

**DORIE - MASTER**

**DRAFT**

**ENVIRONMENTAL  
ASSESSMENT**

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**LAND USE ALLOCATION PLAN  
AND  
SHORELINE MANAGEMENT PLAN**

**MISSISSIPPI RIVER  
NINE-FOOT CHANNEL  
NAVIGATION PROJECT**

**POOLS 11-22**

**MARCH 1989**

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**US Army Corps  
of Engineers**  
Rock Island District



FINDING OF NO SIGNIFICANT IMPACT  
FOR  
LAND USE ALLOCATION PLAN  
and  
SHORELINE MANAGEMENT PLAN  
MISSISSIPPI RIVER  
NINE-FOOT CHANNEL NAVIGATION PROJECT  
POOLS 11-22

Having reviewed the information provided by this Environmental Assessment, along with data obtained from Federal, State, and local agencies and from the interested public, I find that the implementation of the Land Use Allocation Plan and Shoreline Management Plan will not significantly affect the quality of the environment. Therefore, it is my determination that the preparation of an Environmental Impact Statement is not required. This determination may be reevaluated if warranted by later developments.

Two basic alternatives were evaluated, in addition to the preferred action: No Revision and Zoning Variations.

Factors that were considered in making a determination that an Environmental Impact Statement was not required are as follows:

a. The plans provide practical and sound management guidance for future Federal resource management decisions for the project, which will result in an overall benefit to the general public.

b. No significant environmental, social, economic, or cultural impacts are anticipated as a result of implementation of the LUAP or SMP.

18 October 1989

Date



John Brown  
Colonel, U.S. Army  
District Engineer



REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS  
CLOCK TOWER BUILDING—P.O. BOX 2004  
ROCK ISLAND, ILLINOIS 61204-2004

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ENVIRONMENTAL ASSESSMENT  
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FINDING OF NO SIGNIFICANT IMPACT (FONSI)

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LAND USE ALLOCATION PLAN  
and  
SHORELINE MANAGEMENT PLAN

MISSISSIPPI RIVER  
POOLS 11-22

I. PURPOSE AND NEED FOR ACTION

The Rock Island District, Corps of Engineers, is updating the Land Use Allocation Plan (LUAP), which is part of the comprehensive Master Plan for the Nine-Foot Channel Navigation Project, Mississippi River, Pools 11-22. The original project master plan was prepared in 1948, and the latest revision was completed in 1972. The LUAP provides resource management guidance for project lands. The LUAP is periodically revised and updated to ensure that management practices remain consistent and compatible with current Federal laws and policies, resource base conditions, and use demands.

The District has also prepared the project's first Shoreline Management Plan (SMP). The SMP is based on the LUAP and establishes the District's policy concerning private exclusive use of project owned lands. The SMP explains where private exclusive use such as boat docks, storage sheds, and other related shoreline structures may be authorized and specifies the conditions of that authorization. The SMP does not apply to cottage site or residential leases, commercial marinas (private or concessionaire), or commercial navigation activities.

This Environmental Assessment (EA) is being circulated for public review concurrently with the LUAP/SMP. The documents have been published under separate covers for financial and administrative reasons.

II. PROJECT DESCRIPTION

This EA addresses two aspects of the LUAP and SMP process. First this EA addresses the administrative implementation of the LUAP. Secondly, it addresses the implementation of the SMP. The SMP establishes the policy concerning the continued placement of private recreational structures in one particular land use classification as specified in the LUAP/SMP. Most social, economic, and environmental impacts are normally associated with construction projects. Any specific development action stemming from the LUAP will require a separate National Environmental Policy

Act (NEPA) evaluation. Therefore, any potential development impacts are not directly applicable to the implementation of the LUAP. Potential impacts resulting from the continued placement of private recreational structures will be addressed in this EA.

#### A. Land Use Allocation Plan (LUAP)

The LUAP classifies Corps fee title land along the Mississippi River into six land use classifications. Lands acquired in fee title by the U.S. Fish and Wildlife Service (FWS) are NOT presented in the Corps LUAP. The FWS published a separate LUAP in September 1986, to cover FWS fee title lands in Pools 11-14. Lands owned by the Corps but outgranted to the FWS for management are identified in both agencies LUAP's. Land use allocation definitions are based on Engineering Regulation (ER) 1120-2-400, as adapted to meet riverine conditions. During the LUAP coordination process, ER 1120-2-400 was replaced by ER 1130-2-435. However, this plan follows ER 1120-2-400 in an effort to maintain consistency with other related plans. Shoreline management allocations specified in ER 1130-2-406 and described in the SMP have been incorporated with the land use allocations. The land use classifications presented in the LUAP are described below.

##### 1. Project Operations

This classification provides for the safe, efficient operation of the navigation project for those authorized purposes other than recreation and fish and wildlife related activities. Typical areas include project operation and maintenance structures, such as, but not limited to, locks and dams, wing dams, bank protection, closure dams, mooring cells, dredged material placement sites, and other uses directly associated with the operation and maintenance of the project.

Commercial activities such as barge fleetings, mooring structures, private/public commercial port facilities, and leased areas for public utilities/industrial sites, etc., also are classified as Project Operations lands and generally are not managed as part of the Upper Mississippi River National Wildlife and Fish Refuge. Future proposed uses of this sort will be evaluated on a case-by-case basis. Fish and wildlife related public use activities are allowed in Project Operations areas, including the locks and dams, providing they are not in conflict with the project operations activities.

Agricultural use will be permitted on an interim basis when not in conflict with specified uses. Limited interpretive and low-density recreational uses also will be allowed if considered compatible with and beneficial to existing features and purposes.

For safety reasons, private recreational mooring facilities and related shoreline access structures are not permitted in these

areas. Lands classified as Project Operations in the LUAP are considered as prohibited access or protected shoreline areas in the SMP.

## 2. Recreation/Intensive Use

Lands in this classification are for developed public use areas or future recreation sites having controlled intensive recreation activities. Areas include those provided by commercial concessionaires (marinas), public agencies, and civic organizations. No agricultural uses are permitted on these lands except on an interim basis to maintain open space and/or scenic values. No private recreational mooring facilities or related shoreline access structures are permitted within these areas. Lands in this LUAP classification are considered public recreational areas in the SMP.

## 3. Recreation/Low Density Use

Public Use. This classification is for unconfined or dispersed public recreational use, or for specific scientific/educational research. Typical permitted uses and activities, unless posted as prohibited or restricted by special regulation, include ecological research, interpretive or environmental education facilities, trails (hiking, horseback riding, or cross-country skiing), undeveloped primitive camping, swimming, and other similar dispersed recreational pursuits. Potential dredged material placement sites for only beach enrichment or enhancement are included under this classification. Agricultural use is permitted on an interim use when considered beneficial for maintenance of open space, scenic values, or wildlife management. Private recreational mooring facilities and related shoreline access structures are prohibited within these areas. Lands in this LUAP classification are considered protected shoreline areas in the SMP.

Special Use. This classification is for private and general public recreational access, including authorized structures such as boat docks, stairways, and other private recreational facilities. Modification of landform or vegetation is permitted only as necessary to provide safe access and prevent erosion. The locations designated as Special Use were those that could sustain the placement and use of private recreational structures without conflicting with other uses or detrimentally affecting the area's environmental and physical characteristics. No agricultural use is permitted except on an interim basis to maintain open space and/or scenic values. Private recreational mooring facilities and related shoreline access structures are allowed within these areas based on conditions specified in the SMP. Special Use areas in the LUAP are considered limited development areas in the SMP and are not located within the Upper Mississippi River National Wildlife and Fish Refuge or the Mark Twain National Wildlife Refuge. This is the only LUAP/SMP classification where new authorizations for private

recreational mooring and related shoreline access structures may be granted.

#### 4. Wildlife Management/Reserve Forest Land

This combined classification is for fish and wildlife management, related recreational opportunities, and vegetation control involving intensive forest management. Forest management objectives on refuge lands will be directed whenever possible to improve timber quality for wildlife habitat. Commercial fiber production is not a primary objective. Hunting, fishing, trapping, primitive camping, bird watching, and photography are examples of related dispersed recreation uses allowed unless posted as prohibited or restricted by special regulation.

Management objectives are directed toward wildlife habitat, and propagation of both game and nongame species. Designated portions of such lands are reserved as waterfowl sanctuaries ("closed areas") during migration periods, thereby limiting certain uses.

Most of the lands in this classification in Pools 11-14, are managed as part of the Upper Mississippi River National Wildlife and Fish Refuge under the Cooperative Agreement between the FWS and the Corps. The exceptions are the wildlife areas managed by the Iowa Department of Natural Resources. Most of the lands in this classification in the lower pools (16-22) are managed under agreement by either the FWS or the state wildlife management agencies. However, some lands in this classification, specifically in Pools 16, 17, and 18, are managed by the Corps.

Agricultural use is permitted on an interim basis to supplement wildlife food sources and to manage vegetation. Private recreation mooring facilities and related shoreline access structures are prohibited within these areas. Lands in this LUAP classification are designated as protected shoreline areas in the SMP to protect existing scenic, environmental, fish, and wildlife values.

