THE UPPER MISS

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UPPER MISSISSIPPI RIVER BASIN ASSOCIATION

PROGRAM PROPOSAL FOR

CRITICAL SEDIMENT PRODUCING AREAS

Includes the states of Illinois, Iowa, Minnesota, Missouri and Wisconsin

June 1983

CRITICAL SEDIMENT AREA CONSERVATION PROGRAM PROPOSAL

IOWA, ILLINOIS, MINNESOTA, MISSOURI AND WISCONSIN

SUMMARY

Sediment deposition is threatening the Upper Mississippi River. Sediment resulting from severe erosion is delivered directly to the Mississippi River, a high value resource and causing maintenance problems in the navigation channel, damaging fish and wildlife habitat throughout the area, and impacting the overall quality of the resource.

Soil erosion is threatening agricultural production in the surrounding area, particularly a 100-county area in the Upper Mississippi region (Table 1). Nearly half the land in this 37.6 million acre area in five states (figure 1) has soil erosion at more than double the national average.

This proposal's primary objective is to have the soil erosion reduced to acceptable levels on 75 percent of the land in the project area within the next 20 years. The project will also improve water quality, decrease sedimentation, and improve the overall environmental quality. The planned actions include erosion control measures of an enduring nature.

The proposal calls for 64,300 long-term agreements to be developed over a 10-year period. The installation of all planned conservation practices is expected to cover a 20-year period. Accelerating technical assistance to accomplish the project objectives will require an additional 491 full-time people per year. The estimated additional cost to apply planned practices is $2.2 billion, with the local share being $1.1 billion

and the federal share $1.1 billion. In addition to cost-share funds, the cooperators will operate, maintain, seed, and otherwise care for the measures installed. The operation and maintenance cost is estimated at $1.8 billion for the 20-year project measure life. These needs are over and above the present funding and personnel levels from all existing conservation activities in the area including federal, state, and local programs.

