

**POOLS 11-22
9-FOOT CHANNEL NAVIGATION PROJECT
MISSISSIPPI RIVER**

MASTER PLAN

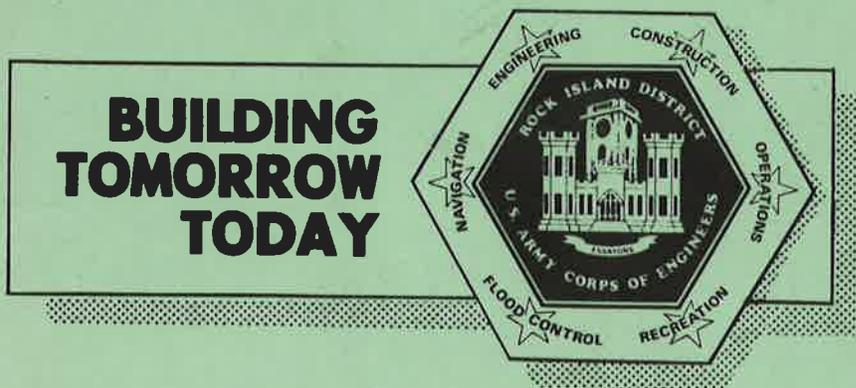
APPENDIX A

**PROJECT RESOURCE
MANAGEMENT PLAN**

MARCH 1978



**U.S. ARMY CORPS OF ENGINEERS
ROCK ISLAND DISTRICT**



NCDCO-MO (30 Mar 78) 1st Ind

SUBJECT: 9-Foot Channel Navigation Project, Mississippi River, Pools
11-22, Appendix A to the Master Plan, Project Resource
Management

DA, North Central Division, Corps of Engineers, 536 South Clark Street,
Chicago, Illinois 60605 26 April 1978

TO: District Engineer, Rock Island
ATTN: NCRED-PB

The subject Project Resource Management Plan (Appendix A) is approved.

FOR THE DIVISION ENGINEER:

1 Incl (dup)
8 cys wd

Per *Carl C. Cable*
CARL C. CABLE

Chief, Construction-Operations Division

POOLS 11 - 22
9-FOOT CHANNEL NAVIGATION PROJECT
MISSISSIPPI RIVER

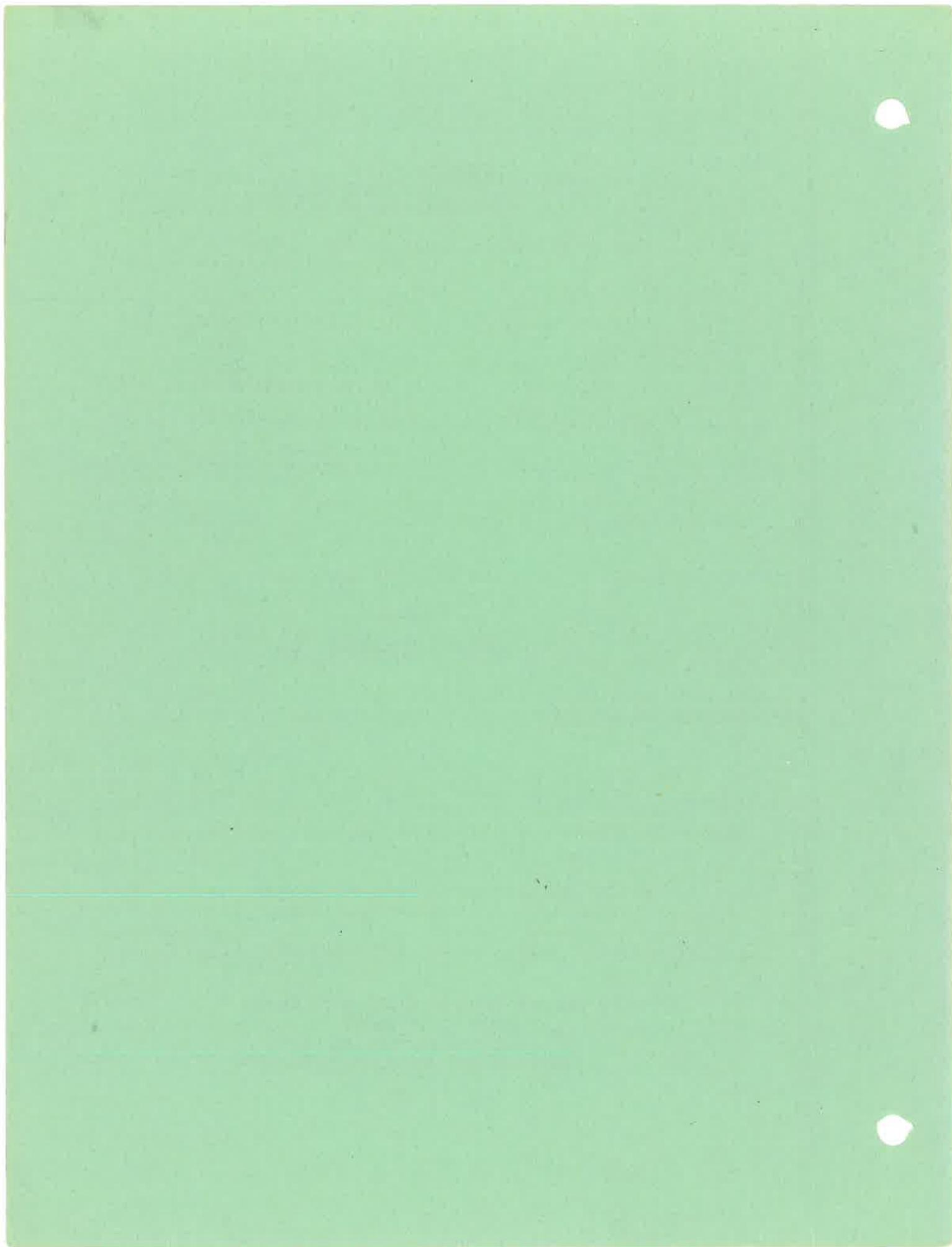
MASTER PLAN

APPENDIX A

PROJECT RESOURCE MANAGEMENT PLAN

US ARMY ENGINEER DISTRICT, ROCK ISLAND
CORPS OF ENGINEERS
CLOCK TOWER BUILDING
ROCK ISLAND, ILLINOIS 61201

March 1978



SYLLABUS

The purpose of this appendix is to provide guidance for the day-to-day management of recreation resources. The establishment of specific resource management procedures will provide for and encourage sustained public use of project resources while preserving the aesthetic and ecological values of the project.

In addition to the management guidelines given in this appendix, it is appropriate to note that at the present time GREAT II (Great River Environmental Action Team - Area II, Guttenberg, Iowa to Saverton, Missouri) is also in the process of developing a river system management plan that will incorporate total river resource requirements. GREAT II findings applicable to this project will be incorporated into this appendix, as well as into the master plan, and other appendices as the information becomes available.

POOLS 11 - 22
9-FOOT CHANNEL NAVIGATION PROJECT
MISSISSIPPI RIVER

MASTER PLAN

APPENDIX A

PROJECT RESOURCE MANAGEMENT PLAN

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APPENDIX A

PROJECT RESOURCE MANAGEMENT PLAN MISSISSIPPI RIVER

1. AUTHORIZED PROJECT PURPOSE. The Mississippi River 9-foot channel project was authorized by the River and Harbor Act of 3 July 1930, 71st Congress. The project provides a continuous navigable channel of a minimum 9-foot depth with suitable widths from the mouth of the Illinois River to Minneapolis, Minnesota, accomplished by a series of locks and dams creating a chain of pools, or reservoirs, in the upper Mississippi River. Later authorization extended the 9-foot channel project above St. Anthony Falls, Minnesota, and established the Missouri River as the lower limit of the project.

2. OPERATIONAL CONCEPT.

2.1 General. The minimum 9-foot channel navigation project was planned as an extension of the inland waterways system of the Mississippi River Basin with its engineering features based on standards used on connecting waterways, such as the Ohio and Illinois Rivers. Most of the project features were constructed under the supervision of the Corps of Engineers during the decade of 1930-1940. The authorizing act provided for a channel of minimum 9-foot depth with suitable widths. As constructed, the channel is generally 400 feet wide with additional widths in bends and curves to the extent necessary for navigational purposes. The principal engineering feature of the project is a system of locks and dams spaced at irregular intervals dependent on the slope of the river, the location of major population centers, and the navigation approach to the locks. Fourteen locks and eleven dams are located, operated, and maintained within the Rock Island District.

2.2 Dams.

2.21 The dams on the Mississippi River between Alton, Illinois, and the Twin Cities, Minnesota, are navigation dams. Except for Dam No. 1 at Minneapolis and Dam No. 19 at Keokuk, which were built by private power companies, they are single-purpose dams built to provide 9-foot depths for river traffic at low water.

2.22 The Mississippi River navigation dams have movable gates with the concrete gate sill on the bed of the river. During low flows, the movable gates are in the water and have only one- or

two-foot openings between the bottom of the gates and the gate sill.

2.23 During medium and high flows, the navigation dams are not needed to provide 9-foot depths for the river traffic because those depths are available naturally. Therefore, during medium and high flows, the movable gates are raised entirely out of the water and have a maximum clearance of 30 to 35 feet above the sill at riverbed level. When the gates are positioned above the water surface the depth of water flowing over the dam sill is equal to or greater than the average depth in the main channel of the river.

