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# REVISION OF MASTER PLAN FOR RESOURCE MANAGEMENT

# POOLS 11-22 9-FOOT CHANNEL NAVIGATION PROJECT



U.S. ARMY ENGINEER DISTRICT, ROCK ISLAND CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS SEPTEMBER 1969 NCDPD-ER (22 May 70) 2nd Ind

SUBJECT: Revision of Master Plan for Resource Management, Upper Mississippi River, Pools 11-22, Nine-Foot Channel Navigation Project

DA, North Central Div., Corps of Engineers, 536 S. Clark St., Chicago, Illinois 60605 26 Jan 1971

TO: District Engineer, Rock Island

Forwarded for appropriate action.

FOR THE DIVISION ENGINEER:

Cames W. G. Cland

JAMES W. GILLAND Colonel, Corps of Engineers Deputy Division Lagineer for Civil Functions



DEPARTMENT OF THE ARMY NORTH CENTRAL DIVISION, CORPS OF ENGINEERS 536 SOUTH CLARK STREET CHICAGO, ILLINOIS 60605

NCDPD-ER

22 May 1970

SUBJECT: Revision of Master Plan for Resource Management, Upper Mississippi River, Pools 11-22, Nine-Foot Channel Navigation Project

Chief of Engineers ATTN: ENGCW-PV

1. Chapters IV, V, VI and VII of the subject master plan (Pools 13, 14, 15 and 16) are forwarded, recommending approval, subject to the following comments.

2. The land use zoning and forestry management objectives indicated on the plastic overlays with the base maps are important features of this master plan. These overlays provide guides for achieving rational long range resource management on project lands and waters. Preparation of these land use zoning and forestry management overlays involved detailed analysis of resources and extensive coordination efforts which warrant special mention in the narrative portion of the plan. As indicated in Chapter I, General Information, the last chapter of the master plan, Chapter XIV, will contain a summary of the complete master plan. Chapter XIV should contain a section to emphasize the fact that the most significant long range value of this master plan can be realized through appropriate implementation of the land use zoning and forestry management features of the plan.

3. The chapters of the master plan covering the individual pools do not present sufficient data on recommended recreational facility expansion. It is suggested, therefore, that Chapter XIV should provide a consolidated detailed analysis of all works specifically recommended in Pools 11 thru 22, to include the following:

a. Existing Facilities Operated by the Corps.

(1) Provide site plans indicating expansion needed to meet increased demand, or modifications needed to improve site design or user control.

22 May 1970

NCDPD-ER

SUBJECT: Revision of Master Plan for Resource Management, Upper Mississippi River, Pools 11-22, Nine-Foot Channel Navigation Project

(2) Provide detailed cost estimates including costs of site preparation, landscaping and signs.

b. Dredging.

(1) Identify by pool and river mile all dredging proposed in support of recreational boating.

(2) Provide detailed information on length, width and depth of channel that should be provided and explain if dredge spoil can be used beneficially.

(3) Provide cost estimates for each site.

c. New Sites.

This master plan contains specific recommendations for development of new sites even though at this time no local agencies have indicated an intent to cost share. For these new sites, provide detailed cost estimates including special items of cost associated with development such as bridges, railroad crossings and fencing.

#### d. Programming.

Establish priorities for recommended improvement of existing facilities. Indicate which improvements will be programmed for development under current policy prior to 30 June 1976. (See OCE letter ENGCW-Y dated 5 August 1965, subject: Implementation of the Federal Water Project Recreation Act (P.L. 89-72) in Previously Authorized Projects.)

4. Items discussed or proposed in this master plan do not in any way conflict with the current concept of a National Recreation Area for the Upper Mississippi River. In fact, this master plan and the related resource maps could very well serve as the framework for a more elaborate development and management plan should the National Recreation Area become a reality.

#### FOR THE DIVISION ENGINEER:

James W. Gilland

4 Incl (trip) as fwd sep

CF:

JAMES W. GILLAND Colonel, Corps of Degineers Deputy Division Engineer for Civil Functions

District Engineer, Rock Island

ENGCW-PV (22 May 70) 1st Ind

SUBJECT: Revision of Master Plan for Resource Management, Upper Mississippi River, Pools 11-22, Nine-Foot Channel Navigation Project

DA, Office of the Chief of Engineers, Washington, D. C. 20314 6 Jan 71

TO: Division Engineer, North Central

The revised Master Plans for Pools 13, 14, 15 and 16 are approved subject to the comments expressed by NCDPD-ER in the basic letter and to the following.

a. Chapter IV, <u>Pool 13</u>, Section V, Plate V 1.2. The tabulation of total existing picnic tables listed under the item of camping appears to be in error.

b. Chapter V, <u>Pool 14</u>, Section VI, par. 7a(4), page VI-4 and Section VII, par. 2, page VII-1. The Corps can participate in the construction of new areas in accordance with provisions of PL 89-72 as further implemented by ENGCW-Y 5 Aug 65 letter. Such letter is referenced in paragraph 3d. of the basic letter.

c. Chapter VII, Pool 16.

(1) Section IV, Plate IV-4.3. Shady Creek Public Use Area. The site layout plan should be revised to separate camping, an overnight use, from picnicking, a day-use per the criteria shown in ER 1130-2-312.

(2) Section V, Plate V 1.2. The tabulation of total existing parking units listed under the item of day use and total existing picnic tables listed under the item of camping appears to be in error.

d. In the interest of enhancement of the environmental quality of the recreation areas a program of landscape planting of such areas should be initiated at an early date.

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FOR THE CHIEF OF ENGINEERS:

wd all incl

LOUIS G. FEIL Chief, Planning Division Directorate of Civil Works



DEPARTMENT OF THE ARMY ROCK ISLAND DISTRICT, CORPS OF ENGINEERS CLOCK TOWER BUILDING ROCK ISLAND, ILLINOIS 61201

IN REPLY REFER TO

#### 9 February 1970

SUBJECT: Revision of Master Plan for Resource Management, Upper Mississippi River, Pools 11-22, Nine-Foot Channel Navigation Project

Division Engineer, North Central

1. Chapter VI, Pool 15, of the subject master plan is submitted in accordance with Engineer Manual 1130-2-302.

2. This chapter of the master plan contains specific information concerning the administration and development of the resources within the pool.

3. It is recommended that chapter VI of the master plan for resource management of the Mississippi River 9-foot channel navigation pools be approved.

2 Incls (6 cys)
1. Narrative, Pool 15
2. Maps, Pool 15

JAMES E. BUNCH Colonel, Corps of Engineers District Engineer

#### REVISION OF MASTER PLAN FOR RESOURCE MANAGEMENT

## POOLS 11-22

## NINE-FOOT CHANNEL NAVIGATION PROJECT

## CHAPTER VI

THE MISSISSIPPI RIVER, POOL 15

### TABLE OF CONTENTS

SUBJECT	PAR.	PAGE
SECTION I - INTRODUCTION		I-1
SECTION II - DESCRIPTION OF PROJECT	_	
General Topography and Geology Locks and Dam No. 15 Pool 15	1 2 3 4	II-1 II-1 II-2 II-2
SECTION III - POOL RESOURCES		
General Water Land Vegetation Wildlife Birds Animals Fish Recreation Historical and Archaeological	1 2 3 4 5 5 a 5 5 6 7 8	III-1 III-1 III-2 III-2 III-2 III-2 III-2 III-3 III-3 III-3
SECTION IV - FACTORS AFFECTING RESOURCE USE General Zone of Influence Economic Conditions Accessibility Existing Recreational Facilities Corps of Engineers Facilities LeClaire Lock Other Recreational Facilities Water Quality Climatic Conditions	1234558 55567	IV-1 IV-1 IV-2 IV-2 IV-2 IV-3 IV-3 IV-3 IV-3 IV-3
SECTION V - CURRENT & ANTICIPATED RECREATIONAL		

а

USE

V-1

TABLE	$\mathbf{OF}$	CONTENTS (	(Continued)	)