#### 5. Natural Area

This classification preserves and protects unique scientific, ecological, and scenic resources; significant archeological and historical sites; and threatened and endangered species habitat. Public use activities are limited or prohibited within these areas. No agricultural uses are permitted on these designated lands. Likewise, private recreational mooring facilities and related shoreline access structures are prohibited within these areas. Lands in this LUAP classification are considered protected shoreline areas in the SMP.

Table EA-1 lists the land use allocation acreage for each pool.

TABLE EA-1

## Acreage Summary for Land Use Allocations

Pool	Project Operations	Recreation Intensive	Recreation Public	Low Density Special	Wildlife Management/ Reserve Forest	Natural Area	Total
11	37	175	75	5	4,232	134	4,658
12	92	246	219	21	4,297	1	4,876
13	113	183	605	33	8,017	196	9,147
14	35	250	268	2	3,918	0	4,473
15	5	0	0	0	0	0	5
16	65	198	162	24	4,678	12	5,139
17	31	57	150	4	8,314	10	8,566
18	103	272	406	61	7,089	0	7,931
19	6	0	0	0	0	0	6
20	219	15	0	0	16	0	250
21	79	182	446	11	7,640	0	8,358
22	57	123	631	10	5,157	396	6,374
	===	=====	=====	===	=====	===	=====
TOTAL	842	1,701	2,962	171	53,358	749	59,783

NOTE: These acreages do not include submerged tracts.

## B. Shoreline Management Plan (SMP)

The SMP establishes the policy concerning private exclusive use. Additionally the SMP allocates the Corps-owned shoreline of the Upper Mississippi River, Pools 11-22, into four classifications where additional private recreational structures/activities will either be prohibited or allowed. These shoreline classifications have been incorporated into the LUAP definitions. The interrelationship between the four shoreline use classifications and the six land use classifications are explained below.

### 1. Shoreline Use Classifications

A. Limited Development Areas. Shoreline areas where private recreational structures/activities may be authorized. This is the only classification where new permits/licenses may be issued to authorize private exclusive use(s). The corresponding LUAP classification is Recreation Low Density - Special Use.

B. Public Recreational Areas. Shorelines within designated or developed recreation areas managed by a governmental entity, commercial concessionaire, or non-profit organization. Private recreational structures/activities are not compatible within or near designated or developed public recreational areas. The corresponding LUAP classification is Recreation Intensive Use. Existing authorized structures in recreation intensive zones will be allowed to remain provided they comply with certain limitations.

C. Prohibited Access Areas. Shoreline areas allocated for the protection of the public's physical safety or security of government installations. For these reasons, public access is not allowed within these areas. No private recreational structures/activities will be allowed in these areas. The corresponding LUAP classification is Project Operations. However, not all project operations zoned land is prohibited from public access. Prohibited access areas are generally located around locks, dams, spillways, or government storage areas. These areas are prohibited to public access because of the safety hazards involved or the need for security. Prohibited access areas are signed, fenced, or marked by warning lights. Both land and water access is prohibited.

D. Protected Shoreline Areas. Shoreline areas designated to maintain or restore aesthetic, fish and wildlife, cultural, or other environmental values. These areas also may be designated to protect an unstable shoreline from erosion or to prevent development in areas that are subject to excessive erosion, exposure to high wind, wave, or current action, or where development would interfere with navigation. No private exclusive use will be allowed in these areas except where authorized use currently exists. This use will be subject to certain limitations. Physical protection of the shoreline to prevent erosion may be allowed. Department of the Army permits may be required as part of

the approval process. Some vegetative modification may be allowed only if the District Engineer determines that the activity will not adversely impact the environmental or physical characteristics for which the area was designated as protected. With the required coordination, the Corps may actively manage the forest resource in these areas. The corresponding LUAP classifications are Recreation Low Density - Public Use, Wildlife Management/Reserve Forest Land, Project Operations, or Natural Area.

2. Locations Where Private Exclusive Use Will Be Allowed

Private exclusive use will be allowed within Limited Development Areas and in selected locations where valid permits/licenses authorize specific existing structures.

A. Limited Development Areas

The limited development areas are identified in Table EA-2. The corresponding LUAP classification is Recreation Low Density - Special Use. The designation of limited development areas was determined by evaluating several aspects of the Mississippi River shoreline. All areas having historic private recreational structures/activities were considered. These locations designated as limited development areas were those that could sustain the placement of private structures and use without conflicting with other uses or detrimentally affecting on the area's environmental and physical resources. New structures and new permits/licenses will be allowed provided they comply with the conditions specified in the SMP.

The physical dimensions of the limited development areas will be determined on site by the Natural Resource Manager or his/her designee. This is necessary since the scale of the LUAP mapping prevents the display of multiple land use designations of small tracts and exact area dimensions.

TABLE EA-2

Limited Development Areas

<u>Pool No.</u>	<u>River Mile</u>	<u>Real Estate Tract No.</u>	<u>Existing Licenses</u>
11	607.4	FW-262	1
11	599.2	FIA-64	1
12	578.0	FI-78	1
12	577.8	FI-77	5
12	577.7	FI-76	2
12	574.4	FIA-28	9
12	562.3	FIA-8	1
12	558.2	FIA-54	3

TABLE EA-2 (Cont'd)

## Limited Development Areas

<u>Pool No.</u>	<u>River Mile</u>	<u>Real Estate Tract No.</u>	<u>Existing Licenses</u>
12	558.1	FIA-53	2
12	557.9	FIA-52	2
12	557.8	FIA-51	4
12	557.6	FIA-50	6
12	557.4	FIA-49	0
13	555.0	FIA-288	0
13	554.5	FIA-287	8
13	544.1	FI-229	3
13	531.3	FI-126	20
13	531.2	FI-123	11
13	530.8	FI-120	33
13	530.6	FI-119	3
13	530.5	FI-118	3
13	529.6	FI-113	25
13	529.0	FI-195	2
13	528.2	FI-194	8
14	501.2	FIA-160	8
14	497.0	FI-61	1
16	466.0	FI-38	3
16	465.2	FI-37	4
16	460.1	FIA-16	1
16	460.1	FIA-21	1
16	459.1	FIA-9	4
16	458.6	FIA-7	2
17	442.5	FIA-13A	2
17	442.1	FIA-10	4
18	421.4	FI-79	5
18	421.3	FI-78	1
18	420.9	FI-75	14
18	420.7	FI-74	15
18	419.0	FI-73	0
18	419.9	FI-72	0
18	419.8	FI-71	6
18	419.0	FI-70	13
18	418.5	FI-69	4
21	330.0	FI-128	6
21	329.7	FI-125	0
21	329.3	FI-121	8
21	329.2	FI-120	8
21	329.0	FI-119	4
22	305.1	FM-15	1
22	305.0	FM-6	3
22	301.6	FI-1	2
22	301.5	A-2	2
TOTAL		52 AREAS	275 LICENSES

B. Authorized Private Exclusive Use Outside Limited Development Areas

Permits/licenses will be renewed only to allow the continuation of those site-specific, individual cases of private exclusive use which are currently authorized and existing as of the date of the approval of this plan. No new permits/licenses will be issued nearby or in proximity to these specific cases. The locations of these private uses are identified in Table EA-3. These structures/activities generally take place in Protected Shoreline or Public Recreation Areas. The corresponding LUAP zoning is Recreation Intensive, Recreation Low Density - Public Use, or Wildlife Management/Reserve Forest. Some of the structures will be located along shorelines managed under the Cooperative Agreement.

Whenever a permit/license is terminated by the Corps for non-compliance, or the holder voluntarily relinquishes the permit/license, or the holder/spouse both die prior to sale, the continuation of authorized private use ceases and no permit/license shall be issued under any circumstances for private structures/activities in that location.

TABLE EA-3

Authorized Existing Private Use  
Outside Limited Development Areas

<u>Pool No.</u>	<u>River Mile</u>	<u>Real Estate Tract No.</u>	<u>Existing Licenses</u>	<u>LUAP Classification (Administration)</u>
12	573.7	FIA-26M	3	RI (COE)
12	573.5	FIA-26B-L	5	RI (COE)
13	531.8	FI-136	9	RLD/PU (COE) *1
13	525.8	FIA-69	1	RI (COE) *1
14	499.7	FIA-135	1	RLD/PU (COE)
14	499.5	FIA-134	2	RLD/PU (COE)
14	498.8	FIA-125	1	RLD/PU (COE)
14	497.3	FI-64-83	1	RLD/PU (COE)
14	496.5	FI-53	1	RLD/PU (COE)
14	494.0	FIA-8	2	RLD/PU (COE)
16	471.0	FI-48	1	WM/RF (GP)
18	432.0	FI-107	10	WM/RF (GP)
18	425.7	FI-95	<u>12</u>	WM/RF (GP)

TOTAL: 49

CODES:

- RI Recreation Intensive
  - RLD/PU Recreation Low Density/Public Use
  - WM/RF Wildlife Management/Reserve Forest
  - COE Area is to be administered by the Corps.
  - GP Area is to be administered under the General Plan.
- Licenses will be managed by the Corps.
- \* 1 Refuge begins at shoreline.

