Tennessee Nutrient Reduction Strategy

Key Takeaways

- The Tennessee Department of Environment and Conservation released a strategy in 2015 for reducing nitrogen and phosphorus into streams and lakes.
- EPA is pushing states to develop strategies in an effort to reduce the hypoxic zone in the Gulf of Mexico.
- Agriculture will use voluntary best management practices for reducing nutrient loads.
- If Tennessee and/or other states do not reach the targeted reductions there is a high probability either through litigation by environmental groups or regulatory decisions that EPA could develop a Total Maximum Daily Load (TMDL) allocation for the entire Mississippi River watershed with numeric criteria for nutrients.

Questions

1. Do you believe farmers are aware of the nationwide focus on reducing nutrients?
2. Do farmers in your area use best management practices to reduce nutrient runoff?
3. What steps should the agricultural community take to collect field level data on nutrient runoff?
4. How could the state fund a program to determine nutrient baseline data in agriculture?

Background

EPA is placing more emphasis on nutrient reduction throughout all watersheds in the US. The Chesapeake Bay watershed has been targeted by the agency and as a result several restrictions have been federally imposed on farmers, industry, and wastewater treatment plants throughout the watershed. The same concepts used in the Chesapeake Bay watershed are being considered in the Mississippi River watershed in order to address hypoxia in the Gulf of Mexico.

A nutrient reduction strategy for the state is inevitable given the nationwide focus on the Gulf of Mexico hypoxia.

There are 3,971 river miles and 22,872 acres of lakes/reservoirs impaired by nutrients in Tennessee. Based on models, the US Geological Survey (USGS) estimates that 5.5% of the total nitrogen flux and 5.3% of the total phosphorus flux that flows into the Gulf of Mexico comes from sources in Tennessee. Many of the states in the Mississippi River watershed are developing nutrient reduction frameworks to reach federal goals of nutrient reduction throughout the entire watershed. Tennessee's draft strategy addresses nutrient reduction by focusing on point sources and agricultural non-point sources separately. **The strategy for agriculture relies on voluntary, economic, and science-based incentives that will enable farmers to reduce nutrient run-off as they make production decisions.**

A nutrient reduction strategy for the state is inevitable given the nationwide focus on the Gulf of Mexico hypoxia. However, agriculture as a whole has very little data and research to more accurately determine just how much agriculture contributes to nutrient run-off. The USGS model used to determine nutrient runoff is called Spatially Referenced Regression On Watershed or also known as SPARROW. The SPARROW model works best on a large watershed scale and uses data that is most recently from 2001. However, steps have been taken over the last few years to update modeling data to reflect Tennessee specific nutrient amounts.

Many changes have taken place in agriculture both through precision application and agronomic uptake. Agriculture needs data to prove more accurately how much is leaving fields and more importantly how much over time is agriculture helping to meet the reduction goals. **If agriculture cannot measure a success in voluntarily reducing nutrient goals, then a regulatory approach may be used in the future to mandate nutrient reductions.**

In 2019, the Tennessee Department of Environment and Conservation established the Tennessee Nutrient Reduction Task Force. This task force is comprised of representatives from academia, state and local agencies, wastewater treatment plant operators, the private sector, and non-governmental organizations. Tennessee Farm Bureau, Tennessee Soybean Association, Tennessee Corn Growers, Department of Agriculture, and University of Tennessee Extension are also involved in the task force. **The task force developed working groups to focus on the following priorities:**

- Prioritize watersheds
- Set watershed nutrient load reduction goals
- Ensure effectiveness of point source permits
- Develop implementable watershed plans that maximize the effectiveness of BMPs
- Encourage nutrient reductions from urban runoff
- Establish watershed-based monitoring programs to evaluate effectiveness
- Document and report implementation activities

If agriculture cannot measure a success in voluntarily reducing nutrient goals, then a regulatory approach may be used in the future to mandate nutrient reductions.

Policy

Water (partial)

We applaud Tennessee's farmers for the steps they have taken to improve the quality of our water resources, such as applying nutrients according to soil fertilization test recommendations. We encourage each farmer to do as much as can be reasonably done to reduce any negative impacts farming operations might have on our water resources. The percentage of the Recordation Tax dedicated to the Agricultural Resources Conservation Fund should be doubled without increasing the total tax.

We support research and implementation of soil health initiatives that now allow farmers to protect water quality by strengthening soil biology. Healthy soils regulate water absorption, filter potential pollutants, cycle nutrients, and provide physical stability and support for plants. An emphasis on soil health can reduce erosion, increase yields, and reduce input costs. Plant nutrient run-off has historically been considered nonpoint source pollution. Regulatory agencies and environmental groups are now placing emphasis on nutrient loadings in water from nitrogen and phosphorus run-off. Every commodity produced in Tennessee would suffer financially under restrictions on the use and management of plant nutrients. Tennessee producers are vulnerable because very little scientific data exists regarding what levels cause stream impairment, agriculture's contribution to nutrient loadings, and what methods are available to reduce nutrient run-off. We oppose numeric nutrient standards in Tennessee's water quality criteria. We oppose agricultural nutrients being considered point sources of pollution. We believe the University of Tennessee, Tennessee Department of Agriculture, USDA NRCS and other stakeholders should work to establish recent and reliable data concerning nutrient run-off and realistic effects on water quality.