Determining Seasonal Patterns of Nutrient Concentrations in the Wheeler Lake Watershed Using Remote Sensing and Geographical Information System Technology. (S06sheppard150607-Poster)

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Abstract:

The impact of nonpoint source pollution on surface waters in agricultural watersheds is an emerging environmental issue. As part of the water quality research at Alabama Agricultural and Mechanical University, Wheeler Lake Watershed was monitored for seasonal patterns of nutrient chemistry from June 2000 to January 2002. This research demonstrates how GIS and GPS technology can be used to assess water quality in the Wheeler Lake Basin. Nutrient levels in the Wheeler Lake Watershed ranged from 0 to 11.80 mgL for N and 0 to 6.49 mgL for P in the year 2000. The 2001 annual concentration levels ranged from .04 to 9.60 mgL for N and 0 to 0.18 mgL for P. A Least Significance Difference Test was applied to evaluate the presence of statistical difference between the means of the variables year, location, county, season and land use. There was a significant difference between the means for the years and seasons, but there was no significant difference between the means for locations and counties from which the samples were taken. Although seasonal variation reflects differences associated with rural and urban activity, there was no significant difference between the means of land use. For both N and P, the superior year was 2000 and the superior season was summer.

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