### 3. Permissible Structures/Activities

Authorizations may be granted by the Corps for the following structures/activities:

Boat Docks	Vegetative Modification
Steps	Walkways
Boat Ramps	Storage Sheds
Boat Winches and Rollers	Safety Fences
Boat Storage Racks	Pumps
Marine Rails	Utility Lines

Authorizations will be dependant on compliance with the SMP. Please refer to the SMP for more specific details and explanation of the shoreline management program.

### III. ALTERNATIVES

#### A. No Revision

With the "no revision" alternative, the LUAP would not be revised and the development and implementation of the SMP would be affected. The existing zoning of parcels of land would continue to be based on the 1969-1972 version of the Master Plan. This alternative would not update the LUAP to bring it into compliance with present Federal programs and directives, nor would it reflect changes in resource conditions and uses.

#### B. Zoning Variations

Each parcel of project-acquired land was evaluated to determine its most appropriate land use classification. Theoretically, any given property could have been classified in any of the designated classifications. Evaluation was based upon historic uses, physical characteristics, authorized uses, and resource management objectives.

### IV. AFFECTED ENVIRONMENT

This LUAP zones approximately 60,000 acres of project land in the Mississippi River floodplain. Lands which were purchased by the Corps, which are now submerged, are not zoned in the LUAP. As mentioned earlier, FWS fee title lands are not classified in this LUAP. Within the Rock Island District's jurisdiction, the project area is approximately 314 river miles long and covers a variety of habitats along the main channel and backwater sloughs. The following ecological information is intended to generally describe

*Didn't say anything about shoreline erosion food storage might Beef up*

*Also might explain existing situation better. ie. What's out there now*

the biological elements, but does not contain a complete species list. A more detailed list can be found in the Great River Environmental Action Team, Great II, Fish and Wildlife Management Work Group Appendix, December 1980.

#### A. Flora

The majority of the project area is covered by a bottomland or floodplain forest. Major species include willow (Salix spp.), silver maple (Acer saccharinum), and cottonwood (Populus deltoides). Other species frequently occurring are elm (Ulmus spp.), mulberry (Morus spp.), ash (Fraxinus spp.) (particularly green ash, F. pennsylvanica var. subintegerrima), and river birch (Betula nigra).

Mast-producing trees are limited in number, generally occurring in higher or better-drained areas. The most common mast trees are pin oak (Quercus palustris) and bur oak (Q. macrocarpa), with other oaks (Q. spp.), hickories (Carya spp.), pecan (C. illinoensis), and black walnut (Juglans nigra) occurring occasionally. Ground cover under the forested areas commonly includes poison ivy (Rhus radicans), wood nettle (Laportea canadensis), grapes (Vitis spp.), ragweeds (Ambrosia spp.), and bur cucumber (Sicyos angulatus).

Marshes, mudflats and sandbars, emergent aquatic, and submergent vegetation occur frequently, particularly in backwater and side channel areas where water currents are slower. Many of these areas support mixed stands of grasses, including reed canary grass (Phalaris arundinacea) and rice cutgrass (Leeria oryoides); sedges (Carex spp.), smartweeds (Polygonum spp.), cattails (Typha spp.), arrowheads (Sagittaria spp.), American lotus (Nelumbo lutea), coontail (Ceratophyllum demersum), wild celery (Vallisneria americana), and duckweeds (Lemna spp.).

#### B. Fauna

The principal terrestrial mammals commonly found in the project area include white-tailed deer, red and gray fox, cottontail rabbit, coyote, groundhog, opossum, raccoon, and skunk. Common semiaquatic mammals include muskrat and beaver, with mink and river otter inhabiting the area, but in low numbers.

The project area is part of the major north-south migration route known as the Mississippi River Flyway. The flyway is both nationally and internationally significant, with waterfowl migrating from as far away as Alaska, Hudson Bay, the McKenzie River Delta, and Baffin Island.

The upper Mississippi River provides habitat for approximately 300 species of birds, with at least 100 species using the river corridor for nesting. The deciduous forest of the corridor is used by song birds. Representatives of this group include warblers,

sparrows, swallows, and thrushes. In addition, many species of birds of prey, or raptors, nest in the project area or are abundant during the spring and fall migration. The bald eagle, osprey, and peregrine falcon are some of the more prominent migrant visitors.

Exposed sand flats, mud bars, and shallow areas provide feeding areas for both wading and shore birds. Species include herons, egrets, and terns. Waterfowl use the area for their nesting and feeding requirements and for migrating. The mallard and wood duck are the most common dabblers, or surface feeders, while the most common diver is the lesser scaup.

Upland game birds also occur along the higher, drier elevations. These include the ruffed grouse, bobwhite quail, wild turkey, and ring-necked pheasant.

Several amphibian and reptile species inhabit the study area. This species diversity is due to the occurrence of extensive rock habitat and sand areas, and the continuity of wooded and shallow aquatic habitats along the river. Both salamanders and frogs are most commonly found in the bottomland forests and shallow areas, while turtles have made significant use of sandy, well-drained levees or dredged material placement sites for nesting areas. Common species include the bullfrog, northern and southern leopard frogs, western chorus frog, mudpuppy, eastern tiger salamander, common snapping turtle, western painted turtle, northern water snake and diamondbacked water snake.

Approximately 72 common to uncommon fish species are found within Pools 11-22. Habitats range from main channel and main channel border to side channels, sloughs, tailwaters, and river lakes and borders. Carp and gizzard shad are two abundant species found commonly in all habitats. The channel and flathead catfish, walleye, sauger, freshwater drum, bluegill, crappie, and shorthead redhorse are also common.

### C. Endangered Species

1. Federally Listed Species. There are eight federally threatened (T) or endangered (E) species listed for the Mississippi River or adjacent counties that occur within the project area. They are:

Northern Wild Monkshood	<u>Aconitum noveboracense</u> (T)
Bald Eagle	<u>Haliaeetus leucocephalus</u> (E)
Peregrine Falcon	<u>Falco peregrinus</u> (E)
Indiana Bat	<u>Myotis sodalis</u> (E)
Gray Bat	<u>Myotis grisescens</u> (E)
Higgins' Eye Pearly Mussel	<u>Lampsilis higginsii</u> (E)
Fat Pocketbook Pearly Mussel	<u>Potamilus capax</u> (E)
Iowa Pleistocene Snail	<u>Discus macclintocki</u> (E)

A. Bald eagle (Haliaeetus leucocephalus). The bald eagle is listed as occurring throughout the project area. It is known to breed in the scattered locations from Pool 13 northward and farther south in Hancock and Pike Counties, Illinois. Wintering eagles concentrate near places of open water, where they can hunt for fish, their primary food source. They are often abundant below the lock and dam systems, where large areas of churned water remain ice-free. The eagles use large trees near the open water as day or feeding perches and during periods of harsh weather will seek large trees in sheltered valleys of the adjacent bluffs for night roosts.

B. Peregrine falcon (Falco peregrinus). The peregrine falcon is listed as having potential breeding areas in Grant County, Wisconsin. Nesting habitat would consist of rocky ledges or cliffs.

C. Indiana bat (Myotis sodalis). The Indiana bat is listed as occurring in Louisa and Dubuque Counties, Iowa; in Ralls County, Missouri; and statewide in Illinois. In the summer, the bat species uses large trees with loose or peeling bark (particularly dead trees) near small to medium size streams enclosed by a forest canopy as roosting sites. The Indiana bat uses caves in the winter to hibernate.

D. Gray bat (Myotis grisescens). The gray bat occurs in Ralls County, Missouri and Adams and Pike Counties, Illinois. The gray bat inhabits caves throughout the year, although they generally use different summer and winter caves. For winter hibernation, the bat uses caves with vertical shafts or entrances. This tends to lessen the amount of disturbance and provides for cooler temperatures. In summer, they prefer caves close to large rivers or reservoirs over which they feed. Caves are not generally found within the project area, but may be located in and along the adjacent bluffs.

E. Iowa Pleistocene Snail (Discus macclintocki). The Iowa pleistocene snail is listed as occurring in Clayton, Dubuque, Jackson, and Clinton Counties, Iowa and in Jo Daviess County, Illinois. This snail is a glacial relict that is known at only 18 sites in the above counties. It has unusually narrow temperature and moisture tolerances and is limited in habitat to algific talus slopes. Such slopes that have rocky debris overlying caves or fissures would be extremely rare within the lands affected by the proposed zoning. This habitat type occurs along the adjacent bluffs and uplands.

F. Northern Wild Monkshood (Aconitum noveboracense). The northern wild monkshood occurs in Clayton, Dubuque, and Jackson Counties, Iowa and in Grant County, Wisconsin. This plant is also a relict species. Its habitat consists of shaded cliffs, talus slopes, algific slopes, and spring situations where there is continuous cold air drainage or cold groundwater flowage out of nearby bedrock. Such habitat generally does not

occur within project lands but is more associated with adjacent bluffs and slopes.

