EPA UPDATES NONPOINT SOURCE PROGRAM, AGRICULTURE, AND SUCCESSFUL WATER QUALITY PARTNERSHIPS

Presentation by U.S. EPA, Nonpoint Source Management Branch
North American (ICCA) Board Meeting
September 16, 2020
Presentation Outline

- EPA’s CCA nonpoint source liaison
- Nonpoint Source
- Clean Water Act Section 319 Program Overview and Watershed Planning
- Office of Water Priorities
  - Nutrients
  - Water Reuse
- Nonpoint Source Program Agriculture Focus Areas
  - Hypoxia Taskforce
  - Natural Hazard Mitigation
  - National Water Quality Initiative
- EPA Fertilizer Challenge Update
- CCA-EPA Engagement Opportunities
EPA’s Nonpoint Source CCA Liaison

Joseph Ziobro
Biologist
U.S. EPA
Office of Water
Office of Wetlands, Oceans, and Watersheds
Nonpoint Source Management Branch
Washington, D.C.
Ziobro.joseph@epa.gov
206-553-2723
What is a Nonpoint Source?

Point Sources:
- Defined by the CWA as conveyances that discharge: pipe, ditch, channel, conduit, well, container, rolling stock, concentrated animal feeding operations (CAFOs), etc. (NPDES)

Nonpoint Sources:
- Not specifically defined under the CWA—anything that is not regulated as a point source
- Diffuse sources
- Includes: agriculture stormwater discharge and irrigation return flows

- NPS pollution can result from land runoff, precipitation, atmospheric deposition, drainage, seepage, and hydrologic modification
- Can include herbicides, insecticides, sediment, salt, bacteria, and nutrients (nitrogen and phosphorus)
Nonpoint Source Pollution Dominates Impaired Waters
Rivers and Streams

Of waters that have been assessed and a possible source identified, 85% of rivers and streams are impaired by nonpoint sources.

<table>
<thead>
<tr>
<th>Probable Source Group</th>
<th>Miles Threatened or Impaired</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>144,971</td>
</tr>
<tr>
<td>Agriculture</td>
<td>135,855</td>
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<tr>
<td>Hydromodification</td>
<td>88,634</td>
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<tr>
<td>Atmospheric Deposition</td>
<td>85,922</td>
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<tr>
<td>Habitat Alterations (Not Directly Related To Hydromodification)</td>
<td>65,633</td>
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<tr>
<td>Unspecified Nonpoint Source</td>
<td>60,807</td>
</tr>
<tr>
<td>Municipal Discharges/Sewage</td>
<td>57,237</td>
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<tr>
<td>Natural/Wildlife</td>
<td>50,702</td>
</tr>
<tr>
<td>Urban-Related Runoff/Stormwater</td>
<td>49,330</td>
</tr>
<tr>
<td>Silviculture (Forestry)</td>
<td>40,942</td>
</tr>
</tbody>
</table>

*NPS shaded in blue

Source: Draft CWA 305(b) National Water Quality Inventory

Disclaimer: Impairment information as of October, 2017. Because data are being migrated to the new ATTAINS system, these numbers may not reflect most current information.
Nonpoint Source Pollution Dominates Impaired Waters
Lakes, Ponds and Reservoirs

<table>
<thead>
<tr>
<th>Probable Source Group</th>
<th>Acres Threatened or Impaired</th>
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</thead>
<tbody>
<tr>
<td>Atmospheric Deposition</td>
<td>4,215,980</td>
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<tr>
<td>Unknown</td>
<td>3,849,855</td>
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<tr>
<td>Agriculture</td>
<td>1,112,048</td>
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<td>Natural/Wildlife</td>
<td>1,083,193</td>
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<tr>
<td>Unspecified Nonpoint Source</td>
<td>1,070,339</td>
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<tr>
<td>Other</td>
<td>834,283</td>
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<tr>
<td>Urban-Related Runoff/Stormwater</td>
<td>759,483</td>
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<td>Legacy/Historical Pollutants</td>
<td>749,611</td>
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<tr>
<td>Municipal Discharges/Sewage</td>
<td>686,322</td>
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<tr>
<td>Hydromodification</td>
<td>569,138</td>
</tr>
</tbody>
</table>

Of waters that have been assessed and a possible source identified, 80% of lakes and reservoirs are impaired by nonpoint sources

*NPS shaded in blue

Source: Draft CWA 305(b) National Water Quality Inventory

Disclaimer: Impairment information as of October, 2017. Because data are being migrated to the new ATTAINS system, these numbers may not reflect most current information.
Clean Water Act (CWA) § 319 Program

