DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
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REPLY TO
ATTENTION OF

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June 3, 2002

Planning, Programs, and
Project Management Division

SEE REPORT DISTRIBUTION LIST (APPENDIX C)

The Rock Island District of the U.S. Army Corps of Engineers has enclosed for your use the Post-Construction Performance Evaluation Report Supplement (PERS1) for the Peoria Lake, Illinois, Habitat Rehabilitation and Enhancement Project (HREP), dated May 2002. This supplemental report is a product of approximately 5 years of post-construction observations and field monitoring since project completion in 1997. A 6-year report is due out in 2003.

Performance Evaluation Reports (PER), initial, supplemental, and addendums to reports, are the Corps of Engineers' primary mechanism for documenting and communicating the effectiveness of Upper Mississippi River System - Environmental Management Program (UMRS-EMP) HREPs.

Should you have any questions regarding this report, please contact Mr. Jon Fleischman or Mr. Dan Holmes at the U.S. Army Corps of Engineers Rock Island District, Design Branch. You may reach them at (309) 794-5159 with comments.

Sincerely,

Gary L. Loss, P.E.
Chief, Planning, Programs, and
Project Management Division

Enclosure

U.S. ARMY CORPS OF ENGINEERS
ROCK ISLAND DISTRICT

UPPER MISSISSIPPI RIVER SYSTEM
ENVIRONMENTAL MANAGEMENT PROGRAM

POST-CONSTRUCTION SUPPLEMENTAL PERFORMANCE EVALUATION REPORT (PERS1)

For

PEORIA LAKE HABITAT REHABILITATION AND ENHANCEMENT PROJECT

PEORIA POOL, ILLINOIS RIVER MILES 178.5 –181.0
WOODFORD COUNTY, ILLINOIS

MAY 2002
5-YRS POST CONSTRUCTION

ACRONYMS

Corps	U.S. Army Corps of Engineers
DPR	Definite Project Report
EMP	Environmental Management Program
HREP	Habitat Rehabilitation and Enhancement Project
UMRS	Upper Mississippi River System
ILDNR	Illinois Department of Natural Resources
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
INHS	Illinois Natural History Survey
IPER	Initial Performance Evaluation Report
PER	Performance Evaluation Report
LTRMP	Long Term Resource Monitoring Program
FWMA	Forested Wetland Management Area
msl	mean sea level
RM	River Mile

Additional information about the Peoria Lake HREP and the UMRS-EMP is available via the Internet at the following addresses:
www.mvr.usace.army.mil/EMP/default.htm or www.mvr.usace.army.mil

EXECUTIVE SUMMARY

This is the post-construction performance evaluation report supplement (PERS1) to the Peoria Lake Habitat Rehabilitation and Enhancement Project (HREP), Post-Construction Initial Performance Evaluation Report (PER) dated March 2001. This supplemental report is a continuation of the initial 2001 Peoria Lake PER, with additional observations made from April 2001 through April 2002, a period of approximately 1-year.

Overall, the Peoria Lake project has been successful in its objectives of increasing food production, vegetation, and resting areas for waterfowl shown by the increasing number of waterfowl that use the area and number of hunting duck kills recorded by the Illinois DNR. During the fall of 2000, peak numbers for four species of waterfowl in the Peoria Lake area were the highest recorded since monitoring began in 1991 by the Illinois Natural History Survey (INHS). Some general comments made in the 2001 Peoria Lake PER are continuing to be evaluated and were not addressed in this supplemental report. This report is an evaluation of the projects operation and maintenance needs and last year's performance. Some of the observations made in the last year are discussed below.

Forested Wetland Management Area (FWMA). The FWMA is operated and maintained, with the use of a pump station and water control structures, to control water levels within the FWMA's three cells (A, B and C) during waterfowl migrating periods. The FWMA levees are in good condition with overtopping, wave wash of the levees during flooding events, and unwanted vegetation being the most problematic conditions. Due to overtopping, the levees closest to the Illinois River (cells B and C) have minimal vegetative cover and are subject to minor erosion. The gravel surface is also being washed down the levee slopes and is repaired by the site manager as necessary. Alternative coverings are being considered. Wave wash, generally affecting the cell C levee, closest to the Illinois River, has eroded some of the southerly portions of the levee where the riprap installation ended. Continued repairs of the levee are accomplished by the site manager with additional riprap being a possible solution. Also, some minor unwanted vegetation (shrubs) is also showing up along parts of the cell B and C levees and the southerly cross levee, but a shift towards management that favors shrub plants is being considered. Some tree planting along the tops of the intermediary levees and independent operation of the cells is being considered as well. The loss of trees inside the FWMA cells is still a long-term concern.

The mast tree plantings in the FWMA are doing well. In order to protect the mast trees and allow a root system to be established, the site manager has allowed some unwanted trees to grow along with the mast trees. These unwanted trees are in the process of being cut low to continue to protect but not inhibit the mast trees growth. Other planted seedlings have yet to reach their desired potential and will continue to be monitored.

The water control structures and pump station have continued to operate efficiently. No operation or maintenance concerns have been observed at the pump station or outlet. Minor erosion due to flooding events continues around the control structure for cell C and the removal of the stoplogs due to their weight also continues to be a concern. Using solid plates to close off a couple of bays is being considered.

Barrier and Overburden Islands. The islands are performing well, with vegetative cover almost fully established. No major overtopping or wave wash erosion has been observed and no maintenance has been required since the island construction was completed in 1994. A survey of the islands was not accomplished to date and will be scheduled for inclusion into the next report.

Flowing Side Channel. No observations pertaining to the flowing side channel were made during the last year. Possible silt accumulation and snags in the channel are the main problems that affect the feature. Monitoring will continue as outlined in the Peoria Lake Operations and Maintenance Manual, dated May 1998.

Rock Closure Structure. No observations pertaining to the rock closure structure were made during the last year. Possible silt accumulation near the feature and loss of riprap due to fast currents in the channel are the main problems that affect the feature. Monitoring will continue as outlined in the Peoria Lake Operations and Maintenance Manual, dated May 1998.

Waterfowl and Aquatic Use. Observations, inspections, and aerial inventories pertaining to waterfowl made by the site manager and Illinois Natural History Survey (INHS) have shown an increase in waterfowl use in both the FWMA and Barrier Island complex. No observations pertaining to aquatic use of the project were made during the last year. Monitoring will continue as outlined in the Peoria Lake Operations and Maintenance Manual, dated May 1998.

Peoria Lake
Performance Evaluation
Points of Contact

[Please furnish any comments on this report to Jon Fleischman]

U.S. Army Corps of Engineers, Rock Island District (Corps)

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Name	Position	Address	City	State	Zip	Telephone	Email
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United States Geological Survey (USGS)

Name	Position	Address	City	State	Zip	Telephone	Email
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Kevin Irons	Fisheries	704 N. Schrader Ave.	Havana	IL	62644	309-543-6000	

PEORIA LAKE
REHABILITATION AND ENHANCEMENT

Construction Completed
September 1997

Preface

This project was authorized, designed, and constructed as part of the Upper Mississippi River Environmental Management Program (EMP, PL 99-662). The program, as administered by the U.S. Army Corps of Engineers, authorizes "... the planning, construction and evaluation of measures for fish and wildlife habitat rehabilitation and enhancement..."

Once EMP projects are planned, designed, and constructed, they are operated and maintained by the Project Sponsor in accordance with Project Cooperation Agreements (for Non-Federal Sponsors) or Memorandums of Agreement (for Federal Sponsors).

Post-Construction Project Monitoring was authorized by the EMP in efforts to validate project goals and objectives against physical, chemical, and biological aspects of the project. Post-Construction monitoring also provides a systematic basis for project review of planning, design and construction principles, operation and maintenance considerations and natural resource management viewpoints.

Post-Construction Performance Evaluations are performed each year and put out as a report, called a Post-Construction Performance Evaluation Report (PER). Principal Agencies involved include the Sponsor, the U.S. Fish and Wildlife Service, U.S. Geological Survey, State Resource Agencies, and the U.S. Army Corps of Engineers. Principal components of the PER include inspections and observations, field sampling and evaluation of data relative to project goals and objectives. Field data is collected according to an established Project Monitoring Plan presented in the PER.

The Post-Construction PER is either published as a separate report or as a supplement to previous reports. Supplements are utilized when monitoring/project data do not warrant full evaluations and analyses.

Previous Performance Evaluation Reports (PERs), including the project monitoring plan, and other related project documents such as the Definite Project Report (DPR) and the project Operation and Maintenance (O&M) Manual with as-built construction drawings are available at: http://www.mvr.usace.army.mil/EMP/hrep.htm.

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PLATE 2 – Sedimentation Transect and Monitoring Plan

PROJECT BACKGROUND

1. INTRODUCTION

The Peoria Lake, Illinois, Habitat Rehabilitation and Enhancement project, hereafter referred to as "the Peoria Lake project" was completed as part of the ongoing Upper Mississippi River System (UMRS) Environmental Management Program (EMP). The Peoria Lake project is located in the Peoria Pool of the Illinois Waterway (river) between river miles (RM) 178.5 and 181.0. See plate 1 for the location plan with the main project features and vicinity map.

a. Purpose. The purposes of this report are as follows:

(1) Summarize the performance of the Peoria Lake HREP through a supplement to the initial report based on project goals and objectives.

(2) Review the monitoring plan for possible revisions.

(3) Summarize project operation and maintenance efforts to date.

