EPA
United States
Environmental Protection
Agency

USEPA National Nutrient Program Updates

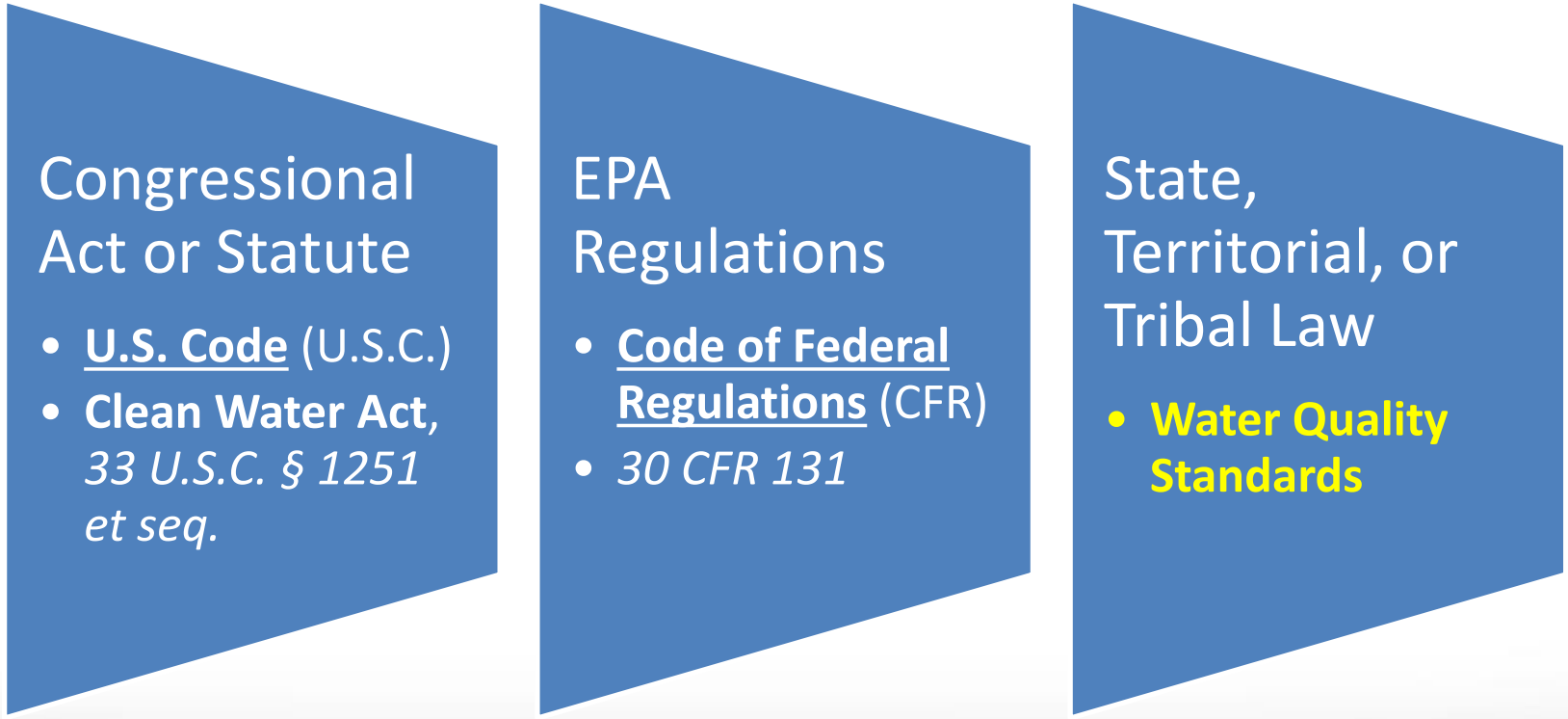
October 2, 2024

Outline

- **Background – nutrient criteria 101**
- **Program Updates – resources / recent releases**
- **N-STEPS – current projects**

