ENVIRONMENTAL ASSESSMENT
WITH
DRAFT FINDING OF NO SIGNIFICANT IMPACT

MAINTENANCE OF NAVIGATION POOL AT ELEVATION 368.8 FEET (NGVD)
KASKASKIA RIVER LOCK AND DAM, ILLINOIS

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1. INTRODUCTION

The Kaskaskia River originates in east central Illinois and flows approximately 270 miles in a southwesterly direction to the Mississippi River in southwest Illinois (Fig. 1). The basin covers about 5,840 square miles. Major impoundments include Lake Shelbyville at RM (river mile) 112.6 and Carlyle Lake at RM 94.5. The Kaskaskia River Navigation Project is located on the lower Kaskaskia River in the Illinois counties of St. Clair, Monroe, and Randolph. It includes the Kaskaskia River from the Mississippi River upstream to Fayetteville, Illinois.

The navigation project shortened the Kaskaskia River between its mouth and Fayetteville from 50.5 to 36.2 miles (Fig. 1). Meanders were left as remnant channels, much of the channel excavated, and flow partially regulated by a lock and dam near the river mouth. Dredged material was placed in disposal areas along the channel. Of the 18,000 acres of land and water associated with the Kaskaskia River Navigation Project, the majority consists of bottomland forest, dredged material disposal areas, cultivated land, channelized river, and remnant channels.

In June 1992, the St. Louis District requested approval from our Division office in Vicksburg (LMVD) to extend the temporary deviation to the approved water control plan for the Kaskaskia River Navigation Pool. Approval for extension was granted on 18 August 1992 pending outcome of an ongoing reconnaissance report for the Kaskaskia Basin. The temporary deviation (originally granted on 6 March 1989) permits maintaining the pool at the Kaskaskia Lock and Dam at elevation 368.8 feet, referenced to the National Geodetic Vertical Datum (NGVD). The first deviation remained in effect until the August 1992 deviation superseded it. The approved navigation maximum pool elevation is 368.0 feet NGVD, as specified in the water control plan.

The request for the deviation in March 1989 was made in response to severe local drought conditions. Its main objective was to make lockage possible; however, there have been other benefits. For example, the higher water level has improved the backwater habitats, recreational fishing, and provided a dependable water supply for water intake devices.

This Environmental Assessment (EA) was prepared to provide information on potential impacts associated with maintaining the Kaskaskia navigation pool at 368.8 feet NGVD.

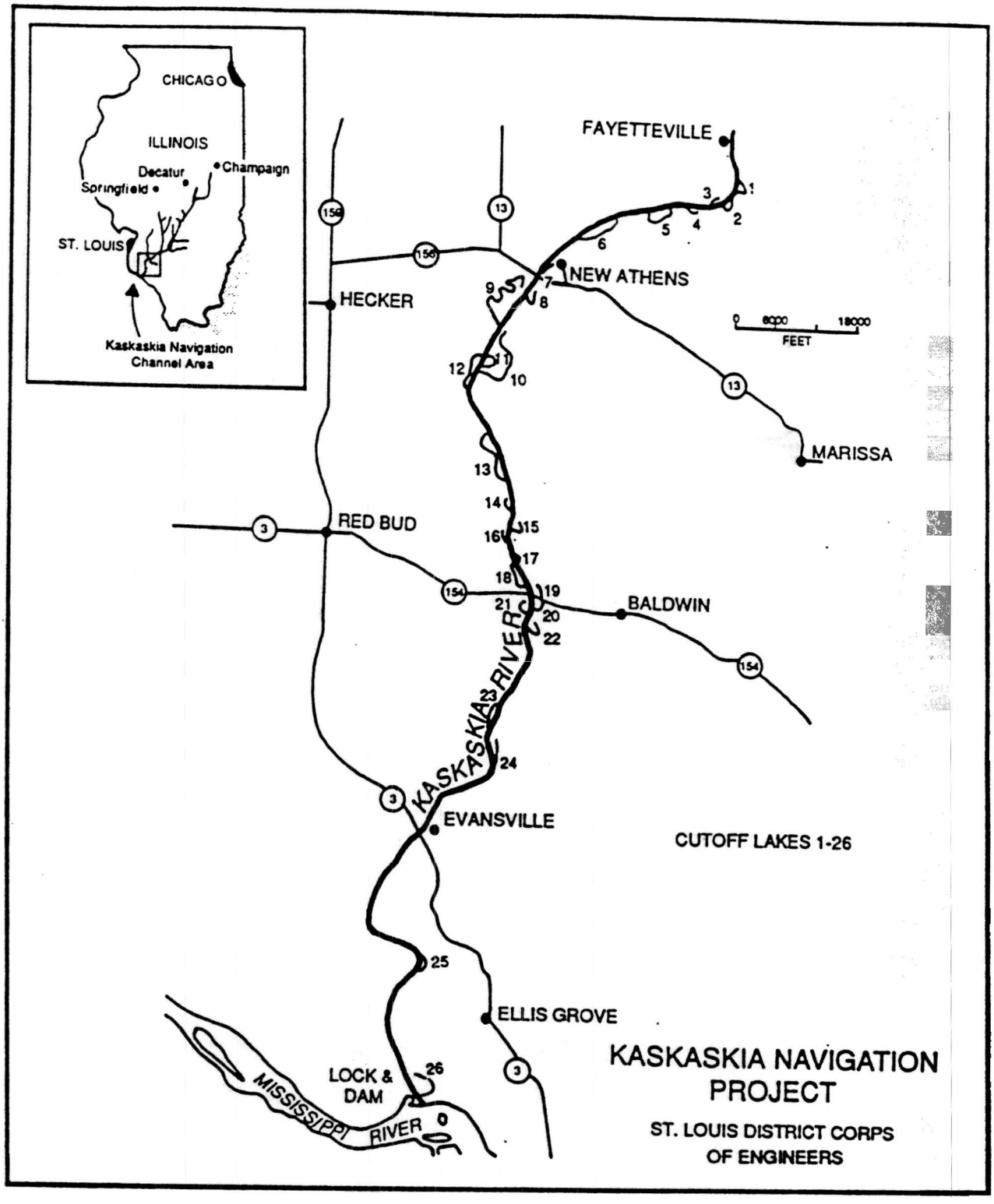

FIGURE EA-1. Project Location.

2. AUTHORIZATION AND NAVIGATION PROJECT BACKGROUND

The Kaskaskia River Navigation Project, involving channelization of the lower 50.5 miles of the Kaskaskia River, was authorized by the 1962 River and Harbor Act (PL 87-874), 87th Congress, 2nd Session to provide a navigation channel 9 feet deep and 225 feet wide for the downstream barge transport of coal from mines located near the river. Ongoing operation and maintenance activities are part of that project.