(4) Review engineering performance criteria to aid in the design of future projects.

b. Scope. This supplemental report summarizes available project monitoring data, inspection records, and observations made by the U.S. Army Corps of Engineers (Corps), the Illinois Department of Natural Resources (ILDNR), the U.S Fish and Wildlife Service (USFWS), the United States Geological Survey (USGS), and the Illinois Natural History Survey (INHS) for the period from March 1991 through April 2002.

c. Previous Performance Evaluation Reports. The Initial Post-Construction Performance Evaluation Report (PER) was completed in March 2001.

2. PROJECT GOALS AND OBJECTIVES

a. General. The Peoria Lake HREP as stated in the initial 2001 PER, was initiated primarily to address the ever increasing sedimentation that had degraded much of the fish and wildlife habitat value of Peoria Lake. The lake had lost approximately 68% of its historic volume, and by the average depth had been reduced from 8.1 feet in 1903 to 2.6 feet in 1994. The shallow depths promoted wind fetch re-suspension of unconsolidated sediments resulting in elevated turbidity levels. Also, these soft, unconsolidated lake bottom sediments were not receptive to the rooting and subsequent survival of aquatic plants, the part of the food source for migratory waterfowl.

b. Goals and Objectives. Project goals and objectives were formulated during the project design phase and are summarized in Table 2-1.

TABLE 2-1
Project Goals, Objectives, and Enhancement Features

Goal	Objective	Enhancement Feature
Enhance Wetland Habitat	Increase reliable food production and resting area for waterfowl	Forested Wetland Management Area (FWMA): water control and mast tree area
	Increase diversity and extent of submergent and emergent vegetation for waterfowl	Barrier Island Complex: aquatic vegetation bed and island vegetation along the East River and the Barrier and Overburden islands.
Enhance Aquatic Habitat	Provide flowing side channel aquatic habitat	Flowing side channel and embankment in the East River and between the Barrier and the Overburden islands.

c. Management Plan. No formal management plan was developed for this project. The project is generally operated as outlined in the *Operation and Maintenance (O&M) Manual, Peoria Lake Enhancement*, dated May 1998 (see References, appendix B).

3. PROJECT DESCRIPTION

a. Project Features. No new information. For information about the existing features, see the *Peoria Lake Post-Construction Initial Performance Evaluation Report (IPER6F)*, dated March 2001.

b. Project Construction. No new information.

c. Project Operation and Maintenance. No new information. For information about project operation and maintenance, see the *Operation and Maintenance Manual, Peoria Lake Enhancement*, dated May 1998.

4. PROJECT MONITORING

a. General. See the *Peoria Lake Post-Construction Initial Performance Evaluation Report (IPER6F)*, dated March 2001, for the Monitoring and Performance Evaluation and Data Collection Summary.

b. U.S. Army Corps of Engineers. No new information.

c. Illinois Department of Natural Resources. See appendix A, Cooperating Agency Correspondence/Inspection Reports and sections 5 & 6, below.

d. U.S. Fish and Wildlife Service. No new information.

e. United States Geological Survey. No new information.

PROJECT MONITORING RESULTS

5. EVALUATION OF PROJECT OBJECTIVES

a. Increase Reliable Food Production and Resting Area for Waterfowl. An increase in food production and resting area is being observed with an increase in waterfowl activity in both the Forested Wetland Management Area (FWMA) and Barrier Island Complex. The filling of the FWMA cells during waterfowl migratory periods and reduced wave fetch with the construction of the island complex have proven to be good resting areas for migratory waterfowl. This success is evident with the most recent aerial waterfowl inventory done by the Illinois Natural History Survey, showing peak numbers of four different species of waterfowl during the fall 2000 migratory period. These numbers were the highest recorded since monitoring began in 1991, along with an increase in overall numbers of waterfowl since construction was completed in 1997.

b. Increase Diversity and Extent of Submergent and Emergent Vegetation for Waterfowl. An increase in emergent vegetation with the successful vegetative cover on the Barrier Island and mast tree plantings in the FWMA have been observed. This vegetative cover and the mast trees provide a good food source for the migratory waterfowl. The increase in submergent vegetation in with the help of reduced wind fetch due to the construction of the Barrier and Overburden Islands has yet to be successful. Monitoring will continue as required.

c. Provide Flowing Side Channel Aquatic Habitat Area. The East River flowing side channel is continuing to perform well. Detrimental silt accumulation and snags have not been observed. No aquatic data was formulated for this report. Monitoring will continue as required.

6. EVALUATION OF PROJECT OPERATION AND MAINTENANCE

Observations and conclusions of the project's operation and maintenance based on inspections and general observations are given below for a report period of April 2001 to April 2002.

a. Forested Wetland Management Area (FWMA). Since the initial 2001 PER, the FWMA has been operating with success, requiring low maintenance. The pump station has had no operational problems and has required normal maintenance. The water control structures have required no maintenance, although operation in removal of the stoplogs has proven to be difficult. Most of the FWMA maintenance required has been due to high water events affecting the westerly levees of FWMA cells B and C.

(1) Challenges or Difficulties. Overtopping and wave wash on the westerly levee of the FWMA cell C continues to be problematic due to high water. High water continues to allow wave wash to erode portions of the levee slope where the

riprap placement along the slope ended. Also, overtopping due to high water has allowed only minimal vegetative cover to grow on the levee slopes of cells B and C, and gravel placed on the tops of these levees is being washed down the levee slopes. The water control structures stoplogs continue to be a challenge due to their weight with minimal erosion observed around the structure at cell C, along the river.

(2) Actions and Recommendations. The site manager is performing maintenance to replace the levee slope and gravel as necessary, along with using the necessary means to remove stoplogs. The Corps and ILDNR will continue to discuss alternative coverings that could promote vegetative cover and help reduce the amount of gravel being washed off the top of the levees. Using solid plates to permanently close off a couple of water control structure bays and an alternative to the wood stoplogs is being discussed. Also, allowing vegetation, such as shrubs to flourish as a different management plan, is being discussed as well. The site manager has installed some riprap around the pump station outlet to help reduce the erosive effects along the edge of the outlet concrete pad. Continue to monitor as scheduled.

b. Mast Tree Plantings. Since the initial 2001 PER, the mast tree plantings have seen little change. Required maintenance deals with removing unwanted trees and vegetation.

(1) Challenges or Difficulties. Keeping the unwanted tree growth to a minimum and allowing the seedlings that were planted to flourish are the biggest challenges.

(2) Actions and Recommendations. The site manager shall continue with maintenance to keep unwanted vegetation around the mast trees to a minimum and allow the seedlings to grow. More tree plantings by the site manager is also being accomplished in the FWMA. Continue to monitor as scheduled

c. Barrier and Overburden Islands. Since the initial 2001 PER, the islands have required no maintenance.

(1) Challenges or Difficulties. The challenges with the islands is keeping erosion due to high water and overtopping to a minimum. Also, keeping vegetative cover and promoting vegetative growth on the top of the island has been a challenge due to high water events, but has proven to be better in the last year.

(2) Actions and Recommendations. A survey of the islands will be scheduled to see how high water events have affected the feature. Continue to monitor as scheduled.

d. Flowing Side Channels. Since the initial 2001 PER, the flowing side channel has required no maintenance.

(1) Challenges or Difficulties. Possible silt accumulation and snags in the channel are the main difficulties that affect the feature, but they have not caused problems to date.

Actions and Recommendations. A survey of the channel will be scheduled to show the extent of silt accumulation and possible snags. Continue to monitor as scheduled.

e. Rock Closure Structure. Since the initial 2001 PER, the rock closure structure has required no maintenance.

(1) Challenges or Difficulties. Possible silt accumulation near the closure structure and loss of riprap due to fast currents in the channel are the main difficulties that affect the feature, but they have not caused problems to date.

Actions and Recommendations. Continue to monitor as scheduled.

7. GENERAL CONCLUSIONS AND RECOMMENDATIONS

a. Forested Wetland Management Area (FWMA). Overall, the FWMA has shown great progress in increasing the reliable food production and resting area for waterfowl. Although some minimal operational problems exist with respect to the removal of the stoplogs at the water control structures, operational needs in the FWMA have been kept to a minimum. Maintenance continues to be the major component in helping the FWMA have success. Operation and maintenance shall continue as outlined in the Peoria Lake O&M Manual. Actions to the challenges of the FWMA will be addressed in future reports.

b. Mast Tree Plantings. The mast trees growth is slow but has been successful. The site manager continues to protect and allow mast trees to flourish. Seedlings planted in the FWMA have not yet reached their full potential. Monitoring of the mast trees and seedlings will continue as scheduled.

c. Barrier and Overburden Islands. The islands are providing a good resting area for waterfowl with the decrease in wind fetch in Goose Lake. No noticeable erosion or overtopping of the island has been observed. A survey of the islands needs to be scheduled. Continue to monitor as scheduled.

d. Flowing Side Channels. No new conclusions. A survey of the channel needs to be scheduled. Continue to monitor as scheduled.

e. Rock Closure Structure. No new conclusions or recommendations. Continue to monitor as scheduled.

f. Waterfowl and Aquatic Use. Waterfowl use has had a dramatic increase since project completion in 1997, with the year 2000 fall and spring inventory reaching record numbers. The Peoria Lake EMP project features have been a success as seen in the number of migratory waterfowl using the area. Aerial inventories are planned to continue with the Illinois Natural History Survey (INHS). Continue to monitor waterfowl and aquatic use as scheduled.

