

**ENV Report 2 - Rates of Net Fine Sediment Accumulation in Selected Backwater Types of Pool 8, Upper Mississippi River** by James T. Rogala, William F. James, and Harry L. Eakin

**ABSTRACT**

Estimates of accumulation rates provide valuable information needed for projecting future conditions of backwaters in the Upper Mississippi River (UMR), either with or without changes in the use of resources. Net fine sediment accumulation rates since impoundment were estimated from sediment cores collected in selected backwater types of Pool 8. Net fine sediment rates at 147 depositional sites were calculated from the depth of sediment overlying pre-impoundment sediment and ranged from 0.017 to 1.36 cm/year. Mean rates for the 33 backwaters sampled in Pool 8 ranged from 0 to 0.82 cm/year. Large backwaters had the highest accumulation rate (0.57 cm/year); small, low-connectivity backwaters had the lowest rate (0.29 cm/year); and small, low-connectivity backwaters had an intermediate rate (0.43 cm/year). The overall mean rate of net accumulation for Pool 8 backwaters was 0.46 cm/year. Deeper areas within backwater regions tended to have higher accumulation rates than shallower areas, suggesting sediment focusing. Relationships were weak between accumulation rates and other parameters such as surficial sediment characteristics, backwater characteristics, and sedimentation measured during bed elevation surveys between 1989 and 1996.