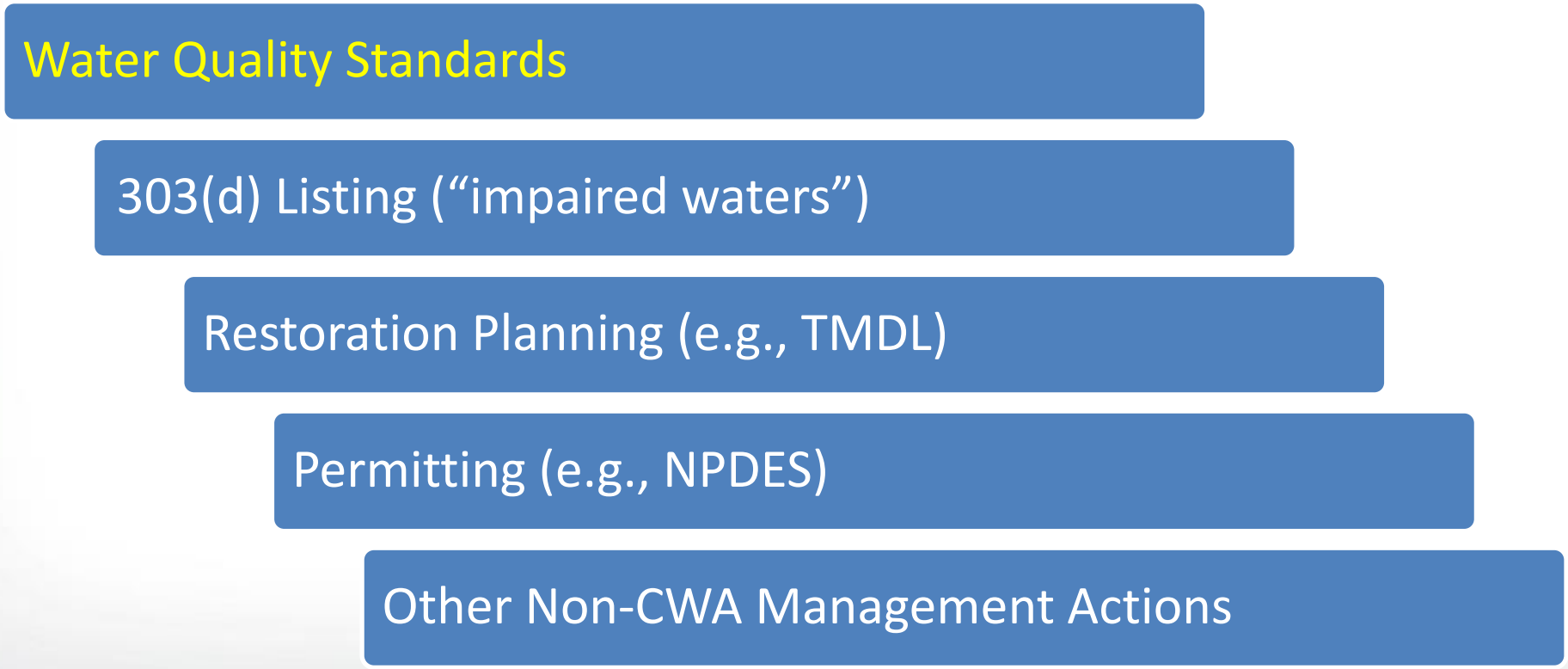
Background – Clean Water Act

CWA Objective: "restore and maintain the chemical, physical and biological integrity of the Nation's waters"