APPENDIX A

Cooperating Agency Correspondence/Inspection Reports

OPERATION AND MAINTENANCE MANUAL
PEORIA LAKE ENHANCEMENT
UPPER MISSISSIPPI RIVER
ENVIRONMENTAL MANAGEMENT PROGRAM
PEORIA POOL, RIVER MILES 178.5 THROUGH 181
WOODFORD COUNTY, ILLINOIS

SITE MANAGER'S PROJECT INSPECTION AND MONITORING RESULTS

Inspected by: Jon Fleischman (Corps), Fred Davidson (ILDNR)			Date April 9, 2002
Type of Inspection:	Project Inspection: Joint inspection:	(X) annual ( ) routine	( ) other ( ) catastrophic

1. PROJECT INSPECTION.

	Item	Condition
a. Cell A Levee		
(X)	Settlement, sloughs, or material loss	At pump outlet, riprap placed.
( )	Caving	None
( )	Wavewash, scouring, or overtopping erosion	None
( )	Seepage, saturated areas, or sand boils	None
( )	Burrowing animals	None
( )	Displaced revetment or riprap	None
( )	Drainage or rutting problems	None
(X)	Growth of sod	Good on levee, Cell A.
( )	Unauthorized vehicular traffic	None
(X)	Debris	Normal, removed by manager.
( )	Erosion mat	None
(X)	Adequate mowing or burning	Yes
( )	Unfavorable tree or shrub growth	None
( )	Encroachments	None
b. Cell A Water Control Structure		
( )	Settlement, sloughs, or material loss	None
(X)	Stoplogs, stoplog keepers, stoplog slots, and stoplog lifting hook	All looked good. Stoplogs still to heavy.
( )	Staff gages, steel rails, rail posts, grating, and fasteners	OK
( )	Concrete	OK
( )	Culverts, inlet and outlet channels	OK
( )	Erosion or seepage adjacent to structure	None
( )	Displaced or missing riprap	None
( )	Encroachments	None

	Item	Condition
c. Cell B Levee		
( )	Settlement, sloughs, or material loss	None
( )	Caving	None
(X)	Wavewash, scouring, or overtopping erosion	Minor erosion from overtopping
( )	Seepage, saturated areas, or sand boils	None
( )	Burrowing animals	None
( )	Displaced revetment or riprap	None
( )	Drainage or rutting problems	None
(X)	Growth of sod	Minor, look into alternatives
( )	Unauthorized vehicular traffic	None
(X)	Debris	Normal, removed by manager
( )	Erosion mat	None
(X)	Adequate mowing or burning	Yes
(X)	Unfavorable tree or shrub growth	Some shrub growth, remove.
( )	Encroachments	None
d. Cell B Water Control Structure		
( )	Settlement, sloughs, or material loss	None
(X)	Stoplogs, stoplog keepers, stoplog slots, and stoplog lifting hook	All looked good. Stoplogs still to heavy.
( )	Staff gages, steel rails, rail posts, grating, and fasteners	OK
( )	Concrete	OK
( )	Culverts, inlet and outlet channels	OK
( )	Erosion or seepage adjacent to structure	None
( )	Displaced or missing riprap	None
( )	Encroachments	None
e. Cell C Levee		
(X)	Settlement, sloughs or material loss	Loss along river, material pushed up
( )	Caving	None
(X)	Wavewash, scouring, or overtopping erosion	Wavewash, needs riprap.
( )	Seepage, saturated areas, or sand boils	None
( )	Burrowing animals	None
(X)	Displaced revetment or riprap	Yes, along river, replaced.
(X)	Drainage or rutting problems	Minor rutting, west side levee.
(X)	Growth of sod	Minor, look into alternatives.
( )	Unauthorized vehicular traffic	None
(X)	Debris	Normal, removed by manager.
( )	Erosion mat	None
( )	Adequate mowing or burning	Yes, minimal needed.

	Item	Condition
(X)	Unfavorable tree or shrub growth	Shrubs in riprap, along levee.
( )	Encroachments	None
f. Cell C Water Control Structure		
(X)	Settlement, sloughs, or material loss	Yes, loss around structure.
(X)	Stoplogs, stoplog keepers, stoplog slots, and stoplog lifting hook	All looked good. Stoplogs still to heavy.
( )	Staff gages, steel rails, rail posts, grating, and fasteners	OK
( )	Concrete	OK
( )	Culverts, inlet and outlet channels	OK
(X)	Erosion or seepage adjacent to structure	Yes, erosion along walls, slope
(X)	Displaced or missing riprap	Yes, displaced riprap/rock.
( )	Encroachments	None
g. Drainage Ditches		
(X)	Debris	Normal, removed by manager
( )	Unauthorized structures	None
( )	Bank erosion	None
h. Pump		
( )	Items listed in the instruction manual	
( )		See the pump station
( )		inspection report.
( )		
( )	Ancillary equipment	
( )		
( )		
i. Pump Station		
( )	Pump Structure	OK
( )	Control stand	OK
( )	Piping and discharge assembly	OK
( )	Displaced or missing riprap	None
( )	Sump	OK
j. Vegetation in the FWMA		
(X)	Seedlings and mast trees	Minimal seedlings. Good mast trees
(X)	Unfavorable tree or shrub growth	Unfavorable trees to be cut.
k. Barrier Island		
( )	Settlement, sloughs or material loss	None

	Item	Condition
( )	Wavewash, scouring, or overtopping erosion	None
( )	Burrowing animals	None
( )	Unauthorized traffic	None
(X)	Debris	Normal, removed by manager
( )	Erosion mat	OK
( )	Encroachments	None
( )	Unfavorable plant growth	None
(X)	Vegetative cover	Good, island has more cover.
( )	Arrowheads and bulrushes	N/A
( )	Other wetland vegetation	N/A
l. Flowing Side Channel		
( )	Restricted flow through the channel	N/A
( )	Settlement, sloughs or material loss	None
( )	Seepage, saturated areas, or sand boils	None
( )	Burrowing animals	None
( )	Unauthorized traffic	None
(X)	Debris	Normal, removed by manager.
( )	Erosion mat	OK
( )	Encroachments	None
( )	Unfavorable plant growth	None
( )	Pin Oaks	N/A
m. Rock Closure Structure		
( )	Debris	Normal, removed by manager
( )	Erosion of the shoreline on each end of the structure	None
( )	Settlement, sloughs, or material loss	None
( )	Delaminated, damage, or weathered painted markings	No
( )	Bent or damaged steel beams	No
( )	Missing bouys (if bouys are deployed)	None
( )	Displaced or missing riprap	None

Item	Condition

2. COMMENTS

For the most part, project looks good. Vegetation on the barrier island is better established with no noticable erosion problems on either the barrier or overburden islands. The flowing side channel and rock closure structure have no noticable problems. The pump station was started and run with no noticable electrical, mechanical, or electrical problems. The pump station's electrical platforms and boxes look good with no damage to them.

In the Forestest Wetland Management Area (FWMA), cell A looks good with a nice stand on grass growing on the westerly levee. The pump outlet in cell A also looks good with riprap placed around it to help with erosion. Vegetation on the cells B & C levees is very minimal due to flooding and overtopping effects, and a different cover will need to be discussed. Also the westerly cell C levee (along the river) is having erosion problems due to wave wash. Adding additional riprap along the riverside of the levee will need to be discussed. Otherwise, FWMA cells B and C look good.

Stoplog structures in cells A and B look good with no noticable structural problems. The stoplog structure in cell C (along the river) has no noticable erosion and will need rock or riprap placed. Some unwanted vegetation (shrubs) are also growing along the westerly and southerly levee of cell C, and will need to be removed. The drainage ditches look good and are free of debris.

Site Manager Signature _____ Date _____

PUMP STATION INSPECTION REPORT

Name of Environmental Management Project (Federal/Non-Federal):

Peoria Lake Habitat Rehabilitation and Enhancement Project

Date/Hour Inspection Began/Ended:
Date: April 9, 2002 Time: 10:00 a.m.

Inspectors:
Corps Representatives: **Jon Fleischman, Corps of Engineers**

Site Manager: **Fred Davidson, ILDNR**

River/Forebay Elevations:
River El.: 442.01 Flood Stage El.: 446.40 Zero Gage El.: 428.40 .
Forebay El.: N/A Flood Stage El.: N/A Zero Gage El.: N/A

General Comments:

Arrived on site at approximately 10:00 a.m. Started site inspection by driving to the pump station located at the south end of the Forested Wetland Management Area (FWMA). Pump station platform looked good. Due to vandalism the latch on the hatch door was missing and needed to be replaced. The pump station electrical boxes/panels looked good, no damage. Fred started the pump and let it run for approximately 45 minuets while we continued with the rest of the inspection. Pump ran quietly with no problems. Outflow pipe located in Cell A of the FWMA also looked good, with no damage to pipe or outflow platform.

