



USDA-CSREES 2007 National Water Quality Conference

[Source-Specific Estimation of Bacteria using SWAT: Calibration and Application](#)

Escherichia coli (E. coli) bacteria contamination is one cause of water-quality impairments in surface waters which often results from the non-point source pollution, including land-applied animal manure, grazing operations, failing septic system and wildlife. The Soil and Water Assessment Tool (SWAT) microbial sub-model 2005 will be used to simulate the daily flows, total suspended solids, and E. coli bacteria concentrations in the Upper Wakarusa watershed in north-east Kansas. Watershed bacterial sources for livestock, human, and wildlife will be modeled separately and assessed using antibiotic-resistance sourcing information and measured in-stream bacteria concentrations. The objective of this research will be to demonstrate a method for calibrating and validating the SWAT/Microbial sub-model 2005. Preliminary results from the first year of data shows excellent modeling efficiencies. The presentation will present complete results from 3 years of monitoring.

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