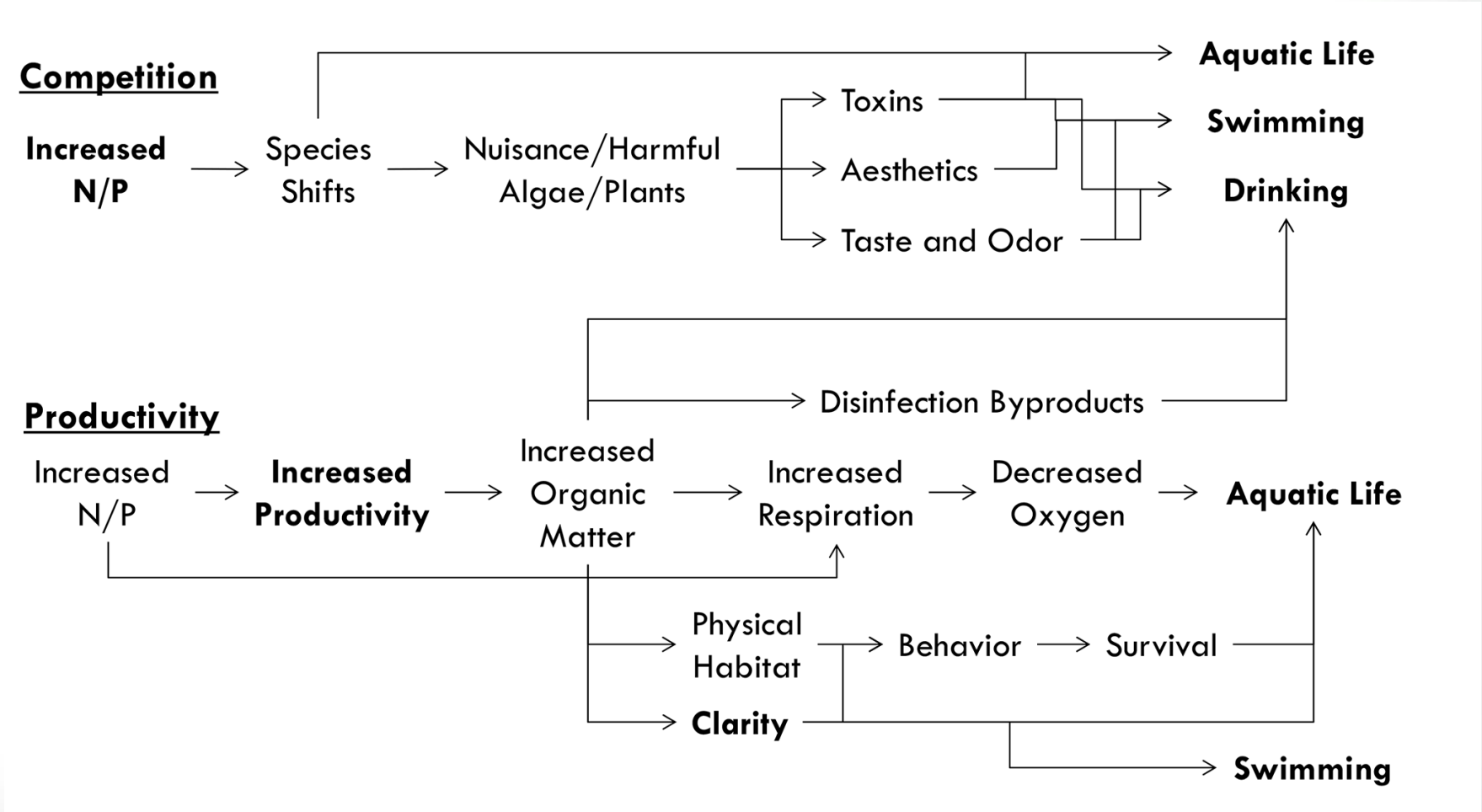
Background – Water Quality Standards

- Water Quality Standards define goals for surface waters and criteria to support those goals



Background – Nutrient Criteria

- Nutrients affect waterbody function and use via many pathways



Background – Criteria Development

Multiple approaches can be used to analyze data and derive numeric nutrient criteria

Mechanistic Modeling	Stressor-Response	Reference Condition	Other Approach
• Mathematical model of environmental processes used to estimate system response to change	• Relationship between nutrients and response measure(s), also called empirical modeling	• Based on data from sites or time periods that are protective of designated uses	• Scientific literature • Expert judgment • Weight of evidence • Other defensible approach

Resources – Criteria Development

United States Environmental Protection Agency | Office of Water, Office of Science and Technology, Washington, DC 20460 | EPA-822-B-00-002, July 2000, www.epa.gov

Nutrient Criteria
Technical Guidance Manual

Rivers and Streams

Nutrient Criteria
Technical Guidance Manual

Lakes and Reservoirs

United States Environmental Protection Agency | Office of Water, 4304 | EPA-822-B-01-003, October 2001

