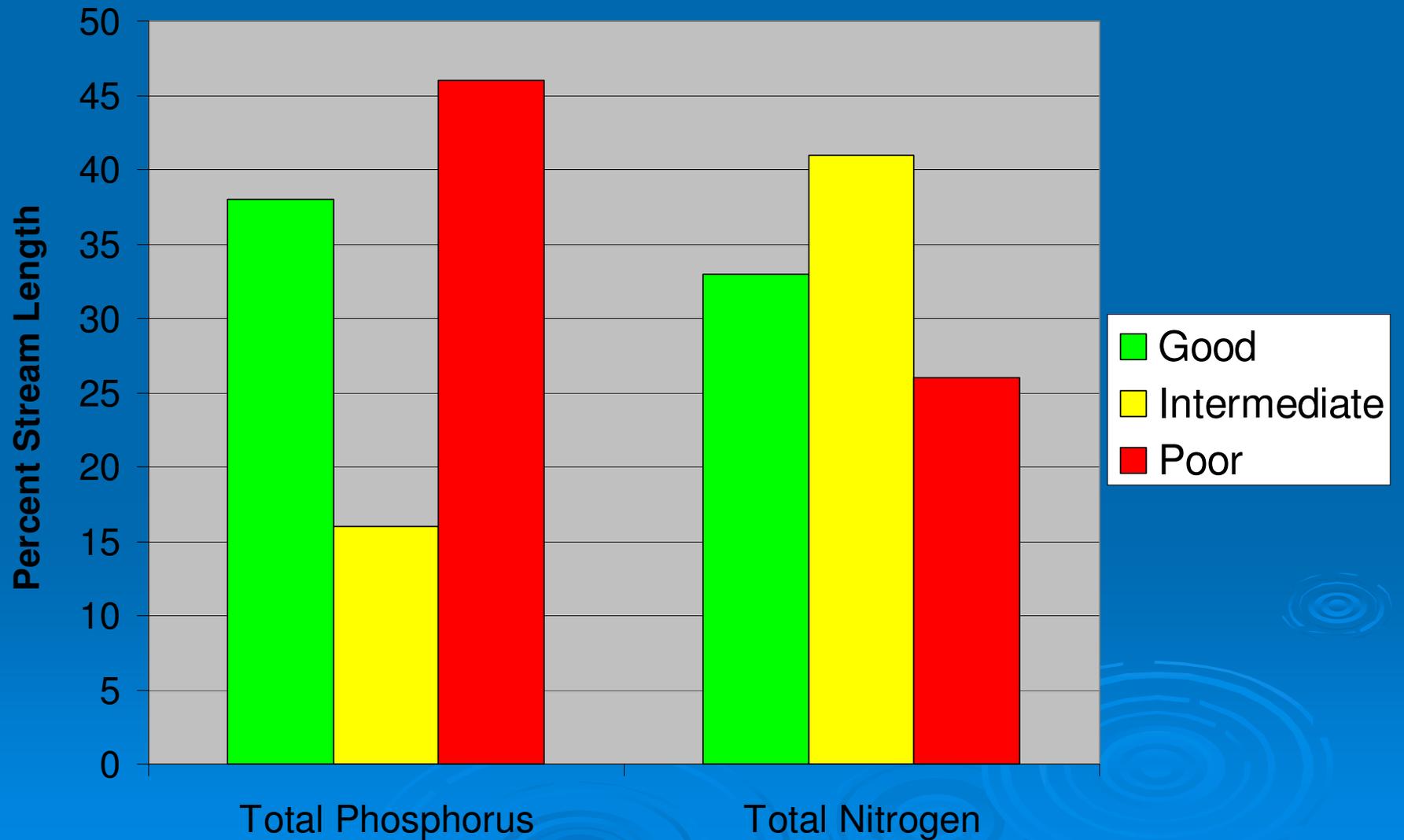


Based on the SD 2008 303(d) list data

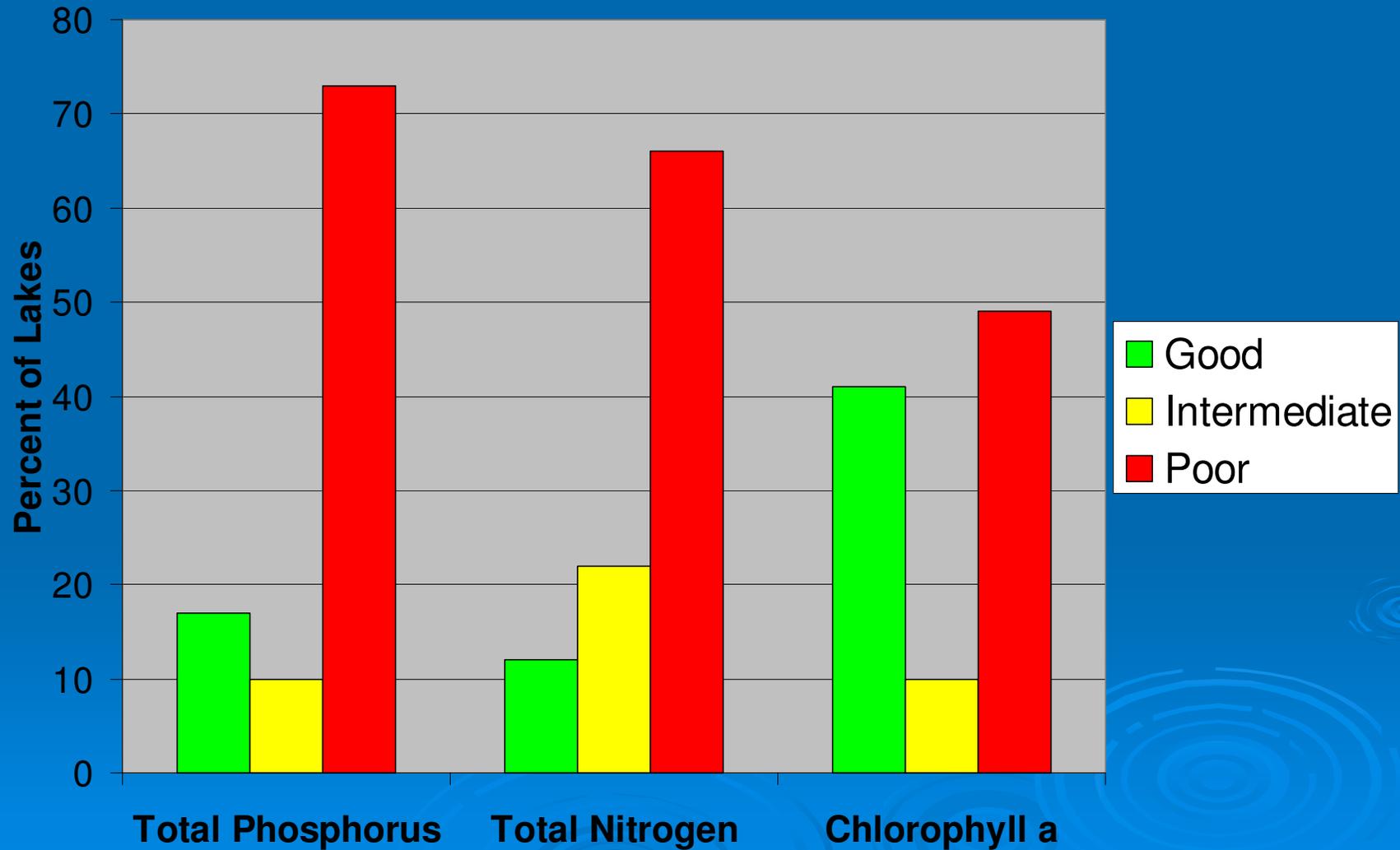
SD Nutrient-related TMDLs



SD Nutrient Stream Condition



SD Lakes Nutrient Condition



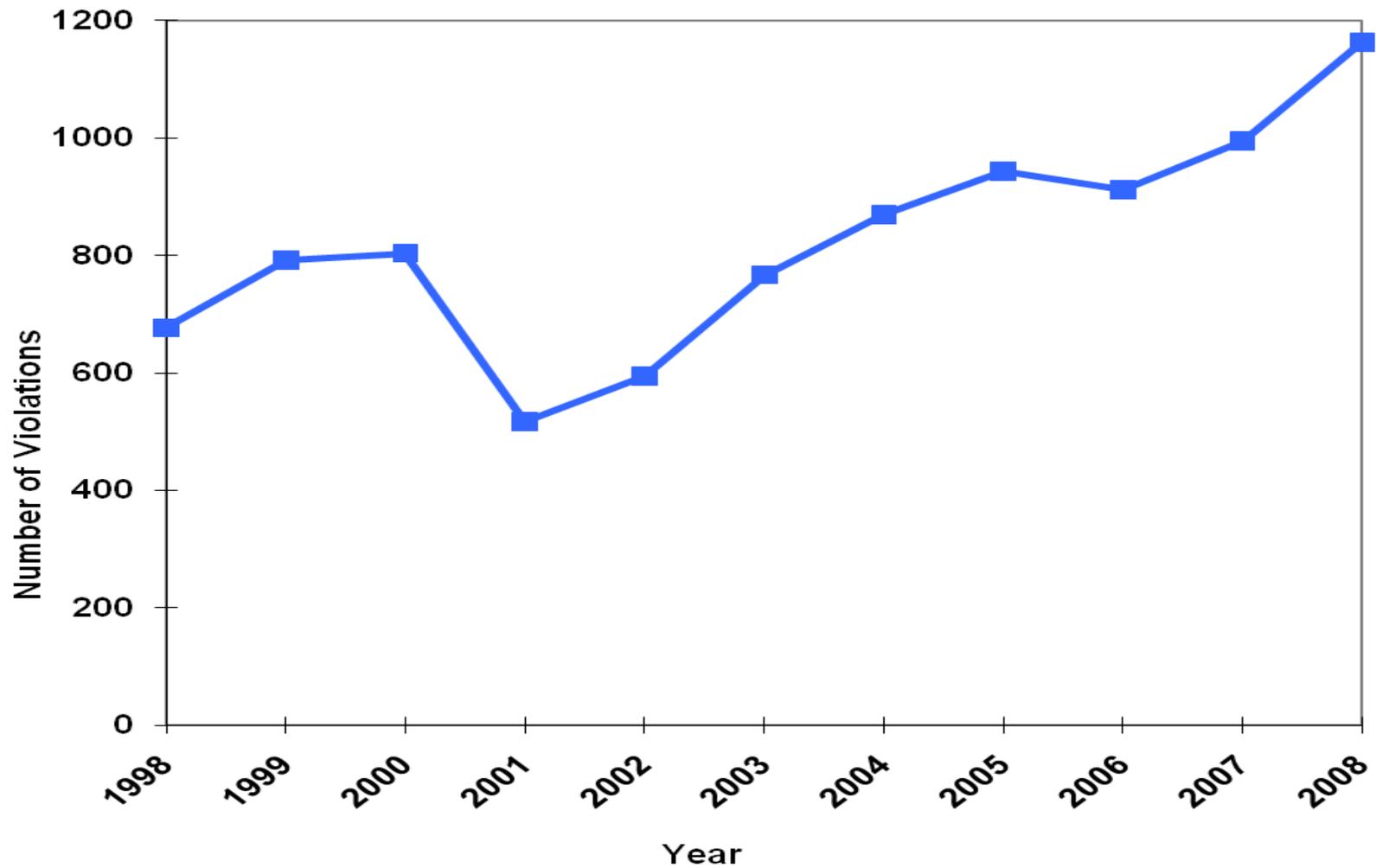
Effects of Excess Nutrients



Nutrients Continue to Increase Risks for Drinking Water

- Nitrates are a threat to Infants
 - Disinfection By Products from chlorine disinfection
 - Disinfection By Products from chloramine disinfection - NDMA (dimethylnitrosamine)
 - Risk: Both Nitrates and disinfection byproducts are increasing
 - Cost: Million\$ to treat (both SW and GW)
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PWS Nitrate Contamination



Nitrate in Ground Water

- 495 private wells in agricultural areas