Funds to initiate preconstruction planning for the Kaskaskia River Navigation Project were appropriated in Fiscal Year (FY) 63, and construction funds were appropriated in FY 66. Construction began in June 1966 and was virtually completed by 1973. In addition, some necessary excavation and redredging was carried out in the upper reaches during 1983. Overall, project work included construction of a dam and a single 84-foot by 600-foot lock at RM 0.8, channel realignment and enlargements, overbank cutoffs, and bridge alterations. The channel dimensions provide a traffic lane wide enough for two 70-foot wide large tows to pass.

As the non-Federal sponsor, the Illinois Department of Transportation (IDOT) acquired approximately 18,000 acres of land along the lower 50 miles of the Kaskaskia River. Based on the Master Plan (IDOT 1979, IDOC 1983), the Corps of Engineers manages those lands required to maintain a navigable waterway including the lock and dam area, the main channel, and the main channel shoreline. The Kaskaskia Regional Port District manages those lands used for established industrial sites.

Through permanent agreement, the Illinois Department of Conservation (IDOC) manages all remaining lands for fish, wildlife, and other recreational activities. In addition to land designated specifically for fish, wildlife, and recreation, IDOC also manages unused prime industrial lands and multiple use management areas on annual basis until such time a higher use for those areas is determined upon application to and approval by IDOT.

3. NEED FOR AND OBJECTIVE OF ACTION

A. Purpose of Proposed Action. The purpose of the Kaskaskia River Navigation Project is to provide a commercial navigable waterway. However, during time of drought, there is insufficient flow in the navigation pool for lockage.

B. Other Needs, Problems, and Opportunities Identified.

(1) Connections Between Main Channel and Backwaters. Many backwater areas (i.e., remnant channels and sloughs) are losing depth and becoming isolated from the main channel due to sedimentation (see section on Biological Resources). A higher

pool level would provide a greater depth and also maintain water connections between the main channel and these backwater habitats for both fish passage and small boat access until a decision can be reached for a more permanent solution.

(2) Water Intakes. There are several public and private water intakes in the navigation channel. A higher pool level would reduce the need to restrict their pumping of water from the Kaskaskia River.

(3) Recreational Lockages. The navigation channel receives heavy use by recreational boaters. A higher pool level would benefit recreation by reducing the need to restrict lockage of small noncommercial craft.

(4) Water Releases from Upstream Reservoirs. A higher pool level would reduce the need for releasing navigation water from Carlyle and Shelbyville for purposes other than commercial lockages.

C. Events Leading to Proposed Action. The lower Kaskaskia River has been in general drought condition from 1988 to present. During the initial drought period of 1988-1989, inflow to the navigation pool was very low as the result of two major factors. First, direct runoff into the navigation pool from the few storms was almost negligible because of the extreme dry soil conditions. Second, release from Carlyle Lake was near the minimum allowable during much of the time. A hydraulic analysis was performed at the beginning of the drought conditions. It was apparent that, if the pool elevation was maintained at 368.0 feet NGVD the loss of most of the storage within the pool was possible as the result of lockages. This conclusion was based on two major factors. First, low-flow conditions existed on the Mississippi River and the head differential at the Kaskaskia Navigation Dam was relatively large. Second, recreational lockages are common during spring, summer and fall weekends. The loss of storage from the pool would result in less than full navigation depths.

To make lockages possible during the drought conditions, the navigation pool elevation was maintained at 368.8 feet NGVD during the years 1988 and 1989. A significant amount of off-channel storage exists in the 0.8-foot deep area between elevations 368.0 feet NGVD and 368.8 feet NGVD. The action taken by the water control managers was successful. Lockages continued throughout the drought without any significant loss of navigation depth.

During the year 1990 through the present time, the navigation pool has been maintained at elevation 368.8 feet NGVD due, in part, to a problem faced by the Kaskaskia Water District (KWD). In the year 1990, KWD informed the St. Louis District (SLD) that they were experiencing sedimentation problems at their water intake structure. KWD's water intake is located

on the left bank of the Kaskaskia River at approximately river mile 29.4 near New Athens, Illinois. The construction of the navigation channel past the riverfront of New Athens resulted in a waterway roughly twice the width of the design template for the navigation channel. This wide area was intended to be a turning basin for loading facilities that were anticipated to be located there. Since there is no commercial traffic in the area, and because of the width involved, extensive sedimentation has occurred in the channel near New Athens. Given the channel conditions, this sedimentation is not unusual.

In 1990, KWD requested that the Kaskaskia Navigation Pool elevation be maintained at 368.8 feet NGVD as a temporary solution to their problem near their water intake, and the Lower Mississippi Valley Division granted the request. Recently, KWD resolved the sedimentation problem at their water intake. KWD subsequently informed SLD that the pool elevation no longer needed to be held at 368.8 feet NGVD for their benefit.

4. RECOMMENDED PLAN AND ALTERNATIVES

The severity of water shortage experienced in the Kaskaskia Navigation Project is dependent on a number of factors: stream flows, evaporation, withdrawals, lockages, pool stages, and tailwater stages. The lower Kaskaskia River has essentially been in drought conditions since 1988; during peak drought conditions, every attempt has been made to conserve all available water in the District's watershed. The 0.8 foot raise was one of several methods used in combination to conserve water in the navigation pool. Such measures had not been needed previously. The following is a brief description and justification for continuing to maintain the full pool level at 368.8. Unless Congress authorizes a permanent change in the water control plan, this water level is considered only a temporary deviation. Most alternatives discussed are part of the water control plan.

A. Recommended Plan: Normal Pool of 368.8 Feet NGVD. This alternative is the recommended plan and consists of continuing to maintain the maximum pool level at the Kaskaskia Lock and Dam at 368.8 feet NGVD (0.8 feet above the authorized normal full pool) during drought and other special circumstances. The selection of 368.8 was determined by water manipulation and was found to be the minimum elevation to provide sufficient water to handle lockages over a broader range of flow conditions. This elevation would also reduce or eliminate the need for other water conservation measures. At the same time, the recommended plan would benefit aquatic life, recreation, and other water users. Under this option, a full pool of 368.8 feet NGVD is still considered a temporary deviation from the authorized water control plan; any permanent change in normal maximum pool would require additional study and coordination.

B. Returning to Normal Pool Elevation of 368.0 Feet NGVD. This alternative would be to return maximum pool elevation at the Lock and Dam to the authorized normal pool level of 368.0 feet NGVD. This pool level would not provide for sufficient water during drought conditions without heavy reliance on some combination of measures such as: reducing the number of lockages by scheduling commercial traffic; periodically restricting the number of lockages by recreation craft; and periodically stopping the practice of pumping water from the river for public and private use (see following section on other alternatives considered). It would also provide less depth for fish passage and small boat movement between the main channel and some of the backwaters areas; that is, until a more permanent solution is found for the backwater sedimentation problem. For these reasons, this alternative was rejected.