PUMP STATION MAINTENANCE INSPECTION GUIDE

RATED ITEM	A	M	U	EVALUATION	REMARKS
SECTION I				*FOR USE DURING INITIAL ELIGIBILITY INSPECTION ONLY*	
1. Pump Station Size	X			Pump station has adequate capacity (considering pumping capacity, ponding areas, etc.) to handle expected inflow volumes. (A or U.)	**Fills FWMA cells in 10 days, running continuously.**
SECTION II				*FOR USE DURING ALL PUMP STATION INSPECTIONS*	
2. O&M Manual	X			O&M Manual is present and adequately covers all pertinent areas. (A or U.)	**O&M Manual located at office building on-site.**
3. Operating Log			X	Pump Station Operating Log is present and being used. (A or U.)	**Pump station log in not being used. Need to get one located at the pump station electrical platform. Will discuss with site manager.**
4. Annual Inspection	X			Annual inspection is being performed by the local sponsor. (A or U.)	**Will supply site manager with extra forms for site and pump inspections.**
5. Plant Building	X			A Plant building is in good structural condition. No apparent major cracks in concrete, no subsidence, roof is not leaking, etc. Intake louvers clean, clear of debris. Exhaust fans operational and maintained. Safe working environment. M Spalling and cracking are present, or minimal subsidence is evident, or roof leaks, or other conditions are present that need repair but do not threaten the structural integrity or stability of the building. U Any condition that does not meet at least Minimum Acceptable standard.	**No real plant building. Pump located underground and run from an electrical wood platform. Pump structure looked good with no cracks or noticeable problems.**

PUMP STATION MAINTENANCE INSPECTION GUIDE

RATED ITEM	A	M	U	EVALUATION	REMARKS
6. Pumps	X			A All pumps are operational. Preventive maintenance and lubrication are being performed. System is periodically subjected to performance testing. No evidence of unusual sounds, cavitation, or vibration. M All pumps are operational and deficiencies/minor discrepancies are such that pumps could be expected to perform through the next period of usage. U One or more primary pumps are not operational, or noted discrepancies have not been corrected.	**Pumps ran good. Site manager needs to make sure preventive maintenance is being performed.**
7. Motors, Engines and Gear Reducers	X			A All items are operational. Preventive maintenance and lubrication being performed. Systems are periodically subjected to performance testing. Instrumentation, alarms, and auto shutdowns operational. M All systems are operational and deficiencies/minor discrepancies are such that pumps could be expected to perform through the next expected period of usage. U One or more primary motors are not operational, or noted discrepancies have period of usage.	**Site manager needs to make sure preventive maintenance is being performed.**
8. Sumps/Trash Racks	X			A Sumps/Trash Racks are free of concrete deterioration, protected from Permanent damage by corrosion and free of floating and sunken debris. Sumps are clear of Accumulated silt. Passing debris is minimized by spacing of trash rack bars. Periodic maintenance performed on trash racks and removal of accumulated silt in sumps is performed. M Trash racks and sumps have some accumulated silt or debris but are not currently inhibiting the pump(s) performance. No periodic maintenance has been performed. Present condition could be expected to perform through the next expected period of usage provided removal of floating debris is accomplished. U Proper operation can not be ensured through the next period of usage. Possible damage could result to the pumping equipment with continued operation.	**No debris located around pump intake. Trash rack looked good.**

PUMP STATION MAINTENANCE INSPECTION GUIDE

RATED ITEM	A	M	U	EVALUATION	REMARKS
9. Other Metallic Items	X			A All metal parts in plant/building are protected from permanent damage by corrosion. Equipment anchors and grout pads show no rust or deterioration. M Corrosion on metallic parts (except equipment anchors) and deterioration period of usage. U Any condition that does not meet at least Minimum Acceptable standards.	
10. Ancillary Equipment i.e. Compressed Air Siphon Breakers Fuel Supply Vacuum Priming Pump Lubrication Heating/Ventilation Engine Cooling Engine Oil Filtering	X			A All equipment operational. Preventive and annual maintenance being performed. Equipment operation understood and followed by pump station operators. M Ancillary equipment is operational and deficiencies/minor discrepancies are such that equipment could be expected to perform through the next period of usage. U One or more of the equipment systems is inoperable. The present condition of the inoperable equipment could reduce the efficiency of the pump station or jeopardize the pump station's role in flood protection.	**Site manager needs to make sure preventive maintenance is being performed.**
11. Backup Ancillary Equipment				A Adequate, reliable, and enough capacity to meet demands. Backup units/equipment are properly sized, operational, periodically exercised, and in an overall well maintained condition. M Backup ancillary equipment is operational and deficiencies/minor discrepancies are such that equipment could be expected to perform through the next period of usage. U Backup ancillary equipment not considered reliable to sustain operations during flooding conditions.	**None required for this project.**

PUMP STATION MAINTENANCE INSPECTION GUIDE

RATED ITEM	A	M	U	EVALUATION	REMARKS
12. Pump Control System	X			A Operational and maintained free of damage, corrosion, or other debris. M Operational with minor discrepancies. U Not operational, or uncorrected discrepancies noted from previous inspections.	**Pump electrical platform looked good. No equipment damage noticed.**
13. Intake and Discharge Outlets	X			Functional. No damaging erosion evident. Opening/closing devices for vertical gates, flap gates, etc. are functional in a well-maintained condition. (A or U.)	**Looked good. Site manager installed riprap at pump outlet to help reduce possible erosive effects. Will need to replace as necessary to reduce erosion. No erosion at pump outlet noticed.**
14. Insulation Megger Testing (For pump stations with Electric pumps only)				A Megger test has been performed within the last 36 months. Results of megger test show that insulation of primary conductors and electric motor meet manufacturer's or industry standard. M Results of megger test show that insulation resistance is lower than manufacturer's or industry standard, but can be expected to perform satisfactorily until next testing or can be corrected. U Insulation resistance is low enough to cause the equipment to not be able to meet its design standard of operation.	**Need to discuss with site manager.**
15. Final Remarks					

PUMP STATION MAINTENANCE INSPECTION GUIDE

GENERAL INSTRUCTIONS	1. All items on this guide must be addressed and a rating given. 2. The lowest single rating given will determine the overall rating for the pump station. 3. A non-Federal pump station located behind a Federal levee will be treated as a separate FCW, and will not be incorporated into the Federal levee project. 4. Additional areas for inspection will be incorporated by the inspector into this guide if the layout or physical characteristics of the pump station warrant this. Appropriate entries will be made in the REMARKS block. 5. Rating Codes: A - Acceptable M - Minimally Acceptable U - Unacceptable
SPECIFIC INSTRUCTIONS	SECTION I. Pump station must have primary purpose of flood control, not interior drainage. District will determine, based on appropriate study, if adequate capacity exists. Lack of adequate capacity mandates a determination of unacceptable.

RECORDED ILDNR DUCK KILLS AT BLINDS

Woodford County Conservation Area

	1999 60 day		1998 60day		1997 60day		1996 50day		1995 50day		1994 40day		1993 30day		1992 30day		1991 30day		1990 30day		1989 30day		Woodford
Blind #	Ducks	% of kill	Ducks	% of kill	Ducks	% of kill	Ducks	% of kill	Duck	% of kill	Ducks	% of kill	Ducks	% of kill	Ducks	% of kill	Ducks	% of kill	Ducks	% of kill	Ducks	% of kill	State Fwa
1	339	.068	375	.077	370	.118	114	.044	172	.066	271	.163	239	.186	217	.125	126	.083	200	.142	170	.171	
2	337	.068	263	.054	136	.043	150	.058	202	.078	71	.043	72	.056	183	.105	120	.079	132	.094	55	.055	
3	122	.024	270	.055	91	.029	91	.035	80	.031	51	.031	48	.037	108	.062	33	.022	22	.016	35	.035	
4	115	.023	65	.013	125	.040	88	.034	125	.048	129	.078	71	.055	111	.064	188	.124	60	.043	29	.029	
5	313	.063	340	.070	207	.066	207	.081	348	.134	221	.133	154	.121	192	.111	154	.102	146	.104	76	.076	
6	353	.071	155	.032	161	.051	254	.099	268	.103	119	.072	142	.110	111	.064	100	.066	121	.086	85	.085	
7	343	.069	535	.110	226	.072	156	.061	177	.068	146	.088	60	.047	106	.061	104	.069	97	.069	72	.072	
8	271	.054	274	.056	260	.083	243	.095	135	.052	74	.045	9	.007	97	.056	108	.071	67	.048	81	.081	
9	51	.010	110	.023	48	.015	75	.029	41	.016	160	.096	10	.008	30	.017	22	.015	28	.020	23	.023	
10	31	.006	139	.029	41	.013	45	.018	36	.014	8	.005	4	.003	31	.018	7	.005	27	.019	16	.016	
11	219	.044	159	.033	132	.042	84	.033	69	.027	64	.039	3	.002	29	.017	26	.017	67	.048	19	.019	
12	436	.088	259	.053	241	.077	105	.041	144	.055	24	.014	65	.050	50	.029	33	.022	40	.028	33	.033	
13	320	.064	296	.061	172	.055	104	.041	138	.053	87	.052	165	.128	63	.036	66	.044	61	.043	24	.024	
14	265	.053	160	.033	87	.028	143	.056	83	.032	89	.054	95	.074	58	.033	39	.026	52	.037	39	.039	
15	174	.035	280	.057	95	.030	73	.028	99	.038	51	.031	66	.051	47	.027	58	.038	94	.067	29	.029	
16	160	.032	162	.033	150	.048	56	.022	100	.038	49	.030	10	.008	64	.037	57	.038	72	.051	63	.063	
17	253	.051	209	.043	235	.075	228	.089	72	.028	9	.007	6	.005	36	.021	103	.068	55	.039	46	.046	
18	332	.067	178	.037	147	.047	150	.058	126	.048	19	.010	0	0	87	.050	92	.061	30	.021	32	.032	
19	263	.053	351	.072	124	.040	101	.039	144	.055	3	.002	51	.040	65	.037	56	.037	8	.006	26	.026	
20	284	.057	312	.064	86	.027	99	.039	40	.015	15	.009	17	.013	52	.031	25	.016	30	.021	44	.044	
	4981		4872		3134		2566		2599		1660		1287		1737		1517		1409		997		