SUBJECT		מ אם	DACE
20BJECT		PAR.	PAGE
SECTION VI - POOL RESOURC	E MANAGEMENT		
General Land Use Zoning Water Zoning Timber Management Wildlife Management Shoreline Ownership Additional Recreational Corps of Engineers Bureau of Sport Fishe States Counties Municipal	_	1 2 3 4 56 7 7 8 7 7 7 7 7 7 7 7 7 7 9	VI-1 VI-1 VI-2 VI-2 VI-2 VI-2 VI-2 VI-2 VI-2 VI-2
SECTION VII - OPERATION A	ND MAINTENANCE		
Pool Manager-Ranger Recreation Facilities N	laintenance	1 2	VII-1 VII-1
SECTION VIII - SUMMARY AN	ID RECOMMENDATIONS		
General Summary Recommendations		1 2	VIII-1 VIII-1
SECTION IX - REVIEW OF PI	AN		
Real <b>E</b> state Division Operations Division		1 2	IX-1 IX-1

# PLATES

## NUMBER

# TITLE

I-1.1 II-2.1	9-Foot Channel Project, Rock Island District Locks and Dam No. 15, Rock Island, Illinois
IV-2.1	Commercial Activities, Lock 15
IV-2.2	Mississippi River Recreation Areas
IV-2.3	Fisherman's Corner Public Use Area
V-1.1	Small Boat Lockages 1969 EXIST. & PROPOSED FAC. LUM.
V-1.2	
VI-3.1	Small Boat Harbor, Moline, Illinois
VI-3.2	Small Boat Harbor, Davenport, Iowa

#### REVISION OF MASTER PLAN FOR RESOURCE MANAGEMENT

#### POOLS 11-22 NINE-FOOT CHANNEL NAVIGATION PROJECT

#### CHAPTER VI THE MISSISSIPPI RIVER, POOL 15

#### SECTION I

#### INTRODUCTION

As noted in chapter I, a Master Plan is developed to provide a sound instrument of guidance for the administration and operation of land and water resource projects; to assure sound resource management; and to coordinate activities with interested Federal, State, and local agencies. Pool 15, one of the series of navigation pools on the Upper Mississippi River, and within the limits of the Rock Island District, is treated under such master planning requirements. Plate I-1.1 locates the pool with reference to others of the navigation system in the Rock Island District, U. S. Army Corps of Engineers.



PLATE I-I.I

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#### SECTION II

#### DESCRIPTION OF PROJECT

1. General. Pool 15 extends upstream of locks and dam No. 15, river mile 482.9, to locks and dam No. 14, river mile 493.1 from Davenport, Iowa, to 4 miles downstream of LeClaire, Iowa a distance of 10.2 river miles measured along a determined sailing line. Scott County borders the entire pool in Iowa and Rock Island County lies along the Illinois shoreline.

Topography and geology. The course of the river follows 2。 the "new" valley in terms of geologic time, as did most of upstream pool 14. Prior to the 9-foot canalization project the entire length of pool 15 was a stretch of rapids which formed during the last glacial period. The edge of the ice sheet, which began to recede some 25,000 years ago, was at some time positioned across the upstream channel in a manner to divert the river into a new and more shallow path, resulting in the rapids that existed prior to 1934. The bordering hills are low and rolling, and the flood plain varies considerably in width, lying mostly above the ordinary high water elevation. Some agricultural lands exist in the extreme upper limits of the Iowa portion of the pool, but both shores, for the most part, are given to urban and industrial development.

Six minor creeks enter the pool, but do not have sufficient volume to be considered as important tributaries. The streams have fast response to heavy rainfall, but little, if any, effect on short-range pool levels.

Only 7 islands are contained within the pool limits (one accreted), with one under Government ownership. The lower end of the island adjacent to dam No. 14 also extends into pool 15 and is Federally owned. No shoreline land in the pool is under fee title to the Federal Government except small tracts associated with the lock and dam structures.

Pool 15 differs, along with pool 16, from others in the District, in that water flow is generally westerly in direction. Until reaching this area, the course of the river has varied between southeast, south, and southwest.

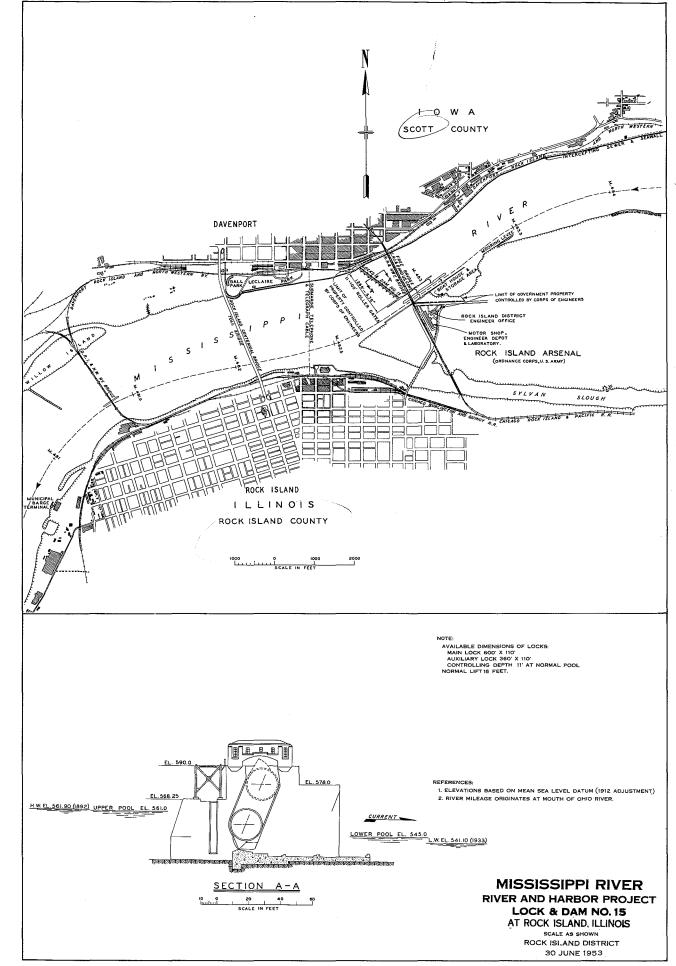
The underlying rock strata beneath pool waters is Niagaran Dolomite overlain, in the lower half, by Devonian limestone. The riverbed throughout the pool is foundation rock, since the channel was created by the divertive action of the last of several glaciers which covered the region in prehistoric times. 3. Locks and dam No. 15. In a downstream sequence, the structures are the fifth of 12 installations constructed as part of the 9-foot channel project in the Rock Island District of the Upper Mississippi River. These structures, located at river mile 482.9, were the first to be completed within the District. The installation differs from others in the District inasmuch as it is the only one to use roller gates exclusively in the dam section, to have no earth fill or other extension, and to have an operable auxiliary lock adjacent to the main lock.

The dam consists of 11 movable roller gates which are adjusted as necessary to maintain and control the impounded pool at the authorized water elevation.

The locks share a distinction with locks and dam No. 14 in that in both instances the locks are located along an island rather than being adjacent to the mainland shoreline as is the case at all other District installations. At locks and dam No. 15 the 110- by 360-foot auxiliary lock is situated parallel to and riverward of the 110- by 600-foot main lock and operates independently of the larger chamber. A plan and location of locks and dam No. 15 is shown on plate II-2.1 and on charts Nos. 88 and 89 of the base maps accompanying the Master Plan.

4. Pool 15. Extending easterly for half its length above the dam, the pool continues in a northeasterly direction to complete its 10.2 river mile stretch - the shortest of the 12 pools within the Rock Island District. Varying in width from 1,000 to 3,500 feet under normal flow conditions, the pool has a drainage area of 88,500 square miles at the dam and an established elevation (flat pool) of 561.0 feet above mean sea level (1912 adj). Low water, with reference to the operational pool level at the dam, has been recorded at elevation 557.3, or 3.7 feet below the authorized elevation. High water of record (April-May 1965) reached elevation 565.87, or 4.87 feet above the normal operating level at the dam.