G. Higgins' Eye Pearly Mussel (Lampsilis higginsii). The Higgins' eye pearly mussel occurs in the Mississippi River from the northern most reaches of the project area downstream to Lock and Dam 20. This mussel prefers deep water habitat of large rivers with a substrate composed of a mixture of mud, sand, and gravel.

H. Fat Pocketbook Pearly Mussel (Potamilus capax). The fat pocketbook pearly mussel is listed for the southern part of the project area in the Mississippi River along Des Moines County, Iowa; Hancock and Pike Counties, Illinois; and Clark, Lewis, Marion, and Ralls Counties, Missouri. This mussel is also a larger river species that has been found in varying depths in substrate composed of sand or mud.

2. State Listed Species. There are 192 state listed species for counties adjacent to the project area. Generally only a small portion of each of these counties lie within the project area. The list includes 108 plant, 17 fish, 9 mammal, 22 bird, 17 reptile/amphibians, 11 mussel, and 8 other invertebrate species. Appendix A gives the species by counties in which they are listed and notes their status.

#### D. Cultural

1. Management Program. A systematic Mississippi River Identification program began in 1980 with the publication of the Cultural Resources Work Group Appendix to the GREAT II Study. This report summarized the extremely limited survey projects conducted prior to 1980 (usually small and action-specific) and presented distribution maps of known site densities for several miles on either side of the river valley. This exercise revealed that little work had been done along the Mississippi River on federally controlled land, and that over 90 percent of the known sites were located at higher elevations on privately-owned land. The Corps-held tracts were nearly devoid of cultural resources, a condition that reflected both insufficient study and problems with site burial in a major alluvial environment.

In 1981, the Rock Island District embarked upon a "pool survey" program to address compliance needs under the Identification phase for Federal lands above-water under Corps jurisdiction. The motivation for this program was to begin fulfilling both Identification and Evaluation requirements for real estate, regulatory functions, operations, and recreational development projects impacting National Register properties required under Section 106 of the National Historic Preservation Act. Table EA-4 lists the survey efforts accomplished/awarded to date for the Mississippi River Nine-Foot Channel Navigation Project.

TABLE EA-4

Previous and Current Cultural Contracts

*Take cost out*

<u>Task</u>	<u>Cost (\$)</u>	<u>Contractor*</u>	<u>Report Date</u>
Survey - Pool 12	62,750	GLARC	Jan 82
Survey - Pool 16	36,074	ISU	Jan 82
Survey - Pool 11	63,139	GLARC	Feb 85
Historical/Architec- tural Study - L/D's 11-22	17,907	RATH	Jul 85
Recreation Areas Inten- sive Surveys (12-22)	34,203	OSA-IA	Jul 85
Mitigate 11HE3 (Pool 18)	50,000	NIU	Jan 88
Mitigate 11LA30/38 (Pool 17)	50,000	SWMS	Jun 87
Survey - Pool 17 and 18	87,616	SWMS	Mar 88
Geomorphological Mapping Pool 21	43,369	DONO	Feb 88
Historical/Architectural Documentation (L/D's 11-22)	50,000	RATH/NPS	Mar 88
Survey - Pool 13 and 14	100,000	SWMS	Sep 89
Geomorphological Mapping Pool 22	22,338	DONO	Aug 89

\* Abbreviations:

- DONO - Donohue and Associates
- GLARC - Great Lakes Archeological Research Center
- ISU - Illinois State University
- NIU - Northern Illinois University
- NPS - National Park Service
- OSA-IA - Office of the State Archeologist-Iowa
- RATH - Rathbun Associates
- SWMS - Southwest Missouri State

Tables C-1 and C-2 in Appendix C summarize recreational area survey results and clearances. All recreational intensive zoned areas are cleared, except for the Putney's Landing cottage lease tract (IL), Pleasant Creek (IA), L/D 22 (MO), Furnace Branch (WI, future testing), Thomson Causeway (IL), and Guttenburg (WI, future testing). Preservation and mitigative measures apply only to these six locations which contain significant sites.

Projected study needs to complete the Identification and Evaluation phases are listed in Table EA-5.

TABLE EA-5

Anticipated Future Cultural Contract Efforts

<u>Task</u>	<u>Year</u>	<u>Phase</u>
NRHP Testing Pools 16, 17, & 18	1989	Evaluation
Inventory Pools 21 & 22	1990	Identification
NRHP Testing Pools 12, 13, & 14	1991	Evaluation
Inventory Pools 15, 19, & 20	1992	Identification
NRHP Testing Pools 11, 15, & 20	1993	Evaluation
NRHP Testing Pools 21, 22, & 19	1994	Evaluation

A Cultural Resource Management Plan (CRMP) for the project has not been developed, although a CRMP is scheduled for completion in 1990.

The Management phase will begin on a pool-by-pool basis as Evaluation work is completed (see Table EA-5). The Management phase is in effect for recreational areas listed in Appendix C, tables C-1 and C-2. Mitigative requirements will be outlined as part of the CRMP development, with emergency situations being handled on a case-by-case basis.

2. Description of Cultural Resource Base. The first detailed studies of the specific Mississippi River environs were those conducted under the auspices of the U.S. Geological Survey. Detailed mapping of floodplain alluvial features for Pool 10 (Church 1984), Richard Anderson's geomorphic summary of Pool 12 (Bozhardt and Overstreet 1982, 1983 and Overstreet 1983), and Overstreet's (1985) study of Pool 11 have contributed to a better understanding of the processes which formed past and contemporary landscapes. While a major synthesis of floodplain evolution for the entire Upper Mississippi River is lacking, many recent studies, only several of which are cited here, are being used to interpret past land use.

Geomorphological studies are used to identify key erosional and depositional contexts related to prehistoric land use through time, and often serve as the only viable and cost-effective identification methodology for understanding the locations and nature of buried sites in dynamic alluvial contexts.

Few comprehensive studies of historical-geographical orientation have been conducted specific to the Upper Mississippi River Valley. It is likely that within the coming years historical-geographical studies within thematic frameworks will become common, based on the implementation of the Resource Protection Planning Process or, as it is known in Cultural Resource Management jargon, RP3. The States of Iowa and Wisconsin which border the river have made substantial efforts in completing this thematic planning process.

Some of these themes have been identified and summarized by Overstreet et al. for Mississippi River Pools 10, 11, and 12 (1983, 1984, 1985). Also of great utility in identifying and interpreting RP3 themes along the Mississippi River is Rusch and Penman's (1982) report entitled Historic Sites along the Great River Road. Of equal value is the Iowa Great River Road Report (Hotopp 1977a, 1977b).

The Upper Mississippi Valley is a phenomenally rich research universe for investigating prehistoric cultural responses to changing habitats. The four major prehistoric units are: Paleo Indian, Archaic, Woodland, and Mississippian.

Paleo Indian. Estimates of first Paleo Indian colonization range from 20,000 to 12,000 years ago, but the geographic origins and lifeways of these inhabitants have not been accurately established. Population influxes from both western and eastern sources have been suggested, with the most recently obtained information indicating stronger ties with the latter in terms of lithic technologies and available habitats. Surface finds of diagnostic Paleo Indian lithics (i.e., fluted points) on floodplains and terraces of the Upper Mississippi River Valley are rare, although significant numbers have been found in bordering upland contexts. No Paleo Indian sites are recorded on Corps managed land in the Upper Mississippi River Valley.

Archaic. Floodplain sites of the Archaic period (9000-1000 B.C.) are equally rare in the river valley area, despite the fact that adaptation to riverine habitats is well established. The failure of recent surveys to investigate buried intact surfaces of sufficient age to harbor pre-Woodland archeological sites may explain this phenomenon. Since 1983, about a dozen sites have been found on Corps land, most buried under 3 or more feet of modern alluvium.

Woodland. Woodland period sites far outnumber those of earlier periods in the Upper Mississippi River Valley area. Data are limited to short-term extractive camps (shellfish processing) for the Early Woodland period, while Middle Woodland cultural patterns are quite well known from large village and mortuary sites. Late Woodland occupations prior to A.D. 1000 are classified within the Effigy Mound tradition in the driftless area and Bluff or Oneota elsewhere to the south. Overall, settlement and subsistence behaviors in the floodplain contexts are not well documented. Late Woodland cultures post-dating A.D. 1000 can be interpreted only from very scanty remains.

Mississippian. Limited presence of Oneota (Upper Mississippian) groups has been noted in navigation pools 10, 11, and 12, with no evidence indicating substantial habitation areas. The factors

which would serve to explain the relative scarcity of Mississippian sites are not fully understood and pose an important question for future research.

3. Pool 11 Example. Investigations conducted by the Great Lakes Archeological Research Center (GLARC) resulted in the identification of some 190 cultural sites in the Pool 11 area, either through literature/archives search or by field survey. The sites identified in the investigation are divided into Federal and non-Federal ownership categories. Federal ownership is principally by the Corps or the FWS, while the non-Federal ownership category includes state, county, municipal and private ownership.