2.3 Locks. Within the Rock Island District the majority of lock systems are single chamber, with widths of 110 feet and lengths of 600 feet. Exceptions include Lock No. 19, located at Keokuk, Iowa, which has a clear chamber width of 110 feet and a length of 1,200 feet; Locks No. 15 located at Rock Island, Illinois, which has a dual lock system with chamber widths of 110 feet and lengths of 360 and 600 feet in the riverward and landward locks, respectively; and Locks No. 14 and No. 19 which have smaller auxiliary lock chambers. The smaller lock at No. 14 is currently operated for pleasure boat usage on summer weekends, while old Lock 19 is no longer usable. Lock sills, at the various locations, range from approximately 11 to 14 feet below the flat pool elevation. The locks are filled and emptied by gravity flow through longitudinal culverts in the bases of the walls, requiring four valves for each structure.

2.4 Operational Effects on Recreation. The Mississippi River valley has long served as a source of recreational opportunity with its scenic environment, fish, wildlife, water resources, and temperate climate. It is endowed with the basic requirements for outdoor activities and the 9-foot channel project has further enhanced the recreational potential of the area.

2.41 No longer do periods of drought reduce river stages to the point where navigation becomes hazardous or impossible, and the relatively stable pools created by the project provide large water areas for water-skiing, fishing, and other water-related activities. Numerous marinas and boat-launching facilities, situated along the shores of the pools, make recreational boating safer and more pleasurable.

2.42 Excellent habitat conditions for wildlife have developed in many of the backwater sloughs, and river environs are a major

link in the "Mississippi River Flyway" for migratory birds. A series of wildlife refuges is managed by the US Fish and Wildlife Service under a General Plan and Cooperative Agreement among the Service, Corps of Engineers, and the several states.

2.43 Fishing has also been enhanced by the project. Lake-like conditions have created vast areas of additional water which provide favorable aquatic habitat.

2.44 The generally stable pool elevations have greatly improved the river environment for camping, picnicking, and other land-related outdoor activities. Steadily increasing use is being made of the public use areas developed along the river by Federal, State, County, and local agencies, and the locks and dams themselves also attract numerous visitors. However, public access sites and recreational facilities are extremely limited in certain pools.

3. LAND ACQUISITION POLICY. The United States acquired fee title to approximately 93,600 acres of land for construction, operation, and maintenance of the 9-Foot Channel Project in the Rock Island District. An additional 10,500 acres of flowage easement were also acquired. The land acquired consisted primarily of islands and low-lands along the banks of the river. Approximately 16,600 acres, which had previously been acquired for the Upper Mississippi River Fish and Wildlife Refuge, were also included in the project.

4. PUBLIC USE AREAS.

4.1 There are 25 public use areas along the Mississippi River that are operated by the Rock Island District. In addition, 14 privately operated commercial concessions and 10 recreation sites are operated by non-profit organizations on Government land. Also developed on these lands are 30 public park leases for recreation purposes. Tables 1, 2, 3, and 4 summarize these sites and facilities.

4.2 A precise numerical count of all the recreation experiences within the environs of the Mississippi River could never be achieved, and therefore only an estimated figure is given for a total count. The inability to achieve a precise count is attributed to the vast area which involves both uncontrolled access and private property, and a condition where statistical control is beyond the means of some agencies, groups, and interests. However, some improvement in the visitation analysis is being achieved

*Reverse Table
per RRMS*

TABLE 1
ROCK ISLAND DISTRICT
PUBLIC USE AREAS

NAME OF AREA	RIVER MILE	POOL	STATE	ACREAGE	CAMPING SITES	DRINKING WATER	LAUNCHING RAMP	SEWAGE DUMP	COMFORT STATION	PICNIC AREA	GROUP SHELTER
Bertom Lake	601.7	11	WI	2			x		x	x	
Grant River	591.0	11	WI	16	33	x		x	x	x	
South Potosi	590.5	11	WI	1			x				
Blanding Landing	558.5	12	IL	14	36	x	x		x	x	
Pleasant Creek	553.0	13	IA	32	26	x	x	x	x	x	
Big Slough	531.0	13	IL	2	12	x	x		x	x	
Thomson Causeway	526.0	13	IL	66	32	x		x	x	x	x
Bulger's Hollow	525.5	13	IA	8	20	x	x		x	x	
Lock & Dam No. 13	522.5	13	IL	4	6	x	x		x	x	x
Cattail Slough	517.5	14	IL	5	10	x	x		x	x	
Fisherman's Corner	493.2	15	IL	3	15	x			x	x	
Locks & Dam No. 14	493.0	14	IA	1		x			x	x	x
Andalusia Slough	471.0	16	IL	16	11	x	x		x	x	
Montpelier	468.3	16	IA	11	34	x	x	x	x	x	
Shady Creek	464.8	16	IA	9	35	x	x	x	x	x	
Blanchard Island	449.5	17	IL	7	26	x	x		x	x	
Kilpeck Landing	446.8	17	IA	1		x	x			x	
Ferry Landing	433.6	18	IA	16	18	x	x	x	x	x	
Fenway Landing	347.7	20	MO	2	11	x	x		x	x	
Lock & Dam No. 20	343.3	20	MO	1						x	
Bear Creek	340.8	21	IL	5	17	x	x		x	x	
Canton Chute	331.6	21	IL	2	8	x	x		x	x	
John Hay	309.1	22	IL	5	6	x	x		x	x	x
Park-N-Fish	301.2	22	IL	1	6	x			x	x	
Lock & Dam No. 22	301.0	24	MO	1			x				

TABLE 3
PARK & RECREATIONAL LEASES TO NON-PROFIT ORGANIZATIONS
MISSISSIPPI RIVER

POOL	GRANTEE	TRACT(S)	ACRES	COUNTY	MILE	PICNIC SITES	CAMPING SITES	BOAT LAUNCHING	BOAT MOORING	TRASH RECEPTACLES	COMFORT STATIONS	DRINKING WATER
12	Bowfin Yacht Association	FI-76	29.00	Jo Daviess, IL	577.1			x	x	x	x	
12	Galena Boat Club	FI-7, 8, 38	18.80	Jo Daviess, IL	566.2		x	x	x	x	x	
12	Galena Hydros Inc.	IIs-6	1.37	Jo Daviess, IL	565.3	7				x	x	x
12	Immanuel Cong Church	FIA-3	0.70	Jackson, IA	559.9							
14	Izaak Walton League Dvpt	FIA-222, 223	43.60	Scott, IA	504.0	23				x	x	x
14	Mississippi Valley Girl Scout Council, Inc.	FI-54	1.80	Rock Island, IL	496.8							
16	Izaak Walton, Muscatine	FIA-25	2.40	Muscatine, IA	463.1	4		x		x	x	x
16	YM-YWCA of Davenport	FIA-49	2.70	Muscatine, IA	469.3							
16	Zion Evangelical Church	FI-26	3.00	Rock Island, IL	462.0							
18	Boy Scouts Prairie Council #125	FI-67	3.17	Henderson, IL	417.5							

TABLE 4

OUTGRANTS TO PUBLIC AGENCIES FOR PUBLIC PARK & RECREATIONAL PURPOSES
MISSISSIPPI RIVER

POOL	GRANTEE	TRACT(S)	ACRES	COUNTY	MILE	OUTGRANT	PICNIC SITES	CAMPING SITES	BOAT LAUNCHING	TRASH RECEPTACLES	COMFORT STATIONS	DRINKING WATER
11	Dubuque County Cons Bd Mud Lake Rec Area	F1a-40,41,42,44,45	57.10	Dubuque, IA	589.0	License	45	20	x	x	x	x
11	Town of Guttenberg City Park	F1a-120,121,122	31.25	Clayton, IA	614.0	License						
11	Village of Potosi** **Renewal Pending	FW-164,165,166,167 168,171,172,173,174, 175,176,177,178,179, 180,193,W1s-13,14	14.50	Grant, WI	592.3	Lease	2		x	x		
12	Town of Bellevue City Park	LS-1,2,3,4	2.50	Jackson, IA	556.5	License	3		x	x		
12	Dubuque County Cons Bd Massey Station Rec Area	F1a-26,26B,26C,26D,26E, 26F,26G,26H,26K,26L,26M	38.01	Dubuque, IA	573.1	Lease	12	29	x	x	x	x
12	City of East Dubuque, IL	FI-82,83,84 & Accreted	32.40	Jo Daviess, IL	579.1	Lease			x	x		
12	Town of Jamestown O'Leary's Lake	A-2,3,4,5 & D-1	5.70	Grant, WI	583.0	Lease	10		x	x		
12&13	Jackson County Cons Bd Spruce Creek Park	F1a-1,2,3a in P. 12 F1a-286,287 P. 13	45.30	Jackson, IA	559.5 554.0	License	25	35	x	x	x	x
13	Jackson County Cons Bd Poplar Creek Rec Area C105A 1980	F1a-109	2.00	Jackson, IA	536.8	Lease			x	x		
13	Jackson County Cons Bd Sabula Access Area	F1a-254A,255,257,258	39.60	Jackson, IA	535.6	Lease				x	x	
13	Iowa State Cons Comm Sabula Lake Access Area	F1a-182,184,241,242, 243,244,245,246,147, 248,249,250,250A,B,C,D, 251,252,252A,B,C,D,253, 254,254A,255,256,257, 262,264	486.00	Jackson, IA	535.0	License		18	x	x	x	x

TABLE 4

OUTGRANTS TO PUBLIC AGENCIES FOR PUBLIC PARK & RECREATIONAL PURPOSES
MISSISSIPPI RIVER (Continued)