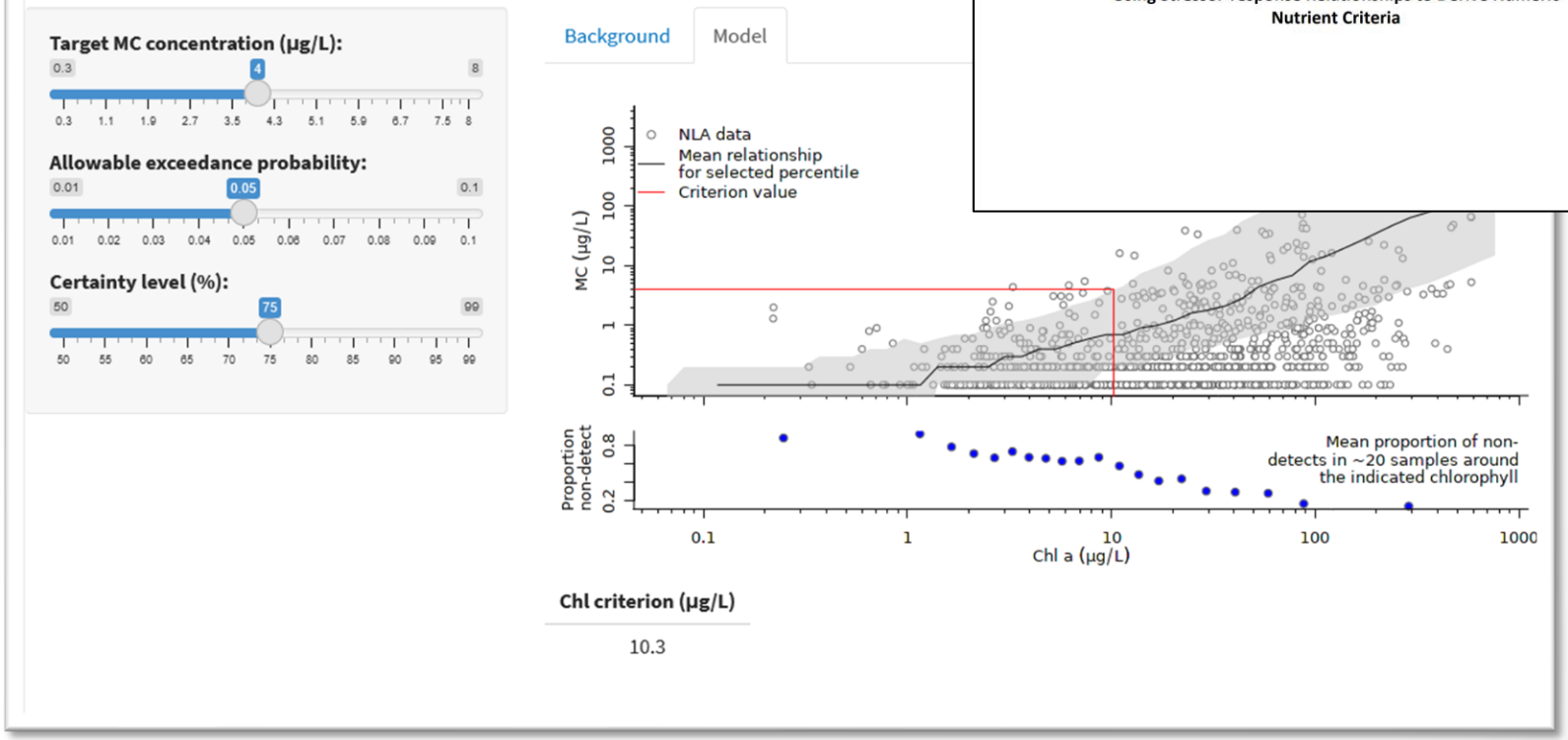
Nutrient Criteria
Technical Guidance Manual

Estuarine and Coastal Marine Waters

Nutrient Criteria
Technical Guidance Manual

Wetlands

Chlorophyll – Microcystin Model



United States Environmental Protection Agency | Office of Water, Mail code 4304T | EPA-820-S-10-001, November 2010

Using Stressor-response Relationships to Derive Numeric Nutrient Criteria

EPA's Recommended Ambient Water Quality Criteria for Nutrients

U.S. EPA Expert Workshop: Nutrient Enrichment Indicators in Streams

Proceedings
April 16–18, 2013

Resources – Criteria Development

- **N-STEPS Online**
  - https://nsteps.epa.gov/

Resources – Criteria Development

- **User Perception White Paper**

Resources – Advisory Groups

Overview of Numeric Nutrient Criteria Development for Scientific and Technical Assistance Groups

