

U.S. Army Corps of Engineers Scope of Work  
Planning Assistance to States, Section 22 Program  
Lake Sinissippi Improvement District, Wisconsin

**APPENDIX A**  
**SCOPE OF WORK**  
(Revised April 9, 2008)

**1. BACKGROUND**

The project is located on Lake Sinissippi, a 2,800 acre river impoundment in Dodge County, Wisconsin. The lake has a drainage area of 511 square miles of primarily agricultural land. Tributary waters include inflow from the Rock River (65% of water inflow) and Dead Creek (4% of water inflow). The lake was created in 1845 when a dam was constructed across the Rock River in Hustisford, Wisconsin.

The lake has been slowly filling in with sediment, with thickness of the sediment layer ranging from 1 to 12 feet. Existing water depths range from 2 to 6 feet. A majority of the sediment, 8,606 tons/year, comes from the Rock River and accounts for 95% of the sediment load in Lake Sinissippi. Dead Creek flows into the west side of the lake and accounts for another 375 tons/year of sediment (4% of sediment load). Several islands and the lake shoreline are experiencing losses due to erosion, which also contributes to the sedimentation in the lake.

High nutrient levels, especially that of phosphorus, contribute to excessive algal growth. High turbidity is caused by sediment loading, resuspension by wave and boat action and stirring up of bottom sediment by carp. Loss of aquatic vegetation is caused primarily by action of the large population of carp. Carp were also an important factor responsible for clearing the lake of submersed and emergent vegetation that covered much of the lake after an extended drawdown in 1972-1973.

Lake Sinissippi, Rock River and Dead Creek are on the federal 303(d) list of impaired waters due to excessive sedimentation and nutrient enrichment from high levels of phosphorus.

The Lake Sinissippi Improvement District has requested assistance from the Corps of Engineers to develop plans for sediment management, wetland restoration and shore stabilization.

**2. PROJECT SCOPE**

The following are four primary goals of the Lake Sinissippi Improvement District listed in priority order: 1. Meet statutory responsibilities to protect and rehabilitate Lake Sinissippi as a lake, without creating severe perturbations to the lake ecosystem that may have serious unintended consequences for the lake community.

2. Be guided by statutory principles to support and enhance recreational uses of the lake to satisfy the needs of the local community and other recreational users.

3. Maintain existing shoreline using natural materials wherever possible and restore emergent marsh and aquatic plant habitat within littoral zone of lake and near-shore areas of river.

4. Create lake basin and environmental characteristics to support future development of a viable balanced fisheries.

Alternative management and technical methods to develop a viable balanced fisheries are not addressed as part of this scope of work.

**3. DELIVERABLES**

3.1 Thirty Velocity Readings: would be taken to monitor current flows as indicators of sediment transport and to identify where sedimentation might occur. Velocity readings would be performed by the Lake Sinissippi Improvement District.

3.2 Fifteen Sediment Samplings: Sediment compositional analyses were performed in 2003, while sediment and water depth measurements were taken in 2004. These data are usable for this study. Fifteen new depth measurements will be taken to verify sedimentation rates and quantities. Sediment sampling would be performed by the Lake Sinissippi Improvement District.

3.3 Description of the Existing Conditions and Problems will be given both in writing and orally: The Lake Sinissippi Improvement District will present the problems and existing conditions, proposed dredge and placement sites along with a presentation by the Rock Island Corps District describing the hydrology, erosion and emergent wetlands.

3.4 Identification of Placement Sites: will be given both in writing and discussed in meetings. Placement site considerations are not limited to upland placement, but could be shoreline, island or inlake placement. This deliverable will be performed by the Lake Sinissippi Improvement District and the Rock Island District.

3.5 Identification of Dredge Sites, Length Width and Depth: will be provided by the Lake Sinissippi Improvement District for cost analysis and pros and con analysis by the Rock Island District.

3.6 Alternative Sediment Removal Costs and Issues including Placement Sites: will be developed and presented in writing and orally by the Rock Island Corps District office.

3.7 Present Alternative Shoreline Stabilization: Alternative stabilization methods will be documented and presented by the Rock Island Corps District and Lake Sinissippi Improvement District. Pros and cons analysis will be recorded.

3.8 Present Alternative Wetland Restoration: These alternatives will be located within the lake, shoreline areas and tributaries. The Rock Island Corps District and Lake Sinissippi Improvement District will present alternatives with impact analysis.

3.9 A Final Meeting will be held on site to discuss alternatives and findings with local, county, state and federal agencies.

3.10 Final Report: The Rock Island District in cooperation with the Lake Sinissippi Improvement District will document the information and alternatives discussed and presented during the course of work.

#### 4. COST ESTIMATE

Scope/Task	Task Subtotals	Federal Responsibilities	Sponsor In-Kind Services	Sponsor Cash
Project Management				
Study Manager Coordination	4,000	4,000		
Project Close-out	2,000	2,000		
Sediment Management				
30 Velocity sampling and analysis	2,000	500	1,500	
15 Sediment samplings confirming existing estimates and analysis	1,500	500	1,000	

Initial Meeting and preparation work with Sponsor: Existing Condition and Problem Identification Presentations: hydraulics, erosion, sediments, contaminants, nutrients, water quality, and wetlands	7,000	5,000	1,000	1,000
Identification of Placement Sites	4,000	2,000	2,000	
Identification of Dredging Sites	5,000	3,000	2,000	
Second Meeting with preparation to Present Alternative sediment removal costs including placement sites	6,500	2,000	500	4,000
Shoreline Stabilization and Aquatic Plant Restoration				
Second Meeting, with preparation discussing Shoreline Stabilization Alternatives	3,500	1,000	1,000	1,500
Second Meeting with preparation discussing aquatic plant and wetland restoration alternatives	4,000	1,000	2,000	1,000
Project Communication				
Final Meeting to discuss all findings with WI DNR, Dodge County Land Conservation and Land Resources Departments and US Fish and Wildlife Service	3,500	3,000	500	
Report, Correspondence, etc.	7,000	1,000	1,000	5,000
<b>Total and Subtotals</b>	<b>50,000</b>	<b>25,000</b>	<b>12,500</b>	<b>12,500</b>

## 5. SCHEDULE

Completion of this study is estimated to be 12 months from the date of the Cost Share Agreement.