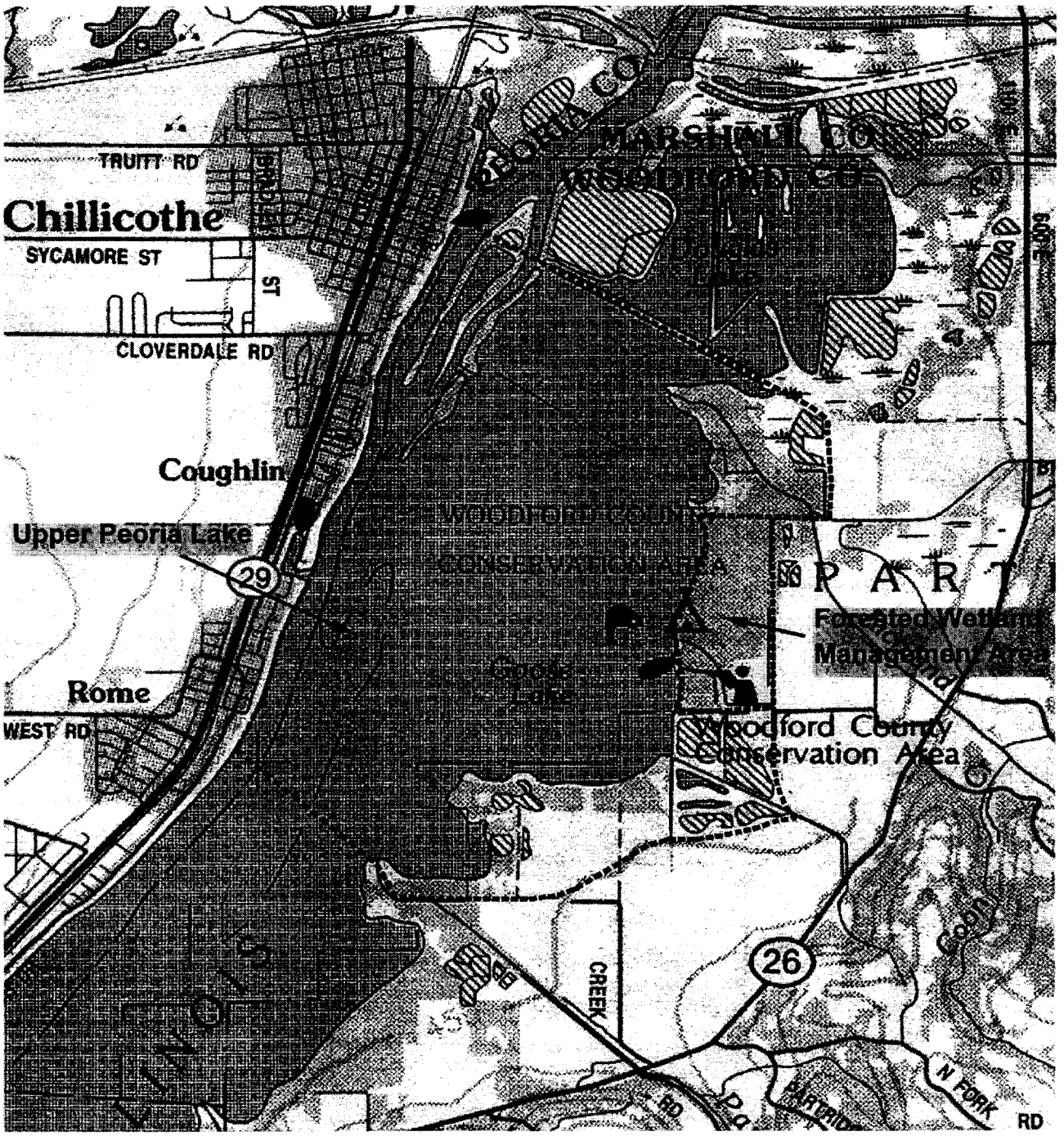

Figure 1. The Upper Peoria Lake EMP site with boundaries drawn delineating the inventory areas.

Table 2. Peak numbers of waterbirds aerially inventoried by the Illinois Natural History Survey at the Upper Peoria Lake EMP site and the Upper Peoria Lake and Forested Wetland Management Area compartments, fall 2000 and spring 2001[a].

Species	Upper Peoria Lake		Forested Wetland Management Area		Total EMP Site	
	Fall	Spring	Fall	Spring	Fall	Spring
Dabbling ducks						
Mallard	63,000	3,000	275	500	63,050	3,000
American black duck	7,500	25	0	0	7,500	25
Northern pintail	4,000	800	25	0	4,000	800
Blue-winged teal	500	300	0	0	0	300
Green-winged teal	2,000	700	0	0	2,000	700
American wigeon	700	400	0	0	700	400
Gadwall	2,000	600	0	0	2,000	600
Northern shoveler	1,050	250	0	0	1,050	250
All dabbling ducks	72,750	4,800	300	500	72,800	4,800
Diving ducks						
Lesser & greater scaup	1,400	2,800	0	0	1,400	2,800
Ring-necked duck	600	200	0	0	600	200
Canvasback	250	500	0	0	250	500
Redhead	0	0	0	0	0	0
Ruddy duck	200	0	0	0	200	0
Common goldeneye	0	1,500	0	0	0	1,500
Bufflehead	0	500	0	0	0	500
All diving ducks	2,200	3,300	0	0	2,200	3,300
Mergansers						
Common merganser	0	650	0	0	0	650
Red-breasted merganser	0	0	0	0	0	0
Hooded merganser	0	0	0	0	0	0
All mergansers	0	650	0	0	0	650
Unknown	0	0	0	0	0	0
All ducks	73,925	5,700	300	500	73,925	6,050
Geese						
Canada goose	1,000	3,000	0	10	1,000	3,000
Lesser snow goose	0	0	0	0	0	0
American coot	3,000	250	0	0	3,000	250
Bald eagles						
Adult	0	5	0	0	0	5
Immature	0	13	0	0	0	13
All eagles	0	18	0	0	0	18
Double-crested cormorant	75	0	0	0	75	0
White pelican	800	15	0	0	800	15

[a] The peak number for the entire site or groups of species may not represent the sum of the peaks for all the compartments or species because the peak numbers in the various compartments and species could have occurred on different flights.

Table 3. Peak numbers of waterbirds aerially inventoried by the Illinois Natural History Survey at the Upper Peoria Lake EMP site during fall, 1991-2000.

Species	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Dabbling ducks										
Mallard	1,000	3,000	1,000	400	5,000	29,000	63,100	35,100	36,000	63,000
American black duck	75	150	50	50	400	3,000	7,000	2,500	3,400	7,500
Northern pintail	200	0	50	0	600	700	2,500	5,000	3,000	4,000
Blue-winged teal	20	0	0	0	30	200	50	10	400	500
Green-winged teal	0	0	50	300	50	500	200	1,000	2,300	2,000
American wigeon	0	0	0	0	0	100	700	500	2,000	700
Gadwall	800	0	0	0	1,000	2,500	1,500	2,000	3,000	2,000
Northern shoveler	0	0	0	0	0	75	0	500	1,000	1,050
All dabbling ducks	1,850	3,150	1,050	700	6,000	35,700	70,8000	45,100	43,000	72,750
Diving ducks										
Lesser and greater scaup	250	300	0	0	0	1,200	800	2,500	800	1,400
Ring-necked duck	0	300	0	100	300	500	1,500	3,000	3,200	600
Canvasback	0	0	0	0	0	100	100	500	200	250
Redhead	0	0	0	0	0	0	0	50	0	0
Ruddy duck	0	0	0	0	0	0	0	0	0	200
Common goldeneye	50	2,000	3,500	200	100	500	900	0	0	0
Bufflehead	0	0	0	0	0	4,500	0	0	0	0
All diving ducks	250	2,000	3,500	200	300	5,500	1,800	5,550	4,000	2,200
Mergansers										
Common merganser	0	1,000	1,000	0	700	50	500	0	1,000	0
Red-breasted merganser	0	0	0	0	0	0	0	0	0	0
Hooded merganser	0	0	0	0	0	0	0	0	0	0
All mergansers	0	0	1,000	0	700	50	500	0	1,000	0
All ducks	2,050	5,310	4,500	800	6,000	41,200	70,800	50,650	43,500	73,925
Geese										
Canada goose	100	0	50	100	2,000	1,500	1,500	800	800	1,000
Lesser snow goose	0	0	0	0	50	500	300	0	0	0
American coot	300	1,000	0	1,000	1,000	2,300	3,000	3,600	3,700	3,000
Bald eagles										
Adult	0	1	0	0	8	2	1	1	8	0
Immature	0	2	0	0	3	0	2	0	6	0
All eagles	0	3	0	0	11	2	3	1	14	0
Double-crested cormorant	0	50	25	0	100	800	300	400	500	75
White Pelican	0	0	0	0	0	50	20	25	200	800

Table 4. Peak numbers of waterbirds aerially inventoried by the Illinois Natural History Survey at the Upper Peoria Lake EMP site during spring, 1992-2001.

Species	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Dabbling ducks										
Mallard	300	0	100	700	2,100	700	2,550	1,200	750	3,000
American black duck	0	0	0	0	50	0	200	0	100	25
Northern pintail	0	0	0	0	0	0	150	600	0	800
Blue-winged teal	100	0	0	0	0	0	20	0	0	300
Green-winged teal	100	0	0	0	0	0	0	50	600	700
American wigeon	200	0	0	0	0	0	25	0	0	400
Gadwall	0	0	0	0	0	0	100	0	100	600
Northern shoveler	0	0	0	0	0	0	0	10	0	250
All dabbling ducks	300	0	100	700	2,150	700	2,750	1,200	850	4,800
Diving ducks										
Lesser and greater scaup	200	100	50	0	0	0	150	600	0	2,800
Ring-necked duck	0	0	50	0	0	0	400	0	0	200
Canvasback	0	0	0	150	0	150	100	3,000	0	500
Redhead	0	0	0	0	0	0	50	0	0	0
Ruddy duck	0	0	0	0	0	0	20	0	0	0
Common goldeneye	400	0	25	50	750	50	0	0	0	1,500
Bufflehead	0	0	0	0	0	0	0	0	0	500
All diving ducks	600	100	50	150	750	150	500	3,000	0	3,300
Mergansers										
Common merganser	100	100	400	4,000	1,800	4,000	0	900	0	650
Red-breasted merganser	0	0	0	0	0	0	0	0	0	0
Hooded merganser	0	0	0	0	0	0	0	0	0	0
All mergansers	100	100	400	4,000	1,800	4,000	0	900	0	650
All ducks	1,000	100	500	4,350	2,825	4,350	2,935	3,450	850	5,700
Geese										
Canada goose	50	300	0	500	40	500	200	800	400	3,000
Lesser snow goose	0	0	0	0	0	0	0	0	0	0
American coot	200	0	600	0	100	0	500	100	0	250
Bald eagles										
Adult	0	0	0	0	3	23	1	0	0	5
Immature	0	0	0	0	2	15	2	0	0	13
All eagles	0	0	0	0	5	38	2	0	0	18
Double-crested cormorant	0	50	25	0	100	800	0	20	0	0
White pelican	0	0	0	0	0	50	0	0	300	15

Table 5. Peak numbers of waterbirds aerially inventoried by the Illinois Natural History Survey at the Forested Wetland Management Area (FWMA) EMP site during fall, 1991-2000.