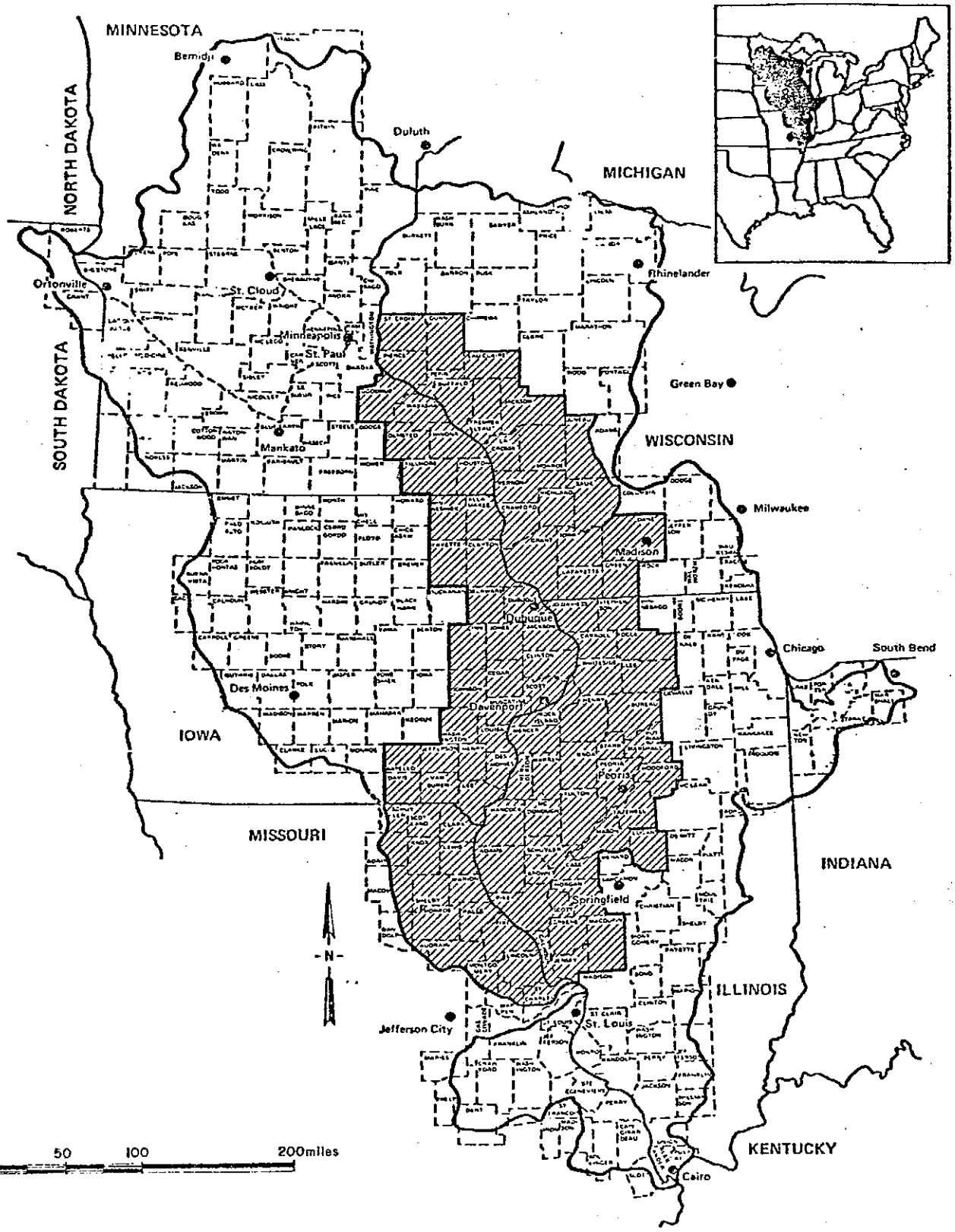

Figure 1. Upper Mississippi Critical Sediment Producing Area

TABLE 1
COUNTIES IN DESIGNATED AREA
Upper Miss

Wisconsin	Minnesota	Iowa	Illinois	Missouri
St. Croix	Goodhue	Winneshiek	Jo Daviess	Clark
Dunn	Wahasha	Allamakee	Stephenson	Scotland
Pierce	Olmsted	Fayette	Carroll	Lewis
Pepin	Wenona	Clayton	Ogle	Knox
Eau Claire	Fillmore	Delaware	Whiteside	Marion
Buffalo	Houston	Dubuque	Lee	Shelby
Trempealeau		Linn	Rock Island	Ralls
Jackson		Jones	Mercer	Monroe
La Crosse		Jackson	Henry	Pike
Monroe		Clinton	Bureau	Audrain
Juneau		Johnson	Henderson	Lincoln
Vernon		Cedar	Warren	Schuyler
Crawford		Scott	Knox	Adair
Richland		Washington	Stark	Montgomery
Sauk		Louisa	Putnam	St. Charles
Grant		Muscatine	Marshall	Wanen
Iowa		Wapello	Peoria	
Dane		Jefferson	Woodford	
Lafayette		Henry	Fulton	
Green		Des Moines	Hancock	
		Davis	Jersey	
		Van Buren	McDonough	
		Lee	Calhoun	
			Mason	
			Macoupin	
			Lozewell	
			Greene	
			Logan	
			Adams	
			Schuyler	
			Brown	
			Cass	
			Morgan	
			Pike	
			Scott	

DESCRIPTION OF THE AREA

The critical sediment producing area covers 37.6 million acres in five states. Table 2 presents some state by state statistics. The area is about 60 percent cropland, 13 percent pastureland, 18 percent forest land, and 9 percent other land. The steep drainage tributaries to the Mississippi River deliver large amounts of sediment to the main stem.

The largest cities in the area are Madison, Wisconsin; Rochester, Minnesota; Davenport, Iowa; Peoria, Illinois; and Hannibal, Missouri.

The area is part of the major livestock and grain producing area of the nation. In 1980, $3.7 billion of crops and $4 billion of livestock and livestock products were produced.

Total fiscal year 1982 inputs of cost share funds for erosion control were $10.6 million. This was 78 percent federal, 18 percent state, and 4 percent local. There are about 129,000 farms with 23 percent in Wisconsin, 13 percent Minnesota, 23 percent Iowa, 31 percent Illinois and 10 percent Missouri.

