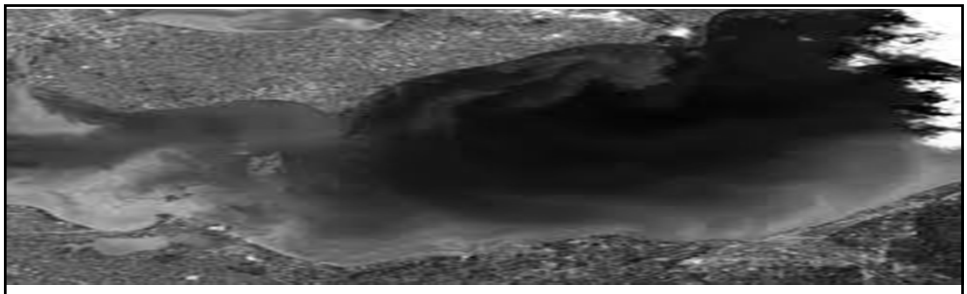


Harmful Algal Blooms and Agricultural Nutrients: State Responses to a Growing Issue

Peggy Kirk Hall, The Ohio State University

A Project of the Agricultural & Food Law Consortium

Discussion Points

- State-based efforts to address agricultural nutrient management.
- Data on water quality improvements related to reduction efforts.
- Implications for agricultural producers.

Federal-State Nutrient Pollution Reduction Policy

An Urgent Call to Action: Report of the State-EPA Nutrients Innovations Task Group, August 2009.

- Nutrient-related pollution significantly impacts drinking water supplies, aquatic life, and recreational water quality.
- Current livestock agricultural practices are one of the largest sources of nutrient pollution to our nation's waters.
- Nutrient pollution from row crop agricultural operations, a by-product of excess manure and chemical fertilizer application, is the source of many local and downstream adverse nutrient-related impacts.

Working in Partnership with States to Address Phosphorus and Nitrogen Pollution through Use of a Framework for State Nutrient Reductions, U.S. EPA, March 2011

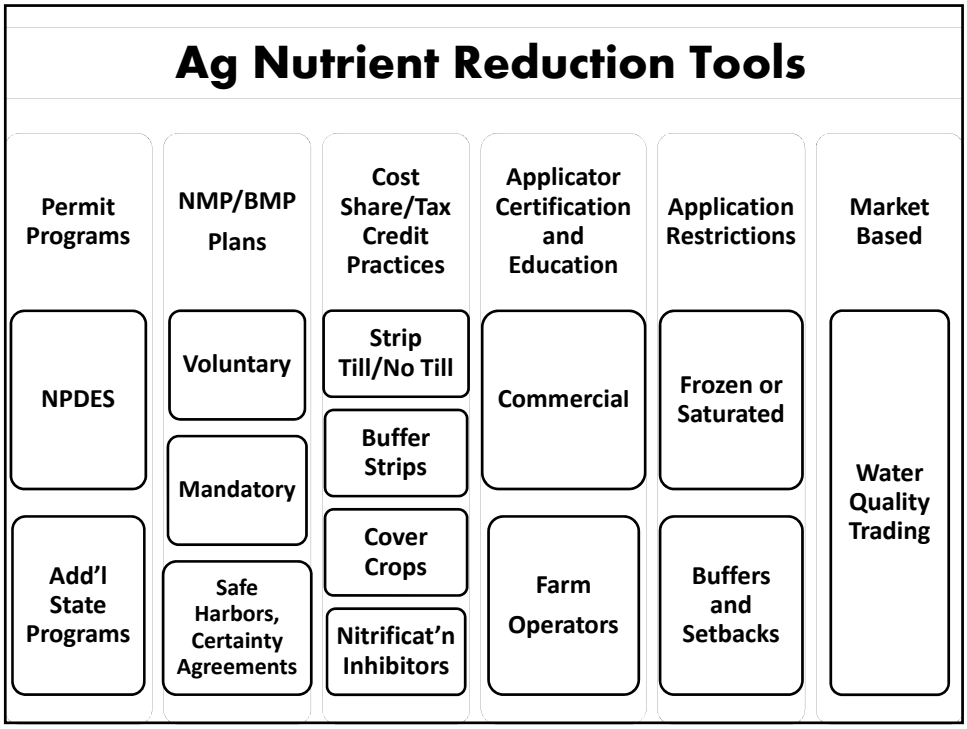
- States, EPA and stakeholders, working in partnership, must make greater progress in accelerating the reduction of nitrogen and phosphorus loadings to our nation's waters.
- States need room to innovate and respond to local water quality needs, so a one-size-fits all solution to nitrogen and phosphorus pollution is neither desirable nor necessary.
- Recommended Elements of a Framework for States:
  - 4. Agricultural areas. In partnership with Federal and State agricultural partners, NGOs, private sector partners, landowners, and other stakeholders, develop watershed-scale plans that target the most effective practices where they are needed most. Look for opportunities to include innovative approaches, such as targeted stewardship incentives, certainty agreements, and N & P markets, to accelerate adoption of agricultural conservation practices. Also, incorporate lessons learned from other successful agricultural initiatives in other parts of he country.