Federal ownership was determined by GLARC records and by examination of topographic or plat maps. Sites were assumed to be non-Federal if they were not identified by the GLARC as federally owned and did not appear to be located on federally owned properties shown on Corps real estate plat maps of Pool 11.

A number of sites were designated as "unconfirmed or unsure." Sites in this category were generally those identified through literature/archives search and unconfirmed by field survey, or whose location could not be clearly identified through records or examination of maps.

Of the 190 cultural sites identified in the Pool 11 area, 95 are historic period (post-1650) and pre-1930, while the remaining 95 are designated as prehistoric sites. Thirty (30) of the historic sites are known to be located on Federal land, while 37 are known to be non-federally owned, and the remaining 28 have unconfirmed or imprecise locations. Of the 95 pre-historic sites identified through the Pool 11 study, 24 lie on federally controlled property, 56 are on non-Federal land, and 15 have unconfirmed or imprecise locations. Historic and prehistoric sites are found on both sides of the river, with the greatest concentration of sites found in Potosi Township in Grant County, Wisconsin, an area which includes the Grant River Public Recreation Area.

4. Summary. Pools 12, 16, 17, and 18 also have been surveyed at the reconnaissance level, and similar site distributions were noted. This information, which is contained in several large contract reports on file at the District Office, will be used for coordination under the National Historic Preservation Act for LUAP purposes. Additional data on site distribution are presented in the Cultural Work Group Appendix to the GREAT II Study (December 1980).

V. ENVIRONMENTAL CONSEQUENCES OF PREFERRED ACTION

As mentioned earlier, this EA addresses two aspects of the LUAP and SMP process. First this EA addresses the administrative implementation of the LUAP. Secondly, it addresses the implementation of the SMP. The SMP establishes the policy concerning continued placement of private recreational structures in the Recreation Low Density - Special Use (LUAP) or Limited Development Area (SMP) zone. Most social, economic, and environmental impacts are normally associated with construction projects. Any specific development action stemming from the LUAP will require a separate National Environmental Policy Act (NEPA) evaluation. Therefore, any potential development impacts are not directly applicable to the implementation of the LUAP. Potential impacts resulting from implementation of the SMP and the continued placement of private recreational structures will be addressed in this EA.

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Direct correlation between present (1969-1972 Master Plan) and revised land use allocations (Draft LUAP) is not possible because of the use of different classifications as specified in ER 1120-2-400. The revised plan reflects a complete change in the land use allocation system. However, the new classifications are consistent with established resource management objectives and will not significantly alter existing physical conditions.

Impacts are summarized in Table EA-6.

TABLE EA-6

Effects of Recommended Action on Natural  
and Cultural Resources

<u>Type of Resource</u>	<u>Authority</u>	<u>Evaluation of Effects</u>
Air quality	Clean Air Act, as amended (42 U.S.C. 1857h-7, et seq.)	No effect
Areas of particular concern within the coastal zone	Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1451, et seq.)	Not present in planning area
Endangered and threatened species critical habitat	Endangered Species Act of 1973, as amended (16 U.S.C. 1531, et seq.)	No effect
Fish and wildlife habitat	Fish and Wildlife Coordination Act (16 U.S.C. 661, et seq.)	No effect
Floodplains	Executive Order 11988, Flood Plain Mgmt	No effect
Historic and cultural properties	National Historic Preservation Act of 1966, as amended (16 U.S.C. 470, et seq.)	No effect*
Prime and unique farmland	CEQ Memorandum of August 1, 1980; Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing NEPA	No effect
Water quality	Clean Water Act of 1977 as amended (33 U.S.C. 1251, et seq.)	No effect
Wetlands	Executive Order 11990 Protection of Wetlands, Clean Water Act of 1977, as amended (42 U.S.C. 1857h-7, et seq.)	No effect
Wild and scenic rivers	Wild and Scenic Rivers Act, as amended (16 U.S.C. 1271, et seq.)	No effect

\* Specific SMP actions will be coordinated with the appropriate State Historic Preservation Officer (SHPO).

## A. Social Impacts of Preferred Action

1. Affected Property. The proposed LUAP zones approximately 60,000 acres of project land in the Mississippi River floodplain. The project area within the Rock Island District is approximately 314 river miles long, including nine counties in both Illinois and Iowa, four counties in Missouri, and one county in Wisconsin. The combined 1980 population of this 23-county area was 1,037,000, as shown in Table EA-7.

TABLE EA-7

### Population Trends for the Affected Area

Area	P o p u l a t i o n		Percent change 1970-1980
	1970	1980	
Illinois Counties	410,300	417,100	+1.7
Iowa Counties	484,300	511,300	+5.6
Missouri Counties	55,200	56,900	+3.1
Wisconsin County	48,400	51,700	+6.8
23-County Area	998,200	1,037,000	+3.9

Source: 1980 Census of Population, Volume 1, "Characteristics of the Population," U.S. Department of Commerce, Bureau of the Census, February 1982.

About 65 percent of the project area's population is urban. Most urban areas are located along the river throughout the 23-county area and include the communities of Moline, Rock Island, and Quincy in Illinois; the cities of Dubuque, Clinton, Davenport, Muscatine, Burlington, Fort Madison, and Keokuk in Iowa; and the city of Hannibal in Missouri.

2. Noise Levels. Implementation of the proposed LUAP/SMP modifies the land use designations of various public lands; however, the physical use or type of activity taking place at the affected properties will not change as a result of these new designations. It is anticipated that no significant impacts to noise levels will result from implementation of the proposed plans.

3. Displacement of People. Implementation of the LUAP/SMP would not displace any people. Public Law 99-662 has mandated the continuation of all cottage site leases under certain conditions. Implementation of these conditions may result in some decrease in the number of cottage site leases. The LUAP is not the decision making document for cottage site lease policies.

4. Aesthetic Values. The LUAP does not significantly affect the aesthetic values of the project. The plan directs proper conservation of the natural scenic values and characteristics of public lands associated with the project. The SMP is intended to protect the natural shoreline by establishing guidelines for the development of private recreational structures permitted on public (project) lands.

5. Community and Regional Growth. Changes in land use designations could make affected and/or adjacent land parcels more attractive for residential, commercial, or industrial development. For example, if an Undeveloped Recreation (old classification) area were designated a Natural Area (new classification), residential development in the vicinity might increase; potential home buyers might prefer to live near an area which they perceive as having few visitors as opposed to an area that might be heavily visited by recreationists. Therefore, the changed land use designations could indirectly spur community and/or regional growth.

6. Community Cohesion. Private property owners' rights and the Federal Government's rights and obligations to regulate public lands will continue to be sources of controversy. However, no major impacts on community cohesion would be expected.

#### B. Economic Impacts of Preferred Action.

1. Property Values and Tax Revenues. The property value of adjacent private land may be favorably or unfavorably affected by the availability of Government shorelines for private recreational use (See Tables EA-2 and EA-3). There are 52 Limited Development Areas (SMP) where continued or expanded private recreational use may be authorized. There are also 49 licenses which authorize use outside the Limited Development Areas. These 49 existing licenses will be allowed to continue and be renewed by new owners; however, no new licenses will be authorized outside the Limited Development zones. This could result in enhanced property values for private property adjacent to Special Use (LUAP)/Limited Development zones. However, it could lead to decreased property values for private property adjacent to zones where private shoreline use will not be authorized or expanded.

No Government property rights are conveyed as part of the issuance of private use licenses, although this use sometimes creates a perception of private property privileges. It is the objective of the Corps to manage private exclusive use on project lands so that the general public receives maximum benefits from public land. Private exclusive recreational use of public lands is not consistent with current Corps resource management policy. However, Corps projects with existing private use may continue to authorize this private use subject to the development of a shoreline management plan.

Property values also might be either favorably or unfavorably affected by changes in a parcel's land use designation or by changes in an adjacent parcel's land use designation. For example, designating project land as Wildlife Management/Reserve Forest rather than Recreation Low-Density might impact property values. In addition to the consequences for individual property owners, changes in market values of affected properties could lead to some fluctuation in local tax revenues. No significant deviation in property values is expected as a result of the LUAP/SMP implementation. Forty-seven (47) of the 52 Limited Development Areas currently have authorized private use. Of the 5 remaining Limited Development Areas, 1 has had authorized private use in the last few years.

2. Public Facilities and Services. With the proposed LUAP, the land use designation of various public lands will be modified to more accurately reflect the primary use of the parcels. However, the new land use designations will not significantly affect the physical use of the properties. For example, despite a change in its land use designation from Undeveloped Recreation (old classification) to Wildlife Management/Reserve Forest Land (new classification), a site will continue to be used for public hunting.

3. Employment and Labor Force. Implementation of the proposed LUAP/SMP would have no short-term impacts on employment in the 23-county area. Long-term effects of the LUAP/SMP on the permanent employment and labor force of the area would be related to community and regional growth.