Species	1991	1992	1993	1994	1995[a]	1996[b]	1997	1998	1999	2000
Dabbling ducks										
Mallard	0	0	0	0	300	300	600	600	500	275
American black duck	0	0	0	0	50	50	0	50	25	0
Northern pintail	0	0	0	0	0	25	0	0	50	25
Blue-winged teal	0	0	0	0	0	0	0	0	0	0
Green-winged teal	0	0	0	0	0	0	0	0	0	0
American wigeon	0	0	0	0	0	0	0	0	0	0
Gadwall	0	0	0	0	0	0	0	0	0	0
Northern shoveler	0	0	0	0	0	0	0	0	0	0
All dabbling ducks	0	0	0	0	350	300	600	600	500	300
Diving ducks										
Lesser and greater scaup	0	0	0	0	0	0	0	0	0	0
Ring-necked duck	0	0	0	0	0	0	0	0	0	0
Canvasback	0	0	0	0	0	0	0	0	0	0
Redhead	0	0	0	0	0	0	0	0	0	0
Ruddy duck	0	0	0	0	0	0	0	0	0	0
Common goldeneye	0	0	0	0	0	0	0	0	0	0
Bufflehead	0	0	0	0	0	0	0	0	0	0
All diving ducks	0	0	0	0	0	0	0	0	0	0
Mergansers										
Common merganser	0	0	0	0	0	0	0	0	0	0
Red-breasted merganser	0	0	0	0	0	0	0	0	0	0
Hooded merganser	0	0	0	0	0	0	0	0	0	0
All mergansers	0	0	0	0	0	0	0	0	0	0
Unknown[b]						100	200	100	200	0
All ducks	0	0	0	0	350	400	600	700	700	300
Geese										
Canada goose	0	0	0	0	0	0	0	0	0	0
Lesser snow goose	0	0	0	0	0	0	0	0	0	0
American coot	0	0	0	0	0	0	0	0	0	0
Bald eagles										
Adult	0	0	0	0	0	0	0	0	0	0
Immature	0	0	0	0	0	0	0	0	0	0
All eagles	0	0	0	0	0	0	0	0	0	0
Double-crested cormorant	0	0	0	0	0	0	0	0	0	0
White pelican	0	0	0	0	0	0	0	0	0	0

[a] The first fall waterfowl censusing period (September - January) for the FWMA.

[b] The first fall waterfowl censusing period (September - January) that unidentifiable waterfowl in the FWMA were recorded as "unknown".

Table 6. Peak numbers of waterbirds aerially inventoried by the Illinois Natural History Survey at the Forested Wetland Management (FWMA) Area EMP site during spring, 1992-2001.

Species	1992	1993	1994	1995	1996[a]	1997[b]	1998	1999	2000	2001
Dabbling ducks										
Mallard	0	0	0	0	25	225	300	400	70	500
American black duck	0	0	0	0	0	0	10	0	0	0
Northern pintail	0	0	0	0	0	0	0	0	0	0
Blue-winged teal	0	0	0	0	0	0	20	0	0	0
Green-winged teal	0	0	0	0	0	0	0	0	0	0
American wigeon	0	0	0	0	0	0	0	0	0	0
Gadwall	0	0	0	0	0	0	0	0	0	0
Northern shoveler	0	0	0	0	0	0	0	0	0	0
All dabbling ducks	0	0	0	0	25	225	320	400	70	500
Diving ducks										
Lesser and greater scaup	0	0	0	0	0	0	0	0	0	0
Ring-necked duck	0	0	0	0	0	0	0	0	0	0
Canvasback	0	0	0	0	0	0	0	0	0	0
Redhead	0	0	0	0	0	0	0	0	0	0
Ruddy duck	0	0	0	0	0	0	0	0	0	0
Common goldeneye	0	0	0	0	0	0	0	0	0	0
Bufflehead	0	0	0	0	0	0	0	0	0	0
All diving ducks	0	0	0	0	0	0	0	0	0	0
Mergansers										
Common merganser	0	0	0	0	0	0	0	0	0	0
Red-breasted merganser	0	0	0	0	0	0	0	0	0	0
Hooded merganser	0	0	0	0	0	0	0	0	0	0
All mergansers	0	0	0	0	0	0	0	0	0	0
Unknown[b]						0	0	0	0	0
All ducks	0	0	0	0	25	225	320	400	70	500
Geese										
Canada goose	0	0	0	0	0	0	0	0	0	10
Lesser snow goose	0	0	0	0	0	0	0	0	0	0
American coot	0	0	0	0	0	0	300	0	0	0
Bald eagles										
Adult	0	0	0	0	0	0	0	0	0	0
Immature	0	0	0	0	0	0	0	0	0	0
All eagles	0	0	0	0	0	0	0	0	0	0
Double-crested	0	0	0	0	0	0	0	0	0	0
White pelican	0	0	0	0	0	0	0	0	0	0

[a] The first spring waterfowl censusing period (February - April) for the FWMA.

[b] The first spring waterfowl censusing period (February - April) that unidentifiable waterfowl in the FWMA were recorded as "unknown".

Table 7. Waterbird aerial inventory data for each individual flight for Upper Peoria Lake, the Forested Wetland Management Area, and the Total EMP site, fall 2000.

	MALLARD	BLK	PNT	BWT	GWT	WIG	GAD	SH	SCAUP	RN	CNVB	RH	RDY	GLD	BH	CM	RBM	HM	UNK	TOTAL DABBLERS	TOTAL DIVERS	TOTAL MERG.	TOTAL DUCKS	CG	SG	COOT	BALD EAGLES AD	BALD EAGLES IMM	BALD EAGLES TOT	CORM	PEL
Upper Peoria Lake																															
09/05/00	60	0	0	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	560	0	0	560	10	0	0	0	0	0	0	0
09/12/00	150	0	25	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	205	0	0	205	0	0	0	0	0	0	50	75
10/03/00	450	10	300	0	200	20	0	25	0	0	0	0	0	0	0	0	0	0	0	1,005	0	0	1,005	100	0	300	0	0	0	75	170
10/09/00	1,000	0	500	0	200	100	0	100	0	0	0	0	0	0	0	0	0	0	0	1,900	0	0	1,900	100	0	100	0	0	0	0	525
10/27/00	3,000	300	2,000	0	1,500	700	1,500	600	0	0	0	0	50	0	0	0	0	0	0	9,600	50	0	9,650	400	0	1,100	0	0	0	0	800
11/03/00	6,000	600	1,200	0	1,200	600	1,800	0	0	0	0	0	0	0	0	0	0	0	0	11,400	0	0	11,400	350	0	1,800	0	0	0	0	300
11/08/00	9,000	750	1,500	0	750	450	1,500	1,050	100	450	50	0	0	0	0	0	0	0	0	15,000	600	0	15,600	325	0	3,000	0	0	0	0	200
11/15/00	10,000	2,000	4,000	0	2,000	0	2,000	0	1,400	600	0	0	200	0	0	0	0	0	0	20,000	2,200	0	22,200	0	0	1,500	0	0	0	0	500
11/21/00	20,000	2,500	750	0	250	0	500	0	1,100	0	250	0	0	0	0	0	0	0	0	24,000	1,350	0	25,350	1,000	0	0	0	0	0	0	0
11/28/00	63,000	7,500	750	0	0	0	1,500	0	750	375	0	0	0	0	0	0	0	0	0	72,750	1,125	0	73,875	750	0	0	0	0	0	0	0
12/06/00	25,920	1,080	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27,000	0	0	27,000	500	0	0	0	0	0	0	1
01/09/01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Forested Wetland Management Area																															
09/05/00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09/12/00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/03/00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/09/00	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75	0	0	75	0	0	0	0	0	0	0	0
10/27/00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/03/00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/08/00	275	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	300	0	0	300	0	0	0	0	0	0	0	0
11/15/00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/21/00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/28/00	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	0
12/06/00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01/09/01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Upper Peoria Lake EMP Area Total																															
09/05/00	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	0
09/12/00	150	0	25	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	205	0	0	205	0	0	0	0	0	0	50	75
10/03/00	450	10	300	0	200	20	0	25	0	0	0	0	0	0	0	0	0	0	0	1,005	0	0	1,005	100	0	300	0	0	0	75	170
10/09/00	1,075	0	500	0	200	100	0	100	0	0	0	0	0	0	0	0	0	0	0	1,975	0	0	1,975	100	0	100	0	0	0	0	525
10/27/00	3,000	300	2,000	0	1,500	700	1,500	600	0	0	0	0	50	0	0	0	0	0	0	9,600	50	0	9,650	400	0	1,100	0	0	0	0	800
11/03/00	6,000	600	1,200	0	1,200	600	1,800	0	0	0	0	0	0	0	0	0	0	0	0	11,400	0	0	11,400	350	0	1,800	0	0	0	0	300
11/08/00	9,275	750	1,525	0	750	450	1,500	1,050	100	450	50	0	0	0	0	0	0	0	0	15,300	600	0	15,900	325	0	3,000	0	0	0	0	200
11/15/00	10,000	2,000	4,000	0	2,000	0	2,000	0	1,400	600	0	0	200	0	0	0	0	0	0	20,000	2,200	0	22,200	0	0	1,500	0	0	0	0	500
11/21/00	20,000	2,500	750	0	250	0	500	0	1,100	0	250	0	0	0	0	0	0	0	0	24,000	1,350	0	25,350	1,000	0	0	0	0	0	0	0
11/28/00	63,050	7,500	750	0	0	0	1,500	0	750	375	0	0	0	0	0	0	0	0	0	72,800	1,125	0	73,925	750	0	0	0	0	0	0	0
12/06/00	25,920	1,080	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27,000	0	0	27,000	500	0	0	0	0	0	0	1
01/09/01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 8. Waterbird aerial inventory data for each individual flight for Upper Peoria Lake, the Forested Wetland Management Area, and the Total EMP site, spring 2001.