POOL	GRANTEE	TRACT(S)	ACRES	COUNTY	MILE	OUTGRANT	PICNIC SITES	CAMPING SITES	BOAT LAUNCHING	TRASH RECEPTACLES	COMFORT STATIONS	DRINKING WATER
13	Iowa State Cons Comm Bellevue-Water Patrol Station	FIa-288,289,290	19.20	Jackson, IA	555.1	Lease	3		x	x	x	x
13	Town of Sabula, IA City Park	FIa-227,228,229, 230,231,232,233, 234,235,236,237, 238,239,239A,241, 243,244,245,247, 248,255,256,261,263	20.10	Jackson, IA	535.3	Lease	3		x	x		
13	Dept of Cons, State of IL Michelson's Landing	FI-5A,6	60.10	Whiteside, IL	524.0	License		1				
13	Dept of Cons, State of IL Miller's Hollow	FI-203,210	90.90	Carroll, IL	541.8	License	13		1	x	x	x
14	Bd of Park Comm, Clinton Joyces' Island	IaIs-125,126	73.10	Clinton, IA	519.5	License						
14	Clinton County Cons Bd Rock Creek Park	FIa-248,269,270	73.90	Clinton, IA	507.6	Lease	15	9	x	x	x	x
16	Village of Andalusia Village Park	FI-66,69,61	24.20	Rock Island, IL	473.0	Lease	48			x		
16	Iowa State Cons Comm Buffalo Shores Access Area	FIa-60	8.50	Scott, IA	471.8	Lease			x	x	x	x
16	Iowa State Cons Comm Fairport Water Patrol Station	FI-24	21.34	Muscatine, IA	462.0	Lease		50	x	x	x	x
16	Rock Island Co For Pres Loud Thunder Forest Preserve	FI-39,40,41	62.70	Rock Island, IL	466.5	License	15		x	x	x	x

TABLE 4

OUTGRANTS TO PUBLIC AGENCIES FOR PUBLIC PARK & RECREATIONAL PURPOSES
MISSISSIPPI RIVER (Continued)

POOL	GRANTEE	TRACT(S)	ACRES	COUNTY	MILE	OUTGRANT	PICNIC SITES	CAMPING SITES	BOAT LAUNCHING	TRASH RECEP-TACLES	COMFORT STATIONS	DRINKING WATER
17	Dept of Cons, State of IL Crossee Corner	FI-13,14	74.80	Mercer, IL	446.0	License	2		x	x		
17	Iowa State Cons Comm Lake Odessa	FIa-1A,1B,1C,119,124, 125,126,128,129,130, 131,132,133,134,135, 136,137,138,139,140, 141,142,143,144,145	3,110.00	Louisa, IA	435.0	Lease			x	x		
17	Iowa State Cons Comm Sand Run Access Area	FIa-127	11.00	Louisa, IA	436.0	Lease			x	x		
18	Dept of Cons, State of IL Delabar State Park	FI-67	14.01	Henderson, IL	417.5	Lease	30		x	x	x	
18	Dept of Cons, State of IL Henderson Creek Access Area	RW-1,LS-1, & No. 3	49.30	Henderson, IL	410.0	License		6		x	x	
18	Dept of Cons, State of IL Putney's Landing	FI-82,83,84,85, 88,90,91	125.50	Henderson, IL	422.4	Lease	20	4	x	x	x	
21	Dept of Cons, State of IL Triangle Lake	FI-134,135,136,137, 138,141,142,143,144, 145,147	224.00	Adams, IL	329.5	License						
21	Quincy Park District Sid Simpson Park	FI-119	37.50	Adams, IL	329.0	Lease			x	x		
22	City of Hannibal, MO	FM-133	2.40	Ralls, MO	304.5	License						x

each year through greater coordination efforts with the varied field sources, which has been possible through recent additional man-power positions. Also, greater accuracy has been possible for Corps public use area visitor statistics with the installation of traffic counters, survey questionnaires, and regular surveillance.

4.3 Table 5 lists the estimated visitation data for individual Corps areas within the past several years. These areas represent a small portion of the total recreation visits, as realized in comparison to the 14.4 million recreational experiences along the Mississippi River in 1976. As recreation facility construction progresses and more sophisticated camping and day use facilities are made available, visitation will continue to increase. The objective of Corps recreation-resource management is the continued enjoyment and maximum sustained use by the visiting public of the lands, waters, and associated recreational resources, consistent with their carrying capacity, aesthetic values, and biological parameters.

5. MAINTENANCE FACILITIES. ^{Revise} The maintenance facilities for the Corps operated public use areas of the project are plant (District) owned and available on a fee or rental service charge arrangement. Electronics, carpenter, and motor shops are located in the Annex building at the District Headquarters. A District sign shop is provided by facilities located at Coralville Lake, near Iowa City.

6. STORAGE FACILITIES. ^{Revise} District owned warehouse facilities, located at LeClaire Base adjacent to Lock and Dam No. 14, are utilized for storage of project operation and maintenance supplies and materials under fee arrangements similar to paragraph 5, Maintenance Facilities. Two locked enclosures, located in warehouses Nos. 1 and 3, measuring 13 feet by 20 feet and 7 feet by 60 feet, respectively, are presently allocated for project use.

7. OFFICE AND ADMINISTRATIVE FACILITIES.

7.1 Present. ^{Revise} Office space for the Park Manager, Assistant Park Manager, and Park Ranger is provided in the District Headquarters. However, during the recreation season, staff personnel are on a semi-permanent, field (TDY) operation status. A mobile trailer is used by the maintenance crew for field administrative purposes during the winter months.

7.2 Future. Due to the 314 river mile length of the project, field administrative offices are needed from which to base ranger

Revise
TABLE 5

ANNUAL VISITATION* AT CORPS P.U.A.

	<u>1976</u>	<u>1975</u>	<u>1974</u>	<u>1973</u>	<u>1972</u>	<u>1971</u>
Bertom Lake	29,500	75,000	50,000	50,000	31,300	26,818
Grant River	49,506	43,100	51,000	52,000	43,000	38,606
South Potosi	10,000	54,000	64,000			
Blanding Landing	71,350	153,000	153,200	143,200	143,000	82,662
Pleasant Creek	101,169	62,500	60,000	80,100	79,300	55,454
Big Slough	38,254	38,500	40,000	40,700	40,700	26,903
Thomson Causeway	165,069	81,500	80,000	88,300	87,100	63,337
Bulger's Hollow	58,653	51,400	50,000	54,000	51,200	27,457
Lock & Dam No. 13	111,014	92,000	90,000	97,000	95,800	72,877
Cattail Slough	26,130	53,500	55,000	74,346	74,200	30,371
Fisherman's Corner	114,639	85,000	75,000	86,700	82,600	53,835
Locks & Dam No. 14	54,250					
Montpelier	85,577	78,500	80,000	98,000	93,600	56,323
Andalusia Slough	70,000	79,000	87,000	88,000	78,000	38,003
Shady Creek	58,615	90,000	90,000	93,100	92,100	52,120
Blanchard Island	57,920	61,500	60,000	83,700	81,500	23,466
Kilpeck Landing	25,950	45,000	44,000	65,000	63,500	23,466
Ferry Landing	70,150	101,000	100,900	112,900	108,700	48,725
Meeker's Landing	13,600	11,000	10,000			
Fenway Landing	22,025	16,500	16,000	28,500	27,500	21,462
Lock & Dam No. 20	72,747	49,000	50,000	46,900	47,900	41,733
Bear Creek	57,300	45,000	44,000	53,000	54,100	36,079
Canton Chute	38,350	46,000	45,000	47,000	47,500	30,518
John Hay	166,495	10,000	2,000	17,800	17,500	16,795
Park-N-Fish	28,200	48,000	43,000	42,000	40,100	27,148
Lock & Dam No. 22	<u>51,753</u>	<u>51,000</u>	<u>50,000</u>	<u>62,000</u>	<u>59,100</u>	<u>46,149</u>
TOTALS	1,648,216	1,521,000	1,490,100	1,604,246	1,544,300	940,317

*Recreation Days

operations. Proposed regional locations would be at Lock and Dam Nos. 11, 13, 16 and 21. Space will be required for a desk and downstairs storage cabinet as shown on Figure 1. Resident-type rangers would greatly reduce response time and use of TDY.

8. STAFFING AND ORGANIZATION. *REVISE*

8.1 Present. The present Recreation-Resource Management Branch staff for the Mississippi River consists of the positions listed as follows:

Park Manager
Assistant Park Manager
Park Ranger
Construction Maintenance Foreman (seasonal)
Engineering Equipment Operator (2 - seasonal)
Vehicle Operator (2 - seasonal)
Tractor Driver (seasonal)