C. Other Alternatives Considered.

(1) Other Water Levels. In addition to 368.0 and 368.8 feet NGVD, several other water levels were considered. Maximum water levels above 368.8 feet NGVD were considered unnecessary because 368.8 already provides for a drought of 50 year recurrence interval. It should be noted that water begins to spill from the pool at 370 feet NGVD, this being the crest elevations of the closure dam and spillway. A maximum pool level below 368.8 was determined to be too low to provide sufficient water for continued lockage during drought conditions unless there was also heavy reliance on a combination of other water conserving methods.

(2) Restrictions in Lockages. To conserve water for lockage of commercial traffic during drought conditions, this alternative would include a periodic reduction in the number of lockages by some combination that would include strict scheduling of commercial traffic, and restricting recreation craft use of the lock. This alternative was rejected because of its possible impacts to both commercial navigation and recreation. In addition, reducing the number of lockages alone may not solve the deficit problem during severe droughts when the maximum pool elevation is 368.0 feet NGVD.

(3) Restrictions in Water Withdrawal. In addition to water withdrawal by KWD, the Illinois Power Company also pumps water from the river to Baldwin Lake, a 2,018-acre reservoir serving as a source of cooling water for use in operating a nearby electric generating station. As one alternative to conserve water for lockage during drought periods, it was suggested that there be periodic stoppages or reductions in the amount of water withdrawn by Illinois Power and possibly other water users. Such an action has been taken several times in the past during the worst of the drought period. However, this action in itself would not provide sufficient water needed for

lockage unless it was combined with other water conservation methods. This alternative was rejected because of its impact to local water users.

(4) Changes in Releases from Upstream Reservoirs. Another alternative examined was the periodic release of more water from Carlyle Lake, a multipurpose reservoir located upstream of the Navigation Project at RM 94.5. It was noted that Carlyle already faces problems during drawdown due to shallow water. This alternative was rejected because the Kaskaskia Navigation Project would have the greatest need for more water during drought conditions; this is the same period when Carlyle also commonly faces management difficulties due to water shortages. While there is navigation release water in both Carlyle and Shelbyville lakes, none has ever been used for commercial traffic.

(5) Pumping Mississippi River Water Into the Navigation Pool. One alternative considered in the past to maintain water volume in the navigation pool or to augment low flow is pumping water from below the dam into the navigation pool. Several options can be used to meet the water deficit, such as using large pumps that operate only during deficit periods, or using smaller pumps that operate longer than the deficit period, allowing fluctuations in the pool storage. Pre-construction estimates from 1961 suggest an ultimate pumping need of 338 cfs when maximum traffic is reached. Lesser pumping capability would require use of other water conservation methods. At present the Kaskaskia River Lock and Dam is not equipped with a pumping facility, and this alternative was rejected because of the obvious direct costs involved.

5. AFFECTED ENVIRONMENT

The following section is a brief overview of the existing conditions in the project area. Additional information on the physical and biological characteristics of the lower Kaskaskia River can be found in COE (1975, 1983), IDOT (1979), and IDOC (1983).

A. Physiography-Topography. The modern floodplain in the Kaskaskia Navigation Project area is typical bottomland, of relatively low relief. Soils range from sandy to clayey and are formed on alluvium transported by water and redeposited in the floodplain. In low areas, natural drainage is poor, and flooding and ponding limits any non-farm use. The climate is generally characterized by warm summers and moderately cold winters. Average annual rainfall is approximately 40 inches.

Historical shifting of the river channel has created numerous oxbow lakes and meander scars on the floodplain.

Recently, many remnant channels (i.e., cutoff meanders) were formed when the river was channelized for navigation. Dredged disposal areas form slightly elevated areas along both sides of the main channel.

B. Hydrology/Hydraulics. Water stages in the Kaskaskia River Navigation Project are controlled by operation of a lock and dam at RM 0.8. The authorized maximum normal pool level is 368.0 feet NGVD, but since March 1989 maximum normal pool has been maintained at 368.8 feet under normal conditions. Record elevations since dam completion (November 1973) from the gage located at RM 0.8 show a high of 385.74 feet on December 9, 1982, and a low of 362.57 on April 4, 1977 (the low was a drawdown during high flow to prevent unnecessary flooding; navigation was not affected). Record elevations for gage at Fayetteville (RM 36.1) dating from November 1959 to date show a high of 399.3 feet on May 12, 1961, and a low of 364.0 feet on October 27, 1972.

Ordinary high water (OHW) in the navigation channel ranges from about 370 feet NGVD near the Lock and Dam to over 375 feet in the area around Fayetteville. The average slope for the 36 miles of river in the Navigation Project is small, about 0.2 feet per mile. The slope is generally less than that in the lower reaches of the project (below RM 28).

Little site-specific ground water information is currently available for the lower Kaskaskia River valley, but the occurrence and character of ground water sources in the vicinity of the navigation channel are thought to be typical of regional alluvial valley ground water systems. These systems consist primarily of water bearing zones in glacial drift formations of the area. Such geologic units are known to be generally discontinuous and nonhomogeneous; the variable geology leads to variation in aquifer location. In general, sand and gravel aquifers of the Kaskaskia River valley produce yields of less than 100 gpm. Ground water levels in the general area represent a subdued reflection of regional topography. Higher water table elevations are present in the upland areas. These gradually decrease as lowland areas are approached, thus resulting in a relatively flat regional water table gradient (COE 1973; Peabody 1977).

C. Navigation Project Operation and Maintenance (O&M).

(1) Water Control. Based on the water control plan for the Kaskaskia River Navigation Project (COE 1977), the navigation pool is regulated within the limits of 363.0 and 368.0 feet NGVD at the dam, and 368.0±0.5 feet NGVD at Red Bud. In the authorized plan of operation, normal full pool is to be held at elevation 368.0 at the lock and dam. It was originally planned that this elevation would be maintained throughout all flows from

the minimum to 5,000 cfs (cubic feet per second) before a gradual drawdown of the pool was to take place. With flows increasing above 5,000 cfs, the navigation pool would drawdown as the flows increase to the minimum elevation of 363.0 at a discharge of 10,000 cfs. The gates are kept open when the tailwater equals the pool level and remain open during further increase in outflow. On the recession side of any flood, the reverse of this procedure is followed. With approval for temporary deviation from Division headquarters in Vicksburg, a normal full pool of 368.8 has been maintained at the Lock and Dam since March 1989.

Whenever there is a head differential at the Lock and Dam, water is lost with each lockage. The higher the head differential, the greater amount of water lost during any given lockage. During the extreme drought condition of 1988-1989, the head differential between the dam and the Mississippi River was greater than 27 feet. As a consequence, each lockage resulted in a loss of about 10 million gallons of water from the dam reservoir. The Kaskaskia navigation pool is drawn down during high flow periods to prevent unnecessary flooding (this does not have a negative impact on navigation).

