

# **An Outreach Workshop: Evaluating Wetland Condition for Nutrient Criteria**

**Atlantic City, NJ**

**March 25-27, 2003**

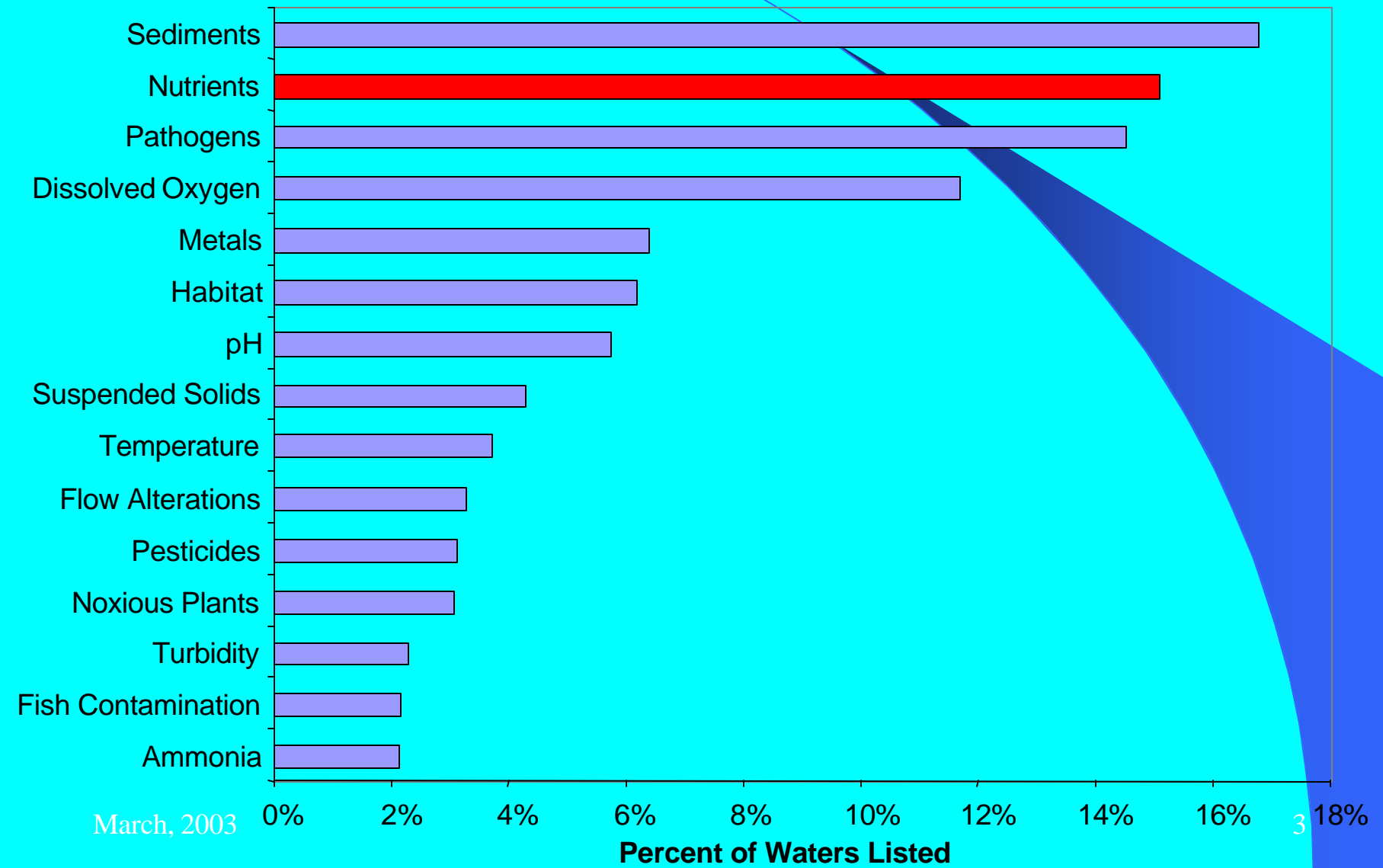
**Ifeyinwa Davis, USEPA**

**Office of Science and Technology**

# Report to Congress

- **Clean Water Act (CWA) goal of fishable / swimmable, wherever attainable**
- **Report to Congress – 305(b) Report shows nutrient overenrichment as the top contributor to use impairment**
- **States and Tribes need quantifiable targets for nutrients in their WQStds (for TMDLs & Permits)**