 - Sampled in 1988 -1995 and 2000-2004
 - Nitrate concentrations have increased in response to N fertilizer use since 1950



Region 8 Approach

R8 Approach

- Reinvigorate dialog with major players
 - Collaboratively develop a strategy with stakeholders to address nutrient impacts; implement it
 - Support States' nutrient criteria/target development
 - Enhance database and develop tools for assessments and TMDLs
 - Technical Conference
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Technical Conference – Fall 2010

- Data Sharing among stakeholders
 - Stakeholders' Institutional and Social Context
 - Building shared problem definitions and solutions
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Summary of the Situation

- Complex problem with many stakeholders and sectors.
- Legal challenges.
- Resource at risk.
- Economic concerns from permitted dischargers and drinking water providers.
- In R8, sources of nutrients are largely unregulated runoff.

Discussion Topics

- EPA Introductions

 - Presentation
 - National Nutrient effort
 - Region 8
 - South Dakota
 - Effects
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 - Questions for you

 - Initiating a conversation
- 

Questions

- From your point of view, Is nutrient pollution a significant problem in South Dakota?
- How do we collectively work towards reducing nutrient water pollution?
- How can EPA support your work to reduce nutrient pollution?
- What do you think EPA needs to understand about nutrient water pollution problems and their solutions in South Dakota?