(2) Traffic. The summary of lockages for the Kaskaskia Lock and Dam lockage report for 1992 from 1 January to 16 September shows a total of 2660 cuts (each cut represents a complete lockage cycle): 872 commercial (33%), 1272 recreational (48%), and 516 other (19%) (e.g., cruise ships, coast guard, most government boats). Individual barges passing through the locks for that period numbered 2732 carrying a total of 2,075,700 tons, mostly coal (86%) and grain (7%). There was a total of 3,011 locked recreational boats.

(3) Dredging. The purpose of the project is to maintain a 9-foot navigation channel and the Corps of Engineers is responsible for dredging of the main channel. To maintain sufficient depth, dredging is done on an as needed basis. The most significant sedimentation in the project area is in the upper end of the navigation pool between New Athens (RM 28.4) and Fayetteville (RM 36.2) where the natural flow is slowed as it enters the pool's slackwater. However, that reach has not been redredged since 1983 because it has received little or no commercial traffic. Between the Kaskaskia Lock and Dam and New Athens, the only dredging since project completion occurred in March 1986 at RM 24.8.

(4) Bank Stabilization. The navigation channel banks are partially reveted from RM 0.0 to 23.6, particularly the outside bends, to protect them from wave and propeller wash. The banks from RM 23.6 to 36.2 have full coverage revetment to protect the sandy soils in this reach from erosion. Revetment is to an elevation of 378 feet NGVD or higher, typically about 10 feet above the channel's normal water level.

D. Water Quality. The Kaskaskia River water quality is typical for slow moving streams draining an agricultural basin. The water is generally shallow, turbid, and has high nutrient concentrations. Row cropping, mining activities, and some point source sewage treatment plant discharges do not significantly degrade the river but do contribute most of the sediment and nutrients. Based on tests done in 1983 on water samples from the upper reach of the navigation channel, background water showed the following concentrations: total suspended solids 71 mg/l, total volatile suspended solids 12 mg/l, ammonia 0.01 mg/l, lead 0.011 mg/l, zinc 0.1 mg/l, and pH 7.3. Resuspension data indicted higher concentrations present in sediments (COE 1983).

The river is used as municipal water supply by several small towns. The Kaskaskia Water District has a water intake near New Athens serving some 9,000 people. These include New Athens, Lenzburg, Marissa, Tilden, the Washington County Water Company and the Peabody Coal Complex. To withdraw water from the navigation pool, domestic, commercial, and industrial organizations are required to obtain a permit from the State of Illinois, the Corps of Engineers, and the Kaskaskia Regional Port District.

E. Prime Farmland. Critical factors in the designation of floodplain soils as prime farmland are flood protection and drainage. Many floodplain soils must be artificially drained and protected from flooding before an actual prime farmland designation can be established. Based on our analysis of soil survey maps, less than 5 percent of the land within the Kaskaskia Navigation Project qualifies as prime farmland. All or most of these are above 390 feet NGVD. Additional acres can be classified as potential prime farmland (soil units which qualify as prime farmland if flooding is less frequent than once in two years during the growing season and the soil is drained). All remaining acreage can be classified as nonprime farmland (a small portion of this is categorized as additional farmland of statewide importance) (USDA-SCS 1991).

F. Biological Resources. The study area is south of the great prairie region and was probably almost entirely covered by forests in presettlement times (Iverson et al. 1989). Since that period, most, if not all, of the area has been disturbed by man at one time or another. Terrestrial habitats in the study area include upland forests, agricultural lands, old fields, and other areas of previous disturbance now in various stages of revegetation. Wetlands and deepwater habitats in the study area include the river, creeks, remnant channels, old oxbows, permanent and temporary pools, marshes, and saturated open lands, and bottomland forest.

(1) Navigation Channel. The lock and dam near the confluence with the Mississippi River have changed the lower river into a low-velocity water body with many characteristics of an impoundment. Creation of the navigation channel has caused changes in aquatic communities of the lower Kaskaskia River by reducing the number of different habitat types and unifying stream characteristics. Gross habitat changes associated with the construction of the navigation channel have improved fisheries for carp, channel catfish, and buffalo but eliminated entire fish groups, including darters, madtoms, and some minnows. The reveted banks of the navigation channel in the lower reaches provides good fish habitat for certain species.

(2) Remnant Channels. Many of the natural meanders of the Kaskaskia River in the project area were cut off when segments of the river were canalized and straightened. There are 26 remnant channels in the project area, with the majority located above RM 18. All except two of the 26 remnant channels were closed at the upstream end; all were left open at the lower end to allow access. For this reason, the remnant channels have become backwater habitat.

The remnant channels are an important ecological component of the Kaskaskia River Navigation Channel. They provide a quiet backwater habitat used by many species for wintering, feeding, and reproducing. They also serve as nurseries for developing sunfishes and other species. Field studies indicate that the remnant channels are capable of supporting a viable recreational fishery. Several sport fishes, including bluegill, largemouth bass, white bass, and yellow bass, are abundant in the remnant channels. Observations of fishing activities indicate that the remnant channels are heavily used by boat fishermen. All remnant channels have been designated as "No Wake" zones by IDOC and boaters must operate their watercraft accordingly in these areas.

The most serious problem facing the remnant channels is sedimentation. Most of the sedimentation in the remnant channels has occurred near their mouths. Thus, many of these backwater areas are gradually becoming more and more isolated from the main channel.

(3) Bottomland Forest. Tracts of bottomland forest in the project area range in size from less than 1 acre to well over 100 acres, forming a mosaic over the landscape with other habitat types. Although it is unlikely that any of the existing forests are virgin (due to past farming, grazing, and lumbering activities), many stands are greater than 50 years of age and some conceivably approach the virgin forest in appearance.

According to the U.S. Fish and Wildlife Service 1979 Classification System, bottomland forest is considered forested wetland. Available data indicate that the bottomland forest within the study area consists of seasonally flooded, saturated,

and temporarily flooded forested wetlands. Analysis of recent topographic maps (USGS) show that bottomland forest in the project area occur at elevations ranging from approximately 370 to over 390 feet (NGVD), with most at elevations greater than 375 in the lower reaches of the navigation project and greater than 380 in the upper reaches.

(4) Other Wetlands. The project area has a diversity of nonforested wetland habitat. These range from areas with open shallow water with unconsolidated bottoms to areas covered with rooted or floating aquatic vegetation. During construction and later maintenance of the Kaskaskia navigation channel, the Corps cleared or filled 2,000-3,000 acres of bottomland forest and wetlands for the placement of excavated and dredged materials. Most of these disposal areas survive today as old field habitats; however, a few low areas within disposal sites contain permanent or temporary standing water and function as low to moderate quality wetlands. The large scale deposition of dredged material has also altered the flood regime in many places in the surrounding floodplain. Partial isolation of areas from the river system by disposal areas has made some drier due to less flooding and others wetter because of poorer drainage.