Renewed Call to Action to Reduce Nutrient Pollution and Support for Incremental Actions to Protect Water Quality and Public Health, U.S. EPA, Sept. 2016

- Nutrient pollution remains one of the greatest challenges to our Nation's water quality and presents a growing threat to public health and local economies -.
- Agriculture is an important contributor to nutrient pollution in many watersheds and can and should play a key role in addressing this challenge, through the implementation of cost-effective best management and soil conservation practices.
- Support for development of numeric criteria for nutrient pollution numeric translators that can be used in the near term to implement state narrative nutrient criteria.

State Nutrient Reduction Strategies

- Identification of priority watersheds
- Numeric water quality standards
- Coordination with task forces, working groups, partnerships
- Outreach and education
- Cost-share incentives



Ohio: Certification and Restrictions

- Fertilizer certification requirements if applying fertilizer or manure on +50 acres of land for agricultural production.
  - Grace period for compliance.
- Restrictions on manure and fertilizer applications in Western Lake Erie basin.
  - Frozen or saturated soils.
  - Unless nutrient is incorporated, injected or applied on growing crop.

Minnesota: Buffers

- Perennial rooted vegetative buffer required for lands adjacent to waters identified in buffer protection zone map.
  - 16.5 to 50 feet, depending upon type of water.
- Farmers may use alternate practices to substitute for buffer requirement.
- Complaint and enforcement process with penalties for non-compliance.
- Cost sharing available.

Massachusetts: NMP and Application Restrictions

- Must have NMP and apply nutrients according to UMass guidelines for agronomic rates based on soil fertility levels, crop need and availability of nutrients from plant materials.
- May not apply plant nutrients directly to surface water, saturated ground, frequently flooded or frozen or snow-covered soils.
- Application setbacks from surface waters.
- Penalties for non-compliance.

Maryland: NMP, Restrictions, BMP Incentives

Agricultural Nutrient Management Program

- Nutrient Management Plan requirements, certification and licensing of planners and farmers, transportation and application requirements, on-farm audits, non-compliance penalties.
- Applies to farmers grossing +$2500 a year or livestock producers with +8,000 lbs. live animal weight.

