

Recommended Elements of a State Nutrients Management Framework

Why a Framework Now?

Nitrogen and Phosphorus Pollution

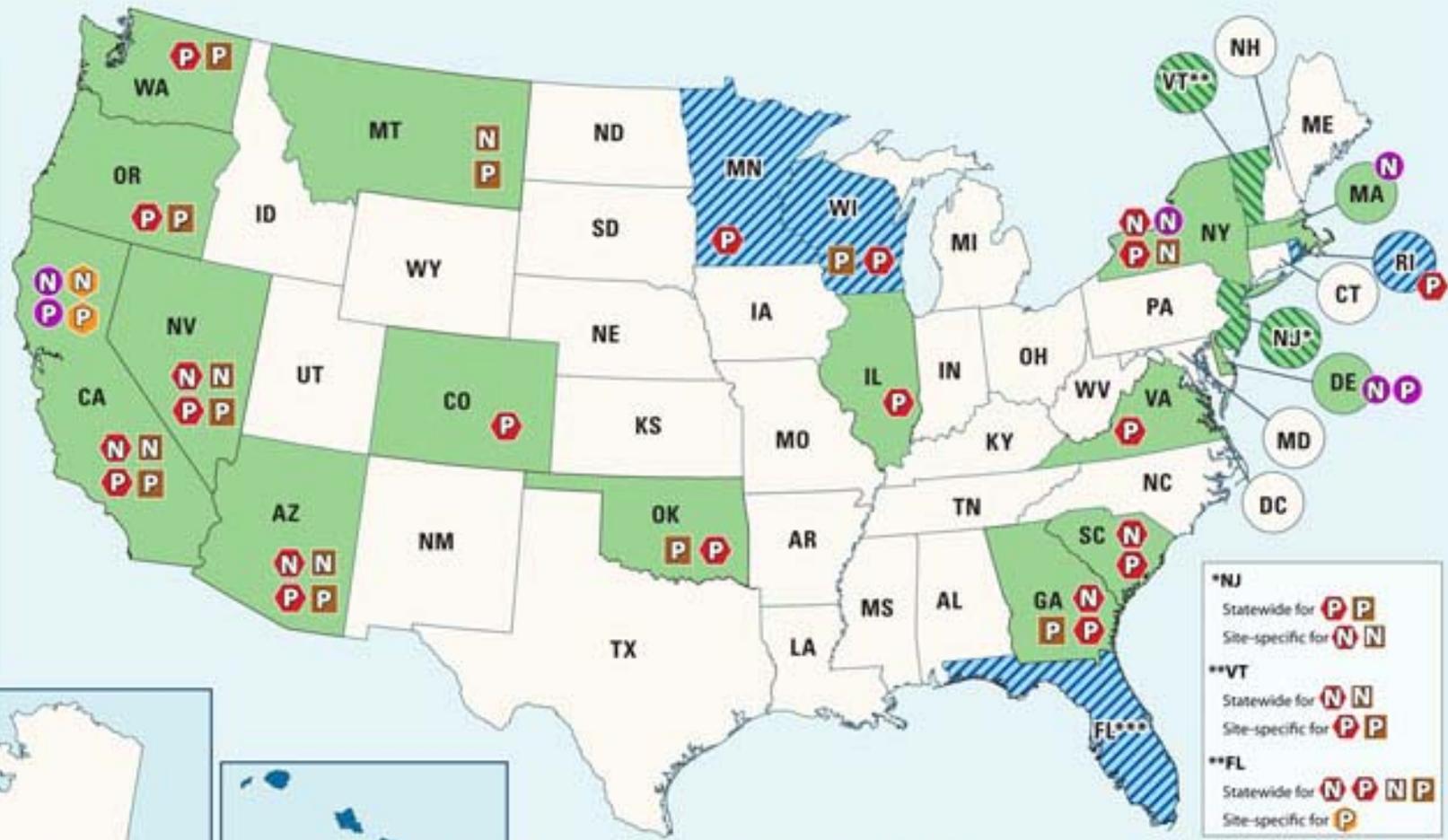
- Serious problem that is getting worse; potential to become one of the costliest and most challenging environmental problems
- Growing population = N and P pollution expected to grow from urban stormwater, municipal and industrial wastewater discharges, air dep., ag
- A few examples of this trend include:
 - 50% of U.S. streams have med to hi levels of N and P
 - 78% of assessed coastal waters exhibit eutrophication
 - Algal blooms are steadily on the rise; related toxins have potentially serious health and ecological effects
 - Nitrate drinking water violations have doubled in 8 years.
 - 2010 USGS report: nitrates exceed background conc. in 64% of shallow monitoring wells in ag and urban areas, and 7% of sampled wells exceed MCL for nitrates

Why a Framework Now?