Approximately 327 staff years of technical assistance were provided in fiscal year 1982. Of this total, 77 percent was provided by the Soil Conservation Service. Other technical assistance is that provided by states and local districts.

Soils were formed in loess and or glacial material. Some of the steeper slopes are shallow to bedrock. While extremely productive, the soils are also highly erosive. Sheet, rill, and gully erosion are common and severe problems. The steep slopes and erodibility of the soils combine to make this area highly susceptible to erosion.

Topography is rolling to steep with the exception of several major flood plains. The Mississippi River flood plain, which forms the central part of the area, is approximately three to six miles wide and provides a major landscape diversity. It follows a winding course between the low banks in a wide floodplain bordered by high rock bluffs.

TABLE 2
CURRENT CONDITIONS
Upper Miss

State	Crop Land	Pasture Land	Forest Land	Other Land	Value of Products Sold Crops	Value of Products Sold Livestock
	ACRES				DOLLARS	
Wisconsin	4,218,800	1,532,000	3,195,800	658,400	309,323,000	1,409,694,000
Minnesota	1,414,700	300,000	520,900	273,000	103,390,000	286,632,000
Iowa	5,435,400	1,169,000	895,600	804,100	544,092,000	1,222,451,000
Illinois	8,988,500	1,367,200	1,310,900	1,028,100	2,448,255,000	903,169,000
Missouri	2,601,000	564,000	641,000	726,000	311,602,000	196,345,000
TOTAL	22,658,400	4,932,200	6,564,200	3,489,600	3,716,662,000	4,018,291,000

	FY - 1982 -COST SHARE FUNDS- Federal	State	Local	FY - 1982 -TECHNICAL ASSISTANCE- SCS CO-01	SCS Other	Other	Farms
	DOLLARS			STAFF YEARS			NUMBER
Wisconsin	2,536,700	523,000	190,000	46	17	42	29,200
Minnesota	757,000	151,800	30,000	15	3	10	17,000
Iowa	1,243,100	1,006,300	258,300	43	2	13	29,900
Illinois	2,657,400	60,400	-	62	31	10	40,300
Missouri	1,110,000	129,600	-	29	4	-	12,500
TOTAL	8,304,200	1,871,100	478,300	195	57	75	128,900

THE PROBLEM

Intensive agricultural land use, highly erodible soils, and a mid-continental climate with intense rainfall events all contribute to the estimated 164 million tons of sheet and rill erosion each year. Gully erosion is also a serious problem throughout the area. Erosion depletes the soil resource base, decreases water quality by adding soil nutrients, and causes turbidity and sedimentation.

Cropland areas have the most problems and the most severe problems. Table 3 shows the distribution of problem acres among land uses. It also shows the distribution of acres by erosion rates.

Present technical assistance and cost-sharing funds are not adequate to meet the needs of the area. In FY 1982 there were 327 staff years of federal, state, and local technical assistance. Available cost-sharing in FY 1982 was $2,349,400 of state and local funds and $8,304,200 of federal funds. This is only 40 percent of the needed technical assistance and 13 percent of the needed federal cost-sharing funds if 75 percent of the original erosion control needs are to be met in the next 20 years.

PLANNED ACTION

The installation cost over a 20 year period for erosion control measures is estimated at $2.2 billion. In addition, over a 20 year period, it will cost $289.3 million for SCS technical assistance, $24 million for the Cooperative Extension Service, and $89.7 million for the Agricultural

Stabilization and Conservation Service. Federal cost sharing funds needed are estimated at $1.1 billion or $110 million per year for enduring conservation measures. The cost by state is shown in Table 4.

To carry out the objectives will require the coordination and cooperation of the producers as well as local, state, and federal organizations and agencies (Table 5). Within USDA, the Cooperative Extension Service will implement an expanded information and education program emphasizing conservation tillage and other practices in the critical sediment producing area. The Agricultural Stabilization and Conservation Service will administer the cost-sharing funds for long-term agreements with landowners. Technical assistance for conservation plans developing longterm agreements, and application of resource management systems will be provided by the Soil Conservation Service.

EARLY ACTION

The early action or start up period will require significant amounts of capital. During the first year of operation an additional 100 staff years of technical assistance at a cost of $3.0 million will be needed. In addition a commitment of $21 million for 1200 long term agreements will be made. The Extension Service information and education program will receive $750,000, and ASCS will use $270,000 for the Administration of cost share funds in the first year.