G. Recreation. Although the purpose of constructing the Kaskaskia Navigation Project was for navigation of commercial goods, the navigation channel and connected waterbodies have been used extensively by recreational boaters, mostly for purposes of fishing and water skiing. Highest use is during the summer months and on weekends and holidays. For example, the Kaskaskia Lock and Dam lockage report for 1992 (1 January to 30 August) shows a total of 2,979 locked recreational boats, an average of more than 12 crafts per day. The range of craft currently on the river and remnant channels varies from canoes and small, flat-bottom "john" boats to high-speed power boats and occasional houseboats. Other recreation activities in the project area include hiking, bank fishing, hunting, picnicking, primitive camping, wildlife observation, and nature study.

H. Historical Properties. Surveys to locate cultural resources in the project area were conducted in 1966, 1970, and 1974 prior to construction. These surveys covered the Kaskaskia River valley from its mouth to Fayetteville, Illinois. These investigations were conducted before present procedures were established which limit investigation to within the project boundary and determine site significance through testing for National Register of Historic Places eligibility. Therefore, while special attention was directed to the operation and maintenance project area, numerous sites in the general vicinity outside the project were recorded also. Over 200 archaeological sites were ultimately reported, but according to the 1975 EIS (COE 1975: Table 2-15) summarizing archaeological sites, only 68

sites actually were within the project area. These 68 sites were ranked on a 1 - 5 scale of "relative importance". Only 11 sites were within the operation and maintenance project boundary. Two of these sites were excavated before all 11 sites were destroyed by project construction. (Test excavations were conducted at three other sites; only one was in the project area and none were in the operation and maintenance project area.) Little or no impact was expected to the remaining 57 sites. Five sites were recommended for "special attention" if they were impacted in the future (none were tested): 21C1-14; 21C3-4; 21C3-14; 21C3-18; 21C3-50.

In the fall, 1982 a survey of all areas of relatively high archaeological potential (mainly low rises and old riverbanks) within areas that would be affected by future borrow and disposal activities was completed. No significant cultural remains were encountered.

The preconstruction investigations and others determined that the lower Kaskaskia basin has been utilized by people for about 11,000 years. Most archaeological sites in the basin relate to the Late Woodland and Mississippi Traditions of 1500 - 500 years ago. Most sites are located on or at the base of bluffs overlooking the valley, on terraces on the floodplain or on natural levees of the Kaskaskia and its tributaries. All these landforms are located well above 368.8 feet elevation of the flowage deviation. The natural levees, the lowest landform, lie about at 375 feet.

6. ENVIRONMENTAL EFFECTS

A. Hydrology/Hydraulics. Overall, the affect on upstream water levels resulting from maintaining a full pool of 368.8 feet at the dam site (RM 0.8) would gradually diminish as the distance from the dam increases. Under most conditions (i.e., anything above minimum flows or 50 cfs) the raise of 0.8 feet at the Lock and Dam approaches zero effect at the upper end of the navigation channel near Fayetteville (RM 36). Thus, there would be little or no difference in water levels upstream of the navigation project area by having a pool level of 368.8 as opposed to 368.0 feet NGVD. The Kaskaskia pool is essentially flat only during low flows (about 50 cfs) and a 0.8 foot rise at the lock and dam would result in similar rise at throughout the navigation channel to Fayetteville. However, this 0.8 foot rise at Fayetteville would still be well below what Fayetteville experiences during medium flows. Because the dam operates by releasing water as soon as maximum pool is reached, a maximum pool of 368.8 feet would not effect flood flows.

The 368.8 water level in the navigation channel is expected to maintain a slightly higher water table in the alluvial valley, but levels will be within the range of natural

occurrence. During dryer periods, duration of higher water table levels will be longer. There would be a minor rise in permanent ground water in those units that contain ground water (i.e., Henry Formation). A long-term 0.8 foot rise in the main channel would result in a similar long-term rise in nearby surface water once an equilibrium is reached. It is also possible that nearby surface waters would maintain higher levels during drought conditions, equal to the water levels in the navigation pool.

B. Erosion and Sedimentation. Most banks along the navigation channel that are susceptible to erosion are reveted to 378 feet NGVD or higher. Therefore, maintaining the pool at 368.8 feet would have no effect on bank stability along the main channel. The banks of the remnant channels are not reveted. However, because these backwater areas have little or no current, the proposed water control action is not expected to change the pattern or intensity of erosion.

A higher pool level will probably maintain a water connection between the main channel and some of the remnant channels for longer periods during dryer years (e.g., during drought or low water periods). As a result, some additional dropping out of sediments will occur near the mouths of some of the side channels. Unless other measures are taken (e.g., dredging of remnant channel mouths), the mouths of the remnant channels will continue to undergo sediment deposition and eventually lose the depth provided by a higher pool level. However, because the major portion of the Kaskaskia sediment load is transported during high water periods (at, or above, bankfull levels), maintaining the pool at 368.8 is not expected to significantly change the actual rates of sedimentation.

C. Navigation Project Operation and Maintenance. Navigation is expected to benefit from the maintenance of the pool at a higher level because there will be a greater reservoir of water for locking during drought periods. By operating the a 368.8 pool at the lock and dam, there is also the potential for deeper water in the navigation channel. Benefits derived from this might include a reduction in the amount of dredged material (silt-clay and some sand) that needs to be disposed of or moved.

D. Water Quality. Maintaining the water level at 368.8 feet NGVD is not expected to cause any significant changes in water quality. Furthermore, a higher water level is not expected to increase the maintenance of reveted shorelines. Because there would be no additional placement of fill material into waters of the U.S., approval under Clean Water Act sections 404 and 401 is not required.

E. Prime Farmland. Land in the project area between 368.0 and 368.8 feet NGVD experiences frequent flooding and therefore would not qualify as prime farmland. Most, or all, land that

might be considered prime farmland in the project area is above 390 feet NGVD. As such, maintaining a pool of 368.8 is not expected to impact prime farmlands. A higher pool may cause some minor impacts on drainage of low-lying agricultural lands, but there have been no complaints related to field drainage. The Soil Conservation Service and the Illinois Department of Agriculture will have an opportunity to evaluate the project during their review of this Environmental Assessment.

F. Biological Resources.

(1) Navigation Channel. Depending on flow, maintaining the full pool at 368.8 feet NGVD as opposed to 368.0 would result in slightly deeper water in most reaches of the main channel. Deeper flowing water is expected to benefit most aquatic communities inhabiting the main channel.

(2) Remnant Channels. The slight increase in sedimentation rates during low water periods (see section on erosion and sedimentation) that might result from a pool level of 368.8 should have only a minor negative impact on aquatic life. The overall life span of the remnant channels is not expected to be significantly effected.