																				TOTAL	TOTAL	TOTAL	TOTAL				BALD EAGLES				
	MALLARD	BLK	PNT	BWT	GWT	WIG	GAD	SH	SCAUP	RN	CNVB	RH	RDY	GLD	BH	CM	RBM	HM	UNK	DABBLERS	DIVERS	MERG.	DUCKS	CG	SG	COOT	AD	IMM	TOT	CORM	PEL
Upper Peoria Lake																															
02/05/01	30	0	0	0	0	0	0	0	0	0	0	0	0	540	0	30	0	0	0	30	540	30	600	0	0	0	5	13	0	18	0
02/12/01	700	25	100	0	0	0	10	0	0	0	0	0	0	1,500	500	300	0	0	0	835	2,000	300	3,135	900	0	0	3	5	0	8	15
02/21/01	100	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	0	0	110	2,100	0	0	1	5	0	6	0
02/26/01	300	0	0	0	0	0	0	0	0	200	0	0	0	0	0	650	0	0	0	300	200	650	1,150	825	0	0	2	3	0	5	0
03/06/01	3,000	0	800	0	0	400	600	0	150	25	250	0	0	0	0	0	0	0	0	4,800	425	0	5,225	3,000	0	0	0	0	0	0	0
03/19/01	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	0	0	500	10	0	0	0	0	0	0	0
03/26/01	1,400	0	0	300	700	0	0	0	2,800	0	500	0	0	0	0	0	0	0	0	2,400	3,300	0	5,700	0	0	250	0	0	0	0	0
04/02/01	750	0	0	0	200	0	0	250	300	0	0	0	0	0	0	0	0	0	0	1,200	300	0	1,500	40	0	0	0	0	0	0	0
Forested Wetland Management Area																															
02/05/01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02/12/01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02/21/01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02/26/01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/06/01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/19/01	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	0	0	500	0	0	0	0	0	0	0	0
03/26/01	350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	350	0	0	350	10	0	0	0	0	0	0	0
04/02/01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Upper Peoria Lake EMP Area Total																															
02/05/01	30	0	0	0	0	0	0	0	0	0	0	0	0	540	0	30	0	0	0	30	540	30	600	0	0	0	5	13	0	18	0
02/12/01	700	25	100	0	0	0	10	0	0	0	0	0	0	1,500	500	300	0	0	0	835	2,000	300	3,135	900	0	0	3	5	0	8	15
02/21/01	100	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	0	0	110	2,100	0	0	1	5	0	6	0
02/26/01	300	0	0	0	0	0	0	0	0	200	0	0	0	0	0	650	0	0	0	300	200	650	1,150	825	0	0	2	3	0	5	0
03/06/01	3,000	0	800	0	0	400	600	0	150	25	250	0	0	0	0	0	0	0	0	4,800	425	0	5,225	3,000	0	0	0	0	0	0	0
03/19/01	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	0	0	1,000	10	0	0	0	0	0	0	0
03/26/01	1,750	0	0	300	700	0	0	0	2,800	0	500	0	0	0	0	0	0	0	0	2,750	3,300	0	6,050	10	0	250	0	0	0	0	0
04/02/01	750	0	0	0	200	0	0	250	300	0	0	0	0	0	0	0	0	0	0	1,200	300	0	1,500	40	0	0	0	0	0	0	0

APPENDIX B

References

REFERENCES:

(1) *Peoria Lake Enhancement, Upper Mississippi River System Environmental Management Program, Definite Project Report (R-6F) with Integrated Environmental Assessment, Peoria Pool, Illinois Waterway, July 1990.* This report presents a detailed proposal for construction of a 168-acre Forested Wetland Management Area (FWMA); a 1.1-mile-long, 16-acre Barrier Island; and restored flow through the East River side channel. This report marks the conclusion of the planning process and serves as a basis for approval of the preparation of final plans and specifications and subsequent project construction.

(2) Plans and Specifications, Contract No. DACW25-93-C-0134, *Illinois Waterway, Environmental Management Program, River Mile 178.5 to 181.0, Peoria Lake Forested Wetland Management Area, September 23, 1993.* This document was prepared to provide sufficient detail of project features to allow preparation of construction contract documents and subsequent construction of the FWMA, which included a pump station, water control structure, and mast tree planting by a contractor.

(3) Plans and Specifications, Contract No. DACW25-94-C-0083, *Illinois Waterway, Environmental Management Program, River Mile 178.5 to 181.0, Peoria Lake Barrier Island and East River Enhancement, June 20, 1994.* This document was prepared to provide sufficient detail of project features to allow construction of the Barrier Island and removal of a silt plug from the south end of the East River channel by a contractor.

(4) Plans and Specifications, Contract No. DACW25-95-C-0041, *Illinois Waterway, Environmental Management Program, River Mile 178.5 to 181.0, Peoria Lake Vegetation, March 31, 1995.* This document was prepared to provide sufficient detail of project features to plant vegetation on the barrier island, adjacent to the East River channel excavation, and in the FWMA by a contractor.

(5) Plans and Specifications, Contract No. DACW25-97-M-0515, *Rock Closure Structure, Peoria Lake, Illinois Waterway, Woodford County, Illinois, May 15, 1997.* This document was prepared to provide sufficient detail of project features to allow construction of a rock closure structure at the upstream end of the channel between the Barrier Island and the Overburden Island by a contractor.

(6) *Operation and Maintenance Manual, Peoria Lake Enhancement, Upper Mississippi River, Environmental Management Program, Peoria Pool, River Miles 178.5 - 181.0, Woodford County, Illinois, May 1998.* This manual was prepared to serve as a guide for the operation and maintenance of the Peoria Lake project. Operation and maintenance instructions for the major features of the project are presented.

(7) *Aerial Waterbird Inventories of Chautauqua National Wildlife Refuge and Peoria Lake Environmental Management Program Sites.* Annual reports from 1991-1992 through 1997-1998, by Michelle M. Georgi and Stephen P. Havera, Illinois Natural History Survey, Center for Wildlife Ecology.

(8) *Midterm Report on Pre-construction Sampling at Chautauqua and Peoria Lake HREP Areas, 1992.* Report of fish community monitoring during 1991, by James R. Harvey, Illinois Natural History Survey, Long Term Resource Monitoring Field Station.

(9) *Annual Progress Report: Bioresponse Monitoring at Peoria Lake and Lake Chautauqua Habitat Rehabilitation and Enhancement Projects.* Report of results of fish community monitoring and vegetation (aquatic and woody) monitoring conducted during 1992, by Kevin S. Irons and K. Douglas Blodgett, Illinois Natural History Survey, LTRMP Havana Field Station.

(10) *Progress Report: Bioresponse Monitoring at Peoria Lake and Lake Chautauqua Habitat Rehabilitation and Enhancement Projects, August 1994.* Report of results of fish community monitoring and vegetation (aquatic and woody) monitoring conducted during 1991-1994, by K. Douglas Blodgett, Kevin S. Irons, and Thad R. Cook, Illinois Natural History Survey, LTRMP Havana Field Station.

(11) *Annual Progress Report for the Bioresponse Monitoring of Peoria Lake Habitat Rehabilitation and Enhancement Project (HREP), February 1999.* Report of results of 1997 fish community monitoring with comparisons to 1991-1992 pre-construction monitoring results, by Kevin S. Irons and Timothy M. O'Hara, Illinois Natural History Survey, Long Term Resource Monitoring Program, Center for Aquatic Ecology.

(12) *Completion Report for Bioresponse Monitoring of Peoria Lake Habitat Rehabilitation and Enhancement Project (HREP).* Report of results of 1998 fish community monitoring with comparisons between 1991-1992 pre-construction monitoring and 1997-1998 post-construction monitoring results, by Kevin S. Irons and Timothy M. O'Hara, Illinois Natural History Survey, Long-Term Resource Monitoring Program, Center for Aquatic Ecology.

(13) *Post-Construction Initial Performance Evaluation Report (IPER6F), Peoria Lake Rehabilitation and Enhancement Project, Upper Mississippi River System Environmental Management Program, Peoria Pool (UMRS-EMP), Illinois River Miles 178.5-181.0, Woodford County, Illinois, March 2001.*

(14) *Annual Report: 2000-2001 Aerial Waterbird Inventories of Chautauqua National Wildlife Refuge and Peoria Lake Environmental Management Program Sites, 31 August 2001.* Report of spring and fall waterfowl migratory numbers from 1991 to 2000, by Michelle M. Horath and Stephen P. Havera, Illinois Natural History Survey, Center for Wildlife Egology.

