EVALUATION OF ANNAGNPS 2001 FOR PREDICTING ATRAZINE LOADING. Troy J. Lively, Malcolm Levin, George Czapar, and Prasanta Kalita, Graduate Student and Professor, Department of Environmental Sciences, University of Illinois, Springfield, IL 62703, Adjunct Professor and Associate Professor University of Illinois, Urbana, IL.

Evaluation of the AnnAGNPS 2001 non-point water quality model was performed to determine its effectiveness for predicting atrazine loading in a small agricultural watershed in Springfield, Illinois. Data from four years of farm field and climatological sources were used in model calibration and validation with results compared to the corresponding four years of observed water quality data. Model prediction effectiveness was determined from two statistical methods: Root Mean Square Error (RMSE) and Model Efficiency (ME). Model predicted atrazine loadings per event were considerably different than those of the observed data even after the extensive calibration process performed prior to validation. RMSE and ME indicated a relatively high difference between atrazine loading prediction and actual observed values. The AnnAGNPS 2001 model did not meet expectations when considering atrazine loss/loading predictions and may not be appropriate when accurate quantities of atrazine loss and surface water runoff volume are needed.