Maintaining a pool level of 368.8 is expected to benefit fishes by providing a deeper passage between the main channel and selected backwater areas (e.g., remnant channels and sloughs). The improvement of access by river fishes to the remnant channels and other backwaters should have positive affects on the local fish community. Because backwater areas are used by many fishes for spawning and as nursery areas, the recommended plan may result in an increase in fish reproductive output. River-connected backwaters are also important to river fishes, particularly to young-of-the-year, as wintering sites (Sheehan et al. 1989). Maintaining an improved access to some of the deeper remnant channels should therefore increase fish survival during winter months and improve the population structure of local fish communities. However, the higher pool level is considered only a temporary solution to the problem of sedimentation in backwater areas. Unless other actions are taken (e.g., removal of accumulated sediments from remnant channel mouths), entrances to many of the backwater areas will continue to fill.

(3) Bottomland Forest. The proposed action is not expected to impact bottomland forests. There will be no tree removal associated with a pool level of 368.8

(4) Other Wetlands. Some wetlands in the project area should benefit from the proposed action because the higher pool level would periodically provide for a slightly higher water table. Temporary wetlands situated at lower elevations (e.g., at or below 368.8 feet NGVD) are expected to have slightly longer

hydric periods. A higher water table could also benefit both low-lying temporary and permanent wetlands by providing both deeper standing water and a greater water surface area. Any beneficial effects would be mainly limited to otherwise low water, or drought periods.

G. Recreation. Maintaining the pool 368.8 would benefit recreation by permitting the continued lockage of recreational craft through the Kaskaskia Lock and Dam during most drought periods. The project is also expected to benefit sport fishing by providing easier access for small boats into some of the remnant channels and other backwater areas. However, the higher pool level is considered only a temporary solution to the problem of sedimentation in backwater areas. Unless other actions are taken (e.g., removal of accumulated sediments from remnant channel mouths), entrances to many of the backwater areas will continue to fill. Other recreational activities are not expected to be affected to any measurable degree.

H. Historical Properties. No impacts to archaeological sites are expected as a result of the 0.8 foot flowage deviation. The flowage deviation is mainly confined to the navigation channel and associated backwaters, and extends only part way up the existing banks, so there is no overbank flooding from this activity. The archaeological sites for which the elevations are published lie well above the flowage deviation elevation of 368.8 feet NGVD: one site lies at 375 feet; all the others lie at or above 380 feet. (The 11 sites destroyed by the original project construction may have been located at lower elevations). No bank erosion will occur from the flowage deviation because 1) the Kaskaskia channel has been ripraped to 378 feet and 2) the remnant channels have no current since the upper ends are plugged.

7. FEDERALLY ENDANGERED SPECIES: BIOLOGICAL ASSESSMENT

In compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, the St. Louis District requested that the U. S. Fish and Wildlife Service (USFWS) provide a listing of Federally threatened or endangered species, currently classified or proposed for classification, that may occur in the vicinity of the Kaskaskia Navigation Project. The USFWS, in a letter dated 14 September 1992 (see appendix), provided the following list:

A. Indiana bat (Myotis sodalis) endangered, habitat: caves and riparian, distribution: statewide, critical habitat: mine (LaSalle County);

B. Bald eagle (Haliaeetius leucocephalus) threatened, habitat: wintering, distribution: Monroe, Randolph, and St. Clair counties;

C. Bachman's sparrow (Aimophila aestivalis) Category 2, habitat: open oak woods, neglected fields with dead trees, distribution: Randolph County;

D. Loggerhead shrike (Lanius ludovicianus) Category 2, habitat: open areas, hedgerows, distribution: Monroe, Randolph, and St. Clair counties;

E. Decurrent false aster (Boltonia decurrens) threatened, habitat: disturbed alluvial soils, distribution: St. Clair (Mississippi River) County;

F. Running buffalo clover (Trifolium stoloniferum) endangered, habitat: disturbed bottomland meadows, distribution: St. Clair County;

G. Small whorled pogonia (Isotria medeoloides) endangered, habitat: dry woodland, distribution: Randolph County.

The USFWS also indicated that there is no designated critical habitat in the project area at this time.

Maintaining the pool level at 368.8 is not expected to negatively impact terrestrial habitats, therefore the action is not expected to affect any of the seven listed species. Because there will be no clearing of bottomland forest or riparian trees, bald eagles should not be negatively impacted. Similarly, there should be no impact to potential Indiana bat roosting trees or their foraging areas. The higher water level may result in an increase in small boat activity in some of the backwater areas. However, any associated increases in human activity above previous levels would likely be limited to periods (dryer or warmer months) when bald eagles are not present.

Based on our evaluation, it is the St. Louis District's perspective that maintaining the pool at 368.8 feet NGVD, as opposed to 368.0, will not adversely impact any threatened species, endangered species, or species proposed to be listed that might occur in the Kaskaskia Navigation Project area. Nor will the action effect the critical habitat of these species. The USFWS will be given an opportunity to review the Environmental Assessment and comment on this Biological Assessment.

8. RELATIONSHIP TO ENVIRONMENTAL REQUIREMENTS

The recommended plan was subject to review as to the degree of compliance with applicable environmental guidelines. The proposed action was found to be in partial or full compliance with applicable guidelines (See Table EA-1). Full compliance will be achieved as noted.

TABLE EA-1. RELATIONSHIP OF PLAN TO ENVIRONMENTAL REQUIREMENTS

Guidance	Degree of Compliance
Federal Statutes	
Archaeological and Historical Preservation Act, as amended, 16 U.S.C. 469, et seq.	PC (1)
Clean Air Act, as amended, 42 U.S.C 7401, et seq.	
Clean Water act, as amended, 33 U.S.C. 1251, et seq.	
Endangered Species Act, as amended, 16 U.S.C. 1531, et seq.	PC (1)
Farmland Protection Policy Act, 7 U.S.C. 4201, et seq.	
Federal Water Project Recreation Act, as amended, 16 U.S.C. 460-1(12), et seq.	PC (1)
Fish and Wildlife Coordination Act, as amended, 16 U.S.C. 661, et seq.	PC (1)
Land and Water Conservation Fund Act, as amended, 16 U.S.C. 4601, et seq.	PC (1)
National Environmental Policy Act, as amended, 42 U.S.C. 4321, et seq.	PC (2)
National Historic Preservation Act, as amended, 16 U.S.C. 470a, et seq.	PC (1)
Rivers and Harbors Act, 33 U.S.C. 401, et seq.	NA
Executive Orders, Memorandum, etc.	
Floodplain Management, E.O. 11988	FC
Protection of Wetlands, E.O. 11990	PC (1)
Analysis of Impacts on Prime and Unique Farmlands, CEQ Memorandum, August 11, 1980	PC (1)

FC = Full Compliance; PC = Partial Compliance; NA = Not Applicable

(1) Full compliance will be attained after review and comment on the Environmental Assessment.
(2) Full compliance will be attained when the Finding of No Significant Impact is signed.

9. LITERATURE CITED

Illinois Department of Conservation (IDOC). 1983. Kaskaskia River Fish and Wildlife Area Master Management Plan. IDOC, Springfield, Illinois. 53 pp.

Illinois Department of Transportation (IDOT). 1979. Kaskaskia River a Navigation Project land and water use master plan. Illinois Department of Transportation. IDOT, Springfield, Illinois. 36 pp. + appendices.