# 1998 Section 303(d) Lists Top 15 Causes of Impairments



# 1998 Report on Wetlands

- **In the 1998 National Water Quality Inventory, Report to Congress (under the 305(b) report)**
  - **Only 4% of the nation's wetlands were surveyed (with emphasis on nutrients)**
  - **Only 11 States and Tribes reported information concerning wetland designated use attainment**

# Water Quality Standards

- **Waters of the United States including Wetlands**
  - **Designated Uses**
  - **Criteria (narrative & numeric)**
  - **Anti-degradation Policy**

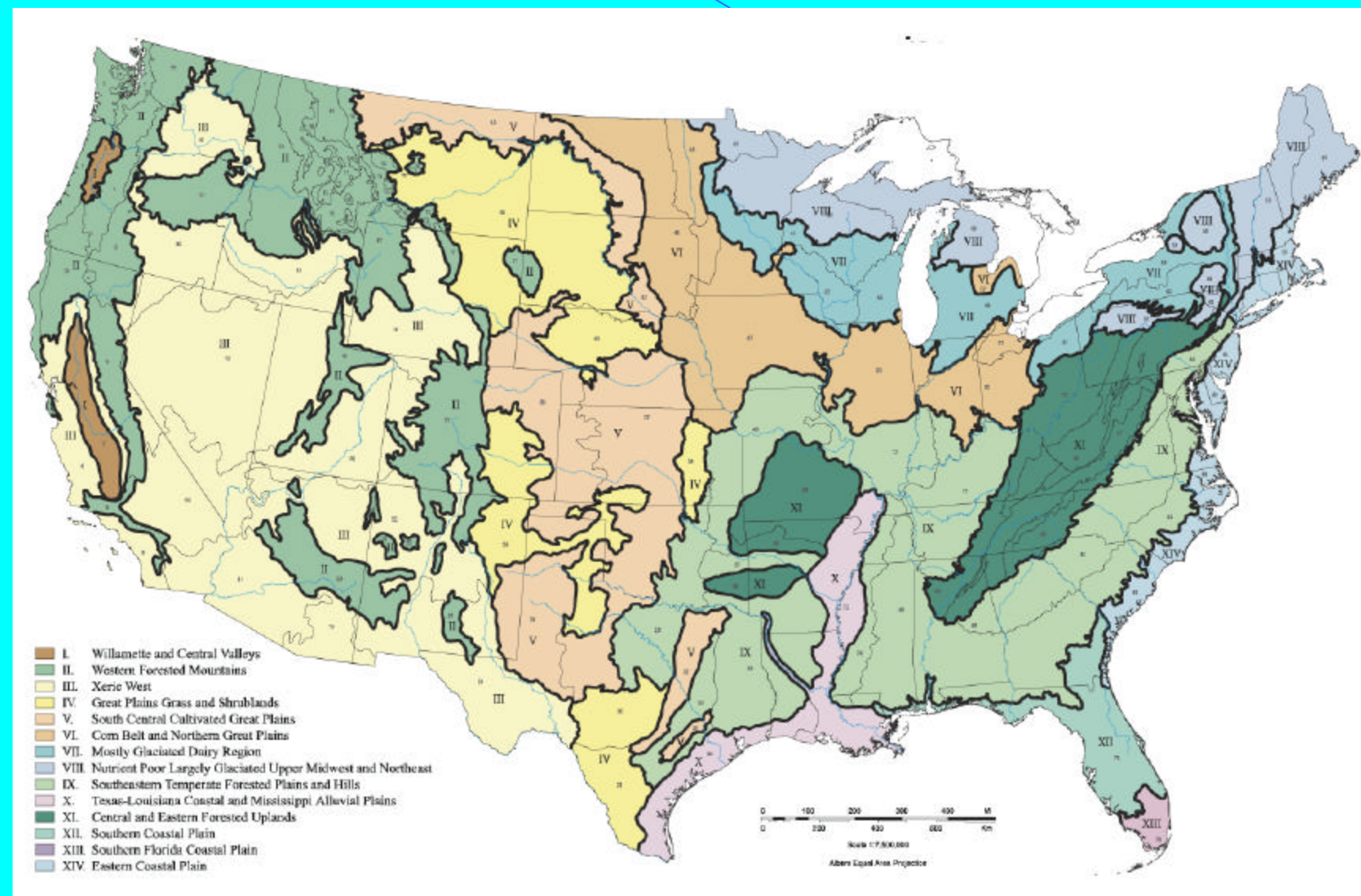
# Strategy for Nutrient Criteria

- **National Strategy, 1998**
- **304 (a) Criteria required to protect designated uses**
  - **Technical Guidance Manuals for**
    - Lakes & Reservoirs**
    - Rivers & Streams**
    - Estuaries and Coastal Marine Waters**
    - Wetlands**
- **EPA expects States/Tribes to submit a collaborative plan mutually agreed upon between states/tribes and EPA**

