Tennessee Nutrient Reduction Strategy

Issue

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. The strategy aims to reduce by 40% the amount of nutrients washing into streams and lakes. Agriculture will use voluntary best management practices for reducing nutrient loads. However, what if Tennessee and/or other states do not reach the targeted reductions? It is considered highly probable EPA could develop a Total Maximum Daily Load (TMDL) allocation for the entire Mississippi River watershed just like the agency did in the Chesapeake Bay watershed states. The American Farm Bureau filed a lawsuit challenging federal authority to establish a TMDL. This case was denied by the U.S. Supreme Court earlier this year validating lower court rulings supporting federal authority. Examples of restrictions farmers face in the Chesapeake Bay watershed are requirements to follow a nutrient management plan before applying fertilizer. Plans must be prepared by a state certified specialist. Also, farmers must file annual implementation plans with the state and attend mandatory nutrient applicator courses.

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 waste water 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.

Tennessee's 2012 303(d) list identifies approximately 3,375 river miles of stream and 15,692 acres of lake in Tennessee impaired due to nutrients. 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. The departments of agriculture and environment

and conservation along with the University of Tennessee began developing a draft nutrient reduction strategy for agriculture in 2011 and has begun the process of organizing stakeholder involvement.

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. 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 40% 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.

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?

Farm Bureau Policy:

Water (partial)

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.

Public policies concerning the protection and management of water can and should be based on the best data obtainable. New technologies such as microbial source tracking are proving wildlife, human activity and domestic pets are the major contributors to water pollution in watersheds once thought impaired by agriculture. We support the funding of more studies such as the Beaver Creek Project conducted in Fayette, Haywood, Tipton and Shelby counties.

Farm Bureau encourages the Tennessee Division of Water Resources to undertake a timely and thorough water quality inventory on all navigable waters and reservoirs in the State. This study should be carried out by a nonbiased, scientifically qualified organization of highest reputation such as the USGS or National Academy of Sciences. Money provided by Section 319 of the Clean Water Act should be used on a highest priority basis for this purpose, if available.