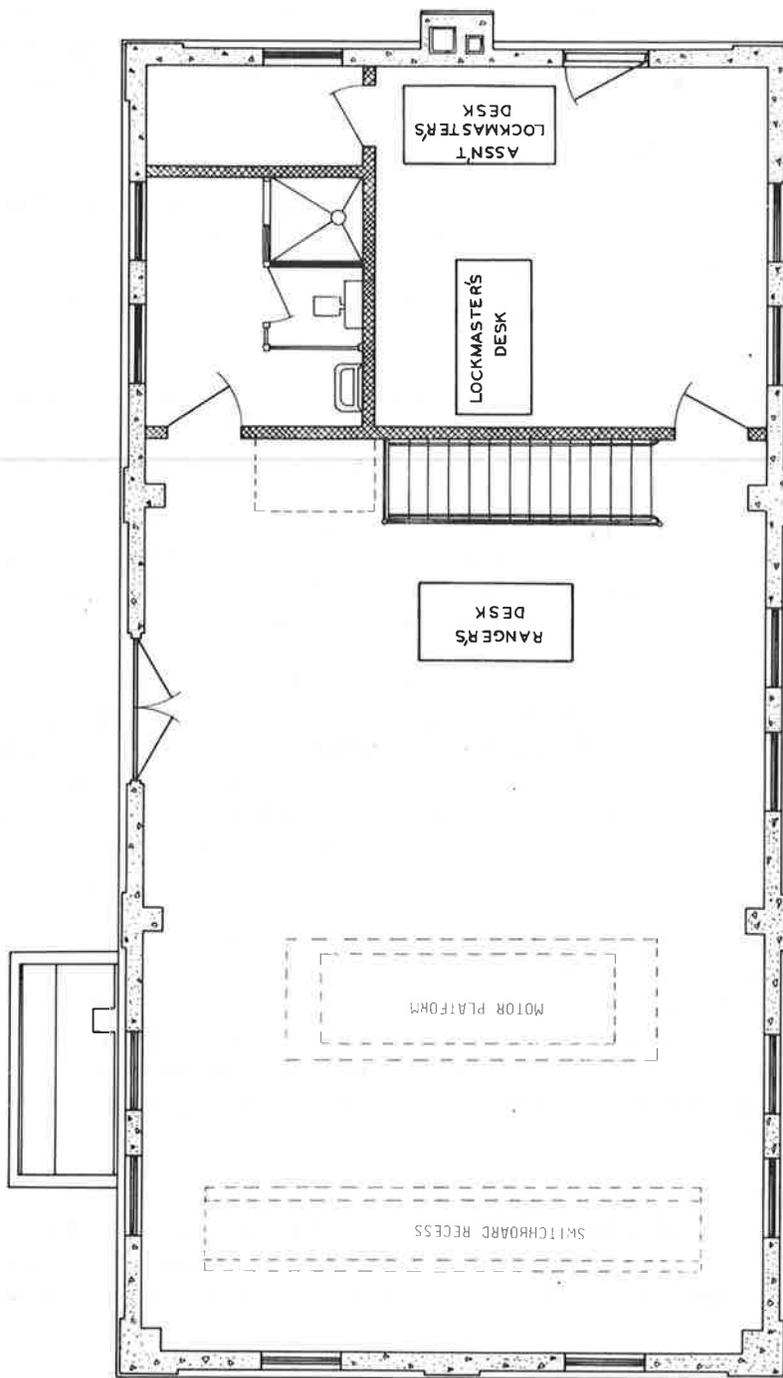
8.2 Future. The proposed staffing reflects the minimum personnel requirements needed to meet the responsibilities and missions of the project. Future staffing requirements reflect continued increases in recreational demand and useage in both developed and undeveloped (island) recreation; implementation of intensive resource management plans; and increasing frequency of unauthorized encroachment on public lands resulting from continued development of the river shoreline.

Proposed additional staffing will consist of one Park Ranger (seasonal) and four Park Technicians (seasonal).

8.3 In addition to the full-time and seasonal personnel the staff is augmented during the summer with temporary employees. In 1977 the summer-hire personnel consisted of two temporary laborers and four temporary park technicians. The anticipated 1978 staff will include an additional temporary laborer. Proposed future staffing will include three to six temporary laborers and four to six temporary park technicians. Actual numbers of temporary summer employees hired each year will be determined by work-load and accomplished as funding permits.

9. ADMINISTRATION OF USER FEE AREAS. There is presently no user fee program for this project. All public access areas are free of charge.

FIGURE 1



NO SCALE

TYPICAL LOCK HOUSE FLOOR PLAN

10. COOPERATIVE ACTIVITIES WITH OTHER AGENCIES. The Corps of Engineers maintains several cooperative programs with Federal, state, county, and local interest groups. These are discussed in detail in the project's Master Plan for Resource Management.

11. RANGER ACTIVITIES.

11.1 The primary responsibilities of Park Rangers on the Mississippi River are to assist the visiting public, enforce Federal regulations, protect all Corps managed public lands, and to assist in the planning and realization of future developments on the Mississippi River.

11.2 Ranger patrols of all Corps managed recreation areas will be utilized to assist the visiting public in every way possible. Rangers will make a concentrated effort to personally contact each group of visitors to present any information (brochures) which may be helpful and to answer any questions. Patrols by vehicle and on foot will be used, with the latter being preferred, whenever time and safety permit. ~~At all times the Ranger will keep his uniform and vehicle clean and in top shape.~~
ADD PORTMAN ABOVE UNIFORM

11.3 Concurrently with assisting the public, the ranger will use the patrols to maintain enforcement of Part 327, Chapter III, of Title 36 of the Code of Federal Regulations. Each visitor contacted will be given a copy of the C.F.R. 327 brochure and be politely informed of any sections which seem pertinent at the time. Any violations must be dealt with to the best judgement of the ranger involved.

11.4 Inspections of all Federal land, including outgranted land, will be performed by the ranger on a regular basis. Detection of any unauthorized use, such as encroachments, abandonment of personal property, etc., is the object of these inspections. In addition, the ranger should be observant for any unusual situations such as cultural relics, unique wildlife habitats, interesting land areas, etc.

11.5 A ranger involved in an activity other than patrolling or inspecting is nevertheless conscious of the visiting public, protecting Federal property, and investigating regulation violations. Patrol and inspection functions are therefore incorporated into every activity.

11.6 By the very nature of the job, a ranger has many opportunities to formulate ideas concerning both operation improvements

and improvements of areas. Such ideas are offered to the Park Manager and if found feasible, the ranger becomes involved in planning of the improvements. When these improvements concern natural resources, the ranger acts as a field supervisor over the actual improvement work. Managerial, technical, and clerical duties are also in the realm of the ranger position and these activities are performed to the extent and degree of the guidance received from the Park Manager.

12. LAW ENFORCEMENT ARRANGEMENTS AND PROCEDURES.

12.1 General. Enforcement of state and local civil statutes and fish and game codes on Federal lands is conducted primarily by the agencies listed below. These agencies patrol the Federal lands at various intervals enforcing laws under their jurisdiction as they observe violations and when summoned by rangers.

12.2 Ranger Citation Authority. The primary purpose of the citation program is to assure all visitors at Corps of Engineers recreation areas a safer and more pleasant recreation experience. Corps of Engineers personnel will not engage in the actual enforcement of laws. Federal, State, or local law enforcement agencies retain the statutory authority and inherent responsibility to maintain law and order. Corps of Engineers personnel will coordinate citation programs with Federal magistrates and local law enforcement agencies. Details of the citation authority and procedures followed are covered in ER 190-2-4, dated 12 February 1972.

12.3 County Sheriff. Each County Sheriff's office has the primary responsibility for enforcement of state and local laws on project lands lying within its county. All reports of violations and requests for assistance are made directly to the County Sheriff's office. See Tables 6, 7, 8, and 9 for a listing of offices and phone numbers.

12.4 State Police. State police officers have the authority for enforcement of State laws by patrol or rendering assistance when requested by the County Sheriff's office. See Tables 6, 7, 8, and 9 for listing of offices and phone numbers.

12.5 State Departments of Conservation. Officials of these agencies have the enforcement responsibility for all fish, game, and boating laws applicable to the Mississippi River as outlined by state statutes. See Tables 6, 7, 8, and 9 for listing of officers and phone numbers.

TABLE 6
WISCONSIN LAW ENFORCEMENT AGENCIES

COUNTY SHERIFF

Grant County Sheriff Office - 608-723-2157

STATE POLICE

State Highway Patrol - Madison - 608-266-2221 or 7626

WISCONSIN DEPARTMENT OF CONSERVATION

Grant County, Pool 11 - Albert J. Kwallek
601 E. Elm Street
Lancaster, WI 53813
608-723-4976

US FISH & WILDLIFE SERVICE

State Wide - Loren J. Bonde
Suite 152, Washington Square Bldg.
1406 East Washington Avenue
Madison, Wisconsin 53703
Com: 608-252-5237
FTS: 364-5237

Upper Mississippi River National Wildlife Refuge -
Refuge Manager
P.O. Box 226
122 W. 2nd
Winona, MN 55987
507-452-4232

TABLE 7
IOWA LAW ENFORCEMENT AGENCIES

COUNTY SHERIFF

Clayton Co. - 319-245-2422
Dubuque Co. - 319-556-1232
Jackson Co. - 319-652-3312
Clinton Co. - 319-242-9211
Scott Co. - 319-326-8628
Muscatine Co. - 319-263-6055
Louisa Co. - 319-523-4371
Des Moines Co. - 319-754-4522
Lee Co. - 319-372-1152

STATE POLICE

District 10 - Oelwein - 319-283-5521
District 11 - Cedar Rapids - 319-364-5171
District 12 - Davenport - 319-359-0388
District 13 - Mt. Pleasant - 319-385-8715

IOWA CONSERVATION COMMISSION

Clayton Co., Upper 11 - John Horton
Box 166
Garnavillo, IA 52049
319-964-2119

Dubuque Co., Lower 11, Upper 12 - Dick Tellier
Rural Route 1
Peosta, IA 52068
319-556-1213

Jackson Co., Lower 12, Upper 13 - Wesley Beecher
Rural Route #3
Box 7B
Bellevue, IA 52031
319-872-3391

Clinton Co., Lower 13, Upper 14 - Maurice Anderson
306 2nd Avenue
DeWitt, IA 52742
319-659-9438

Scott Co., Lower 14, Pool 15, Upper 16 - Myron Speer
2629 Cedar
Davenport, IA 52804
319-391-4060

TABLE 7 (Cont'd)
IOWA LAW ENFORCEMENT AGENCIES

IOWA CONSERVATION COMMISSION (Cont'd)

Muscatine Co., Lower 16, Upper 17 - Ermin Jennings
2852 Highland Ct.
Muscatine, IA 52761
319-264-1012

Louisa Co., Lower 17, Upper 18 - Bill Beebe
128 Hickory Ct.
Columbus Junction, IA 52738
319-728-2594

Des Moines Co., Lower 18, Upper 19 - Donald Simonson
609 W. Mt. Pleasant St.
West Burlington, IA 52655
319-754-5282