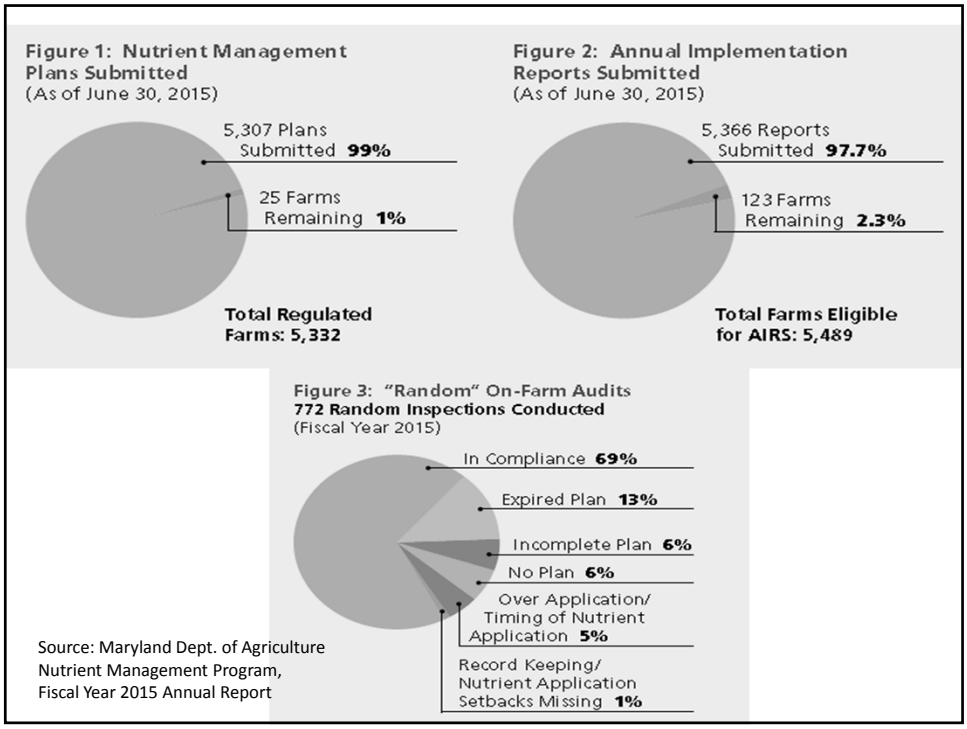
Phosphorus Management Tool Regulations

- Farms with high soil phosphorous levels required to use the tool to identify at-risk fields and implement management practices
- Phosphorous management requirements to phase in by 2022, based on risk.

Maryland: NMP, Restrictions, BMP Incentives

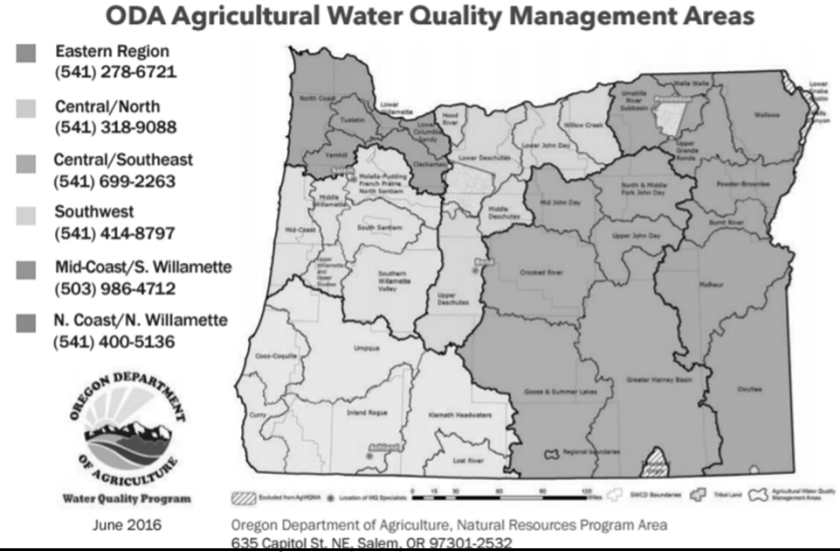
Agricultural Certainty Program

- Farmers receive a 10-year exemption from new environmental laws and regulations in return for installing best management practices to meet local or Chesapeake Bay Total Daily Maximum Load (TMDL) goals ahead of schedule.