The second through eleventh year will require an annual commitment of $110 million for new long term agreements. The installation of land treatment measures will take place over a 20 year period. The cost of technical assistance, administrative of cost share funds, and the information and education program will cost $20 million per year for 20 years.

No new authorities are required to carry out this proposed program. The increased funds will be added to the individual allocations to SCS, ASCS, and the Extension service

In the first year of operation the landowners will make a total investment of $3 million and an annual commitment of $120,000 for the operation and maintenance of erosion control measures.

TABLE 3
PROBLEM IDENTIFICATION
Upper Miss

State	Problem Acres: Crop Land	Pasture Land	Forest Land	Other Land	Distribution of Problem Acres: Cropland T-2T[1]	Cropland >2T[2]	Pastureland T-2T	Pastureland >2T	Forestland T-2T	Forestland >2T	Otherland T-2T	Otherland >2T
						-ACRES-						
Wisconsin	1,975,300	298,700	1,585,100	111,500	1,063,900	911,400	122,400	176,300	1,506,700	78,400	93,500	18,000
Minnesota	548,000	64,000	177,600	31,700	317,000	231,000	39,400	24,600	113,000	64,600	17,800	13,900
Iowa	3,212,700	398,400	196,200	57,800	1,534,000	1,678,700	288,900	109,500	112,200	84,000	37,700	20,100
Illinois	3,893,500	354,600	363,000	124,600	2,436,800	1,456,700	319,400	35,200	321,200	41,800	90,300	34,300
Missouri	1,842,000	244,000	219,000	67,000	726,000	1,116,000	195,000	49,000	192,000	27,000	-	67,000
Total	11,471,500	1,359,700	2,540,900	392,600	6,077,700	5,393,800	965,100	394,600	2,245,100	295,800	239,300	153,300

1/ Acres with erosion rates between five and ten tons per acre per year.

2/ Acres with erosion rates greater than ten tons per acre per year.

TABLE 4
COST DISTRIBUTION
Upper Miss

State	Cost of Treatment on Problem Acres						Landowner Cost	
	Cropland	Pastureland	Forestland	Otherland	Total	Federal	Constr.	O&M[1]
	DOLLARS							
Wisconsin	335,801,000	38,831,000	79,255,000	55,750,000	509,637,000	254,818,000	254,818,000	407,710,000
Minnesota	178,100,000	3,200,000	26,640,000	3,962,000	211,902,000	105,951,000	105,951,000	169,522,000
Iowa	518,436,000	24,313,000	6,974,000	5,175,000	554,898,000	277,449,000	277,449,000	443,918,000
Illinois	463,979,200	35,460,000	27,224,500	31,154,300	557,818,000	278,909,000	278,909,000	446,254,000
Missouri	386,874,000	13,427,000	6,573,000	2,013,000	408,887,000	204,443,000	204,443,000	327,109,600
Total	1,883,190,200	115,231,000	146,666,500	98,054,300	2,243,142,000	1,121,570,000	1,121,570,000	1,794,513,600

1/ Total operation and maintenance cost @4% per year of construction cost for 20 years.

TABLE 5
COOPERATIVE INTERAGENCY NEEDS
Upper Miss

State	LTA Contracts	Cost of LTA Contracts	SCS Technical Assistance[1]		ASCS Administration	Extension Service Information & Education
			Staff years	Cost		
	NUMBER	DOLLARS	NUMBER	DOLLARS	DOLLARS	DOLLARS
Wisconsin	14,600	$185,283,000	2230	$65,700,000	$20,385,000	$6,000,000
Minnesota	8,500	92,430,000	1300	38,250,000	8,476,000	1,000,000
Iowa	14,900	262,864,000	2270	67,050,000	22,196,000	6,000,000
Illinois	20,100	241,373,000	3070	90,450,000	22,313,000	8,000,000
Missouri	6,200	195,638,000	950	27,900,000	16,355,000	3,000,000
Total	64,300	977,588,000	9820	289,350,000	89,725,000	24,000,000

1/ Total technical assistance needs for 20 years in addition to on-going program.