

§IL504.21 Survey plans.

(b) Illinois survey plan for participation in the National Systematic Sediment Study.

1. Purpose

The purpose of this plan is to ensure that Illinois' participation in the National Systematic Sediment Study is in compliance with policies stated in Parts 504 and 532 of the National Engineering Manual.

2. Areas of Study

The National Systematic Sediment Study provides data on sediment yields to reservoirs and, therefore, serves as a basis for analyzing the effects of sediment as a pollutant. When done in conjunction with land use/erosion inventories, the surveys determine the offsite impacts of land treatment, land stabilization, and structural measures in reducing this pollutant. It will also provide a more accurate basis for the design of sediment storage requirements for reservoirs.

The annual rate of sediment yields to reservoirs are known to vary with a variety of factors, including watershed area, land use patterns and changes, and physiographic conditions. For this reason, it is necessary to obtain data from a number of reservoirs strategically located throughout the state.

The program is long term in nature and is expected to continue for several decades. However, each survey produces immediate benefits in that it provides a direct measure of sediment accumulation in the reservoir and a better understanding of the soil loss-sediment yield relationship.

3. Reservoirs

Illinois has eight reservoirs in the National Systematic Sediment Study. The names and county location of the reservoirs as of October 1987 are:

Hambaugh-Martin Structure No. 1 (Brown County)
Shoal Creek Structure No. 2 (Montgomery County)
Little Cache Structure No. 12 (Johnson County)
Coal and Crane Structure No. 5 (Schuyler County)
Mill Creek Structure No. 1 (Clark County)
Mendota Structure No. 1 (LaSalle County)
Upper Salt Creek Structure No. 2 (Cook County)
Lake Jacksonville (Morgan County)

Seven of the eight structures were built under PL-566 Watershed Protection and Flood Prevention Program. Only Lake Jacksonville is not a PL-566 reservoir.

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4. Proposed Schedule of Surveys

A proposed schedule for the timely survey of the eight reservoirs in Illinois is in Item 6. Land use/erosion inventories are to be done in conjunction with each survey. This schedule will be reviewed and updated annually. Surveys will be included in the report of the Annual Summary of Sedimentation Activities that is submitted to the MNTC by March 1 of each year. A complete report of each survey will be submitted to MNTC also.

5. Information Needed

A reservoir sediment survey consists of making detailed cross-sections between monuments established along the shoreline. The depth to the present lake bottom and to the original bottom are determined at various points on the cross-sections. Representative samples of the sediment are collected and analyzed for in-place density and other index properties.

The land use/erosion inventory consists of determining acreages and sheet erosion rates for each major land use type in the watershed area upstream from the reservoir. Amounts of erosion from gullies, streambanks, channel scour, roadbanks, road surfaces, ditches, and disturbed sites are also determined.

Sediment yields from watersheds in Illinois are frequently high enough to warrant repeating the surveys every five years. The time interval between surveys at a given reservoir should not exceed ten years. Land use/erosion inventories should be performed in conjunction with each survey.

All work will conform to established procedures. The following references contain the procedures and other guidelines:

National Engineering Handbook, Section 3, "Sedimentation"

Technical Release No. 32, "Procedure for Determining Rates of Land Damage, Land Depreciation and Volume of Sediment Produced by Gully Erosion"

Technical Release No. 51, "Procedure for Computing Sheet and Rill Erosion on Project Area"

Illinois Resource Conservation Planning Technical Note - IL-4.
"Universal Soil Loss Equation"

Illinois Environmental Assessment Procedure, April 1977

USDA-SCS "Instruction for Phase II Data Collection, SCS Erosion Inventory", November 1977.

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SUBPART C - RESERVOIR SEDIMENTATION SURVEYS

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The data resulting from each reservoir survey and watershed inventory will be compiled into a report in accordance with the NEM and NEH-3. Each report will include an updated copy of SCS-ENG-34, "Reservoir Sediment Data Summary", as well as a drainage area land use and erosion inventory.

6. Schedule for Reservoir Sedimentation Surveys in Illinois

<u>Reservoir</u>	<u>Last Survey</u>	<u>Next Scheduled Survey</u>
Hambaugh-Martin #1	1986	1993
Shoal Creek #2 (5 Mile Lake)	1987	1994
Little Cache #12 (Dutchman Lk)	1980	1988
Coal & Crane #5 (Schuy-Rush)	1981	1989/90
Mill Creek #1	1981 <u>1/</u>	1989
Mendota #1	1981 <u>1/</u>	1988/89
Upper Salt Creek #2	1984 <u>1/</u>	1990
Lake Jacksonville <u>2/</u>	1987	1993

1/ Surveyed for initial storage capacity only.

2/ Added October 1987.

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(210-V-NEM Amend. IL14, October 1987)