

# Regulation of Nutrient Pollution: National Context & Updates

National Association of Clean Water Agencies  
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# Agenda

- Water Quality Criteria
  - Evolution of EPA's Nutrient Strategy
  - Petitions and Lawsuits
- NRDC Petition for Secondary Treatment Standards

# The Nutrient Problem

- Widespread impairment of waters due to nutrient loadings.
- Sources vary
  - Agriculture, stormwater, municipal wastewater, atmospheric deposition . . .
- Non-point sources are top contributors—and hardest to regulate

# Regulatory Tools

- NPDES permitting program
- TMDLs

→ Water Quality Standards drive both

→ Technology Based Standards inform effluent limitations in permits

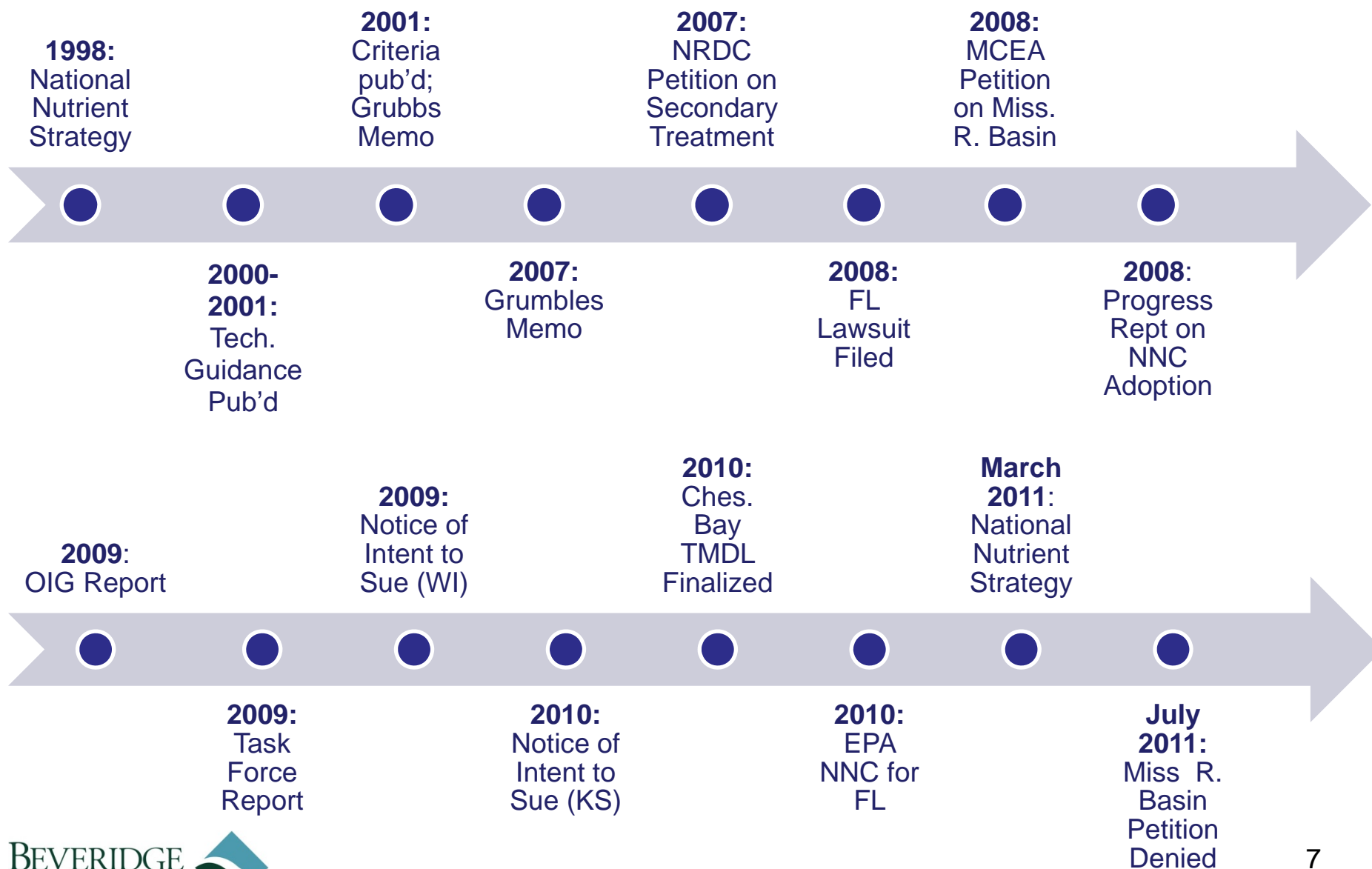
# Water Quality Standards

- Water Quality Standards (CWA § 303(c))
  - Designated use
  - Water quality criteria (numeric or narrative)
- States develop WQS (CWA § 303(c))
- EPA Role – CWA §§ 303(c) 304(a)
  - Develop and publish criteria guidance to assist states
  - Review/approve WQS developed by state
  - Promulgate standards where necessary
- Many states lack numeric nutrient criteria
  - No nutrient criteria
  - Narrative standards only
  - Numeric criteria for only certain waters / classes of waters

# Numeric Nutrient Criteria

- EPA Goal: Accelerate state adoption of numeric nutrient criteria
  - 4 Variables (N, P, Chl-a, Clarity)
  - 4 Waterbody-Types (Lakes and Reservoirs, Rivers and Streams, Estuaries and Coastal Waters, Wetlands)
- Purported benefits of numeric nutrient criteria
  - Expedite TMDL development
  - Simplify permit writing
  - Establish quantitative targets to support trading programs
  - Facilitate better evaluation of nutrient management programs

