

GIS Based AGNPS Assessment Model in a Small Watershed

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Abstarc :

AGNPS, which is an agricultural non-point source pollution model, was used in combination with GIS tools to assess the feasibility of water quality effluent trading for phosphorus, in Morrow Lake sub-watershed, Kalamazoo, Michigan, USA. GIS software packages (Arc/Info and ArcView) were used to prepare data input for the model and post process the results. The sensitivity of AGNPS parameters was evaluated to determine which most influenced phosphorus sediment loading. Evaluations were conducted to determine whether calculation processes could be simplified for rapid pollution forecasts. The results showed that pollution could be predicted by varying temporary model data (i.e. precipitation etc.) in the AGNPS model. Lastly, parameter sensitivity showed that phosphorus sediment is most sensitive to soil texture while sediment loss is most sensitive to the SCS curve number. [Nature and Science 2003;1(1):50-56].

Key Word :

watershed; AGNPS model; phosphorus; sedimentation; Michigan

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