Lee Co., Pool 19 - Douglas Franta
Box 64
Donnellson, IA 52625
319-835-5426

US FISH & WILDLIFE SERVICE

State Wide - Edward Bosak
Federal Office Building
Rm. 812, 106 S. 15th St.
Omaha, NE 68102
Com: 402-221-4037
FTS: 864-4037

Upper Mississippi River National Wildlife Refuge -
Refuge Manager
P.O. Box 226
122 W. 2nd
Winona, MN 55987
507-452-4232

Mark Twain National Wildlife Refuge -
Refuge Manager
Great River Plaza
311 N. 5th Street, Suite 100
Quincy, IL 62301
Com: 217-224-0901
FTS: 224-0944

TABLE 8
ILLINOIS LAW ENFORCEMENT AGENCIES

COUNTY SHERIFF

Jo Daviess Co. - 815-777-2141
Carroll Co. - 815-244-2635
Whiteside Co. - 815-772-4044
Rock Island Co. - 309-799-7344
Mercer Co. - 309-582-5194
Henderson Co. - 309-867-4291
Hancock Co. - 217-357-2115
Adams Co. - 217-223-6300
Pike Co. - 217-285-4471

STATE POLICE

Substation 1A - Pecatonica - 815-963-7687
District 1 - Sterling - 815-625-0151
District 7 - Rock Island - 309-788-9501
District 14 - Macomb - 309-833-2141
Substation 14A - Pittsfield - 217-285-4431

ILLINOIS DEPARTMENT OF CONSERVATION

Jo Daviess Co., Pool 12, Upper 13 - Edward Freeman
R.R. #2
Galena, IL 61036
815-777-9568

Raymond Miller
328 Gear Street
Galena, IL 61036
815-777-1728

Carroll Co., Pool 13 - Paul Hensal
Mt. Carroll, IL 61053
815-244-5763

Gene Moshure
R.R. #3
Mt. Carroll, IL 61053
815-244-9247

Whiteside Co., Upper 14 - Merlin Howe
Box 433
Albany, IL 61230
309-887-4291

Wayne Edeus
102 Ridge Drive
R.R. #3
Sterling, IL 61081
815-626-5630

TABLE 8 (Cont'd)
ILLINOIS LAW ENFORCEMENT AGENCIES

ILLINOIS DEPARTMENT OF CONSERVATION (Cont'd)

Rock Island Co., Lower 14, Pool 15,
Pool 16, Upper 17 - Henry Hannah
3304 - 39th St.
Moline, IL 61265
309-762-6618

Dan McCorkle
2609 - 12th Ave.
Moline, IL 61265
309-762-8647

Mercer Co., Lower 17, Upper 18 - John Carns
R.R. #1
Biggsville, IL 61418
309-627-2385
or
309-867-6721

Henderson Co., Lower 18, Upper 19 - John Carns
R.R. #1
Biggsville, IL 61418
309-627-2385
or
309-867-6721

Hancock Co., Lower 19, Upper 20 - James Twitchell
Plymouth, IL 62367
309-458-3106

Adams Co., Lower 20, Pool 21, Upper 22 - John Musolino
128 No. 25th St.
Quincy, IL 62301
217-223-1351

Pike Co., Lower 22 - Roger Frazier
R.R. #2
Pittsfield, IL 62363
217-285-6343

Calvin Liehr
R.R. #1
Chambersburg, IL 62323
217-236-7431

TABLE 8 (Cont'd)
ILLINOIS LAW ENFORCEMENT AGENCIES

US FISH & WILDLIFE SERVICE

State Wide - Ralph Von Dane
600 E. Monroe Street - Room 23
Springfield, IL 62704
Com: 217-525-4460
FTS: 955-4460

Upper Mississippi River National Wildlife Refuge -
Refuge Manager
P.O. Box 226
122 W. 2nd
Winona, MN 55987
507-452-4232

Mark Twain National Wildlife Refuge -
Refuge Manager
Great River Plaza
311 N. 5th Street, Suite 100
Quincy, IL 62301
Com: 217-224-0901
FTS: 224-0944

TABLE 9
MISSOURI LAW ENFORCEMENT AGENCIES

COUNTY SHERIFF

Clark Co. - 816-727-3900
Lewis Co. - 314-767-5311
Marion Co. - 314-221-0678
Ralls Co. - 314-985-5611

STATE POLICE

Macon (Troop B) - 816-385-2132

MISSOURI DEPARTMENT OF CONSERVATION

Clark Co., Upper 20 - David Riggs
Box 23
Kahoka, MO 63445
816-727-3551

Lewis Co., Pool 19, Lower 20 - Gene Lindsey
Box 243
Canton, MO 63435
314-288-3939

Marion Co., Upper 21 - Ferdinand Dames
Box 423
Palmyra, MO 63461
314-769-3898

Ralls Co., Lower 21 - Gerald Distler
Box 497
New London, MO 63459
314-985-7751

US FISH & WILDLIFE SERVICE

State Wide - David Kirkland
Rm. 201, 119 S. Main St.
St. Charles, MO 63301
314-946-7308

Mark Twain National Wildlife Refuge -
Refuge Manager
Great River Plaza
311 N. 5th Street, Suite 100
Quincy, IL 62301
Com: 217-224-0901
FTS: 224-0944

12.6 US Fish and Wildlife Service. Two levels of enforcement responsibility exist in this agency. District managers of the Upper Mississippi and Mark Twain Refuges have responsibility within the refuges, while special or resident agents are assigned on a state-wide basis. See Tables 6, 7, 8, and 9 for a listing of officers and phone numbers.

13. SAFETY. This topic is covered in detail in Appendix E.

13.1 Visitor Safety.

13.11 Bulletin boards are placed in conspicuous locations at each of the recreation areas and contain a variety of safety-oriented material.

13.12 Warning signs, barricades, fences, etc., as well as personal contact by rangers, are utilized to warn visitors of dangerous areas and prevent access where necessary.

13.2 Employee Safety. Employee safety instruction and education is carried out through periodic safety meetings and safety lectures when the need arises. Employees are given instructions in the safe operation of equipment. Vehicles and equipment receive regular inspections to detect wear and deficiencies.

14. CONCESSION ACTIVITIES.

14.1 Adequacy of Location and Area. The locations of 13 out of the 14 Government concessioners are within Pools 11 through 14. These concessioners, located in both urban and rural areas, provide service primarily to recreational boaters. The other Government concessioner service is located in Pool 21 and is oriented toward cottage rental. The locations and services provided by concessioners are listed in Table 2, page A-5.

14.2 Safety Features. Safety features required of the concessioner are as follows:

- * Slips and operation equipment are to be in a safe and satisfactory condition as required by regulations on floating facilities.

- * "No Smoking" signs are to be posted in the vicinity of the gas pumps.
- * Fire extinguishers are to be within easy reach of operators of gas pumps.
- * One (1) ring buoy for each 200' of dock space is to be provided.
- * Dispensing outlets above ground are to have quick-closing or self-closing valves.
- * Storage tanks are to be properly grounded.
- * Flammable material is not to be stored within 50' of the storage tanks or docks.
- * Area is to be under 24 hour surveillance.
- * The capacities of boats (number of persons permitted in boat) are to be shown on rental boats.
- * Facilities available for sewage and waste disposal are to be provided.
- * Storage tanks (fuel) above ground must be diked to prevent accidental discharge into water areas.
- * Ground fault circuit interrupters are required on all outdoor electrical facilities.

15. ENCROACHMENTS.

15.1 Agricultural trespass.

15.11 General.

15.111 Agricultural trespass is the unauthorized use of Federal lands for the purpose of producing farm crops and grazing of livestock. It is primarily the responsibility of the park rangers

to make frequent patrols of all project lands and to be alert for this type of encroachment. The rangers should be thoroughly familiar with the boundaries of all fee land.

15.112 There have been several incidents of agricultural encroachment in the past but none of extensive proportions. These incidents generally consist of cropping activity overlapping from private lands onto project lands, usually where there is no clearly marked property boundary. A related problem is that of gardens which are not permitted, except on cottage site areas. Experience indicates that the encroachment can be halted and often resolved by action of field personnel in advising the person of the violation, reviewing lease terms, and describing the project boundary line at the site.

15.12 Procedures by the Park Manager and Rangers. When an incident of agricultural trespass occurs, the following course of action should be taken:

15.121 If the violator is present, inform the individual of the violation with instructions to stop all further operation. Inform the violator also that an appraisal will be made of damage to, and/or crop values taken from, Federal property.

15.122 If the individual is not present, project personnel may interview local residents to obtain information as to the person's identity. By maintaining periodic surveillance of the area, project personnel may issue a citation when the violator returns to the site.

15.123 When the violator has been identified and instructed to stop all further operations, a written report will be submitted through the Chief, Recreation-Resource Management Branch to the Chief, Operations Division, who will coordinate with the Real Estate Division Field Office to initiate the property damage appraisal. The report will include the following information:

- * Location of the site by tract number, county, section, township and range. A map showing the exact location should be included.
- * Name and address of the individual responsible for the trespass.

- * A description of the encroachment; i.e., crops not yet planted, crops planted, or crops harvested, the number of acres involved and the kinds of crops. Include photos of the area.
- * Date that the trespass was first observed and the date that the suspect individual was contacted first, and all subsequent contacts.

15.2 Structure Trespass.

15.21 General.

15.211 Structure trespass is the unauthorized placing or construction of any type of building, earthwork, or other structure on project lands. Common examples of such unauthorized structures are small boat docks, wooden ramps, boat rollers, and effluent drains. It is a primary responsibility of the rangers to observe and report possible incidents of structures trespass to the park manager. Rangers should be thoroughly familiar with all fee boundaries and remain informed on all current construction permits involving Government lands.