4. Business and Industrial Development. No short-term impacts on business or industrial activity would be noticed following implementation of the proposed LUAP/SMP. As mentioned before, changes in land use designations could make affected and/or adjacent parcels more attractive for residential, commercial, or industrial development. Long-term effects on business and industrial activity would be related to community and regional growth.

5. Farm Displacement. Agricultural use is not permitted on lands designated for Natural Areas, but is conditional for other land use designations. Agricultural use is permitted as an interim use when considered beneficial for maintenance of open space, scenic values, or wildlife management purposes. The agricultural leasing program benefits the public by generating revenues that are provided to the county or used by the FWS/state wildlife management agencies. No private farms or farmlands will be directly affected by implementation of the LUAP/SMP.

### C. Environmental Impacts of the Preferred Action

1. Man-Made Resources. No man-made resources would be affected by the implementation of the LUAP/SMP.

From here on  
make sure SMP  
impacts addressed

2. Natural Resources. No large-scale habitat alterations would occur from the proposed land use or shoreline management designations. The majority of the project area is classified as essentially non-developmental allocations, thus maintaining the existing natural resources. These allocations are Wildlife Management/Reserve Forest, 53,358 acres (89% of project lands); and Natural Areas, 749 acres (1% of project lands). The remaining 5,676 acres (10%) are designated as Project Operations, Recreation - Intensive, or Recreation Low - Density uses. Areas designated for project operations or recreation have such uses existing or have a high potential for such uses.

The FWS manages the majority of the project lands and waters under the National Wildlife Refuge Systems through a Cooperative Agreement signed in 1963. Project lands were made available under this agreement for conservation, maintenance, and management of wildlife resources and habitat to be administered by the Secretary of Interior. Such project lands have been subsequently included in either the Upper Mississippi River National Wildlife and Fish Refuge (encompassing Pools 11-14 in the Rock Island District) or the Mark Twain National Wildlife Refuge (Pools 16-22 in the Rock Island District), or have been made available to state conservation agencies for management. Approximately 93 percent of the project's land resources located within the Rock Island District are covered by this program. The FWS also has purchased additional lands specifically for establishment of the refuge system.

An update of the administrative assignment of project lands (General Plan) under the Cooperative Agreement will be accomplished as part of the overall land use allocation revision. This update will increase the total amount of project lands presently under the cooperative agreement by more than 10,800 acres. Table EA-8 lists the specific acreages involved for each pool.

TABLE EA-8

## General Plan Acreage

Pool	Existing	Proposed
----	-----	-----
11	3,355	4,450
12	3,084	4,430
13	7,522	8,301
14	4,564	4,044
16	2,610	4,421
17	7,476	8,358
18	5,461	7,533
21	6,127	8,062
22	4,558	5,962
	=====	=====
TOTAL	44,757	55,561

NOTE: These acreages do not include submerged tracts.

During the preparation of the LUAP, the Corps coordinated with the Upper Mississippi River National Wildlife and Fish Refuge, Mark Twain National Wildlife Refuge, and state conservation management agencies concerning changes to the General Plan. The draft LUAP represents the proposed new General Plan assignments. Official revision of the General Plan will be accomplished after finalization of the LUAP.

3. Cultural Resources. The administrative implementation of LUAP will have no effect on historic properties. Specific future development actions under the SMP which have a potential to impact historic properties will be coordinated individually in keeping with the National Historic Preservation Act. As funding and manpower allow, the District will coordinate and implement a Programmatic Memorandum of Agreement with the State Historic Preservation Officers (SHPO's) and the Advisory Council to facilitate development authorizations under the SMP.

4. Air and Water Quality. There would be no changes or impacts to air or water quality as a result of LUAP/SMP implementation.

5. Water Conservation. Water conservation is not affected as a result of LUAP/SMP implementation.

## 6. Endangered Species.

A. Federal Species. The proposed zoning should have no significant impacts to threatened or endangered species. Four of the federally listed species, the northern wild monkshood, the Iowa pleistocene snail, the peregrine falcon, and the gray bat have very specific habitat requirements such as algific talus slopes, bluffs, cliffs, or caves. These habitats generally do not occur within the project area. No active peregrine falcon breeding sites are known to occur in the project area. The Indiana bat prefers the riparian habitat of small to medium sized streams. While smaller wooded backwater sloughs may provide a similar habitat, no known critical or sensitive areas for the bat have been identified. Most quality habitat has been zoned either as Wildlife Management/Reserve Forest or as Natural Area.

The bald eagle because of its winter migratory habits may be widespread throughout the project area wherever there are large roost trees near open water. The proposed zoning would not cause any noticeable changes in these areas. All nesting areas (critical summer habitat) have been zoned either Wildlife Management/Reserve Forest or Natural Area. The existing locks and dams are exceptions, which, as part of the Nine-Foot Channel Navigation Project, are zoned Project Operations. The locks and dams create open water along their tailraces, which provide winter feeding sites for bald eagles.

The Higgins' eye and the fat pocketbook pearly mussels are located in the Mississippi River. Water areas have not been zoned since the LUAP represents a land classification scheme. The proposed land zoning will not produce changes that will have a noticeable overall affect on the mussels.

This EA does not address specific development or construction actions resulting from the LUAP. Such actions will require further NEPA review and site specific endangered species impact analysis prior to initiation of the activity. No impacts are anticipated as a result of the LUAP or SMP implementation.

B. State Species. No impacts to the state species are anticipated as a result of the implementation of the LUAP or SMP. High quality habitat which has the greatest potential for harboring any of these species has been classified as Wildlife Management/Reserve Forest or as Natural Area in the LUAP and not as Recreation Low Density - Special Use. As with the Federally listed species, potential impacts caused by specific development LUAP actions will be evaluated on a case-by-case basis prior to initiation of the action.

VI. ENVIRONMENTAL IMPACTS OF NONPREFERRED ALTERNATIVES

Impacts would likely remain the same or be greater than those of the preferred alternative.

VII. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Areas classified as Project Operations, Recreational Intensive, and Recreation Low Density have the greatest potential for future development. There are no known unavoidable adverse environmental impacts associated with implementation of the LUAP/SMP as described to date. Environmental impacts will be evaluated and addressed by separate NEPA reviews as specific uses are proposed.

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LUAP/SMP*

VIII. RELATIONSHIP BETWEEN SHORT-TERM USE OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The revised LUAP and SMP are consistent with the current use and the maintenance and enhancement of long-term productivity of the project resources. The plans consider future uses and activities, including operation and maintenance of the nine-foot channel, public recreation, private recreation, and forest and wildlife management.

IX. ANY IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED IF THE PROPOSED ACTION SHOULD BE IMPLEMENTED

Time, labor, money, fuel, and materials expended on the planning effort should be considered irretrievable.

X. RELATIONSHIP OF THE PROPOSED STUDY TO LAND-USE PLANS

This EA addresses the implementation of the LUAP which allocates lands acquired by the Corps of Engineers as part of the Nine-Foot Channel Navigation Project. The LUAP zones all lands owned in fee title by the Corps including those lands outgranted to the FWS and states for wildlife management. As mentioned earlier, the FWS also owns fee title lands along the Mississippi River and manages many acres of Corps land under a Cooperative Agreement. The FWS has published a separate LUAP for Pools 11-14 for lands they own and/or manage. Coordination between the Corps and the FWS throughout plan development has resulted in compatible, consistent plans.

This EA also addresses the implementation of a the SMP which is intended to furnish guidance for the management, protection, and preservation of the Mississippi River's environment while allowing balanced use of the shoreline.

XI. COMPLIANCE WITH ENVIRONMENTAL QUALITY STATUTES (See Table EA-9)

TABLE EA-9

Relationship of Plan to Environmental Protection  
Statutes and Other Environmental Requirements

<u>FEDERAL POLICIES</u>	<u>COMPLIANCE</u>
Archeological and Historic Preservation Act (16 U.S.C. 469, et seq.)	Partial See Sect. XI. B.
Clean Air Act, as amended (42 U.S.C. 1857h-7, et seq.)	Full
Clean Water Act (Federal Water Pollution Act - 33 U.S.C. 1251, et seq.)	Full
Coastal Zone Management Act (16 U.S.C. 1451, et seq.)	Not Applicable
Endangered Species Act (16 U.S.C. 1531, et seq.)	Full
Estuary Protection Act (16 U.S.C. 1221, et seq.)	Not Applicable
Federal Water Project Recreation Act (16 U.S.C. 460-1[12], et seq.)	Full
Fish and Wildlife Coordination Act (16 U.S.C. 601, et seq.)	Full
Land and Water Conservation Act (16 U.S.C. 460/-460/-11, et seq.)	Not Applicable
Marine Protection, Research and Sanctuary Act (33 U.S.C. 1401, et seq.)	Not Applicable
National Environmental Policy Act (42 U.S.C. 4321, et seq.)	Full
National Historic Preservation Act (16 U.S.C. 470a, et seq.)	Partial See Sect. XI. B.
River and Harbor Act (33 U.S.C. 403, et seq.)	Full
Watershed Protection and Flood Prevention Act (16 U.S.C. 1001, et seq.)	Not Applicable
Wild and Scenic Rivers Act (16 U.S.C. 1271, et seq.)	Full
Farmland Protection Policy Act (7 U.S.C. 4201, et seq.)	Not applicable

### A. Endangered Species

Impacts to threatened and endangered species were considered throughout the planning process. The LUAP was prepared in cooperation with the FWS and complies with endangered species statutes. This LUAP and the resulting SMP will have no effect on any threatened or endangered species.