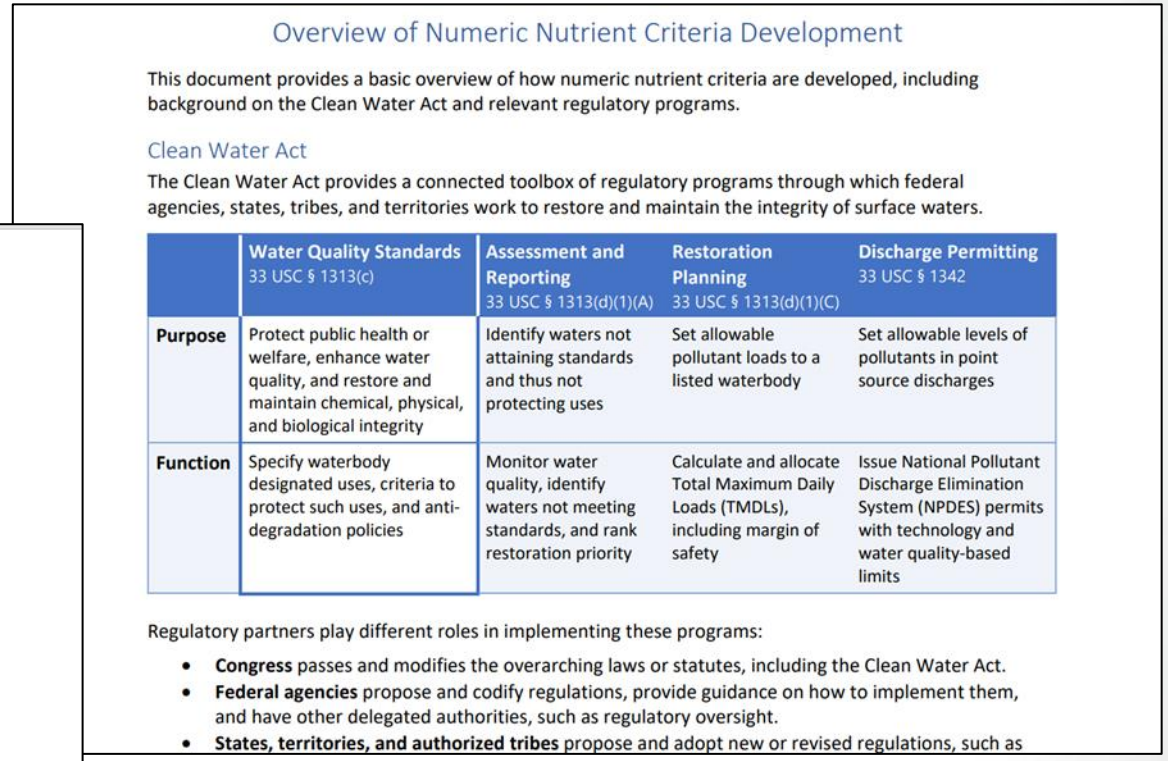
Overview of Numeric Nutrient Criteria Development

U.S. Environmental Protection Agency

Office of Water, Office of Science & Technology

Adapted by [Group] on [Date]

Other logo(s)



Overview of Numeric Nutrient Criteria Development

This document provides a basic overview of how numeric nutrient criteria are developed, including background on the Clean Water Act and relevant regulatory programs.

Clean Water Act

The Clean Water Act provides a connected toolbox of regulatory programs through which federal agencies, states, tribes, and territories work to restore and maintain the integrity of surface waters.

	Water Quality Standards 33 USC § 1313(c)	Assessment and Reporting 33 USC § 1313(d)(1)(A)	Restoration Planning 33 USC § 1313(d)(1)(C)	Discharge Permitting 33 USC § 1342
Purpose	Protect public health or welfare, enhance water quality, and restore and maintain chemical, physical, and biological integrity	Identify waters not attaining standards and thus not protecting uses	Set allowable pollutant loads to a listed waterbody	Set allowable levels of pollutants in point source discharges
Function	Specify waterbody designated uses, criteria to protect such uses, and anti-degradation policies	Monitor water quality, identify waters not meeting standards, and rank restoration priority	Calculate and allocate Total Maximum Daily Loads (TMDLs), including margin of safety	Issue National Pollutant Discharge Elimination System (NPDES) permits with technology and water quality-based limits

Regulatory partners play different roles in implementing these programs:

- **Congress** passes and modifies the overarching laws or statutes, including the Clean Water Act.
- **Federal agencies** propose and codify regulations, provide guidance on how to implement them, and have other delegated authorities, such as regulatory oversight.
- **States, territories, and authorized tribes** propose and adopt new or revised regulations, such as

Additional Programming

- **Lake Criteria Support**
  - Pilots underway
- **Nutrient Criteria Technical Webinar Series**
  - Upcoming schedule TBD
- **National HAB Program**
  - Newly formed in 2023
  - www.epa.gov/habs

N-STEPS

Nutrient Scientific Technical Exchange Partnership and Support

- EPA's technical support and outreach program for nutrient criteria development
- Projects range from planning to threshold development
- State and Tribal water quality agencies are encouraged to submit proposals

N-STEPS

FY24/25 Projects

- 12 projects across 7 regions and 15 states
  i. Lakes – MA, NJ, SC, WI, IN, NM, WY, ND
  ii. Rivers/Stream – DC, MD, VA, PA, WV, WI
  iii. Estuarine and Coastal – MA, FL

Questions?

- **Consider N-STEPS proposals!**
  - https://www.epa.gov/nutrientpollution/n-steps-program
- **Contact info**
  - walsh.brannon@epa.gov
- **Questions/Comments?**