- NITG Call to Action, Sept 2009:
“Although there is no single tool for achieving reduced nutrient loadings..., significantly more can be done by integrating and more fully utilizing existing tools; implementing new, innovative approaches to create common frameworks of accountability, both nonregulatory and regulatory; and expanding the application of existing general authorities while exploring the availability of additional authority.”
- Needed to support both public health and environmental stewardship and protection

Progress Toward Clean Water Act Adopted Numeric Nutrient Criteria

- Legend**
- Nutrient (N & P) criteria for all waters
 - Nutrient criteria for at least one type of waterbody
 - Both statewide and site-specific nutrient criteria
 - Some site-specific nutrient criteria
 - No nutrient criteria
 - N for rivers/streams
 - P for rivers/streams
 - N for lakes/reservoirs
 - P for lakes/reservoirs
 - N for wetlands
 - P for wetlands
 - N for estuaries
 - P for estuaries



- *NJ**
Statewide for
Site-specific for
- **VT**
Statewide for
Site-specific for
- **FL**
Statewide for
Site-specific for

American Samoa	Puerto Rico	
Guam	U.S. Virgin Islands	
Commonwealth of Northern Mariana		

Framework Development: Guiding Principles

- Results, results, results: build from existing state work but find a way to publically demonstrate results
- Encourage a collaborative approach between federal partners, states, and stakeholders
- Flexible approach for states to achieve near-term reductions in N and P pollution while they complete development of their numeric nutrient criteria
 - Since 1998, EPA has encouraged states to develop numeric nutrient criteria to gauge N and P pollution and develop and implement appropriate solutions
- Framework applies nationally; can be tailored to MARB states to address Hypoxia Task Force



What's New and Different?

- Focus on publically demonstrated results
- Expands on current partnerships, plans and implementation and supports development of new ones to achieve both significant near-term N & P reductions in priority areas
- Supports a clear urgency for near-term loading reductions, however that is best done most pragmatically and cost-effectively
- Fundamental goal of developing numeric WQS represents a longer term component that we must continue to address; without this we risk not being as successful as we need to be

Recommended Elements of a State Framework for Managing N and P Pollution

- Assessment and Prioritization
- Metrics, Measures, and Practices
- Accountability and Transparency
- Numeric Criteria

Assessment and Prioritization

- Prioritize watersheds on a statewide basis for nutrient loading reductions (1)
 - Estimate N & P loadings delivered to waters in all major watersheds across the state at HUC-8 scale or smaller
 - ID watersheds that individually or collectively account for a substantial portion of urban and/or ag
 - ID targeted/priority HUC 12 or similar watersheds for targeted N & P load reduction activities, reflecting an evaluation of receiving water problems, public and private drinking water supply impacts, nutrient loadings, opportunity to address high risk nutrient problems, or other related factors
- Set watershed load reduction goals based upon best available information (2)
 - Set numeric goals for loading reductions for each targeted/priority HUC12 that will collectively reduce the majority of N & P loads from ID'd HUC8

Metrics, Measures, and Practices

- Ensure effectiveness of point source permits in targeted/priority sub-watersheds (3)
 - Municipal and Industrial Wastewater Treatment Facilities
 - Concentrated Animal Feeding Operations (CAFOs) that discharge
 - Urban Stormwater
- Agricultural Areas (4)
 - Federal, non-WQ State Programs, and stakeholders implement conservation practices
 - Animal Feeding Operations (AFOs) State point source permits
- Stormwater Runoff and Septic Systems (5)
 - Use state, county and local government tools for developed communities not covered by the MS4 program, septic systems, LID/GI approaches, and/or limits on P use

Accountability and Transparency

- Accountability and Verification Measures (6)
 - Identify use of tools within targeted/priority sub-watersheds to assure reductions will occur
 - Verify that load reduction practices are in place
 - Assess/demonstrate progress in implementing and maintaining management activities and achieving load reductions goals
- Annual public reporting of implementation activities and biannual reporting of load reductions and environmental impacts associated with each management activity in targeted watersheds (7)
 - Establish process to annually report for each watershed
 - Share annual report publically on the state's website with request for comments and feedback for an adaptive management approach

Numeric Criteria

- Develop work plan and schedule for numeric criteria development (8)
 - Establish a work plan and phased schedule for N and P criteria development for classes of waters (lakes/reservoirs, rivers/streams, and estuaries).
 - Should contain interim milestones, e.g., data collection, data analysis, criteria proposal, and criteria adoption consistent with the CWA.
 - Reasonable timetable: Numeric N & P criteria for at least one class of waters within 3-5 years; completion of criteria in accordance with a robust, state-specific workplan and phased schedule.
 - Our previous guidance sought NNS on a faster timeline

Numeric Criteria (cont'd)

- Fundamental goal of the approach is for states to develop numeric WQS on a longer but reasonable schedule while making progress on reducing loads in the near term.
- Hope is that state success in reducing nutrient loads will provide some balance to a longer WQS development timeline for numeric standards and reduce external criticism.
- The better the State Framework, the easier it will be for all to use it to explain to all stakeholders the progress being made.
- Implementation of a strategy designed to meet the framework will allow EPA to support the state's schedule for adopting numeric nutrient criteria as they move forward on load reductions.
- Need to use the data, science and information we have to proceed—can always refine criteria if more info becomes available.
 - Need to use our programs flexibly to make room for strong, near-term progress

Potential Resources

- US EPA – run through the State Water Quality Agencies
 - Water Quality Management Planning – Section 604(b)
 - Water Pollution Control Program Grants – Section 106
 - Nonpoint Source Implementation Grants – Section 319
 - State Revolving Fund Program
 - HQ to try very hard to make a small amount of contractor assistance available for serious states to help with individual pieces of the framework.
- USDA Farm Bill Conservation Programs
 - CIG, EQIP, CRP, CCPI, WREP...
- USGS (Cooperative Water Program via state)
- NOAA (Coastal Zone Management Act)
- Department of the Army (USACE: 1135, 204, 206)