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Peabody Coal Company (Peabody). 1977. Applicant's environmental impact report: River King Pit #3 extension, St. Clair County, Illinois (October, 1977). Peabody Coal Company, St. Louis, Missouri. 73 p. + appendices.

Sheehan, R. J., W. M. Lewis, L. R. Bodensteiner, D. E. Logsdon, and S. Wills. 1989. Winter habitat requirements and over-wintering of riverine fishes. Annual Performance Report F-79-R-2, Fisheries Research Laboratory, Southern Illinois University, Carbondale, Illinois.

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U.S. Army Corps of Engineers (COE). 1977. Upper Mississippi River Basin: Kaskaskia River Navigation Project. Appendix C to Master Reservoir Regulation manual. U.S. Army Engineer District, St. Louis, Missouri.

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U.S. Department of Agriculture, Soil Conservation Service (USDA-SCS). 1991. Prime farmlands, important farmlands: Correlated soil mapping units in Illinois that qualify as: Prime farmland or additional farmland of statewide importance. USDA-SCS, Champaign, Illinois.

ENVIRONMENTAL ASSESSMENT PREPARERS

The St. Louis District (SLD) staff members primarily responsible for preparing this document are as follows:

Dr. Leo G. Nico, Biologist
Ph.D. Zoology, M.S. Biology
Role: EA Coordinator/Environmental Impact Analysis/Endangered Species

Mr. Dave Busse, Engineer
M.S., B.S. Civil Engineering
Role: Water Control Management

Mr. Claude Strausser, Engineer/Potamologist
Role: Hydraulics/Hydrology

Ms. Suzanne Harris, Archaeologist
M.S. Anthropology,
Role: Historic Properties Compliance

COORDINATION, PUBLIC VIEWS, AND RESPONSES

During the period of maintaining a higher pool elevation (March 1989 to present), no complaints were registered and no problems are known to have developed as a result of the higher level. The Illinois Department of Transportation indicated that they are in favor of keeping the pool elevation at 368.8 feet NGVD. The St. Louis District has also received several public petitions with a total of more than 300 signatures asking the Corps of Engineers to a higher pool level (368.8 feet NGVD or above) a permanent change to the water control plan. Letters of coordination from the U.S. Fish and Wildlife Service, the Illinois Department of Conservation, and Illinois Historic Preservation Agency are provided in Section 12 of this EA.

Additional coordination will be carried out as a result of public and agency review of the Environmental Assessment/Draft Finding of No Significant Impact. All letters of comment resulting from review of this Environmental Assessment will be filed with this document along with Corps responses. A listing of those receiving a copy of the EA/Draft FONSI is given below:

Federal Agencies:
- Department of Agriculture, Soil Conservation Service
- Fish and Wildlife Service
- Environmental Protection Agency, Region V
- Army Corps of Engineers, Lower Mississippi Valley Division

Illinois State and Local Agencies, and Elected Officials:
- Illinois Department of Transportation
- Illinois Department of Conservation
- State Historic Preservation Officer
- Illinois Department of Agriculture, Bureau of Farmland Protection
- Illinois Environmental Protection Agency
- Southwestern Illinois Planning Commission
- Kaskaskia Regional Port District
- Honorable Jim Edgar, Governor of Illinois
- Honorable Frank Watson, State Senator
- Illinois State Water Survey

Local Governments (Mayor or Village President):
- Baldwin
- Evansville
- Fayetteville
- Marissa
- New Athens
- Red Bud

Industry, Organizations, and Individuals:
- Illinois Audubon Society
- Illinois Chapter of American Fisheries Association
- Illinois Power Company
- Illinois Wildlife Federation
- Izaak Walton League of America, Illinois Division
- Kaskaskia Industrial Development Corporation
- Kaskaskia Development Authority
- Lower Okaw River Coalition
- Mid-Kaskaskia River Basin Coalition
- Mississippi Valley Hunters and Fishermen
- Okaw River Basin Coalition
- Peabody Holding Company, Inc.
- Sierra Club

12. LETTERS OF COORDINATION

Illinois Department of Conservation
life and land together

Brent Manning
Director

John W. Comerio
Deputy Director

Bruce F. Clay
Assistant Director

LINCOLN TOWER PLAZA • 524 SOUTH SECOND STREET • SPRINGFIELD 62701-1787
CHICAGO OFFICE • ROOM 4-300 • 100 WEST RANDOLPH 60601

September 22, 1992

Owen P. Dutt
Chief, Planning Division
St. Louis Dist., Corps of Engineers
1222 Spruce Street
St. Louis, MO 63103-2833

Re: Kaskaskia River Temporary Deviation Extension

Dear Mr. Dutt:

The Department has reviewed your August 22, 1992 letter regarding the EA your agency is preparing for extending the temporary deviation to the approved water control plan for the Kaskaskia River Navigation Pool from 368.0 feet NGVD to 368.8 feet NGVD. We understand this extension was granted on March 6, 1988 in response to severe local drought conditions.

22 Relative to the issues you plan to address in the EA i.e. aquatic communities and habitats, water table levels, bank erosion, impacts to recreation etc. we have the following comments relative to positive effects of the higher water elevation:

Aquatic Communities and Habitats

- With the pool maintained at this higher level, more aquatic habitat will be available for fish and other aquatic organisms. Important habitats such as drift piles, root wads and sand and gravel deposits, which formerly were inundated only during high water events, will be submerged more frequently and for a longer duration. This increased aquatic habitat will provide more and potentially higher quality spawning, rearing ad feeding habitat than existed before the raise in pool level. Higher pool elevation should also offer increased fish access to backwater habitats not available before the rise in water level. This increase in available aquatic habitats should lead to increases in sport and commercial fish populations.

Natural Heritage Species

- To our knowledge, the increase in pool level from 368.0 to 368.8 on the lower reaches of the Kaskaskia River has had no adverse effects on state listed species, natural areas, or other features of concern from a natural heritage perspective.

It is possible that the higher water level has provided some benefit to wading birds by creating additional shallow water areas suitable for foraging.

Waterfowl

- The higher water level during the fall and winter will provide additional waterfowl habitat (water areas).

Recreation

- The increase in available aquatic habitat should lead to increases in sport and commercial fish populations, which in turn will lead to increased sport and commercial fishing opportunities.

- The higher water level in the summer months would increase boating access into some oxbows and help launching efforts at ramp facilities.

From a negative standpoint you may wish to discuss the following items in the EA:

- Some agricultural fields may be less accessible during early spring with the higher water level.

- The higher water level would inundate some timbered areas that for wildlife purposes, would be best kept dry.

- Some mudflat areas in the oxbows would not become vegetated with emersed aquatic plants due to inundation by the higher water level.