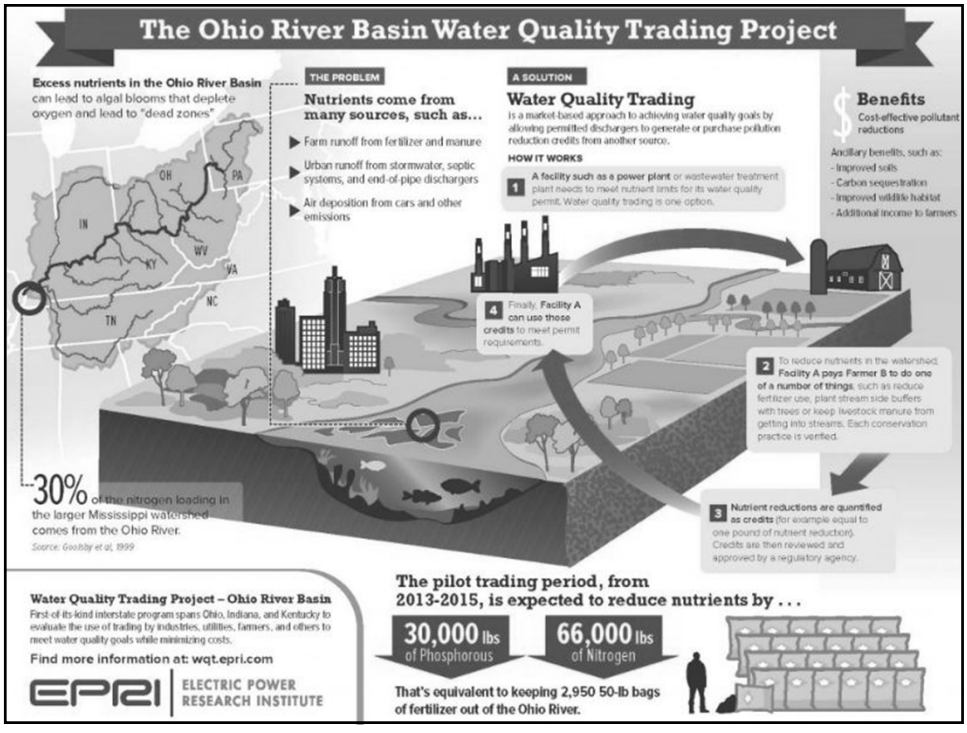
Source: Maryland Dept. of Agriculture Nutrient Management Program, Fiscal Year 2015 Annual Report

Oregon: Agricultural Water Quality Management Areas



Oregon Water Quality Trading Program

- Legislation allows entities regulated under the Clean Water Act to meet pollution control requirements through water quality trading.
- Oregon Department of Environmental Quality may approve water quality trading that:
  - Achieves pollutant reductions and progress towards meeting water quality standards;
  - Reduces the cost of implementing Total Maximum Daily Loads (TMDLs);
  - Establishes incentives for voluntary pollutant reductions from point and nonpoint sources within a watershed;
  - Offsets new or increased discharges resulting from growth;
  - Secures long-term improvement in water quality; or
  - Results in demonstrable benefits to water quality or designated uses the water quality standards are intended to protect.



The Role of Non-governmental Activities and Partnerships

Nutrient Reduction Data

- USDA/USGS, June 2016: Upper Mississippi voluntary conservation practices:
  - Nitrogen reductions of 5—34%
  - Phosphorous reductions of 1—10%
- USDA, March 2016, Western Lake Erie conservation practices
  - Nitrogen reductions of 36%
  - Phosphorous reductions of 75%
- USDA, Chesapeake Bay, 2013 Farm Bill practices
  - Nitrogen reductions of 26%
  - Phosphorous reductions of 46%
- Edge-of-field studies

Implications for Agricultural Producers

- High need for monitoring and impact data.
  - Monitoring and impact costs.
- NMPs and BMPs are becoming routine.
  - Increased incentives
  - Enforceability issues
  - What is the role of litigation?
- Some movement toward mandatory requirements for nutrient management.
- Few “comprehensive programs” at this point = fragmented landscape.

Implications for Agricultural Producers

- Who pays?
  - Funding is somewhat strong now…
  - Future of continued funding?
- Needed integration with other ways to reduce, such as increasing use efficiencies.
- Farm management issues with new practices.
  - For example, who manages cover crops and buffers?
- Continuing litigation pressures may impact approaches.

Project Results

Will be available on:

- National Agricultural Law Center website, http://nationalaglawcenter.org
- OSU Agricultural & Resource Law website, http://aglaw.osu.edu