### B. Archeological - Historical

The Rock Island District is required by several laws to Identify, Evaluate, and Manage cultural resources under its jurisdiction. Identification typically is accomplished through literature searches and field surveys (surface and subsurface). Identified sites are then Evaluated using National Register of Historic Places (NRHP) criteria of significance based upon information generated through more detailed studies (i.e., testing).

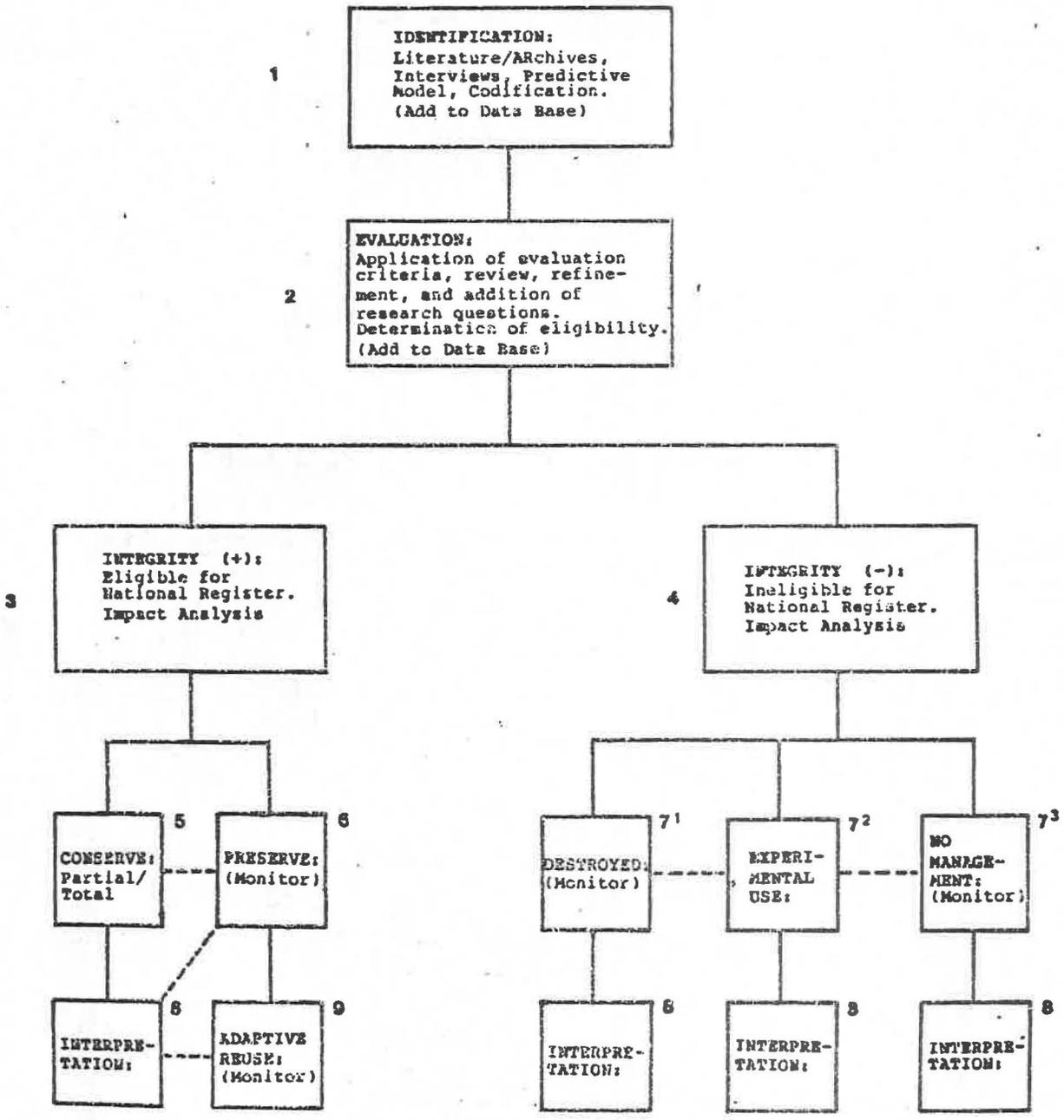
Those resources which do not meet the significance criteria do not have to be protected or preserved. These properties may be destroyed, monitored to learn more about project effects, or used for testing experimental management techniques (stabilization or research, optional) that eventually may be applied to significant sites. Full compliance is met at the time the sites in this category are determined ineligible for listing in the NRHP by the District and the State Historic Preservation Officer (SHPO). Disputed properties are mediated by the National Park Service.

Evaluation, through archeological testing and/or architectural recording, results in cultural resources being determined eligible or ineligible for listing in the NRHP. Typically, eligible properties are significant due to a combination of integrity (good preservation), uniqueness, or unusually high quality.

The critical factor to keep in mind at this point is that National Register eligible resources must be protected from adverse effects derived from project operations or uses. Adverse effects are any conditions which denigrate a characteristic(s) of the resource contributing to its significance. The most common factors producing adverse effects are construction, erosion, vandalism, inundation, or recreational use (i.e., vehicular traffic which can churn up cultural deposits).

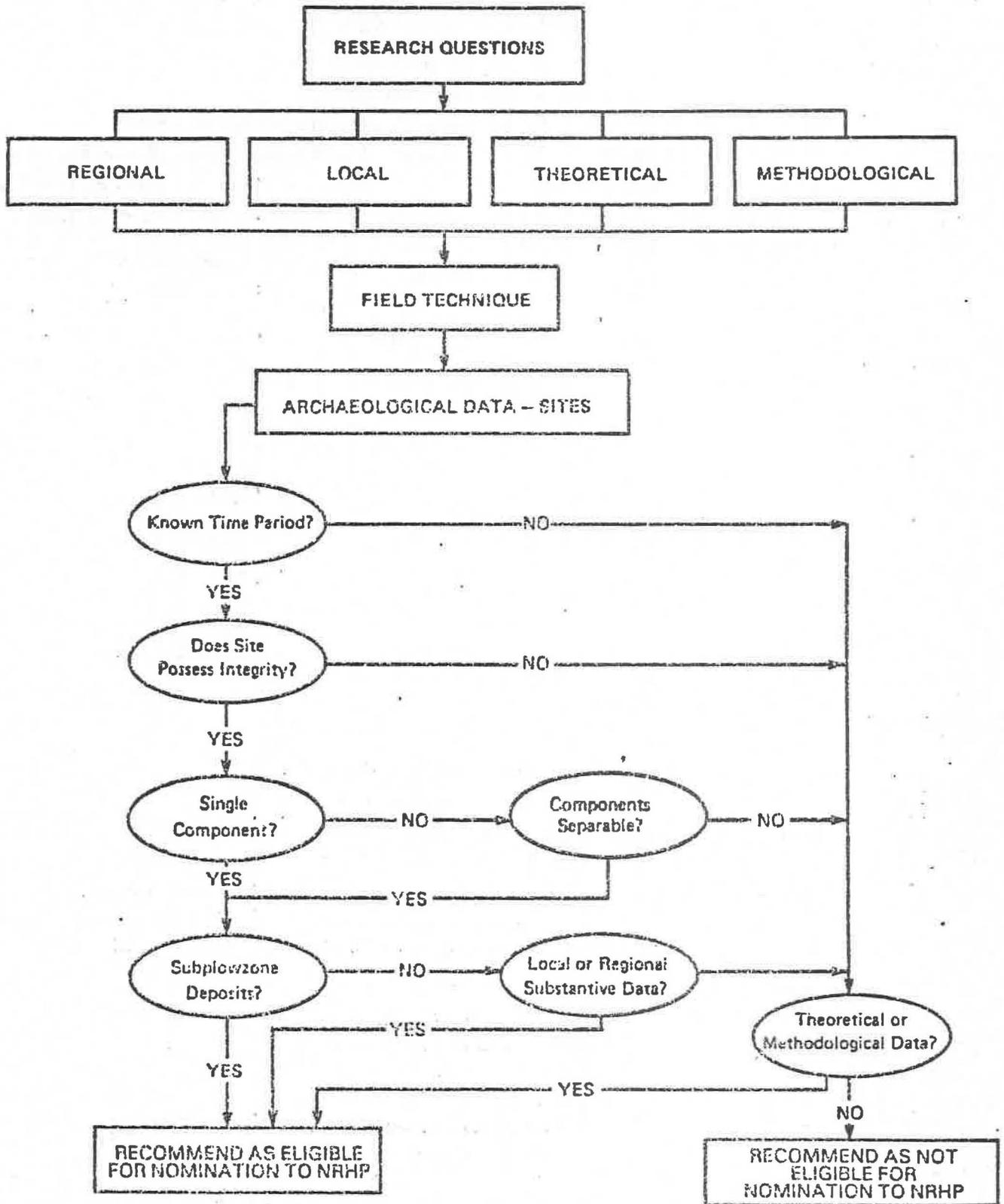
Plate 1, developed by Dr. David Overstreet from the Great Lakes Archeological Research Center, best illustrates the overall Cultural Resource Management (CRM) process. This flow diagram shows how sites are evaluated for National Register significance and how management options are derived. Plate 2 illustrates the consultation process for attaining compliance with the National Historic Preservation Act for projects which affect significant properties.