- Established in 1987 CWA amendments
  - 319(b) - State Management Programs (NPS management Programs)
  - 319(h)- Grant Program
- States, territories and tribes receive grant money that supports technical & financial assistance, education, training, technology transfer, demonstration projects, and monitoring
- The CWA § 319 grant program continues to be EPA’s 1st line of defense against NPS pollution
  - 70% of 319 projects address nutrient parameters
  - 10% address sediments or pathogens
§319 Program Influences State Programs and Powers Local Watershed Projects

Funds are distributed to states annually based on allocation formula
  • FY19: $165.4M distributed to states (Tribes $8M); ~ $1M to ~ $8.3M per state
  • 40% non-federal match required

Guidelines - Use of funds requires:
  • Watershed project: minimum of 50% of funds allocated must support on-the-ground projects
  • NPS program work
The Importance of Watershed Planning

• §319 watershed projects must be guided by watershed-based plans
• Plans provide the technical basis for on-the-ground projects with consideration of:
  • Relative contributions of pollutants from various sources
  • Critical source areas where intervention can “move the needle”
  • Available/appropriate best management practices (BMPs)
• Plans also provide a roadmap for engagement with landowners and other stakeholders critical to project success
NPS Loads in a Watershed Vary Widely and *Must be Targeted* to Achieve Water Quality results

- A watershed plan considers all sources and prioritizes the most important control actions
- **Critical source areas** (red) contribute the most pollution and must be treated to improve water quality
- Plans can also target priority areas for **protection** (green) to maintain relatively good water quality
- Any watershed plan or critical source area could require few to many individual projects or landowner actions to meet the pollution control need
Office of Water Priorities: Nutrients

- NPS nutrients remain a key challenge in the U.S.
- Addressing nutrient pollution is a top priority for EPA
- Partnerships are critical
  - Working with all source sectors (point and nonpoint), including the agricultural community, is key to water quality improvements
- CCAs are the doers, providing on-the-ground technical assistance
  - Advanced 4R nutrient management certification can help!
Recent EPA Nutrient-Focused Activities

- EPA and USDA sent a joint letter to state agricultural and environmental directors inviting engagement on market-based and collaborative approaches to reducing excess nutrients.
- EPA issued a new water quality trading policy memorandum:
  - EPA issued an action seeking public comment on policy options related to one of the six principles in water quality trading policy memorandum - flexibility in implementing baseline concepts.
- EPA issued new, draft ambient water quality criteria recommendations for nutrients in lakes and reservoirs—the first update in almost 20 years; and
- EPA announced awarding more than $7.5 million in Farmer to Farmer Cooperative Agreements to fund projects that improve water quality, habitat and environmental education in the Gulf of Mexico watershed. These grants promote innovative, market-based solutions for monitoring and improving water quality, while also maintaining a vital agricultural economy.
  - Since 2017, EPA has awarded ≈$9.5 million in Farmer to Farmer grants.
  - Request for applications currently open and closes October 16th, 2020.
Water Reuse

• On February 27, 2020, EPA Administrator Andrew Wheeler and other federal, state, and local water leaders announced the release of the National Water Reuse Action Plan: Collaborative Implementation (Version 1)

• Makes the business case for water reuse in five primary sectors (agriculture, industry, municipal wastewater, stormwater, and oil & gas produced water)

• Policy coordination with USDA under the Plan
  • Leverage Existing U.S. Department of Agriculture Programs to Encourage Consideration and Integration of Agricultural Water Reuse (Action 2.2.12)
  • Foster U.S. Department of Agriculture Watershed-Scale Pilot Projects to Share Water Information to Support Water Reuse Actions (Action 2.5.1)
  • Compile and Promote Existing U.S. Department of Agriculture Funding and Resources for Rural Communities (Action 2.6.4)
Mississippi River/Gulf of Mexico Hypoxia Task Force (HTF)

- Established 1997 to:
  - understand the causes and effects of eutrophication in the Gulf of Mexico;
  - coordinate activities to reduce the size, severity, and duration; and
  - ameliorate the effects of hypoxia

- Activities include:
  - coordinating and supporting nutrient management activities from all sources;
  - restoring habitats to trap and assimilate nutrients; and
  - supporting other hypoxia related activities in the Mississippi River and Gulf of Mexico watersheds

- Recent highlights:
  - EPA announced $1.2 million to be made available to 12 Hypoxia Task Force states to help implement state plans to reduce excess nutrients in the Mississippi River/Atchafalaya River Basin.
  - Co-hosted a public meeting of the Gulf of Mexico Hypoxia Task Force in Washington, D.C.;
  - EPA and the Iowa Department of Agriculture and Land Stewardship renewed an MOU with the land grant universities in HTF states to expand support for developing new conservation tools and practices, validate the effectiveness of currently recommended practices, improve the coordination and delivery of conservation education, and increase the effectiveness of nutrient management strategies.
  - Awarded more than $1.8 million in Great Lakes Restoration Initiative (GLRI) grants to five organizations that will use market-based approaches to enhance nonpoint source excess nutrient reduction efforts in the Great Lakes basin;
  - Announced additional funding for the 12 state members of the Hypoxia Task Force to help implement state plans to reduce excess nutrients that flow into the Gulf of Mexico.