APPENDIX C

Distribution List

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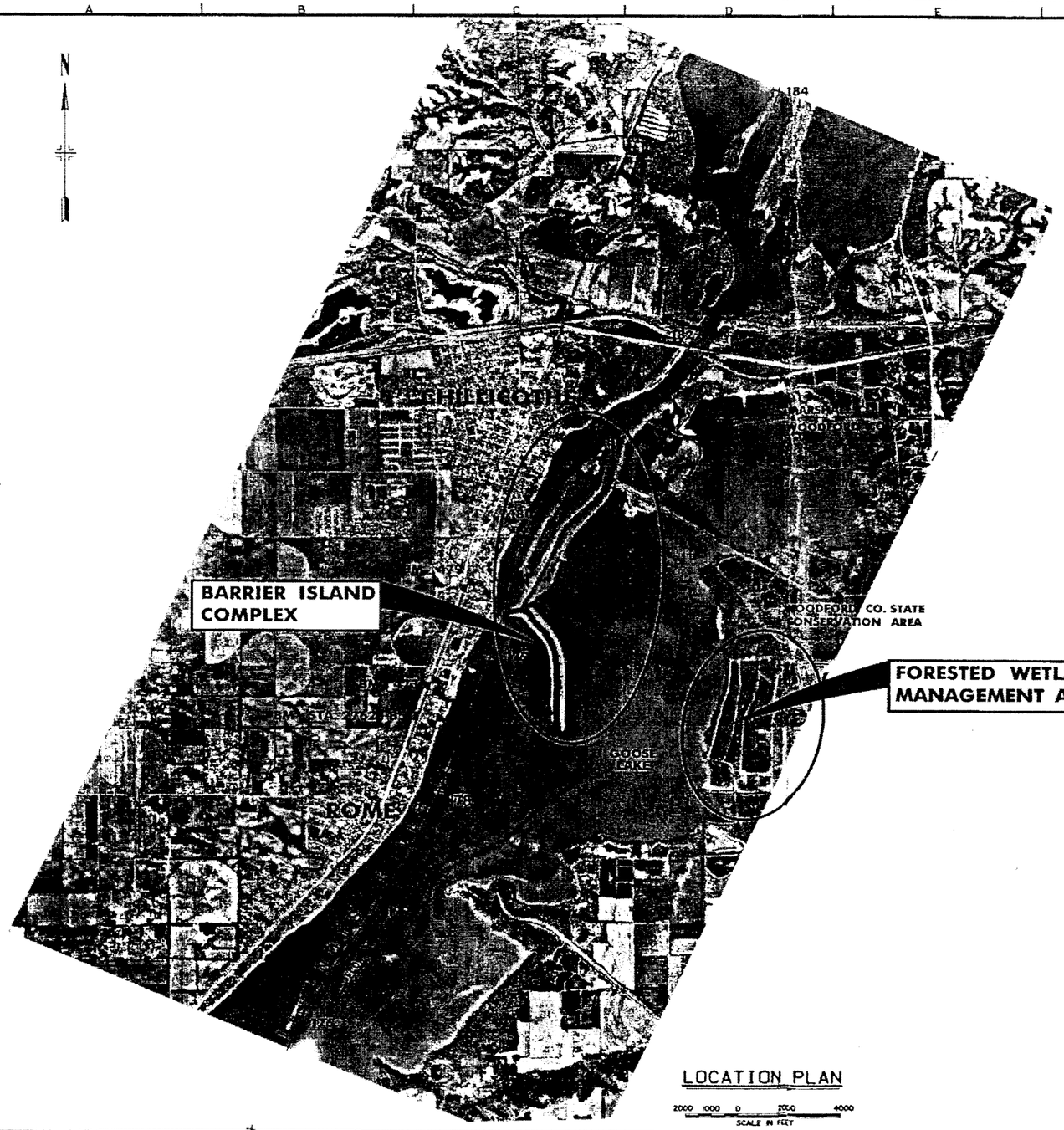
APPENDIX D

Plates



LOCATION PLAN

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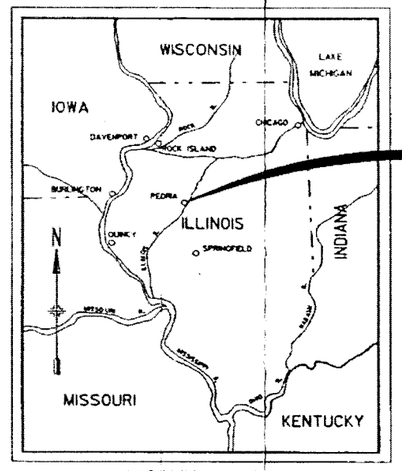
SCALE IN FEET



VICINITY MAP

25 0 25 50 75
SCALE IN MILES

NOTES:
1. FOR PROJECT FEATURES SEE PLATE 2.

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Symbol	Description Revisions	Date	Approved

Surveyed by:	KGB	Date: 24 SEPT. 1993
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Checked by:	DJJ	Drawing Code: XXXXX
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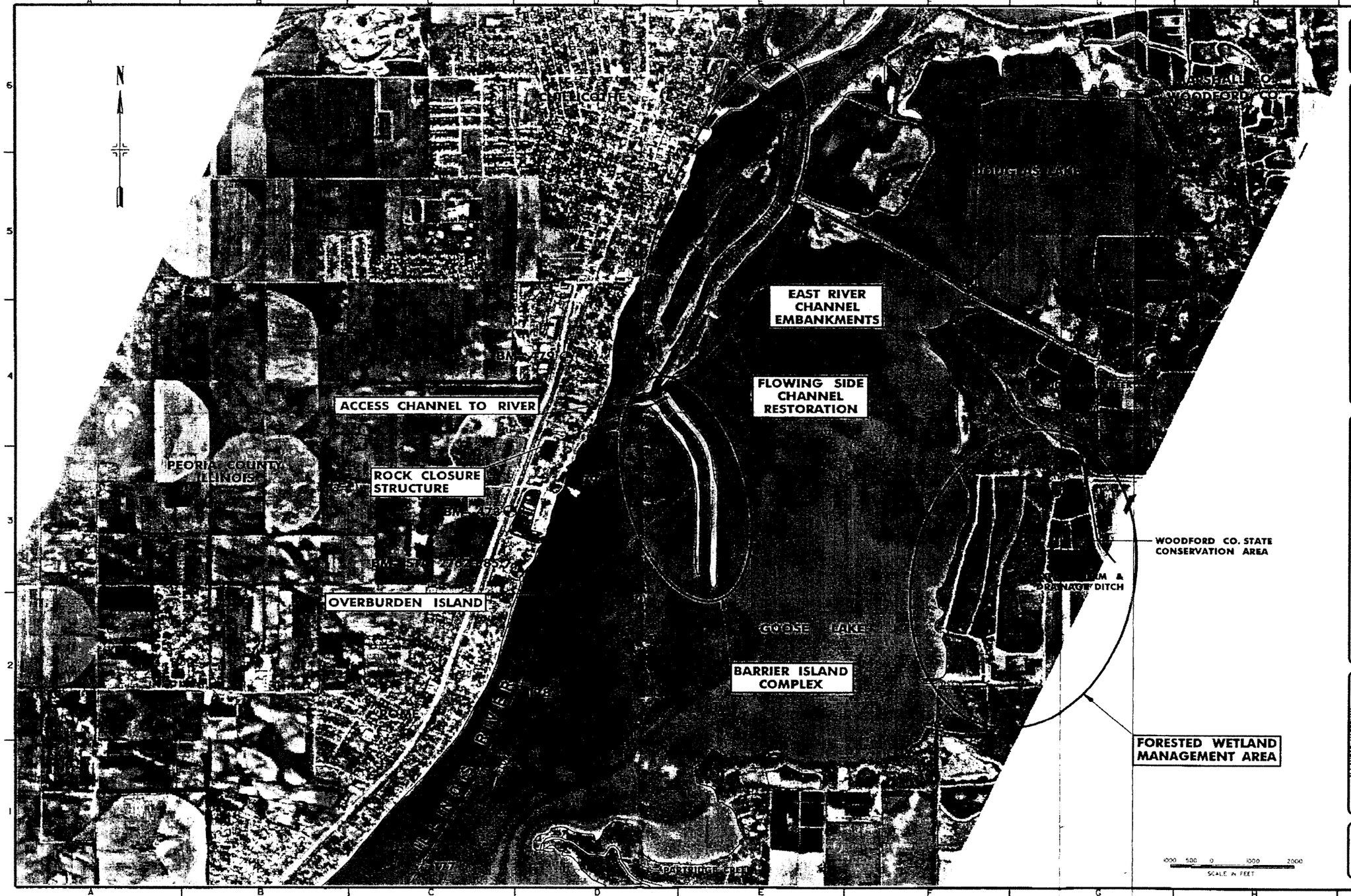
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS

ENVIRONMENTAL INVESTIGATION PROGRAM
RIVER MILE 178.5 TO 181.0
PEORIA LAKE

LOCATION PLAN, VICINITY MAP, AND INDEX

PLATE 1



US Army Corps of Engineers
Rock Island District

Symbol	Description	Date	Approved
	Revisions		

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Checked By:	DJJ	Drawing Code: XXXXX
Reviewed By:	BLK	Solicitation Number: DACW25-93-B-XXXX

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ROCK ISLAND, ILLINOIS

ILLINOIS WATERWAY
RIVER MILE MANAGEMENT PROGRAM
PEORIA LAKE RM 161.0

GENERAL PLAN AND PROJECT FEATURES

PLATE 2