*Mike wants this section reduced*



Sites & Properties Allocation Process.

# FLOW CHART OF THE NATIONAL REGISTER EVALUATION PROCESS



Note that the Federal agency must Identify and Evaluate first, then initiate coordination with the SHPO and the National Park Service to determine National Register status. Because of the complexity and time-consuming nature of the determination of eligibility process, an expedited procedure has been made part of the Federal rules. If the agency and the SHPO agree on eligibility, the consultation process can proceed with the Advisory Council on Historic Preservation (ACHP) and coordination with the National Park Service can be held at a later date. Ineligible sites on project areas (i.e., no sites) clear the way for a project action, or eliminate the need for further archeological investigations. The exception to this clearance is when unanticipated cultural remains are found during construction. In these situations, consultation (SHPO and ACHP) is reinstated, but under an expedited process.

Section 106 of the National Historic Preservation Act, as amended in 1980 (PL 89-665), requires that Federal agencies take into account the effect of their proposed undertakings on properties listed in or eligible for inclusion in the NRHP before expending Federal funds for rehabilitation and construction projects or granting a license or permit. The Act also stipulates that the ACHP be allowed a reasonable opportunity to comment on proposed projects affecting significant historic properties, supplemented by comments from the appropriate SHPO. The consultation process is fully described in Title 36 of the Code of Federal Regulations (CFR), Part 800. Executive Order 11593 (16 U.S.C. 470, Supp. 1, 1971) directs Federal agencies to take a leadership role in preserving, restoring, and maintaining the historic and cultural environment of the Nation. Federal agencies must survey, inventory, and nominate all qualified (36 CFR 60 and 63) historic resources under their jurisdiction to the National Register. Until these procedures are completed, the agency must assure that properties are not inadvertently demolished or substantially altered.

The process described above is sufficiently stringent to ensure that impacts to significant cultural resources are taken into account during the LUAP/SMP implementation processes. As the pool survey and evaluation program continues, improved management will result. No significant impacts are expected under LUAP/SMP. However, to be in compliance with historic preservation law, coordination with the SHPO(s) is required. This EA, along with the LUAP and SMP, will be sent as the necessary coordination to the Illinois, Iowa, Missouri, and Wisconsin SHPO's, and their comments will be addressed prior to signing of the Finding of No Significant Impact. Furthermore, all individual actions which have a potential to affect historic properties under the SMP will be coordinated with the appropriate SHPO.

C. Federal Water Project Recreation Act

This plan is in compliance with the Federal Water Project Recreation Act.

D. Fish and Wildlife Coordination Act

The draft LUAP has been coordinated with the FWS and the appropriate state fish and wildlife management agencies. Relevant letters of coordination are listed in Appendix E. Coordination ~~under the FWCA~~ will continue with the review of this EA.

E. Wild and Scenic Rivers

No federally listed wild or scenic rivers occur within the project area; however, three tributaries to the Mississippi River (the Maquoketa, Turkey, and Wapsipinicon Rivers) are on the Nationwide Inventory Rivers List. This is a list of rivers that might qualify as a National Wild and Scenic River. The designation of lands around the Maquoketa and Wapsipinicon Rivers are Wildlife Management/Reserve Forest. No impacts are anticipated.

An existing ferry landing, parking lot, and boat ramp are located along the Mississippi River below the southernmost outlet of the Turkey River. This area is designated as Recreation - Intensive Use and leased to the Iowa Department of Natural Resources. No impacts to the Turkey River are anticipated.

F. Executive Order 11988, Floodplain Management

This plan involves only Federal land and would not encourage development that would conflict with this order.

G. Executive Order 11990, Protection of Wetlands

The majority of wetlands within the LUAP have been designated as Wildlife Management/Reserve Forest. This EA does not cover any specific development projects. Impacts from projects that may occur in areas designated Project Operations, Recreation Intensive Use, or Recreation Low - Density Use would be addressed in separate NEPA documentation.

H. Clean Water Act

The LUAP/SNP implementation is in compliance with the Clean Water Act.

## I. Clean Air Act

The LUAP/SMP complies with the provisions of the Clean Air Act.

## J. Farmland Protection Policy Act

No prime or unique farmland will be affected by the LUAP or SMP implementation.

## XII. COORDINATION

Project administration is a continuous coordination process for all resource management activities (i.e., real estate transactions, maintenance dredging, basin planning, NEPA compliances, regulatory permits, forest management, etc.). Various coordination programs and procedures established to date will continue to be used. The LUAP and resulting SMP serve as a guides concerning future use of the project's natural resources. Federal and state management agencies were consulted during the formulation of the LUAP so that complementary and compatible management of the resources would occur.

## XIII. CONCLUSION

The LUAP needs to be updated because of changing laws and policies, use demands, and resource management practices. In addition, the resource base has also changed since the late 60's. The LUAP is intended to provide sound and balanced management guidelines resulting in an overall benefit to the project area with no significant environmental or cultural impacts.

It is the Chief of Engineers' policy to protect and manage all shorelines under Corps jurisdiction in a manner which promotes the safe and healthful use of these shorelines for the public, while maintaining environmental safeguards to ensure a quality resource for use by the public. The objectives of all management actions will be to achieve a balance between authorized private uses and resource protection so that the general public receives maximum benefits from public land. A SMP is needed to accomplish these objectives.

FINDING OF NO SIGNIFICANT IMPACT

FOR

LAND USE ALLOCATION PLAN  
and  
SHORELINE MANAGEMENT PLAN

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

Having reviewed the information provided by this Environmental Assessment, along with data obtained from Federal, State, and local agencies and from the interested public, I find that the implementation of the Land Use Allocation Plan and Shoreline Management Plan will not significantly affect the quality of the environment. Therefore, it is my determination that the preparation of an Environmental Impact Statement is not required. This determination may be reevaluated if warranted by later developments.

Two basic alternatives were evaluated, in addition to the preferred action: No Revision and Zoning Variations.

Factors that were considered in making a determination that an Environmental Impact Statement was not required are as follows:

a. The plans provide practical and sound management guidance for future Federal resource management decisions for the project, which will result in an overall benefit to the general public.

b. No significant environmental, social, economic, or cultural impacts are anticipated as a result of implementation of the LUAP or SMP.

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Date

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Neil A. Smart  
Colonel, U.S. Army  
District Engineer

APPENDIX A

STATE ENDANGERED SPECIES LIST

The codes for Appendix A are as follows:

E = Endangered  
T = Threatened  
R = Rare  
SC = Scarce  
PE = Proposed Endangered  
PT = Proposed Threatened

Similarities in the codes exist due to different terms used by the various states.

*Eliminate this table from final EA. referenced that they are on file with District in There is no find - this is an EA*











APPENDIX A

STATE ENDANGERED SPECIES LIST

STATES:	ILLINOIS										IOWA					MISSOURI			WISCONSIN			
	A	R	N	E	V	E	S	E	A	I	O	B	C	O	A	S	C	L	A	R	I	G
COUNTIES:	D	R	C	R	I	R	P	L	S	Y	N	I	U	K	U	T	C	L	E	R	A	R
SCIENTIFIC NAME	A	D	D	S	E	C	T	A	I	T	T	N	Q	S	L	I	I	O	A	W	I	L
	M	L	C	O	S	E	K	N	D	O	O	E	U	O	E	S	N	T	R	I	O	L
	S	L	K	H	S	R	E	D	E	N	N	S	E	N	E	A	E	F	K	S	N	S
MUSSELS (con't):																						
<i>Obovaria olivaria</i>																						E
<i>Plathobasus cyphus</i>							PE															
<i>Quadrula fragosa</i>																						PE
<i>Quadrula nodulata</i>																						PT
<i>Simpsoniopsis ambigua</i>																						PE
PLANTS:																						
<i>Acalypha gracilens</i>																	SC					
<i>Aconitum noveboracense</i>										T		T	T									T
<i>Adoxa moschatellina</i>										T		T										T
<i>Agastache nepetoides</i>																						T
<i>Allium cernuum</i>										T		T	T									
<i>Aralia nudicaulis</i>																						E
<i>Asclepias etarioides</i>						E																
<i>Asclepias standishii</i>							PT															
<i>Aster furcatus</i>																						E
<i>Aster linariifolius</i>											E						E					
<i>Bessya bullii</i>													T				T					