Pool 15 differs from others in the Rock Island District in several respects. In addition to being the shortest, it is also the narrowest in the average distance between the mainlands of the two States it separates. There are few islands and consequently few sloughs. The pool lies entirely within a former rapids area and on its shores unfolded more of the history of young America than in most other river stretches.



CORPS OF ENGINEERS

PLATE II-2.1

U. S. ARMY

Maintenance dredging, largely in the vicinity of Campbell's Island, river mile 491, has amounted to 550,000 cubic yards of material during the 35 years the pool has been in operation. Spoil disposal, however, could not be considered for building or improving recreational areas since no Federally-owned shoreland exists within the vicinity.

#### SECTION III

#### POOL RESOURCES

1. <u>General</u>. The existing physical resources of the pool are considered only on a qualitative basis since Federal ownership of shorelands is nonexistent except for tracts immediately associated with locks and dam No. 14. Land adjacent to the locks area of locks and dam No. 15 is located on Arsenal Island, a U. S. Military Reservation which is not applicable to this Master Plan. As noted in chapter I, paragraph 7b, page II-5, acreage figures contained herein have been calculated from Master Plan maps for recreation and general land use planning and are not to be considered accurate for legal purposes. Significant variance may exist between the acreages as given and the official records maintained by the Real Estate Division of the Rock Island District Office.

2. <u>Water</u>. As with the other navigation pools in the system, pool 15 contains the general characteristics of both a river and a shallow lake in its 3,740 acres of water surface at the authorized flat pool elevation. The level of pollution that presently exists is not critical in respect to aquatic life. However the urban and industrial complex bordering the pool offers a potential threat. Waste treatment facilities are enumerated as part of section VI, paragraph 2, subsection c., of chapter I. Little in the way of shore area agricultural pollutants is to be expected nor are streams originating in agricultural areas and joining the pool considered as offering any particular threat in view of the drainage areas involved.

Approximately 14%, or 524 surface acres of the pool, are channel waters maintained at a minimum 9-foot depth. The remaining 86%, or 3,216 surface acres, are classified as offchannel waters of undetermined depths. Submerged wing dams and islands, in the upper reaches of the pool, may present navigation hazards to pleasure craft operating in such offchannel areas.

3. Land. No lands were acquired in fee for the 9-foot channel project, within the limits of the pool, except for a 9-acre tract at the Illinois end of dam No. 14. A 2.5acre island has accreted off the head of Campbell's Island, at river mile 491.1. Ownership has not been established. The 1,000-acre Arsenal Island, which anchors locks No. 15, is a Federal Military Reservation administered by the U. S. Army Weapons Command of the Department of the Army. Some 11 acres of this island property has been assigned to the Corps

of Engineers for the operation of the locks, the headquarters building of the Rock Island District, and appurtenant grounds and structures.

The six islands, not under Federal ownership, have a total area of 347.5 acres, most of which is contained in Campbell's Island, an urban development with road access from the mainland.

Of the 38 miles of pool shoreline (mainland and islands), 8 miles are owned by the Federal Government with 7 miles represented in Arsenal Island, administered by the U. S. Army Weapons Command. The Corps of Engineers controls 1/2 mile of mainland shoreline within the pool.

4. <u>Vegetation</u>. Timber cover on Corps administered lands is quite sparse and, on Arsenal Island, ranges from open to dense. Ash, American elm, oak, basswood, red birch, cottonwood, maple, and locust are the preponderant species found on Federal lands. There is no timber management program for the pool, since most of the stand is on Arsenal Island and not under the control of the Corps of Engineers.

5. <u>Wildlife</u>. The pool is relatively unattractive to any large numbers or species of wildlife, except in the extreme upper reaches, since the shores are largely urbanized and industrialized. No wildlife sanctuaries have been established on land or water areas by either the States or the Federal Government.

a. <u>Birds</u>. The 19 species of ducks and 4 species of geese, common to the "Mississippi Flyway" during migratory periods, tend to avoid the pool for the most part because of the population and industrial concentration and the lack of food. One species of water-bird, known as a Coot, is fairly common as is the gull in the fall season. Shore-birds are not common, but song birds are well distributed throughout the bordering land areas.

b. Animals. Small animal populations, also, are low because of lack of suitable habitat. Certain animals that have learned to live with man, such as the rabbit and squirrel, are numerous however. Skunk, opossum, raccoon, and even deer are occasionally seen in the residential areas.

Reptile populations follow the same general pattern and for similar reasons. Garden varieties of snakes are relatively numerous, but no poisonous types are known or have been reported within the pool limits.

6. Fish. The immediate downstream areas below the LeClaire lock in Iowa, and the Illinois end of dam No. 14, are exceptionally popular among fishermen. However, the remainder of the pool offers little attraction to fishermen in general since the lack of islands and sloughs is not conducive to good fish habitat nor the seclusion and protection of fishing boats.

Records for 1968 indicate a sport catch of 47,000 pounds and a commercial catch of 27,000 pounds. Although no creel census is available, the species taken in sport effort are considered similar to the upstream pools and include walleye, saugar, northern pike, perch, bluegill, freshwater drum, bass, crappie, channel catfish, and bullhead. Carp, buffalo, freshwater drum, and catfish constituted nearly all of the commercial catch.

7. Recreation. Only one Federal recreational area has been developed within the pool limits and is located immediately below the Illinois end of dam No. 14. Further potential does not exist since no additional shorelands are under the jurisdiction of the Corps of Engineers except for a relatively unsuitable area adjacent to the original LeClaire lock.

8. <u>Historical and archaeological</u>. The area surrounding pool 15 is replete with the history of prehistoric people and of early America and the beginning of the settlement of the vast western territories. Settlers were attracted to the fertile prairies of Iowa and Illinois and the river offered the only practical means of access to interior lands. The Davenport-Rock Island area became a focal point of commerce since upstream travel was severely hampered by the 15-mile stretch of rapids which became impassable during periods of low flows. Along with St. Louis, far to the south, the area developed as a gateway to the west, although progress was slowed by the determined resistance of the Indians who were displaced.

Black Hawk (Ma-Ka-Tai-Me-She-Kai-Kiak), great tribal chief of the Sauk and Fox Indian tribes of the region, fiercely resisted the influx of whites and accepted the assistance of the British who were struggling with the Americans for possession of the Mississippi River valley. History records many battles leading to what became known as the "Black Hawk War." One such incident concerns Campbell's Island, named for Captain John Campbell who left St. Louis in July of 1814 in command of a 120-man military detachment traveling by keelboat and bound for Prairie du Chien, Wisconsin. Ambushed by Black Hawk and 500 warriors on what is now Campbell's Island, Captain Campbell was severely wounded and many of his men killed. Major Zackary Taylor, later to

become president of the United States, was sent with another force to retaliate against Black Hawk. Taylor was defeated in the battle of Credit Island which will be noted in the history of pool 16. Black Hawk claimed ownership of the Mississippi River, for his people, from the mouth of the Wisconsin River to the mouth of the Missouri River. In 1804, four other chieftains visited St. Louis, and while intoxicated, sold the tribal lands east of the Mississippi to white men.

Saukenuk, an Indian village on the bluffs overlooking Rock River was located at the southern edge of the present city of Rock Island, Illinois. It was the home of Black Hawk and of Keokuk, a lesser chief, where both were born and spent most of their lives. History records that Black Hawk was religious, moral, philosophical, kind, humble, and brave in war. Keokuk (he who has been everywhere), on the other hand was haughty, spectacular, sauve, an orator, and a social climber - but capable. Conflict existed between the two for 40 years with Black Hawk considering Keokuk to be a coward and Keokuk accusing his rival of being childish. Keokuk managed to have himself elected as Guestkeeper, but the hostility of his own people forced him to move to a village at the present site of Davenport, Iowa, as the guest of the Fox chief, Poweshiek. In later years Colonel George Davenport, a white settler, attempted to intercede for Black Hawk and his people, but President Andrew Jackson ordered the Indians across the river in punishment for having fought against the Americans in the War of 1812. Keokuk, and a band of followers, then moved downstream and founded a new village which was to eventually become Keokuk, Iowa.

