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Agricultural Water Quality and Quantity: Issues for the 21st Century

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Foreword

Over the past 15 years, agriculture has come under expanded environmental demands from society. Many of the more recent regulatory proposals directly involve land use initiatives that could limit landowner/farmer investment-backed expectation and ultimately reduce profitability. This increased agriculture-environmental quality focus began with a strong regulatory policy limiting the conversion and use of wetlands for agricultural production in the 1985 Farm Bill (Swampbuster provisions). This was followed by authorization and funding for numerous Farm Bill conservation provisions, including the Conservation Reserve Program (CRP), the Wetland Reserve Program (WRP), the Environmental Quality Incentives Program (EQIP), and the Wildlife Habitat Incentives Program (WHIP). Other recently approved federal initiated initiatives that result in agricultural regulatory actions include the Coastal Zone Act Reauthorization Amendments of 1990 (coastal nonpoint pollution control program) and the Sustainable Fisheries Act - Essential Fish Habitat (EFH) provisions of 1997.

In August 1999, EPA published Total Maximum Daily Loads (TMDLs)/ National Pollution Discharge Elimination System (NPDES) rules that call for increased regulation of nonpoint source runoff coming from agricultural fields, forestry operations, and animal feeding operations. EPA is also proposing to re-designate some traditionally nonpoint discharges to a more restrictive point source classification, potentially requiring NPDES permits for many normal production activities.

The central issue seems to be increased leanings toward a private lands policy focused on the provision of public natural resource / environmental benefits. Many of the policy proposals and actions leading this charge have not been openly debated in legislative chambers; rather, they often appear as agency "rules" or "guidance" published in the Federal Register and are later implemented without direct congressional authorization as regulations. Many are concerned that lack of adequate policymaker debate on many of these issues can result in poor cost-benefit analysis, underestimated economic impact, and inadequate research-based decision-making.

Another serious challenge involves the growing number of environmental organizations taking extraordinary steps to affect land use in the United States through federal lawsuits demanding that governmental actions be taken to address both point and nonpoint runoff. In the case of hypoxia in the Gulf of Mexico, some are proposing that farmers in the Mississippi River Basin reduce nitrogen fertilizer application on farm fields by as much as 20-40% and expand the number of acres taken out of production and restored to wetlands by several million additional acres. Many state water quality management agencies are now largely being directed by these lawsuits, and agricultural interests are seriously lacking in most of the court orders that have resulted from these suits.

The unrecognized fact associated with many of these regulatory proposals is the willingness of agriculture and forestry to voluntarily and effectively address runoff pollution through economically feasible and effective Best Management Practices (BMPs) and incentive-based programs. Forestry, for example, has voluntarily increased BMP adoption in the South to a level exceeding 80% in some states. Additionally, southern farmers continue to implement

production practices (such as conservation tillage, pesticide management, nutrient management, buffer strips, precision agriculture, and wastewater treatment) that continue to significantly reduce runoff and improve water quality.

BMP technology, however, must be developed with producer profitability taken into consideration. If many of the benefits associated with BMPs are directly accrued to society at large, many believe that public financial support should be provided to assist in implementation. Examples include incentive-based programs such as cost-share assistance, tax breaks, conservation easements, and market premiums. The decision as to which BMPs require financial assistance and which can be independently applied without assistance must often be made on a site-specific / crop-specific basis. Regardless, producers are constantly looking for ways to conserve soil and limit the application of costly fertilizers and pesticides based on both stewardship and economic considerations.

The will and support required for voluntary programs to be successful exist within the production agricultural sector. However, funding for the incentive-based programs that can make voluntary programs even more successful has been lacking Farm Bill incentive-based conservation programs, such as the Environmental Quality Incentives Program (EQIP), have been cut even though farmer interest and public support remain high. With increased conservation program funding, however, farmer adoption of voluntary BMPs will increase and improvements in water quality should result.

Other actions that should lead to increased BMP adoption include field verification studies, increased producer training (technology transfer), watershed-based programming, and additional BMP research and development.

With clear evidence of progress, policy calling for the continued implementation of effective, voluntary programs should replace calls for expanded regulation and land use control. Farmers, ranchers, and forest landowners must continue to stand together for reasonable policy that encourages (through research, extension, and incentives) the continued implementation of voluntary, research-based BMPs that help meet realistic, economically achievable water quality goals nationwide. Additionally, research scientists must continue to evaluate BMPs that will lead to continued water quality improvements, while being sensitive to cost-effectiveness and profitability.

The LSU Agricultural Center is committed to sustainable food and fiber production systems that consider both environmental stewardship and economic viability. We applaud the efforts of the Southern Conservation Tillage Conference organizers and presenters who collectively help make this goal a reality throughout the South.

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