# EPA's Approach to Nutrient Criteria

- Identified a geographic region approach (James Omernik's ecoregions)
  - 14 nutrient ecoregions (aggregations of 84 level III ecoregions)
- Utilize reference condition approach to represent minimally impacted conditions
- Conduct Scientific peer review on all methods and results

# Nutrient Ecoregions



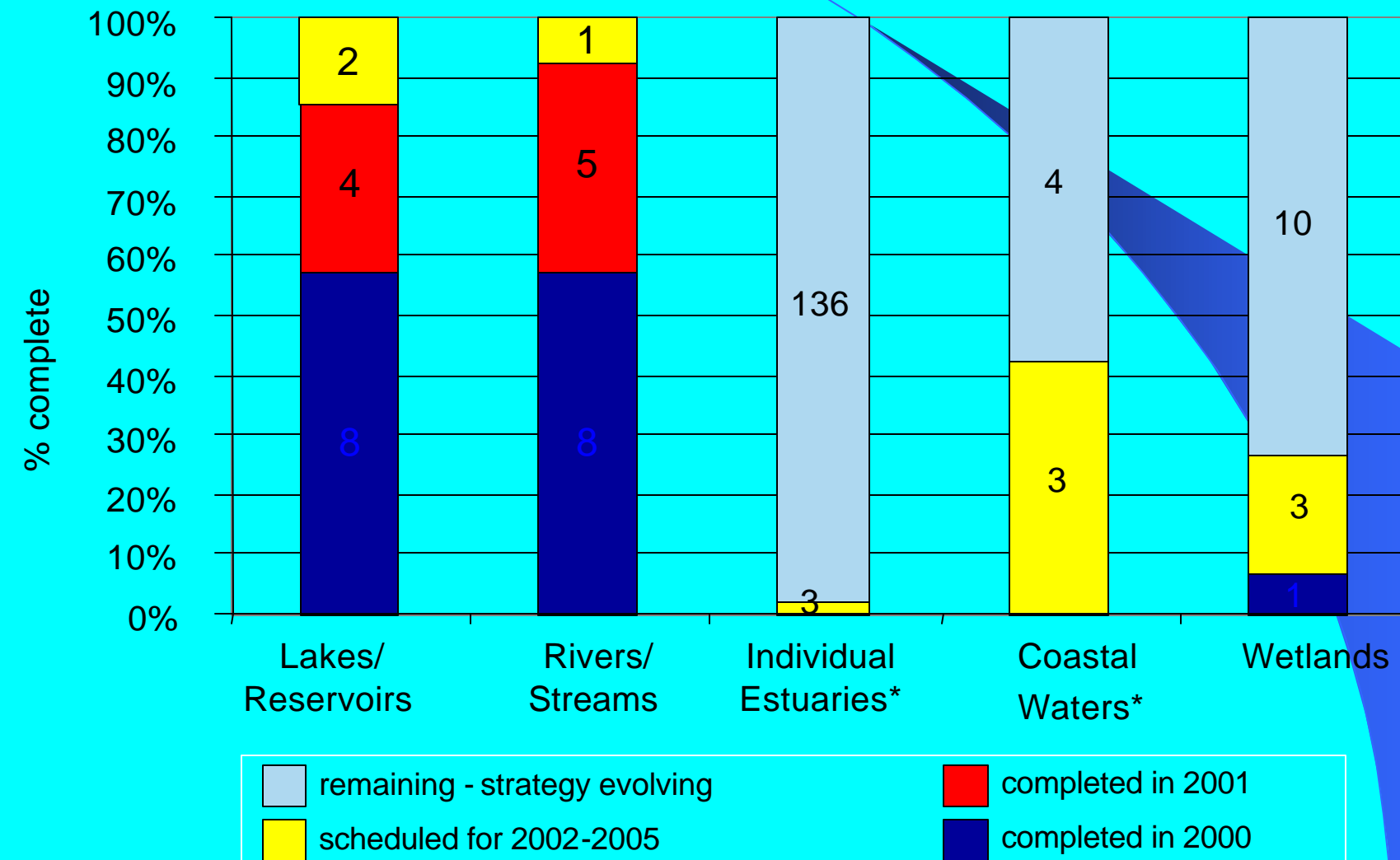
# Criteria for Wetlands

- **Nutrient Ecoregion XIII**
- **304 (a) Criteria based primarily on extensive work done in the Florida Everglades.**
  - **Criteria utilized information from extensive studies / literature reviews from the Everglades**
  - **EPA recommended 10ug/L for water column Total Phosphorus (TP)**
  - **No significant change in relative species abundance of periphyton**
  - **Development of reference conditions and criteria for soil phosphorus**
  - **300-600 mg/kg P soil is preferred range for organic soils**

