

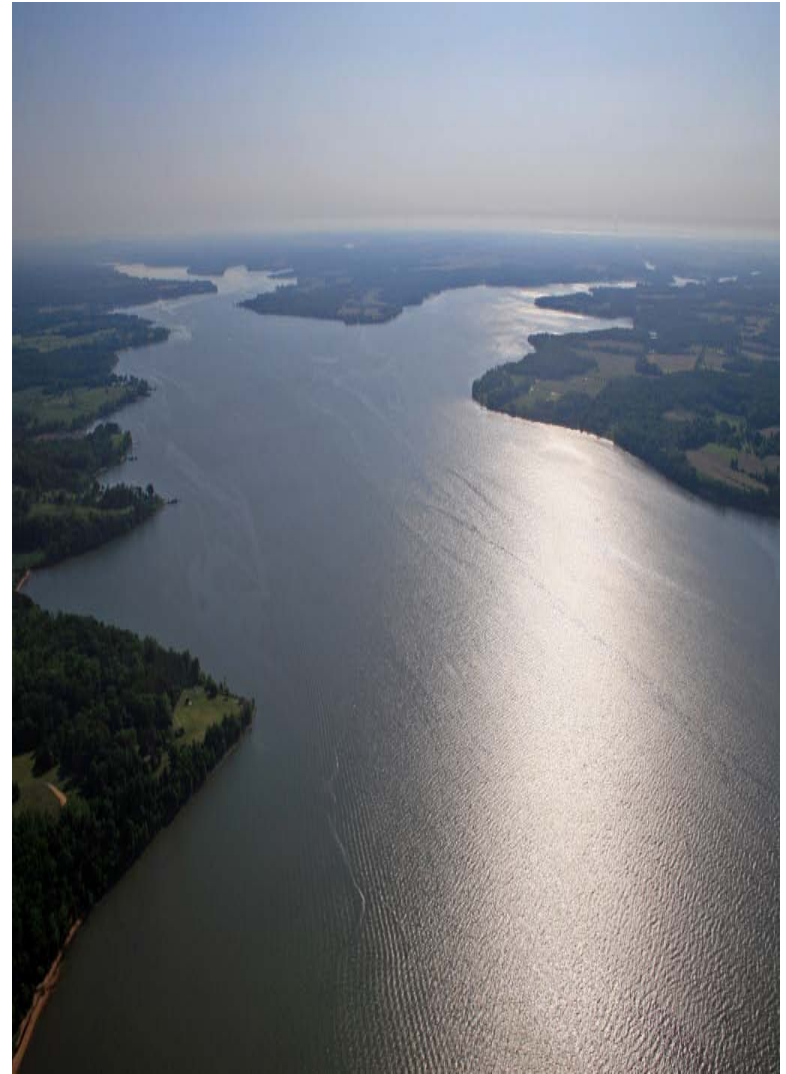
Nutrients and the Chesapeake Bay:

What Could This Mean For Iowa?



Chesapeake Bay: Facts

- Largest estuary in the US
- Watershed spans 64,000 square miles, 6 states and the District of Columbia
- Home to 17 million people
- Economic value estimated at \$1 trillion



Chesapeake Bay: Why care?



- Ecological decline due to myriad sources
- Nutrient pollution is largest problem – fuels algae blooms leading to the dead zone
- Historic low abundances of oysters, crabs and shad
- Contributors: **EVERYONE**
 - Urban and suburban development, wastewater treatment plants, agriculture, air deposition, over-harvesting of fish and shellfish

Timeline: How did we get here?

- 1983: formation of the Chesapeake Bay Program, a unique watershed partnership for Bay restoration.
- 2000: States agreed to achieve water quality goals established by EPA voluntarily to avoid federal regulatory intervention – deadline 2010
- 2010: A lot of progress, but only about half way to nutrient and sediment reduction goals
- Most progress so far: Wastewater treatment plants, other point sources.
- Greatest challenges for the future: Runoff/leaching from nonpoint sources – urban/suburban and ag.

TMDL – What Does It Mean?


- 2010: EPA began process of establishing a cleanup plan for the Chesapeake Bay – the Total Maximum Daily Load (TMDL).
- Goal of TMDL: Cap the amount of nutrients and sediments entering the Bay to the amount it can tolerate and remain healthy.



Bay TMDL: What Is Different?

- More than a plan – consequences if fall behind
- EPA setting the rules:
 - State plans lay out how achieve reductions from each sector, in each sub-watershed –
 - Two year milestones
 - New deadline: 2025 – less time to achieve larger reductions
- Consequences: EPA will take action against states that fail to meet their goals – tighten screws on regulated entities

What Have We Learned?

- Current heavy reliance on limited set of traditional conservation practices not getting the job done
 - Need much more effective focus on efficiency and cost-effectiveness
 - Need innovation
 - Need much better metrics, systems for assessing, documenting what is being done and the impacts
 - Need a true adaptive management system for the whole process – assess, evaluate, adapt, improve
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What Does This Mean For Iowa?

- Not sure yet -- Will this work? Will EPA's slate of consequences drive real change?
- But a few things are clear:
 - Need better ways measure, evaluate, document
 - Inadequate information, documentation is a REAL handicap, at the farm and watershed scales
 - Far less room for flexibility once EPA steps in – even though EPA is trying very hard to be flexible
 - Consequences – not a pretty picture. EPA's consequences are hammers, not adapted to fine tuning

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