



## USDA-CSREES 2005 National Water Quality Conference

### Drainage Ditch Management to Mitigate Nutrient Losses from Agroecosystems

*Abstract: In ditch-drained regions, efforts to address agricultural losses of nutrients have focused primarily on field management and have not accounted for the modifying effect of ditches on water quality. Improved ditch management could be an effective component of improved regional nutrient management planning and policy.*

*Objectives:*

*Methods: Experiments will be conducted at the University of Maryland Eastern Shore Research Farm, in four on-farm trials, and in the Manokin Branch watershed. Field scale processes of nutrient transport and the effects of ditch management practices will be modeled and interpreted at a watershed scale using an intensive field survey and simulation modeling. We will assess the benefits of two ditch management practices- water-control structures and ditch clean-outs.*

*Partnerships: The University of Maryland College Park (UMCP), the University of Maryland Eastern Shore (UMES), the Maryland Department of Natural Resources, the USDA-ARS Pasture Systems and Watershed Management Research Unit, and the Somerset County Soil Conservation District are collaborating on this project.*

*Integration of Research, Teaching, and Extension: Twelve high school scholars will participate in a summer internship program in 2005 and 2006. Extension materials will be developed and offered to Certified Nutrient Management Consultants, Certified Crop Advisors (CCA), land managers, Extension Educators, and third-party Technical Service Providers.*

*Results:*

*Published results are not yet available from this study. Preliminary results show that ditch soils are accumulating high phosphorus levels and likely serve as both sinks and sources of phosphorus.*

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