- Virtual public meeting on Thursday, October 1, 2020, 10am - 3pm EDT.
HTF (cont.)

5 Federal Agencies and Tribes:
- US Army Corps of Engineers
- US Environmental Protection Agency
- US Department of Agriculture
- US Geological Survey
- National Oceanic and Atmospheric Administration
- National Tribal Water Council

12 State Agencies:
- Arkansas
- Missouri
- Iowa
- Tennessee
- Minnesota
- Indiana
- Ohio
- Louisiana
- Illinois
- Mississippi
- Kentucky
- Wisconsin

Each state is represented by one of:
Agriculture agency, Environmental Quality agency, or Natural Resources agency
Natural Hazard Mitigation

- Federal Emergency Management Agency (FEMA) policies and grants now put more emphasis on pre-disaster mitigation, resilience.
- States can leverage resources by integrating water quality projects that also reduce risks from natural hazards into Hazard Mitigation Plans (HMPs).
- NPS pollution is exacerbated by many natural hazards:
  - Flooding - scour/sediment, increased pollutant contact and loads
  - Landslides, wildfire - erosion, scour, sediment, ash, etc. in receiving waters
- Nature-based infrastructure can help reduce impact of storms.
- Agriculture conservation practices can reduce the risk of multiple natural hazards (e.g. flood, dust, drought) and improve water quality.
- While ag benefits may not meet FEMA grant criteria, including in HMPs creates opportunities for other funds.
The “Soil-Health to Natural Hazards” Link

There is a connection between agricultural conservation and soil health practices in hazard mitigation:

- **2018 Farm Bill** 10% set aside for Source Water Protection through agricultural conservation practices – reducing drinking water threats

- **USDA NRCS** “Healthy Soil is Water in the Bank” speaks to how soil organic matter improves water retention, mitigates drought.
EPA and the NWQI

National Water Quality Initiative (NWQI)

• A partnership between USDA NRCS, EPA, and state water quality/nonpoint source programs (since 2012)

• Goal: to accelerate the adoption of water quality focused conservation practices in high priority watersheds

• Leverages CWA Section 319 funding and USDA Environmental Quality Incentive Program (EQIP) $ to maximize impacts in priority watersheds

• Instream monitoring by states has shown WQ improvements for nutrients, sediments, and/or pathogens in ≈25% of the ≈ 60 NWQI monitoring watersheds
• In FY20, NRCS will have 186 watersheds receiving financial assistance, and 36 priority areas (110 watersheds total) that will be developing watershed assessments and outreach strategies.

• Between FY20 and FY21 the number of watersheds grew more than 50% from 248 to 379.
  • Expansion is supported by new NRCS policies that all state NRCS offices participate in NWQI and select a minimum of three HUC-12 watersheds.
  • Expanded level of engagement and opportunity for agricultural water quality restoration.

• Starting in FY18 NWQI added a source water protection component.
  • For FY21 there are 23 NWQI source water protection projects.
Next Gen Fertilizer Challenges

• 2 open prize competitions launched by EPA in collaboration with:
  • USDA
  • The Fertilizer Institute
  • The Nature Conservancy
  • The National Corn Growers Association

• Prize #1:
  • Identify existing EEFs currently on or near-market that meet or exceed certain environmental and agro-economic criteria
  • Opened Aug. 26, 2020; closes Oct. 30, 2020

• Prize #2:
  • Identify concepts for novel technologies for fertilizers and other product technology innovations that can reduce the environmental effects from modern agriculture while maintaining or increasing crop yields
  • Opened Aug. 26, 2020; closes Nov. 30, 2020
• CCA Board members can participate in water quality partnerships at the state and local levels
• Information exchange between EPA, State water quality agencies, and CCAs
• Technical exchange on agricultural topics (e.g., webinars)
• Engagement opportunities to explore:
  • Watershed planning and implementation
  • Collaborating on high impact water quality conservation practices
  • Understand and collaborate in priority areas
  • Know your state’s Nonpoint Source Management Program priorities and milestones
  • Know your state’s 319 RFP processes and timing where applicable
  • Other ideas unique to local boards/regions?
Questions and Discussion