15.212 Although structure trespass is a fairly common problem most violations are minor in scope. The minor violations usually consist of some type of construction on government land without a letter of permit from the District Office. Normally, field personnel can correct this trespass by advising the responsible person of the requirements and restrictions on construction on government land; this usually halts further construction until proposed plans for the work are received and a permit issued or denied. If a permit is not issued, the responsible person must return the site to its original condition at his own expense.

15.22 Procedures for Managers and Rangers. When an incident of trespass is observed, take the following course of action:

15.221 Determine the location and status of the land involved (fee or easement) on topographic and real estate tract maps. This will indicate the subsequent action to be taken.

15.222 If unpermitted work is in progress, inform those present that they are in violation and should stop all further work.

Ascertain the name of the person responsible for the trespass, if not present, and inform the individual personally.

15.223 If the incident involves fee land, inform the person responsible that the individual is trespassing on Federal property and that all work must stop immediately. State that an appraisal will be necessary to determine the amount of damage and to determine the corrective action.

15.224 Submit a written report through the Chief, Recreation-Resource Management Branch to the Chief, Operations Division, who will forward to the Real Estate Division Field Office. Include the following information in the report:

- * Location of the site, by tract number, county, section, township and range. A map showing the exact location within the tract is desirable.
- * The name, address, and telephone number of the person responsible for the trespass, as well as that of any other persons involved.
- * A complete description of the structure, earthwork, equipment, materials, etc., that were involved. Include photographs of the scene.
- * Date that the work was first observed and the date that the person responsible was contacted, as well as that for all subsequent contacts.

15.225 Rangers will make frequent checks of the site to be certain that no further work is done until guidance is received from District elements.

15.3 Timber Trespass.

15.31 General.

15.311 Timber trespass is the unauthorized cutting and/or removal of timber from government land. Government land along the Mississippi River is particularly vulnerable to this form of encroachment due to the great extent of government land, the length of the project boundaries, relatively easy access to portions of the government land and the presence of valuable commercial tree species. The problem is one that will exist whenever stands of timber cannot be carefully guarded. Reduction of unauthorized

timber removal will require vigilant effort by all Corps of Engineers personnel to detect, report, and stop any possible unauthorized cutting.

15.312 Timber removal from government lands occurs in four ways. The first of these is large scale logging operations. This has occurred infrequently and is generally the result of poorly marked boundary lines. The second form of unauthorized timber removal is the cutting of single trees of such high value species as pecan, pin oak, and black walnut. This is a constant problem and one that is difficult to detect and stop. The third type of unauthorized removal is the cutting of brush and trees to improve river views and provide shoreline access. This occurs most commonly where a narrow strip of government-owned shoreline is bordered by residential or recreational home sites. The fourth form of timber trespass is the cutting of timber for firewood. This also most commonly occurs close to private home sites.

15.32 Procedures by Managers and Rangers. In the event that Corps of Engineers personnel become aware of any logging operation on fee land, they should take the following action:

15.321 Determine the legality of the logging operation. Check with the Real Estate Division Field Office to determine if the area is involved in a construction contract. If so, insure whether the timber removal is, or is not, a part of the approved contract.

15.322 If information indicates possible illegal activity, contact the District Counsel and request advice.

15.323 If the timber cutter is not present at the site and the person's identity cannot be readily proven, the District Counsel may direct field personnel to contact local residents or workers in the area as to any knowledge of the incident and of person(s) possibly involved.

15.324 If the cutter is present, obtain an explanation from the individual and then inform the person to stop all logging operations (only if District elements have determined the logging operation at that site to be illegal). Further, inform the cutter that an appraisal of the cut timber and any soil damage will be made and the violator charged for remittance accordingly. Since the District Counsel may seek legal action to prosecute the violator, all contacts and conversation with the violator must be accomplished carefully, with well chosen words regarding the instruction of District elements.

15.325 Submit a written report through the Chief, Recreation-Resource Management Branch to the Chief, Operations Division, who will inform the Real Estate Division Field Office and the District Counsel. Data submitted should include, but not be limited to, the following:

- * Location of the timber cutting site, to include tract number, county, section, township, and range. A map showing the exact location is desirable.
- * The names and addresses of the individual(s) responsible for the cutting and their statements.
- * The date and time that the cutting was first observed; the date the cutter was first contacted, as well as that for any subsequent contacts.
- * For the damage estimate, determine the estimated volume of timber that was cut (in board feet) and the tree species, and record the number of logs of each species if possible. Also, describe the effect to other disturbed vegetation and any other environmental degradation.
- * Obtain supporting data, including photographs of logging equipment, logs on trucks, cut and standing trees on the site, any special markings made on cut trees and logs, etc.

15.326 Rangers will make frequent checks of the site to insure that logging has ceased; check other likely localities where logging activity may have started. As necessary, further guidance will be provided by District elements.

16. IN-SERVICE TRAINING AT PROJECT.

16.1 Maintenance Personnel. The project maintenance force is made up of personnel with training and skills in mechanics, heavy equipment and tractor operation, carpentry, and general construction skills. These personnel use all types of tools and equipment to accomplish various construction, repair, and maintenance tasks. Persons possessing a particular skill will advise co-workers of the proper methods and practices, as well as the proper and safe use of tools, power machinery, etc. Work schedules are developed with the intention of having proper leadership and skilled personnel on the job to give other employees a chance to

participate in on the job training. In this way, each employee can participate in a variety of projects to develop personal skills and be better prepared for advancement. Proper maintenance of a work schedule file by the Park Manager and referral to it, helps meet this end.

16.2 Resources Management Personnel.

16.21 The following Description of Training, Table 10, provides the framework for a training and professional development program for Corps of Engineers personnel involved in recreation-resources management activities. The program is aimed primarily at employees in park manager, assistant park manager, park technician, and ranger positions. The program is reasonably broad and extensive in scope but it is not intended to be all-inclusive as far as subject matter or available training courses.

16.22 Employees should regard this outline as a plan to guide them in their own development. It provides a source for management ideals to assist them in developing the employee in these areas where the action must be generated by management officials. This plan also delineates those areas where the initiative can be assumed by the employee, as well as those areas where management must assume the responsibility for providing the training or training opportunities.

17. VISITOR EDUCATION AND INTERPRETATION. Of great importance to sound resource management are programs aimed at informing the public of project facts and educating them in related areas such as conservation, nature interpretation, and land and water safety. Such programs also serve to inform the visiting public of the purpose and operation of the project, as well as the historical, recreational, and natural features of the area. Such information serves to enhance the visit and expand the enjoyment of an individual, as well as solicit cooperation in the preservation and enhancement of the area. At present, visitor education and interpretation at the Mississippi River recreation sites is very limited. This is due to the small size and wide dispersal of many of the recreation areas and because of the small size of the staff. These programs will be expanded in the future. The programs listed below are present and potential means of informing the visiting public.

TABLE 10

DESCRIPTION OF TRAINING	Recommended Application		
	Temporary Rangers	Permanent Rangers	Project Managers
I. TRAINING WHICH CAN BE PURSUED BY EMPLOYEE WITH MINIMAL ASSISTANCE BY MANAGEMENT.			
A. Study pertinent ER's, EM's and EP's. At a minimum, trainees should read - ER 1120-2-400, EM 1130-2-400 ER 1130-2-404, ER 1130-2-405, ER 1130-2-406, ER 1105-2-129, ER 190-2-4, EM 385-1-1, and ER 405-2-835. Appendix E of ER 1120-2-400 provides a good list of other ER's, EM's pertinent to recreation-resources management.	B	A	A
B. Study history of project and district.	B	A	A
C. Study Master Plan of project.	B	A	A
D. Review existing leases of project.		A	A
E. Study public use regulations for project and any special regulations applied by District Engineer.	A	A	A
F. Study state game and fish regulations.	A	A	A
G. Learn location and quality of tourist attractions within 50 mile radius of project (Other Corps Recreation areas, state parks, historical sites, museums, commercial recreation facilities.	A	A	A
H. Review current work and planned projects within the district (State Water Resources Bulletin).	B	B	A
I. Scan Park Practice Publications (NPS).	B	B	A

TABLE 10 (Cont.)

DESCRIPTION OF TRAINING	Recommended Application		
	Temporary Rangers	Permanent Rangers	Project Managers
<p>II. ON THE JOB TRAINING OPPORTUNITIES WHICH MUST BE INITIATED BY MANAGEMENT.</p> <p>Maximum practical application of on the job cross training is encouraged. Obviously such training must be programed with discretion-considering workload, funding and regulations governing such training. Cross training should be viewed as a continuing program with specific elements repeated at 5 year intervals. Cross training considered most important and recommended minimum periods for initial training are listed below.</p>			
A. Detailed to District Recreation-Resources Management Branch, Operations Division, during off-season (2-4 weeks).	B	A	A
B. Detailed to District Environmental Resources Section, Engineering Division, during off-season (2-4 weeks).	B	B	A
C. Detailed to District (NCD) Management and Disposal Branch, Real Estate Division during off-season (2-4 weeks).	-	B	A
D. Detailed to other District Reservoirs during summer season (2-4 weeks).	-	B	A

TABLE 10 (Cont.)

DESCRIPTION OF TRAINING	Recommended Application		
	Temporary Rangers	Permanent Rangers	Project Managers
<p>III. OFF THE JOB TRAINING OPPORTUNITIES WHICH MUST BE INITIATED OR APPROVED BY MANAGEMENT.</p> <p>Such training will be accomplished when practical from a workload and funding standpoint and within the regulations governing such training.</p>			
A. Attendance at seminars and conferences of State and Federal Resource Management agencies and technical professional organizations.	B	B	B
B. Attendance at college and university short courses related to recreation-resources management.	B	B	B
C. Visits to other projects in the District or in other districts to compare and discuss management techniques.	B	A	A
D. Attendance at special District and division recreation-resources management training sessions and conferences. (Sessions to be developed in response to observed training needs in special areas. Sessions may include, but will not be limited to, topics listed in part IV of this guide).	B	A	A
E. Attendance at Special Ranger Training Courses sponsored by NPS.	-	B	B
F. Cross Training with Local Rescue Squads and Police.	B	B	B

TABLE 10 (Cont.)