Black Hawk State Park now includes the site of Saukenuk, the main village of the 10,000 Indians estimated by early settlers to be living in the area at the time. The park features a museum of artifacts and memorabilia of Black Hawk and his period.

Rock Island - now Arsenal Island, the headquarters of the U. S. Army Weapons Command and the Rock Island District of the Corps of Engineers - was discovered by Louis Joliet and Jacques Marquette on their journey down the Mississippi River in 1673. The new American nation gained possession of the east bank of the river (Illinois) by the Treaty of 1783 with Great Britain and rights to the island itself came with the Harrison Treaty of 1804. The first white men to live on the island were 800 American soldiers and 160 French keelboatmen who arrived from St. Louis in May of 1816. Rock Island - "Assen-Melass" - was sacred to the Indians who

believed the Great Spirit dwelt in a cave at the lower tip of the island. (The cave was destroyed in the construction of the navigation locks in 1933). The soldiers built Fort Armstrong, named for a former Secretary of War, near the sacred cave - to the consternation of the Indians. The fort, built because of the American defeats at Campbell's and Credit Islands and the maraudings of Black Hawk, was manned until 1836 and was destroyed by fire in 1855. A replica of one corner blockhouse was erected in 1916, the centennial of the original fort. A Civil War prison, which has been called the "Andersonville of the North," was established on the island during the 1863-65 period. Nearly 2,000 Confederate soldier prisoners, who died of smallpox and other diseases, lie buried in a Confederate cemetary near a subsequently established United States national cemetary.

Moline, Illinois, was founded in 1841 under the name of "Rock Island Mills," and in 1843 renamed "Moulin," a French work meaning "Town of Mills," or "Milltown." One reason for the change was that 5 settlements were then using "Rock Island" as a part or total of their name. "Hesperia" was also suggested as well as "Moulin." "Moulin" was mispronounced, and probably misspelled by the semi-literate, as "Moline," giving the word a definite Swedish flavor. Some Swedish migrants, contemplating a new home in the vastness of America, may have been attracted by a somewhat familiar name. Whatever the reason, "Moline" with its industrial opportunities for artisans and agricultural opportunities in the surrounding countryside developed a preponderant Swedish population.

Colonel George Davenport, called "Saganosh" (he is an Englishman) by the Indians, became outstanding in the history of the pool 15 area. After serving 10 years with the U.S. Army, Davenport became a food contractor and arrived on Rock Island (Arsenal Island) in 1816 with the troop detachment sent to build Fort Armstrong. A year later Davenport built a home on the north side of the island, established a small plantation, became an Indian trader, and prospered. One lucrative enterprise of Davenport's was the establishment of a 2-stage ferry for persons desiring to cross the river. Passengers walked across the island in transferring from one boat to another, each manned by two oarsmen and a steersman. Rates for the service, which began in 1825, were extremely high for the times - \$1.25 for a man and horse and \$2.00 for a man and two horses. On 4 July 1845, Colonel Davenport was tortured and murdered by four river bandits, three of whom were hanged in the city of Rock Island some four months later. The skeleton of the leader of the group, John Long, is presently exhibited in the museum at Black Hawk State Park.

The city of Rock Island occupies the river site of a former Indian village called "Wapello" and received its first white settler in 1828. From 1833 to 1835 it was known as ) "Farnhamsburg" and from 1835 to 1841 as "Stephenson" (Stephensonville on some old maps). The town was to have been named for Colonel George Davenport, but detractors in the Illinois legislature managed to have the name "Stephenson" adopted. In 1841 the name was again changed and became Rock Island. Rock Island City, established at the site of the Indian village of Saukenuk on Rock River, failed to survive. Abraham Lincoln was sworn into service as a Captain, during the Black Hawk War of 1832, within the present city limits.

Land across the river of present Moline, Illinois, in the Wisconsin Territory, was purchased from the Indians in 1832 and the town of Lilienthal was established by early settlers. Another village, Gilbertown, formed adjacent to this settlement and the two were combined to form Bettendorf, Iowa, named after a manufacturer who moved his business to the area from Davenport in 1900.

The original site of Davenport, in the Wisconsin Territory, was a Fox Indian village named Oskosh, and was visited in 1805 by Lt. Zebulon M. Pike and an exploring party of the Lewis and Clarke expedition. The name was changed to Morgan after the first white settlers arrived in 1808. An early resident was Antoine LeClaire, an immense man of French-Indian descent who had been sent to Fort Armstrong in 1818 as an army interpreter, and who spoke some seven Indian dialects as well as French and English. Mr. LeClaire was highly esteemed by both the Indians and the settlers and it is quite possible that bloodshed between the whites and Indians of those turbulent times might have been even greater without his presence. LeClaire and Colonel Davenport platted a new town in 1836, changing the name of Morgan to Davenport in honor of the Colonel who had lost his bid to lend his name to the Illinois town across the Mississippi. LeClaire prospered greatly in the new and burgeoning town and became a figure of power and philanthropy with large land holdings and varied business ventures. One such enterprise was the operation of the LeClaire House, a hotel famed in its day, which was sold in 1843 to Dr. John Emerson, owner of the celebrated slave, Dred Scott.

The first bridge ever to span the Mississippi River channel linked Iowa and Illinois in 1856, 10 years after the State of Iowa was admitted to the Union. The wooden railroad structure had its Rock Island (Arsenal Island) abutment located a short distance downstream of the former

home of Colonel George Davenport, murdered by river pirates some 11 years earlier. The first crossing was made on 15 April 1856 and consisted of a locomotive and eight cars. Fifteen days later the packet "Effie Afton" collided with the drawspan and burned along with part of the bridge. Historians still speculate as to whether the collision was entirely accidental since there was bitter opposition from river interests against the railroad and the erecting of obstructions across the water. A young Illinois lawyer, Abraham Lincoln, represented the railroad in the resulting litigation and won the decision in the courts. A new doubledecked railroad and traffic bridge was constructed 2,000 feet downstream in 1872 and reconstructed in 1896.

Many of the buildings on Arsenal Island are constructed of limestone, quarried near LeClaire, Iowa, and transported to the area. One, built in 1865, was originally constructed as a warehouse at the lower end of the island near the site of Fort Armstrong, and now houses the offices of the Rock Island District, U. S. Army Corps of Engineers. The building features a square tower of seven stories with a large clock face on each side. The clock faces are operated by a pendulum and weight arrangement and a striking mechanism sounds a large bell at hour and half-hour intervals. Only one other clock of this type was manufactured and is installed in the Watervliet Arsenal in New York state. Legend says that the "Clock Tower," as the building is known, was constructed with the help of Confederate soldiers from the nearby Civil War prison camp, but official records do not document such assignments.

The Moline lock - actually built on Arsenal Island - was constructed in 1906 to improve navigation and bypass a particularly hazardous stretch of rapids. The lock was located approximately 4,000 feet downstream of the head of the island and from this point a lateral dam, to divert water flows, extended some 3 miles upstream. The lock became obsolete with the creation of pool 15 in 1933, and the gates were removed. The site and most of the lateral dam presently remain above pool waters however.

Prehistoric Indians, known as "Mound Builders," also found the area attractive as evidenced by the pottery and effigy stone tobacco pipes found in excavations along both the Mississippi and the Rock Rivers in the area. Considerable amateur investigative activity has taken place, dating to the late 1870's. Rich archaeological deposits undoubtedly remain, but are complicated by the sprawling residential and industrial complex covering much of the likely areas. The Davenport Public Museum displays an outstanding array of artifacts of the prehistoric mound builders as well as those of the Indians of historic times, while the museum at Black Hawk State Park, in Rock Island, exhibits an outstanding collection of the Black Hawk and early settler era. The Browning Museum, on Arsenal Island, is noted for its display of military items of all wars since the United States became a Nation.