# Evolution of EPA Nutrient Strategy



# Evolution of EPA Nutrient Strategy

1998

## National Strategy for Nutrient Criteria

- National Strategy for the Development of Regional Nutrient Criteria (EPA 822-R-98-002 June 1998)

- EPA to develop nutrient criteria guidance
  - Regional, waterbody-specific
- States to adopt numeric nutrient water quality criteria
- State action by December 31, 2003
- EPA will promulgate numeric nutrient criteria if states lack progress

2000-  
2001

- EPA publishes technical guidance on numeric nutrient criteria development
  - Rivers, Lakes, Coastal Waters





# Evolution of EPA Nutrient Strategy

2001

## Nutrient Criteria Plans

- Nutrient Criteria Development; Notice of Ecoregional Nutrient Criteria, 66 Fed. Reg. 1671 (Jan. 9, 2001)
- G. Grubbs Memorandum (Nov. 14, 2001)
- Announces EPA nutrient criteria recommendations
- States to
  - Develop State Nutrient Criteria Plans by late 2001
  - Adopt numeric criteria by late 2004
- EPA will step in to create numeric nutrient criteria where states have not substantially completed adoption according to state's plan

# Evolution of EPA Nutrient Strategy

2007 -  
2008

## Updates & Progress Reports

- B. Grumbles Memorandum (May 25, 2007)

- Notes “uneven” progress on numeric nutrient criteria adoption
- Calls on states to accelerate efforts
- EPA commits to
  - Direct assistance to states close to adopting NNC
  - Capacity-building in states not close to adopting NNC
  - Scientific support for NNC development
  - Communicating data and information on nutrient pollution

No mention of EPA promulgation of criteria

# Evolution of EPA Nutrient Strategy

2007 -  
2008

## Updates & Progress Reports (cont'd)

- State Adoption of Numeric Nutrient Standards 1998-2008  
(EPA-821-F-08-007 Dec. 2008)

- Increase in number of states w/ numeric criteria for at least some specific waters (from 7 to 18)
- States with no numeric nutrient criteria:
  - 1998: **37**
  - 2008: **25**
- No states met EPA goal of numeric nutrient criteria for 4 parameters / 4 waterbody types in 2008

# Evolution of EPA Nutrient Strategy

2009

## Call to Accelerate Adoption of NNC

- EPA Office of Inspector General, EPA Needs to Accelerate Adoption of Numeric Nutrient Water Quality Standards (Aug. 26, 2009)

- Current EPA approach “holds little promise”; 1998 strategy “ineffective”
- Current approach does not assure that states will consider downstream waters
- Calls on EPA to identify priority states and waters and promulgate criteria
  - EPA disagreed with this set of recommendations

# Evolution of EPA Nutrient Strategy

2011

## National Nutrient Framework

- N. Stoner Memorandum (Mar. 16, 2011)
- EPA commits to partnering with states & stakeholders
  - EPA resources best used to catalyze/support state action
- Identifies “framework” to guide state reductions
  - Envisions Watershed-Scale Plan for addressing agriculture, other nutrient reductions alongside NNC development
- Numeric criteria “ultimately necessary,” but timetable is flexible provided state makes other progress on nutrient reductions

# Evolution of EPA Nutrient Strategy

2011

## **National Nutrient Framework (cont'd)**

### Recommended Elements of a State Nutrient Framework

1. Prioritize watersheds for nutrient reductions
2. Set watershed-based load reduction goals
3. Issue effective permits for municipal and industrial WWTF, CAFOs, stormwater sources
4. Address agricultural sources of nutrients
5. Address nutrients from non-MS4 stormwater and septic systems
6. Identify accountability and verification measures
7. Publicly report implementation activities and impacts
8. Develop work plan and schedule for NNC development

# Water-Quality Standards: Petitions and Lawsuits

- Lawsuits Resulting in Consent Orders
  - Florida (1998) (Criteria)
  - Chesapeake Bay (1998) (TMDL)
- Petition for Rulemaking
  - Mississippi River Basin (2008)
    - Denied July 29, 2011
- Notice of Intent to Sue
  - Wisconsin (2009)
  - Kansas (2010)



# NRDC Petition – Secondary Treatment

- Technology-Based Standards
  - Secondary treatment, as defined by EPA, required for POTWs (CWA § 301(b)(1)(B))
  - EPA publishes “from time to time” information on pollution reduction achievable via secondary treatment (CWA § 304(d))
    - Last published in 1985
    - Currently, secondary treatment regulations address TSS, BOD<sub>5</sub>, and pH.



# NRDC Petition – Secondary Treatment

- Petition for Rulemaking (2007)
  - Publish information on secondary treatment
  - Adopt technology-based limits for nitrogen and phosphorus as part of secondary treatment regulations
- No formal agency response

## Some Observations:

- Appears cooperative approach replacing federal promulgation “hammer” in nutrient strategy
- How national strategy is expressed “on the ground” varies
- POTW community faces uncertainty from regulatory and cost perspectives
- Ultimately, solution must do more than ratchet down limits for point sources → must deliver control over non-point sources
- Trend of attention on nutrient reduction / regulation will continue

# Thank You

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