DESCRIPTION OF TRAINING	Recommended Application		
	Temporary Rangers	Permanent Rangers	Project Managers
<p>IV. CORRESPONDENCE COURSES.</p> <p>Application is processed by the Training and Development Branch of the District Personnel Office.</p>			
A. Fundamentals of Management - AG 46.	-	B	B
B. Civilian Personnel Management - ENGR 167.	-	B	B
C. Human Relations I - MED 470.	B	B	B
D. Human Relations II - MED 618.	B	B	B
E. Effective Writing - ENGR 159.	-	B	B
F. Safety Management for the Supervisor - AG 41.	-	B	B
G. Safety in Sports and Recreation - AG 45.	B	B	B
H. First Aid - MED 500.	B	B	B
I. Soils and Pavements - ENGR 63.	-	B	B
J. Soils Engineering - ENGR 360.	-	B	B
K. Paving and Surfacing Operations - ENGR 366.	-	B	B
L. Engineering Equipment I - ENGR 66.	-	B	B
M. Utilities - ENGR 158.	-	B	B
N. Frame Structures - ENGR 69.	-	B	B
O. Drainage - ENGR 359.	-	B	B
P. Map Reading - INF 3.	-	B	B
Q. Riot Control - INF 588.	-	B	B
R. Civil Disturbance - INF 672.	-	B	B
S. Basic Pest Control Tech. - NTC 150.	-	B	A

TABLE 10 (Cont.)

DESCRIPTION OF TRAINING		Recommended Application		
		A = Required for most efficient performance of duties.		
		B = Beneficial to Professional Growth.		
V. READING AND REFERENCE LIBRARY.	Temporary Rangers	Permanent Rangers	Project Managers	
A. The Division and District will periodically provide for review relevant "state of the art" news clippings or other printed information considered pertinent to management of specific projects.	B	B	B	
B. The Division and District will assist project managers in supplementing or establishing libraries of reference data that would be helpful in performance of recreation resources management duties. Included in this library will be the Park Practice Publications, pertinent ER's, EM's, EC's, ETL's, AR's, Films, Slides, NFPA Standards, Project personnel should be provided adequate opportunity to make use of the project library both as a reference source and a training medium.	A	A	A	

17.1 Ranger Contact With the Public. The uniformed ranger is the most conspicuous representative of the Corps of Engineers. Rangers on patrol or on duty in any capacity should take full advantage of every opportunity to inform the visiting public. The ranger's actions should demonstrate to the public that his primary interests are efficient operation of the project and the preservation and enhancement of the natural resources. The ranger will be courteous and friendly to the public at all times and promote the programs and endeavors of the Corps of Engineers. The ranger should be familiar with the natural and cultural resources of the area and carry with him brochures and other information for public distribution.

17.2 Cooperation with the News Media. Project personnel should at all times be prepared to provide reports on fishing, boating, camping, weather, and other areas of interest to the news media. Working with the news media is particularly important during the recreation season. Any special activities on Corps of Engineers land or sponsored by the Corps of Engineers should be announced to the news media well in advance of the event.

17.3 Public Speaking Engagements by Management Personnel. Project management personnel, assisted if warranted by personnel from various District elements, will make themselves available whenever possible to speak before public safety and civic groups, recreational activity groups, and sportsmen's clubs.

17.4 Facilities and Equipment. Public information signs placed in strategic locations throughout the project area will be utilized to present pertinent information. Bulletin boards with materials updated frequently will be used as the primary means of providing information on facilities, warnings, programs, etc., to the visiting public.

17.5 Tours and Campground Talks. Tours and campground talks will be provided by rangers and summer staff on a regular basis during the summer months at recreation areas of high visitation such as Thomson Causeway, Blanding Landing, Pleasant Creek, and Ferry Landing. Campground talks will be given at night and either in the morning or afternoon. When time and manpower permit, group tours will be led on the Thomson Nature Trail, which is normally selfguiding.

17.6 Visitor Center. A visitor center is currently being planned for the Rock Island District with the objectives of telling the story of the Corps of Engineers, the Mississippi River, the Lock

and Dam system and the various other Corps projects and recreation facilities available in the District. The center will be located at Locks and Dam No. 15, adjacent to District Headquarters. An Interpretive Ranger will be employed year-round to keep the center open, maintain and update the displays, and present special programs. The center will be a vital link in the project interpretive program by serving as a focal point for activities and interests along the entire river.

18. RECREATION AREA MAINTENANCE.

18.1 Maintenance of Grounds.

18.11 Routinely, the grass-covered grounds are mowed by contract caretakers. These contracts require mowing not less than once a week unless directed otherwise by project personnel. Surveillance by rangers and park management personnel will be scheduled to insure acceptable contractor performance. Poor performance will be basis for termination of the contract.

18.12 All bare (vegetated) areas will be reseeded by the project staff in the spring and fall. Major turf seeding efforts which require tillage of several acres will require special funding. Specific problem areas with disease and/or compaction will justify surface excavation and sodding or reseeded.

18.13 Project rangers will continually remind the visiting public that the digging and leveling of grounds and unregulated ground fires are prohibited. The sensitive vegetation and soil mantle are easily disturbed and, thus, are vulnerable to erosion.

18.14 Project employees will remove hazardous dead trees and limbs; these can be cut for firewood. Damaged trees will be trimmed and repaired, especially those within high use areas. Park rangers will be observant for any trees which present such a hazard and report them to the Park Manager.

18.15 The park manager will maintain a tree and shrubbery planting schedule such as outlined in Appendix B, Forestry Plan.

18.16 Routine trash collection (from trash receptacles) and litter removal (from the grounds) is accomplished by the contract caretakers. The ranger staff will maintain close supervision to assure compliance with the contract. In instances of contract default, mowing, cleaning, and trash removal will be accomplished by Corps employees until a new contract can be negotiated.

Active public relations campaigns, through local media and public notices around the project area; i.e., park entrances, boat launching sites, trailways, etc. will be used to reduce littering.

18.2 Maintenance of Roads and Parking Areas. Project maintenance personnel will perform the following duties associated with the roadways and parking areas throughout the project.

18.21 Catch basins, outlets of subdrains, and ditches along the roads will be cleaned in the spring and fall or as required.

18.22 Washouts on berms and slopes will be repaired as they develop by grading or filling with stone and chips. The berms and slopes will be reseeded and mowed where necessary so as to present a neat appearance and prevent surface erosion.

18.23 Guardrail and guard posts will be aligned and repainted as required. Deteriorated parts or sections will be replaced. An annual survey by the ranger staff before the recreation use season should reveal the replacement requirements so that supplies of materials can be stocked and repairs can be made.

18.24 Unpaved roadways and parking areas will be dragged or graded and selected material added as required to maintain an all weather surface. These unpaved surfaces should be treated with a calcium chloride solution or road oil prior to the end of May and as required during the recreation season to control dust on the roadways.

18.25 Only those weed killers or herbicides which are approved specifically for the project area may be applied around posts, guardrailing, and other selected sites not vulnerable to water runoff. The use of herbicides will conform with the regulations of ER 1130-2-413.

18.26 All culverts and bridges will be inspected frequently by the ranger staff to avoid obstructing the flow of water, thus avoiding sedimentation and flooding problems.

18.3 Maintenance of Comfort Stations, Shower Buildings, and Miscellaneous Facilities.

18.31 The frequency of service visits to the comfort stations, vault toilets, and shower buildings shall be daily or more often to insure that they are kept neat and sanitary at all times and that the paper supply is not exhausted between visits.

18.32 Vault toilets must be maintained in a sanitary condition by frequent cleaning. The cleaning will be done by contract caretakers in accordance with the standards of the applicable state health department. Approved disinfectants and deodorants will be used to minimize odor. Vaults will be pumped before they become filled to 70% capacity.

18.33 All insects, insect nests, and webbing will be removed from louvers, screens, doors, eaves, and walls of all shelters and toilet facilities.

18.34 Shelters and shelter floors will be swept and scrubbed with cleansers and adequately rinsed four times per month or more if needed. Picnic tables, tops and seats, will be washed daily to remove food residue and dust.

18.35 Cooking grills and fireplaces will be cleaned as necessary to remove ashes, debris, trash, accumulated burned cooking deposits and other foreign matter.

18.36 Painted or stained surfaces should be repainted or restained as necessary to present trim and clean appearances and to reduce oxidation of the material. Brown paint will be used on painted tables and redwood stain number 352-847 on stained tables. Rest rooms and shelters will be painted with appropriate earth tone colors to blend with the environment.

18.4 Maintenance of Launching Ramps. Launching ramps will be maintained free of debris, sediment, and algal growth. As high river water levels recede, extra care will be taken to maintain clean ramps with adequate traction.

18.5 Maintenance of Signs.

18.51 All recreation area signs, visitor information signs, and warning and traffic control signs will be checked frequently to insure readability, attractiveness, and appropriateness. Deteriorated or badly damaged signs will be replaced or repaired by project maintenance staff as soon as the condition is noticed.

18.52 Uniformity within the project is a major objective. Signs constructed at the project should include the Corps of Engineers castle emblem when appropriate. Signs should conform to the standards as shown in the National Park Service Recreation Symbols Signage Program, the Manual on Uniform Traffic Control Devices and the guidelines established by ER 1130-2-400 and NCDP 113-2-1.