#### SECTION IV

#### FACTORS AFFECTING RESOURCE USE

1. <u>General</u>. Pool 15, extending from Davenport-Rock Island to near LeClaire, Iowa, is another step in the navigational stairway on the Upper Mississippi River. The shortest pool of the 12 within the Rock Island District, it is one of three in which the Federal Government owns no shore lands except for small areas associated with the lock and dam structures. It is also the only pool in the District with virtually the entire shoreline occupied by urban and industrial developments. Plate IV-2.1 graphically portrays the commercial activities of locks No. 15 over a period of nearly two decades.

2. Zone of influence. The primary zone of influence is considered as an area two counties in width, extending inland approximately 50 miles, and following each side of the river the entire length of the Rock Island District. The total population of all counties contained within this zone is given in chapter I, section VII, paragraph 3. To attempt to separate populations by pools, however, is deemed impractical since pool limits do not coincide with county lines, but rather span parts of several counties. Pool 15 differs, too, in that several population centers, mostly interconnected in each state, occupy the major part of both shores. The 1960 census lists the population of Illinois centers as: Hampton -742; East Moline - 16,732; Moline - 42,705; and Rock Island -Iowa population is concentrated in Bettendorf -51,863. 11,534; and Davenport - 88,981. A part of this 212,557 total, however, is assigned to pool 16 since a large portion of both Rock Island and Davenport lie adjacent to downstream pool 16. Because of the short traveling distances required, residents may easily avail themselves of the recreational offerings of pools 14, 15, and 16.

3. Economic conditions. The economy of pool shorelands is almost entirely industrial with a minor Iowa agricultural area in the extreme upper limits. Since neither Federal nor State governments own any mainland shoreline, except for parcels owned by the Federal Government associated with locks and dam No. 14 and a small forest preserve owned by the State of Illinois, industry will likely continue to expand and concentrate on shore areas throughout the pool. The area is one of considerable historic significance and the cities offer a variety of attractions in museums, art galleries, sports, convention facilities, and numerous parks. 4. <u>Accessibility</u>. Major railroad lines serve the Moline-Rock Island-Davenport area with passenger terminal facilities located in Rock Island, Illinois. Scheduled bus lines provide service to upstream areas. A traffic-controlled airport, located in Moline, Illinois, provides direct coast-to-coast passenger service as well as scheduled flights to northern and southern points. A municipal traffic-uncontrolled airport at Davenport, Iowa, is a base for the Iowa Air National Guard, but has no scheduled passenger accommodations. Private facilities are in use at both airports.

Road access to the river exists at numerous points within the city areas on both shores as well as outlying points to the limits of the pool. The Great River Road, being planned to eventually closely follow both shores of the river from Canada to the Gulf of Mexico, will offer outstanding scenic attractions. A segment of this route presently follows the pool along the Iowa shore.

Twin highway bridges, which will soon carry Interstate 74 traffic, are located a short distance upstream of Arsenal Island. A double-decked draw-span railroad and highway bridge crosses the river channel between Davenport, Iowa, and the lower end of Arsenal Island immediately downstream of locks No. 15.

#### 5. Existing recreational facilities.

a. Of the 25 recreation areas established and maintained by the Corps of Engineers in the Rock Island District for public use, plate IV-2.2, one is located within the pool limits immediately downstream of dam No. 14 along the Illinois shore.

Fisherman's Corner Public Use Area. Possibly the most popular fishing area within the District, plate IV-2.3, the site draws recreationists from as far distant as Chicago. Located near an Interstate 80 interchange, the 2-acre area features 13 parking spurs and an additional parking area for 18 cars, 10 picnic tables, 4 pedestal fireplaces, 13 trash containers, pit-type sanitation, and a well with hand pump. Although not originally designed to accommodate campers, considerable camping use is made of the area.

Fishermen use the 800 feet of the downstream toe of dam No. 14 for fishing efforts and are active as long as open water conditions exist.

THOUSANDS CARGO TONS IN MILLIONS **Z** ⁵ LOCKAGES LOCKAGES TONNAGE PASSED-T 1960 61 YEARS LOCK NO. 15

PLATE IV-2.1

CORPS OF ENGINEERS

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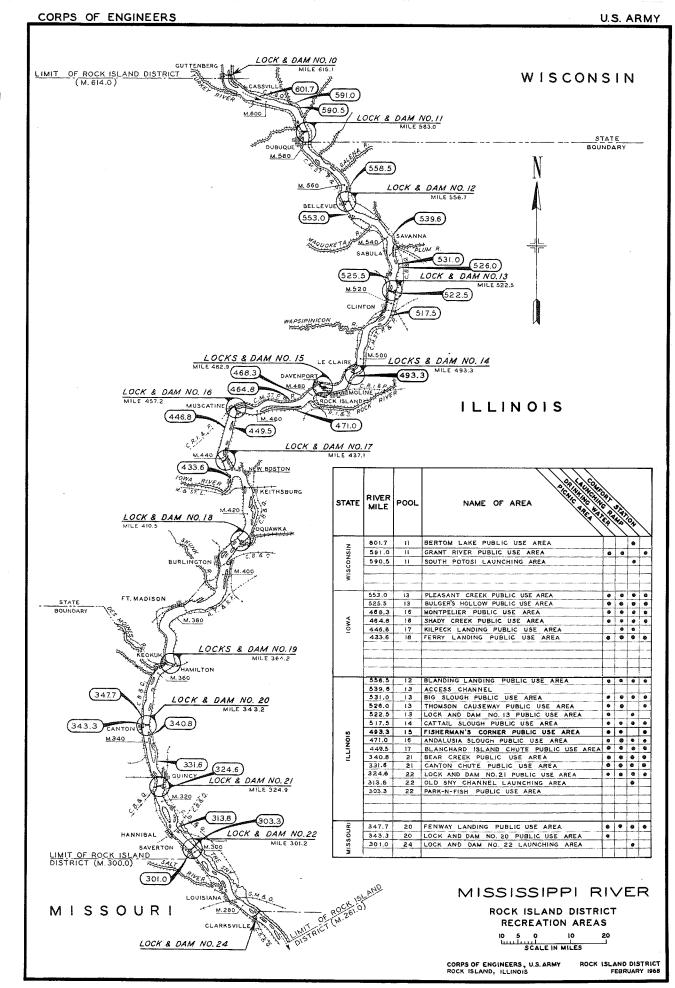
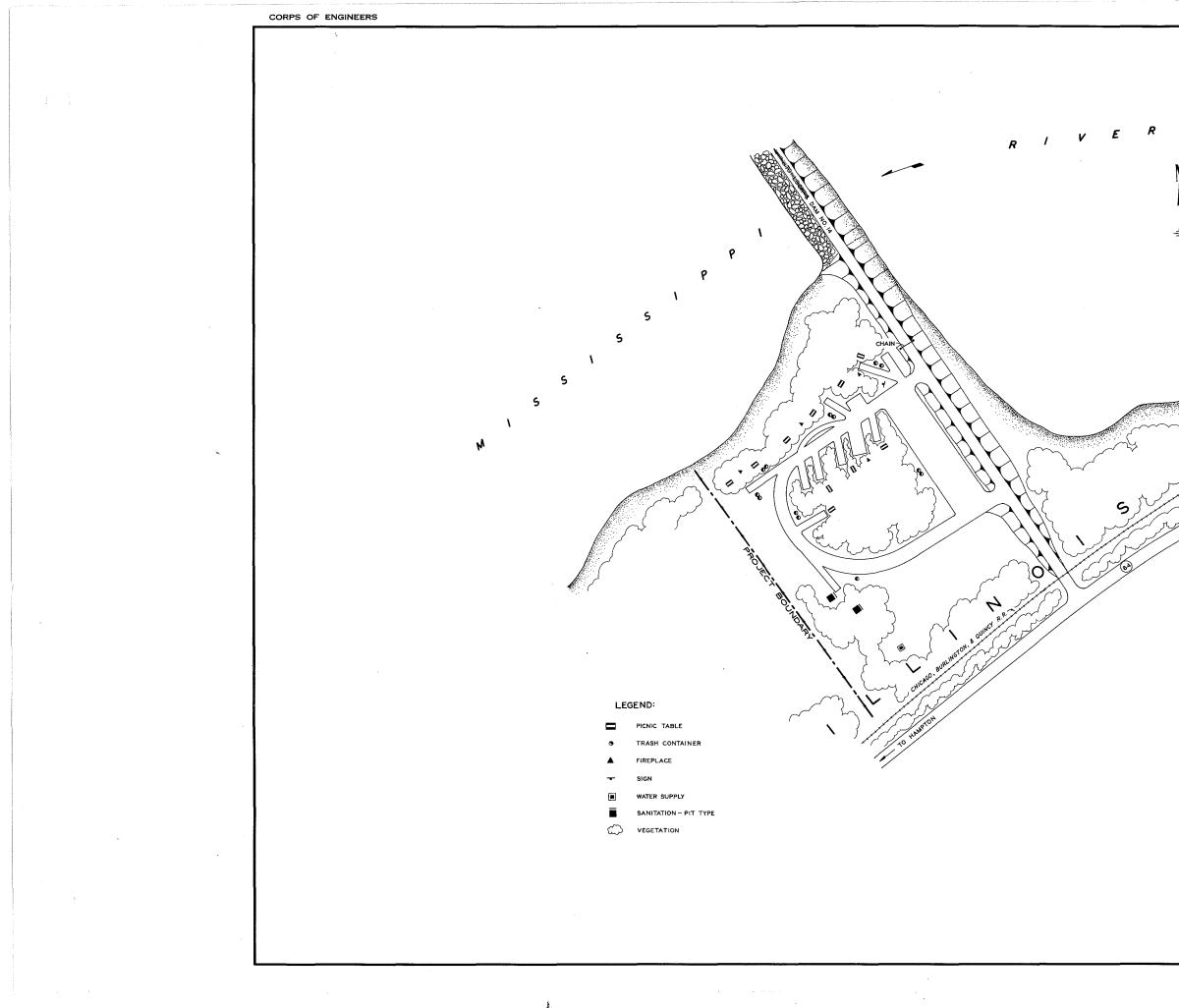


