ENVIRONMENTAL ASSESSMENT FOR THE RATHBUN LAKE WATERSHED: SAMPLING DESIGN, METHODS AND RESULTS

by

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ABSTRACT

This article describes the sampling design, survey methodology and findings of a natural resources survey conducted in the Rathbun Lake Watershed in Southern Iowa in 1999-2000. The goal of the survey was to quantify the erosion from all sources on agricultural lands and the ecological health of streams for each of 61 subwatersheds in the area. A total of 183 plots of approximately 160 acres in size were selected by stratified random sampling for the erosion measurements, and the streams locations were selected by a two-stage procedure. The measurement instruments for all erosion types (stream, gully, ephemeral gully, sheet and rill), as well as that for the stream health assessment, are briefly described in the article. All the selected plots and stream locations were sampled during field visits in the study period. A composite small area estimation procedure was used to produce the subwatershed-level erosion estimates.