# Schedule / Milestones

- **General schedule for adopting numeric nutrient criteria into WQS?**
  - **2004**
  - **Status of Criteria in State's WQStd**s
  - **Challenging for wetlands**
  - **Funding**

# Nutrient Criteria Document Status



March, 2003

11

\*Not based on the 14 continental ecoregions

# Major Products

- National Strategy in 1998
- 4 Technical Guidance Manuals
  - Lakes/Reservoirs - May 2000
  - Rivers/Streams - July 2000
  - Estuarine/Coastal - October 2001
  - Wetlands - Peer Reviewed Draft by Dec 2003
- 17 section 304(a) Nutrient Criteria Documents - Jan 2001
  - 8 ecoregions for Lakes/Reservoirs (55 subcoregions)
  - 8 ecoregions for Rivers/Streams (64 subcoregions)
  - 1 ecoregion for Wetlands (1 subcoregion)
- 9 Additional Nutrient Criteria – Feb 2002
  - 4 Lakes & 5 Rivers in 2002
  - Estuaries/Coastal and Wetlands – 2005-2007
- Web-accessible database for state and public use

**<http://www.epa.gov/ost/standards/nutrient.html>**

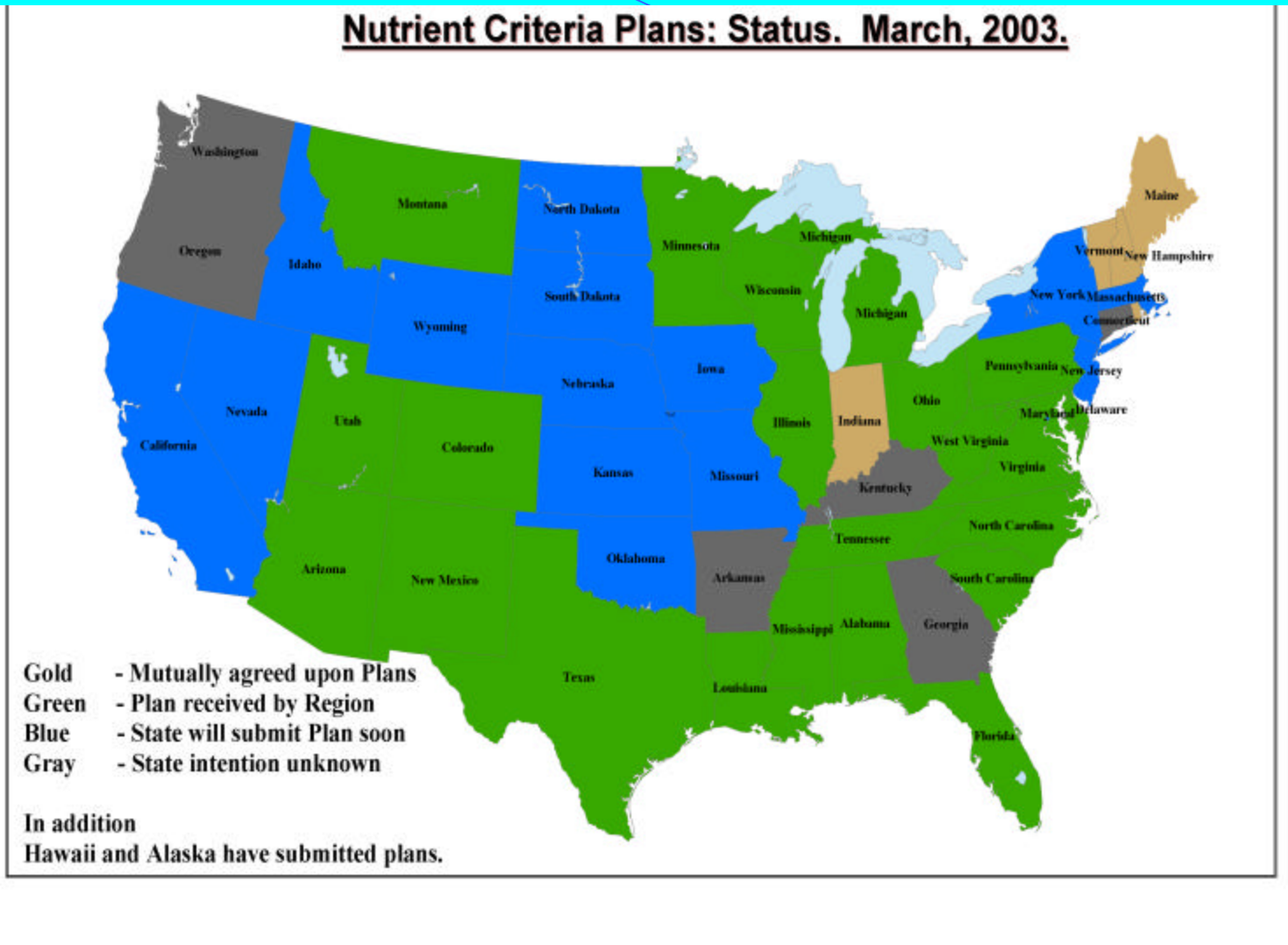
March, 2003

12

# **Policy Guidance Memo - Nov. 14, 2001**

- **EPA expects States/Tribes to submit a collaborative plan mutually agreed upon between states/tribes and EPA**

**Nutrient Criteria Plans: Status. March, 2003.**



# Developing Nutrient Criteria for Wetlands

- **Methodologies for collecting information are complex and are still being developed**
- **A key issue is the lack of data**
- **EPA is committed to the following**
  - **Support an expert workgroup**
  - **Develop a set of indicators to provide sufficient information on nutrient loading related to wetland health.**
  - **Support & develop sampling modules for effective wetland monitoring & assessment**

# Peculiar Technical Needs for Wetland criteria development

- **Monitoring Wetlands**
  - **Articulate monitoring goals**
  - **Improve on use of multi approaches in evaluating wetland system**
- **Classification**
  - **To reduce variability within classes to enable detection of reference and impacted conditions**
  - **To improve ability to generalize cause(s) and effect(s) relationships**
- **Other indicators to consider**
  - **Vegetation-based indicators**
  - **Assimilation capacity of Wetlands**

# Approaches

- **What overall approach will be used to develop criteria?**
  - **Adopting EPA's recommendations?**
  - **Using EPA's recommended reference condition approach to develop criteria reflective of local conditions?**