PLATE IV-2.2



#### UPPER MISSISSIPPI RIVER

REVISED MASTER PLAN FISHERMAN'S CORNER PUBLIC USE AREA POOL 15, RIVER MILE 493.1

SITE PLAN

50 O	50	100	150
	SCALE	IN FEET	
CORPS OF ENGINEERS			ROCK IS
ROCK ISLAND, ILLINOIS			

EXPANED EXPANED (SEG ATTACHED)

> ROCK ISLAND DISTRIC JULY 1969

200

PLATE IV-2.3

b. Beginning in July 1969, the LeClaire lock was again placed in operation, but for the benefit of pleasure-boating recreationists only. Operation for this purpose is confined to the three days at the end of the week and prohibits the passage of commercial craft. An evaluation of usage, at the end of the season, will determine whether the practice will be continued in future recreational seasons.

c. Other pool recreation sites, all on non-Federal lands, have been established at: River mile 492.9 - a boat launching ramp and parking area immediately below the LeClaire lock (Iowa), maintained by the Scott County Conservation Board; river mile 492.9, Illinois - a forest preserve administered by the Illinois Department of Conservation; river mile 489.9, Illinois - a commercial recreational site (Campbell's Island); river mile 489.8, Illinois - a small-boat harbor (Campbell's Island); river mile 486.7, Illinois - a municipal public use area operated by the city of Moline; river mile 485.6, Iowa a boat launching ramp operated by the city of Bettendorf; and at river mile 484.0, Iowa - a boat club operated by the city of Davenport.

An excursion boat, based in Davenport, operates scheduled public cruises as well as chartered trips on pool waters during the summer season.

6. <u>Water quality</u>. Water quality throughout the pool is only considered fair as related to recreational use. By-passed municipal waste, storm sewer runoff and industrial spillage have frequently created adverse water quality conditions. While the existing aquatic biota does not indicate critical water quality conditions, the pool fishery composition shows a declining trend. Drainage from the minor tributaries do not present a major pollution threat, but constantly increasing population and industrialization in the area may degrade the pool water in the future.

7. <u>Climatic conditions</u>. The pool area has an average of 33 inches of annual precipitation and a growing season of 180 days. Summer winds are generally southwesterly and shift to the northwest during winter months. The mean annual temperature is 50.1°, the summer average 73°, and the winter average 25.5°. A normal navigation season is considered as beginning about 1 March and extending to 15 December. However, such limits are often exceeded. In 1966 the Congress requested the Corps of Engineers to review the existing project with a view to determining the feasibility and economic justification of providing a 12-month navigation season. The study is currently in progress.

IV-3

#### SECTION V

#### CURRENT AND ANTICIPATED RECREATIONAL USE

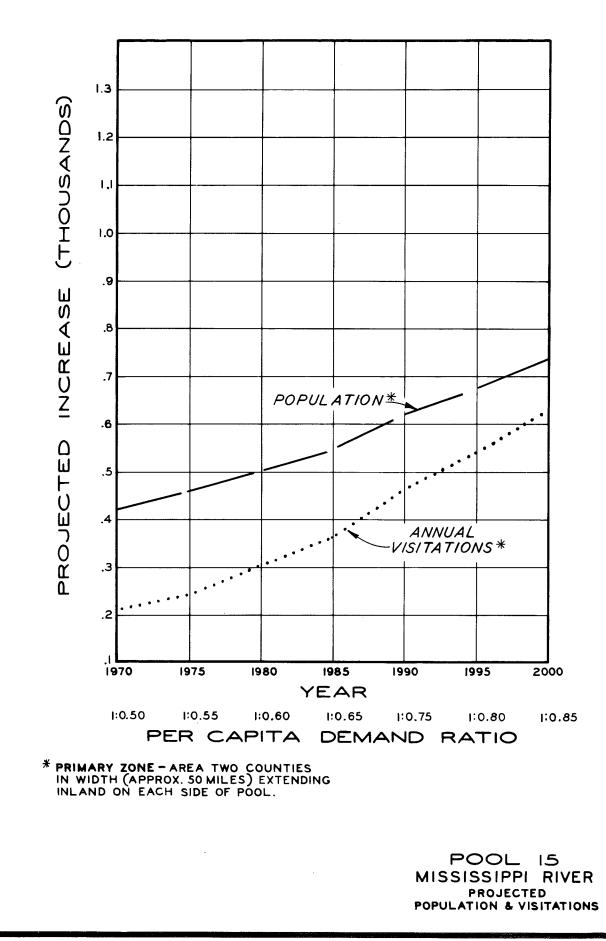
Pool 15, the shortest of the 12 navigation pools within the limits of the Rock Island District of the Corps of Engineers, ranks in ninth place in terms of public recreational attendance. Visitations for 1968 totaled 206,600 and ranged from a high of 51,000 in July to a low of 1,610 in December. Ice fishing probably accounts for the major winter recreational pursuit - the largely urbanized pool shores preclude hunting activities.

Plate V-1.1 graphically presents anticipated population increases and expected corresponding recreational demand within the primary zone of influence - an area two counties in width (approximately 50 miles) extending inland on each side of the pool. The per capita use ratio is calculated on past reported visitations and projected 1970 population and is expected to hold relatively constant for the immediate future. The ratio increase, following the year 1985, is based on the assumption of additional non-Federal facility developments.

Plate V-1.2 tabulates facilities developed and maintained by the Federal Government and by non-Federal entities such as States, Counties, municipalities, or private individuals. Non-Federal installations considered are only those located immediately adjacent to the river and none occupy Federal lands.

