USDA-CSREES 2007 National Water Quality Conference

Evaluation of Conservation Practices: Interdisciplinary Approaches and Modeling

As part of the USDA Conservation Effectiveness Assessment Program (CEAP), we are studying the effectiveness of conservation practices at the watershed scale using data from an extensively researched watershed in northern Idaho. Using these data and geo-spatial modeling, we examine how watershed restoration in a mixed-land use watershed can be optimized by considering its biophysical and socioeconomic characteristics. We report on progress towards integration of socio-economic data and physical data obtained through modeling. The watershed is Paradise Creek watershed located near Moscow, ID. Our hydrologic data sets include long-term monitoring at the watershed outlet, bi-weekly sampling “before” and “after” practice implementation at eight locations within the watershed, and continuous monitoring in a nested watershed system. Digital maps of topography, soils and land use exist including a 10-year history of land use change and conservation practices. In this presentation, our objective is to provide an overview and status update of the following activities in the project: geo-spatial modeling of soil loss and sediment delivery using the Water Erosion Prediction Project (WEPP) model, socio-economic data collection, integrated modeling of physical, economic and social information, and data management. In the integrated modeling framework, our project evaluates different management scenarios to arrive at the optimal suite of practices at the watershed scale. We also report on efforts to assess landowner/operator perceptions of conservation effectiveness at the regional scale.

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