- Erosion in unprotected areas may increase due to waves generated by wind and boat traffic. If erosion becomes a problem, we would recommend using tree retards (fallen tees cabled to the bank) in cut off meanders and graded "A" stone along the navigation channel. Both of these structural techniques have proven fish habitat benefits.

Overall pending a review of the EA, the Department believes the higher water level has resulted in positive benefits to the fishery on the lower Kaskaskia River while causing no apparent severe adverse impacts to other resources in the area, thus the Department supports the Corps' plan to maintain the navigation pool at 368.8 feet.

Thank you for the opportunity to comment.

Sincerely,

Richard W. Lutz

Richard W. Lutz
Acting Supervisor
Division of Impact Analysis

RWL:ts

cc: USFWS, Marion

United States Department of the Interior

FISH AND WILDLIFE SERVICE

MARION FIELD OFFICE (ES)
RURAL ROUTE 1, BOX 128
MARION, ILLINOIS 62959

IN REPLY REFER TO:

September 14, 1992

Owen D. Dutt
Chief, Planning Division
U.S. Army Corps of Engineers
St. Louis District
1222 Spruce St.
St. Louis, Missouri 63103-2833

ATTN: Dr. Leo Nico, CELMS-PD

Dear Mr. Dutt:

This is in response to your August 22, 1992, request for information to facilitate compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, and comments relating to existing or potential impacts associated with maintaining the Kaskaskia River Navigation Pool at 368.8 feet. The following list of species is provided for the project area:

Classification	Common Name	Scientific Name	Habitat
Endangered	Indiana bat	*Myotis sodalis*	Caves and riparian
Endangered	Bald eagle	*Haliaeetus leucocephalus*	Breeding and wintering along major rivers & reservoirs
Threatened	Decurrent false aster	*Boltonia decurrens*	Disturbed alluvial soils
Endangered	Running buffalo clover	*Trifolium stoloniferum*	Disturbed bottomland meadows
Endangered	Small whorled pogonia	*Isotria medeoloides*	Dry woodland
Category 2	Bachman's sparrow	*Aimophila aestivalis*	Open oak woods, neglected fields with dead trees
Category 2	Loggerhead shrike	*Lanius ludovicianus*	Open areas, hedgerows

There is no designated critical habitat in the project area at this time.

Maintaining the pool at 368.8 feet will increase the amount of water present in the backwater habitats of the Kaskaskia River. This will provide improved habitat for fish and invertebrate species occupying those areas. In addition, the higher elevation can insure the presence of water during drought years, which will be beneficial to waterfowl and wading birds.

If this office can be of further assistance, please contact Joyce Collins at 618/997-5491.

Sincerely

Thomas M. Groutage
Assistant Field Supervisor

cc: IDOC (Lutz, Atwood, Glosser)
IESPB (Lauzon)
IEPA (Yurdin)
USEPA (Steurer)

Illinois Historic
Preservation Agency

Old State Capitol • Springfield, Illinois 62701 • (217) 782-4836

217/785-4997

ST.CLAIR, MONROE, AND RANDOLPH COUNTIES IHPA LOG #920928005C-S
Kaskaskia River Navigation Pool
Temporary Deviation to Water Control plan

October 6, 1992

Mr. Owen Dutt
Cheif, Planning Division
Environmental Analysis Branch
Department of the Army
St. Louis District, Corps of Engineers
Attention: Major Marc E. Marszalek
1222 Spruce Street
St. Louis, Missouri 63103-2833

Dear Sir:

Thank you for requesting comments from our office concerning the possible effects of the project referenced above on cultural resources. Our comments are required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

Our staff has reviewed the specifications and assessed the impact of the project as submitted by your office. We have determined, based on the available information, that no significant historic, architectural or archaeological resources are located within the proposed project area.

Please retain this letter in your files as evidence of compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Sincerely,

William L. Wheeler
State Historic
Preservation Officer

WLW:PGC:gew1002/28

DRAFT
FINDING OF NO SIGNIFICANT IMPACT

MAINTENANCE OF NAVIGATION POOL AT ELEVATION 368.8 FEET (NGVD)
KASKASKIA RIVER LOCK AND DAM, ILLINOIS

1. I have reviewed and evaluated the documents concerned with maintaining the navigation pool level at the Kaskaskia Lock and Dam at maximum 368.8 feet NGVD, 0.8 feet above the originally authorized normal full pool level of 368.0. The main purpose of maintaining the higher water is to permit lockage during drought conditions; however, the action has also been shown to have environmental and recreational benefits.

2. I have also evaluated pertinent data and information which addresses the various practicable alternatives relative to my decision on this action. In addition to the recommended plan that maintains the pool at 368.8 feet NGVD, I have evaluated and considered various alternatives including:

a. A return to the normal full pool level of 368.0 feet NGVD;

b. Other pool elevations;

c. Periodic restrictions on both lockages and water withdrawal;

d. An increase in water releases from upstream reservoirs;

e. Pumping water from the Mississippi River into the navigation pool.

3. The possible consequences of these alternatives have been studied for physical, environmental, cultural, social and economic effects, and engineering feasibility. Major findings of this investigation include the following:

a. All alternatives involving pool elevations below 368.8 feet NGVD were evaluated and considered unacceptable primarily because they would not provide a dependable supply of water for lockages over a wide range of flows.

b. Other alternatives were evaluated and subsequently rejected primarily based on the potential for negative impacts to navigation, aquatic life, recreation, and water users.

c. The recommended plan was selected because it provided an engineering solution to the problem consistent with preservation of the environment.

d. The proposed action will have only slight impact on hydraulics and ground water levels.

e. The recommended plan is in compliance with Federal and state regulations concerning water quality. Approval under Clean Water Act sections 404 and 401 is not required because the action does not necessitate placement of fill material into waters of the United States.

f. The recommended plan is not expected to impact riparian habitat and bottomland forests. It is expected that certain low-lying wetland areas will benefit.

g. The recommended plan will help to maintain a deeper water connection between the main channel and backwater areas thereby providing the local fish community with important spawning, nursery, and wintering areas. However, it is noted that a higher pool level is only a temporary solution to the problem of backwater sedimentation.

h. The recommended plan would not adversely impact Federally endangered or threatened species.

i. The recommended plan would benefit recreation.

j. The recommended plan would have no effect upon significant historical properties.

k. Prime farmland would not be lost as a result of the action.

4. It should be noted that the maintaining a full pool of 368.8 feet NGVD is still considered a temporary deviation from the authorized maximum of 368.0 feet. Any future intentions to make this a permanent change to the water control plan would require additional hydraulic, engineering, and environmental studies.

5. Based on my analysis and evaluation of the alternative courses of action presented in this Environmental Assessment, I have determined that maintaining the Kaskaskia River Navigation pool level at elevation 368.8 feet NGVD will not have significant effects on the quality of the human environment. Therefore, an Environmental Impact Statement will not be prepared prior to proceeding with this action.

_____ Date

_____
James D. Craig
Colonel, Corps of Engineers
District Engineer