Future facility requirements are based on anticipated population increases and expected public demand and participation, and are calculated from criteria established in ER 1130-2-312. On this basis all requirements are not presently being satisfied. Since no Federal land is available within the pool limits, future demand can only be satisfied by increased non-Federal developments or expansions.

U.S. ARMY



	1969 EX	KISTING A	ND PF	OPOSED F	ACILITY	DATA				
	EXISTING FEDERAL FACILITIES	EXISTING NON-FEDERAL FACILITIES	TOTAL EXISTING FACILITIES	RECOMMENDED FEDERAL FACILITIES	PROPOSED NON-FEDERAL FACILITIES	TOTAL PROJECTED FACILITIES	*TOTAL REQUIREMENTS For anticipated demand			
			. Ű 🤇				1970	1980	1990	2000
DAY - USE PARKING (UNITS) PICNIC TABLES FIREPLACES POTABLE WATER SHELTERS	2   5 2   0	50 15 10 1	7   20  2 2 				5   5   2 5 2 1 5	75 75 37 3 26	6   6 58 4 34	58  58 79 5 46
BOAT LAUNCHING PARKING (UNITS) RAMPS CONCESSIONS, FUEL, ETC.	0 0 0	165 5 4	165 5 4				50 5 -	70 7 -	110	50  5 -
SANITATION PIT TOILETS FLUSH TOILETS TRAILER STATIONS	2 0 0	4 8 - 0	6 8 0				2 N O N U N	4 E PROP DETERM	4 OSED INED	6
CAMPING PARKING SPURS (GRAVEL) PICNIC TABLES FIREPLACES	8 5 2	0 0 0	8 5 2				27 27 27	40 40 40	62 62 62	84 84 84

POOL

15

\* BASED ON ER 1130-2-312 CRITERIA:

- I PICNIC TABLE PER 4000 ANNUAL VISITORS
- I PARKING SPACE PER TABLE
- I FIREPLACE PER 2 DAY-USE PICNIC TABLES
- I FIREPLACE PER CAMP SPUR
- I SHELTER PER 225 WEEK-END DAY VISITORS
- I LAUNCHING RAMP PER 40,000 ANNUAL VISITORS
- 10 CAR-TRAILER PARKING SPACES PER RAMP
- 2 PIT TOILETS PER 3000 WEEK-END DAY VISITORS
- I CAMP SPUR PER 7500 ANNUAL VISITORS

#### NOTES:

- No supervised river swimming areas are operated.
- 2. Pool shores are largely urbanized. Numerous points of access to the river exist along the 25 miles of mainland shoreline.

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U.S. ARMY

#### SECTION VI

#### POOL RESOURCE MANAGEMENT

1. <u>General.</u> In compliance with the stated purpose of a Master Plan, the various physical features of the pool as well as plans for the utilization and development of the scenic, biological, and recreational potential require examination and analysis. However, little application can be made for pool 15 since only minor land tracts are under the control and management of the Corps of Engineers.

2. Land use zoning. Federal lands administered by the Corps of Engineers amount to only 27 acres within the limits of the pool and are associated only with the locks and dams and the District Office building. Of such lands 66%, or 17 acres, are classified as recreational developed and 34%, or 10 acres, are for special use areas.

Kay Island, located off the upstream end of Campbell's Island, is accreted property for which no ownership has been established by the courts nor have any known claimants made application. History records a large rock in or near the channel at the north end of Campbell's Island in the early days of navigation. This hazard was removed in 1870 by the ingenious method of building a cofferdam around the object, burning great quantities of cordwood upon the surface, and dashing cold water on the heated rock causing it to split and break into small pieces. It is quite possible that the channel, in the days of the rapids, was located where Kay Island now lies and that the accretion has formed over the remnants of "Campbell's Rock", as the obstruction was known.

The 1,000-acre Arsenal Island is under Federal ownership, but only the small areas associated with locks No. 15 and the District Headquarters buildings are administered by the Corps of Engineers.

3. <u>Water zoning</u>. Detailed water zoning is not considered as a part of the Master Plan, although certain restrictions are in effect concerning small boats in the immediate vicinity of all dams in the navigation system. Definitive and enforced water zoning will likely become necessary in the future, at least in some areas, as population and wateroriented recreation increase.

Of the 3,740 surface acres of water at the flat pool elevation, 542-acres, or 14%, are classified as channel water 524 maintained at a minimum depth of 9 feet. The remaining 3,216 surface acres, or 86% of flat pool surface, are considered as off-channel waters of varying depths. No practical purpose would be served in attempting to record off-channel water depths on the navigation charts since sandbar formations, shifting currents, etc., would soon render such information obsolete.

4. <u>Timber management</u>. No timber management program applies to pool 15 inasmuch as the only lands under the jurisdiction of the Corps of Engineers are being managed for recreational or operational purposes.

5. <u>Wildlife management</u>. The highly urbanized pool shores and lack of Federal lands precludes any management program for the area. The District cooperates with law enforcement agencies of the States where hunting and fishing activities are concerned.

6. Shoreline ownership. Pool shoreline, both island and mainland, totals only 38 miles in this, the shortest navigation pool of the Rock Island District. Of the 13-1/2 miles of island shoreline, 8 miles are owned by the Federal Government with 1 mile administered by the Corps of Engineers. And, of the 24-1/2 miles of mainland shoreline, only 1/2 mile is Federal land and is under the control of the Corps.

#### 7. Additional recreational developments.

a. <u>Corps of Engineers</u>. The only available site within the pool limits is the lower end of Smith's Island, immediately adjacent to the LeClaire lock and off the Iowa shore. The site, while spacious, is not particularly suited to a recreational development except, possibly, a day-use area. Access is only by foot across the lower lock gate which is well protected by guard rails and used constantly by fishermen, but might be unattractive to picnickers and recreationists carrying bulky equipment.

b. <u>Bureau of Sport Fisheries and Wildlife</u>. No Federal lands, within the limits of the pool, are under the jurisdiction of this agency.

c. States.

(1) Iowa.

The Iowa State Conservation Commission is cooperating with the Scott County Conservation Board in plans to relocate an existing boat launching ramp a short distance downstream of the LeClaire lock. An existing parking area is also being improved and sanitation facilities are to be installed. Federal land is not involved in the project, although facilities will serve fishermen using Federal property. The relocation and other improvements are expected to cost approximately \$7,000.

(2) Illinois.

No Federal property exists within the pool limits on which the State could apply for a license or outgrant.

d. Counties.

(1) Scott (Iowa).

As previously mentioned, the Scott County Conservation Board, in cooperation with the Iowa Conservation Commission, is planning to relocate a boat launching ramp, improve a parking lot, and install sanitary facilities adjacent to the LeClaire lock. Although the site is owned by Scott County, the Corps of Engineers maintains a storage yard on the area under a continuing agreement with the County.

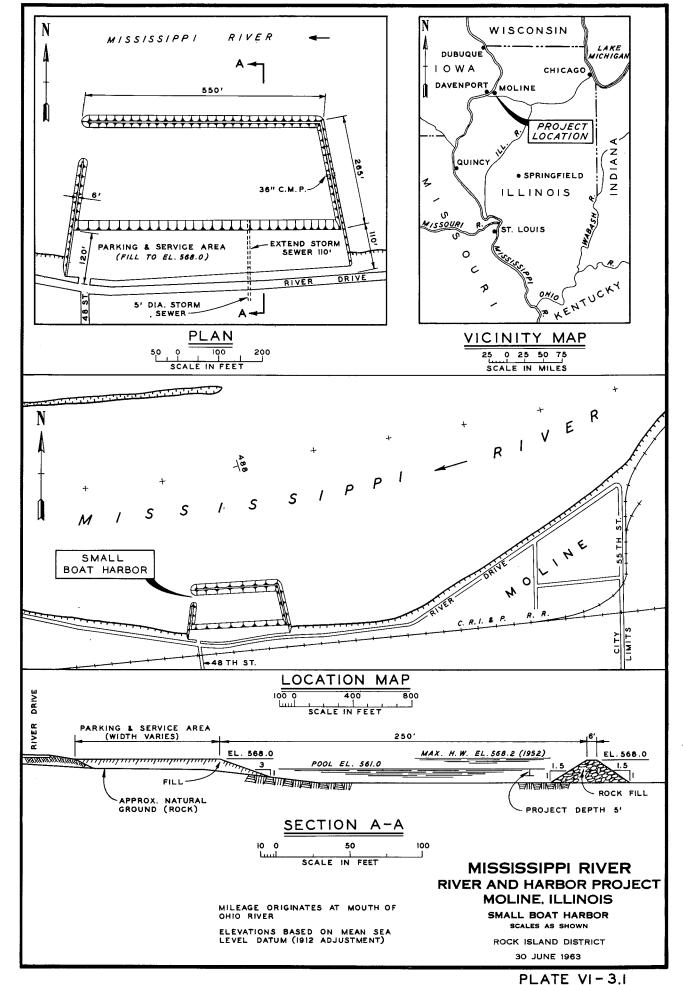
(2) Rock Island (Illinois).