  - **Other approaches?**

# Flexibility for Criteria Adoption in State/Tribal Standards

- Under current regulations and guidance:
  - States/tribal criteria must protect their designated uses, and may be a value higher or lower than EPA's corresponding 304(a) criteria recommendations if supported by data/information.
  - States/tribal criteria may be derived using other scientifically defensible methods.

# Resources

- <http://www.epa.gov/waterscience/>
- <http://www.epa.gov/ost/standards/nutrient.html>

# RESOURCES:

<http://www.epa.gov/ost/standards/nutrient.html>

<p>Aquatic Life Human Health Biocriteria Nutrients Microbial (Pathogen) Criteria Table Rulemakings, Withdrawals, and Other Federal Register Notices</p>	<h2>Nutrients</h2> <p><a href="#">National Nutrient Strategy</a> (July 1998)</p> <p><a href="#">Nutrient Ecoregion Map</a> of the Nation's 14 aggregated nutrient ecoregions.</p> <p><a href="#">National Nutrient Guidance</a> contains guidance documents and policy memos for developing nutrient criteria.</p> <p><a href="#">National Nutrient Team</a></p> <p><a href="#">EPA Regional Nutrient Coordinators</a></p> <p><a href="#">Frequently Asked Questions (FAQs)</a></p> <p><a href="#">Past, Present, and Future Meetings and Events</a></p> <p><a href="#">Ecoregional Nutrient Criteria</a> addressing lakes and reservoirs, rivers and streams, and wetlands in 26 specific geographic regions (ecoregions) of the United States.</p> <p><a href="#">Nutrient Database</a> displays water quality data from states and ecoregions.</p> <p><a href="#">EnviroMapper</a> provides results from sampling and monitoring stations located in waterbodies nationwide.</p> <p><a href="#">Wetland Modules</a> provide biological and nutrient assessment techniques for developing criteria and ecological assessments for wetlands.</p> <h3>Nutrients Navigation</h3> <p><a href="#">Strategy</a></p> <p><a href="#">Ecoregional Criteria</a></p> <p><a href="#">Database</a></p> <p><a href="#">Guidance</a></p> <p><a href="#">Ecoregion Map</a></p> <p><a href="#">National Nutrient Team</a></p> <p><a href="#">EPA Regional Nutrient Coordinators</a></p> <p><a href="#">Meetings and Events</a></p> <p><a href="#">Wetland Module Series</a></p> <p><a href="#">FAQs</a></p> <p><a href="#">Home</a></p>
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