18.53 Project boundary monuments will be checked as frequently as possible, especially in areas of probable encroachment. Damaged or missing monuments will be reported to Real Estate Division and to Survey Branch, Engineering Division.

18.6 Maintenance of Locks and Dams. The maintenance of all lock and dam structures and associated facilities is covered in "Operation and Maintenance Manual, Lock and Dam Numbers 11, 12, 13, 14, 16, 17, 18, 20, 21 and 22," "Operation and Maintenance Manual, Lock and Dam Number 19," and "Operation and Maintenance Manual, Lock and Dam Number 15." Maintenance of these facilities is technical in nature and is not appropriate to this document.

19. PEST CONTROL PROGRAM.

19.1 Vector Control. No major problems have been identified at any of the public recreation areas. Should an outbreak of encephalitis or other insect borne disease occur, the most practical method of control at this time would be to close the area entirely.

19.2 Rodent Control. No rat or mouse problem has occurred in the recreation areas. Continuing use of pest preventative measures will assure that no problems arise. These measures include frequent refuse collection, disposal and removal of debris, rubbish, and other materials that serve as cover, and removal of unnecessary brush and weeds within the recreation areas. Should a rat or mouse problem occur, control will be accomplished in accordance with ER 1130-2-413.

19.3 Noxious Weeds. Poison Ivy and other noxious weeds such as nettles are largely controlled by mowing. Poison ivy vines should also be removed from trees within the recreational areas. Use of herbicides should be kept to a minimum in accordance with ER 1130-2-413.

20. ENVIRONMENTAL CONSIDERATIONS.

20.1 The implementation of the 9-Foot Channel Navigation Project has had a definite impact upon the environment. Ecosystems (interacting communities of plants and animals in their environment) have been disturbed or destroyed, new ones have been created. A Final Environmental Impact Statement was submitted to CEQ 7 February 1975. Rock Island District personnel assigned to the project, i.e. Park Managers, Rangers, Maintenance Engineers, etc., are charged with managing this altered environment by using all practicable means and measures to enhance, preserve, and protect the quality of the environment to the fullest extent possible.

20.2 Environmental Management Practices which will be Implemented.

20.21 Controlled Mowing. Mowing retards plant succession, affects wildlife use patterns, zones public use areas, and affects the aesthetic quality of the area. Areas which will be kept well mowed include the picnic areas, roadsides, campsites, play areas, beach areas, and areas adjacent to all buildings or facilities. Fields in or near recreation areas will be left in essentially a natural condition. Access by the public will be achieved through trails through fields leading to a natural termination point or vista. This practice should provide more wildlife and less of a city park atmosphere.

20.22 Walks. Walks are desirable where concentrated public use requires special treatment to protect the environment against soil compaction and erosion, etc. Paths from parking areas to launching ramps, toilets, or shelter houses require improved surfaces. Generally, the path or steps should be as rustic as possible without allowing undue deterioration to the site. Where a walk near a launching ramp may be concrete, a path in a picnic area would be more appropriately constructed from wood chips, bark, native stone, etc. Toilets in the middle of picnic areas should not require walks since they are accessible from all sides.

20.23 Debris Burning. With the emphasis on air pollution, it behooves the Corps to hold the burning of refuse, slash, and debris to an absolute minimum. Larger portions of tree tops will be used as firewood. Small limbs can be thrown in gullies for erosion control or preferably piled in non-recreation areas for wildlife cover.

20.24 Housekeeping Practices. Trash collection and toilet maintenance are sanitation requirements which adversely affect the environment when not performed adequately. Facilities for their control must be provided where people congregate. Old, dead-end roads which have not been adequately barricaded or obliterated often turn into dumps. Adequate turn-arounds and a trash barrel in these locations will help the litter problem. A boat trash patrol will check popular bank fishing sites and islands used by the recreationist. Youth groups often provide assistance in keeping some isolated areas clean, as part of their community service projects. By working with law enforcement agencies, youthful offenders may provide another source of free litter control. The proper siting of trash containers reduces the time required for litter pickup. Several techniques might need to be tried before the best system is found.

20.25 Wildlife. Wildlife is an important resource and many management practices will be undertaken so that the casual visitor may have an opportunity to observe wildlife while on an outing. Shrub and tree species, which have high wildlife as well as aesthetic values, will be planted in public use areas (see Appendix B, Forestry). Windbreak or zoning barriers in public use areas also act as travel lanes for wildlife. Much of the shoreline in recreation areas will be "left in the rough" with selected paths to the shoreline. Mowing will be selective. A dusting area near food patches might be established to attract birds. Bird houses can be solicited from civic groups. Den trees that are structurally safe will be saved.

21. CULTURAL RESOURCE MANAGEMENT.

21.1 Cultural Resources. Cultural resources are non-renewable resources which must be managed with sufficient care to insure their protection and preservation. These resources are viewed as any object or area which has been modified by man. This includes archaeological sites, archaeological artifacts, historical sites, and historical structures.

21.2 Known Archaeological and Historical Sites. The protection and preservation of known archaeological and historical sites is essential. The most common causes of destruction are vandalism, landscape modification, and erosion. All necessary actions are being taken by the Park Manager and individuals responsible for normal operation and maintenance activities to prevent these types of destruction. These actions include:

21.21 Ranger patrolling of archaeological and historical areas developed for public display to insure against vandalism.

21.22 Constant patrolling of developed and undeveloped sites to insure that no part of these sites is destroyed by erosion, and that proper mitigative action shall be implemented should natural erosion begin.

21.23 Any construction or maintenance activity will be coordinated through the Park Manager to insure that no known archaeological or historical site will be adversely affected by the action.

21.24 Ranger patrol of undeveloped archaeological and historical sites to insure against unauthorized excavation or artifact collection. Excavation or artifact collection on Corps land is not permitted unless authorized in writing by the District Engineer.

Any person without this authorization who is found collecting or excavating or has in his possession artifacts taken from project lands, will be prosecuted under 36 C.F.R. 327.14.

21.25 The exact locations of archaeological or historical sites or structures should not be disclosed to the public unless they have been developed for public display.

21.3 Newly Discovered Archaeological and Historical Sites. The discovery of archaeological and historical sites is usually accidental and results from many causes, including natural erosion, construction, landscaping, and stray artifacts found on the ground surface. It is imperative that the Park Manager report the discovery through normal channels to District elements responsible for coordinating cultural resource activities with appropriate Federal and non-Federal agencies. Necessary steps will be taken by the responsible agencies to investigate the site and recommend the proper course of action to preserve and protect the resource. Further measures should include:

21.31 Patrolling Federal property to check on eroding land surfaces for the exposure of cultural material.

21.32 Monitoring, by the ranger staff, of minor construction and maintenance activities to insure protection of cultural resources.

21.33 The above activities are not intended to take the place of professional survey and monitoring activities but rather should be used in conjunction with them to insure adequate protection.

21.34 No assessment of the significance of newly discovered sites should be made by the Park Manager. All sites and potential sites must be reported and documented for District files.

21.4 Training. Individuals who are responsible for the direct management of project lands will be familiar with the content of the laws governing and the Corps of Engineers regulations pertaining to cultural resources. These include:

21.41 Federal Laws.

- Antiquity Act of 1906
- Historic Sites Act 1935
- Reservoir Salvage Act 1960
- Historic Preservation Act 1966
- National Environmental Protection Act 1969
- Executive Order 11593

21.42 State Laws. Information regarding these laws can be obtained from the State Historic Preservation Officer in the subject states. Table 11 lists the addresses of these officials.

21.43 Corps of Engineers Regulations.

ER 10-1-3
ER 37-2-10, Chapter 8
ER 405-1-875
ER 1105-2-507
ER 1145-2-303
TM 5-5-801-1

21.44 All individuals responsible for project lands will also be familiar with basic field survey techniques in order that they be able to recognize cultural resources when they happen upon them. In order that this training may be facilitated, the Rock Island District will hold training sessions as the need arises.

21.5 Grantees. Policies regarding preservation of cultural resources also apply to governmental agencies that have been delegated the responsibility for management of project lands through a Real Estate outgrant.

22. APPENDICES TO THE MASTER PLAN. Appendices to the master plan will be prepared in accordance with ER 1130-2-400. They will be updated at five-year intervals to maintain the appendix usefulness as a management tool. The present schedule for preparation and updating of appendices is as follows:

<u>Appendix</u>	<u>Initial</u>	<u>Update</u>
A - Project Resource Management	2Q78	4Q85
B - Forestry	4Q80	4Q85
C - Fire Prevention	4Q80	4Q85
D - Wildlife	4Q80	4Q85
E - Safety	4Q80	4Q85
F - Shoreline Management	N.A.	N.A.

TABLE 11
STATE HISTORIC PRESERVATION OFFICES

ILLINOIS

Mr. David Kenney
State Historic Preservation Officer
Illinois Department of Conservation
614 State Office Building
Springfield, Illinois 62706

IOWA

Mr. Adrian Anderson
State Historic Preservation Officer
State Historic Department of Iowa
Division of Historic Preservation
26 East Market Street
Iowa City, Iowa 52240

MISSOURI

Ms. Carolyn Ashford
State Historic Preservation Officer
Missouri Department of Natural Resources
P.O. Box 176
1204 Jefferson Building
Jefferson City, Missouri 65101

WISCONSIN

Mr. Richard A. Erney
State Historic Preservation Officer
State Historical Society of Wisconsin
816 State Street
Madison, Wisconsin 53706

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MISSISSIPPI RIVER MASTER PLAN

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MISSOURI DEPARTMENT OF CONS, ATTN: CARL R. NOREN, DIRECTOR, P.O. BOX 180, 2901 NORTH TEN MILE DRIVE, JEFFERSON CITY, MO 65101	33
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