No Federal land exists within the pool limits against which the County could request consideration.

e. Municipal.

(1) Moline (Illinois). The River and Harbor Act of 1962 authorized the construction of a small-boat harbor of 5-foot depth at Moline. Planning is completed and the project, plate VI-3.1, is awaiting Federal funding.

(2) <u>Davenport (Iowa)</u>. The River and Harbor Act of 1950 authorized the construction of a small-boat harbor of 5-foot depth at Lindsay Park in Davenport. The project, plate VI-3.2, was completed in October 1961. CORPS OF ENGINEERS



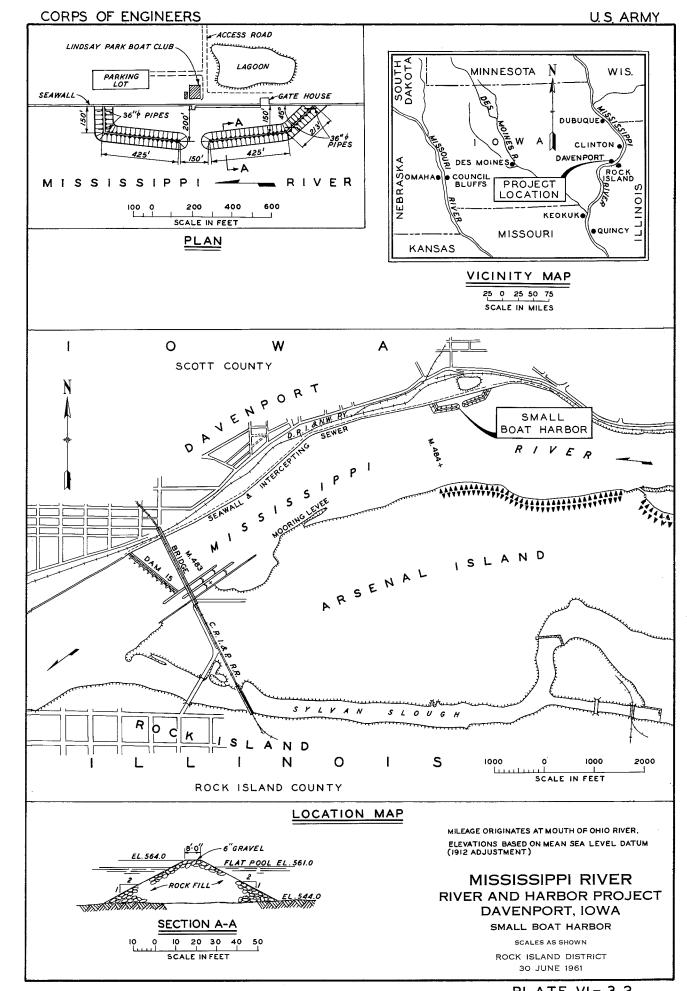


PLATE VI- 3.2

#### SECTION VII

#### OPERATION AND MAINTENANCE

1. <u>Pool Manager-Ranger</u>. The Manager-Ranger concept, as outlined in chapter I, section IX, and recommended for previous pools, has little application in pool 15 since Federal lands do not exist except as previously explained. The only Corps of Engineers recreation area within the pool is located in conjunction with dam 14 and could be supervised by a Ranger assigned to pool 14.

2. <u>Recreation facilities maintenance</u>. Responsibility for new construction and maintenance of the only recreation area in the pool, Fisherman's Corner, is under the Operations Division of the Rock Island District Office. A field crew of 6 persons accomplishes the necessary work at this as well as all other sites in the District throughout the year with additional and temporary workers added when required. The field supervisor of the group also negotiates with private individuals to accept seasonal appointments for trash and garbage removal, grass cutting, etc.

#### SECTION VIII

#### SUMMARY AND RECOMMENDATIONS

1. <u>General summary</u>. No additional recreational potential exists within the pool limits except for a possible development on the lower portion of Smith's Island adjacent to the LeClaire lock. This site is not presently considered as particularly suitable for reasons previously explained. However, the growing public demand for additional recreational space may require a further evaluation of this potential in the future.

#### 2. Recommendations.

a. Fisherman's Corner, on the Illinois shore immediately below dam No. 14, experiences constantly growing pressure and usage, often beyond capacity. Because of the limited area available under Federal ownership, the site was originally designed for day-use only. However, campers are arriving in increasing numbers and finding space as best they can. Weekend recreationists from as far as Chicago are known to be constant visitors, and the proximity of Interstate 80 will likely increase such visitations as well as attract still more cross-country travelers. Consideration, therefore, should be given to the acquisition of adjacent downstream private property to permit expansion of the present site and the addition of adequate facilities.

b. A row of 27 rock-filled open timber cribs extends along the Iowa shore downstream of the landwall of the Le-Claire lock which has not been used for commercial navigation since lock and dam No. 14 came into service. Spanning the cribs, along the river edge, is a narrow wooden plank walk without guardrails or other protection. The cribs and walkway had a particular function in the steamboat days when the lock was used for general navigation, but now serve the Corps of Engineers in conjunction with a storage yard on County property landside of the cribs.

The area is extremely popular among fishermen, a great many of whom use the unguarded walkway in their angling efforts. Inasmuch as Scott County, with the cooperation of the Iowa State Conservation Commission, is engaging in a program of improvement of the area surrounding the Corps of Engineers storage yard - which exists with the approval of the county - the Federal Government should, in turn, improve complementing facilities. Funds should be provided to beautify and stabilize the shoreline landward of the cribs, the cribs repaired and the fill leveled, and the walkway rebuilt and widened. Since loading or unloading to the storage yard is not a constant activity, guardrails of a removable type should be installed along the walkway for the protection of recreationists. One or more ramps might also be constructed from the shore parking lot to the walkway as a convenience to the public.

The cribs still occasionally serve tows as mooring facilities when lockage complications arise in the main lock on the opposite side of the island. Current conditions are responsible for upbound tows maintaining a stationary position while downbound tows are clearing the locks. The cribs may also be used during periods of inclement weather. However, such conditions are not constant or usually of long duration. Conspicuous signs would need to be posted warning recreationists to abandon their positions when the crib facility is required for the purpose outlined.

c. Approval is recommended of the zoning established for Federal lands as indicated on the transparent overlays accompanying the base charts of the Master Plan for pool 15.

#### VIII-2

#### SECTION IX

#### REVIEW OF PLAN

#### 1. Real Estate Division.

Pursuant to paragraph 5b of ER 405-2-835, the Master Plan was submitted for review and the Real Estate Division concurs that the material was prepared in accordance with sound real estate **requires tion**, management and utilization practices.

C. E. KELLEY, Attorney Chief, Real Estate Division

#### 2. Operations Division.

Sections of this Master Plan, which have a direct or indirect bearing upon the operation and maintenance of the Mississippi River, have been coordinated with the Operations Division.

ROBERT E. CLEVENSTINE Chief, Operations Division