



**DEPARTMENT OF THE ARMY**  
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS  
P.O. BOX 80  
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO  
ATTENTION OF:

CEMVD-PD-N

18 September 2008

MEMORANDUM FOR Commander, Mississippi Valley Division  
ATTN: (Terry Smith, CEMVD-PD-SP)

SUBJECT: Middle Peoria Pool Backwater Restoration  
(NESP Project S), Ecosystem Planning Center of Expertise  
Recommendation for Approval of Review Plan

1. References:

- a. EC 1105-2-408, Peer Review of Decision Documents, 31 May 2005.
- b. CECW-CP Memorandum and attachment, 30 March 2007, subject: Peer Review Process.
- c. EC 1105-2-410, Review of Decision Documents, 22 Aug 2008.

2. The Middle Peoria Pool Backwater Restoration study will investigate opportunities to alleviate problems related to the dramatic loss of productive backwaters areas. This loss is due to excessive sedimentation which limits ecological health, alters the character of the floodplain, and results in the deterioration/loss of critical spawning, nursery, and overwintering areas for fish; habitat for diving ducks and aquatic species; and backwater aquatic plant communities.

3. The enclosed Review Plan (RP) recommends use of a standard review approach. It has been coordinated with the National Ecosystem Planning Center of Expertise (ECO-PCX) and concurred in by the ECO-PCX. The RP complies with all applicable policy and establishes the appropriate level of agency technical review of the plan formulation, engineering, and environmental analyses, and other aspects of the plan development. The ECO-PCX concurs with the conclusion that Independent External Peer Review of this project is not necessary for the following reasons: (1) no influential scientific information will be produced by the study, (2) the risk was assessed as low, and 3) the estimated implementation costs are below the \$45M requirement for Independent External Peer Review. Non-substantive changes to this RP do not require further approval.

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4. The district should post the RP to its web site and provide a link to the ECO-PCX for posting on their web page, as well as providing a copy of the final approved RP to the ECO-PCX for their use. Before posting to the web site the names of Corps/Army employees should be removed in accordance with reference 1.b. above.

5. Conclusion. The ECO-PCX recommends the RP for approval by MVD.



Rayford Wilbanks  
Director, National Ecosystem Planning  
Center of Expertise

Encl

CF:

CEMVD-RB-T (D. Vigh)  
CEMVR-PM-F (C. Knollenberg)  
CEMVR-PM-F (M. Plumley)  
CEMVP-PM (C. Spitzack)  
CEMVR-PM-A (K. Barr)  
CEMVR-PM-M (S. Whitney)  
CEMVR-PM-A (J. Ross)

**REVIEW PLAN**

**PROJECT S. BACKWATER RESTORATION (MIDDLE PEORIA POOL)**

**NAVIGATION AND ECOSYSTEM SUSTAINABILITY PROGRAM**

**PROJECT IMPLEMENTATION REPORT WITH AN INTEGRATED  
ENVIRONMENTAL ASSESSMENT**

## REVIEW PLAN

### PROJECT S. BACKWATER RESTORATION (MIDDLE PEORIA POOL) NAVIGATION AND ECOSYSTEM SUSTAINABILITY PROGRAM PROJECT IMPLEMENTATION REPORT WITH AN INTEGRATED ENVIRONMENTAL ASSESSMENT

#### I. PURPOSE AND REQUIREMENTS

**A. The Document.** This document outlines the peer review plan for Project S. Backwater Restoration (Middle Peoria Pool) Ecosystem Restoration Project Implementation Report (PIR) with an integrated Environmental Assessment and Appendices. The project is site-specific project that is part of the Ecosystem Sustainability component of the Navigation and Ecosystem Sustainability Program (NESP). The purpose of the project is solely ecosystem restoration. No navigation improvements will be accomplished as part of the project. Section 216 of the Flood Control Act of 1970 authorized the NESP for study and design. The Chiefs Report for the Navigation and Ecosystem Sustainability Program's comprehensive feasibility study (dated 24 September 2004) recommending the need for further study on several ecosystem restoration projects was approved on 02 December 2004. Construction authorization was provided in the Water Resources Development Act 2007. The PIR for this project builds on the comprehensive feasibility study and provides the site-specific planning details necessary for project approval.

EC 1105-2-410 dated 22 Aug 2008 "Review of Decision Documents" 1) establishes procedures to ensure the quality and credibility of Corps decision documents by adjusting and supplementing the review process and 2) requires that documents have a Review Plan (RP). The Circular applies to all feasibility studies; reevaluation studies; reports or project studies requiring a Chief's Report, authorization by Congress, or a EIS; and large programmatic efforts and their component projects. As a component of NESP, this PIR is covered by the Circular.

**B. The Circular.** The Circular outlines the requirement of the two review approaches—agency technical review (ATR) and independent external peer review (IEPR)—and provides guidance on Corps Planning Centers of Expertise (PCX) involvement in the approaches. This document addresses review of the decision document as it pertains to both approaches and planning coordination with the appropriate Center.

**1. AGENCY TECHNICAL REVIEW (ATR).** Districts are responsible for reviewing the technical aspects of the decision documents through the ATR approach. Agency Technical Review is a critical examination by a qualified person or team that was not involved in the day-to-day technical work that supports the decision document. Agency Technical Review is intended to confirm that such work was done in accordance with clearly established professional principles, practices, codes, and criteria. In addition to technical review, documents should also be reviewed for their compliance with laws and policy. The Circular also requires that DrChecks (<https://www.projnet.org/projnet/>) be used to document all ATR comments, responses, and associated resolution accomplished.

**2. INDEPENDENT EXTERNAL PEER REVIEW (IEPR).** Independent external peer review was added to the existing Corps review process in May 2005. This approach does not replace the standard ATR process, but rather is an added level of review to supplement ATR. The IEPR approach applies when: (1) the total project cost exceeds \$45 million; (2) there is a significant threat to

human life; (3) it is requested by a State Governor of an affected state; (4) it is requested by the head of a Federal or state agency charged with reviewing the project if he/she determines the project is likely to have a significant adverse impact on resources under the jurisdiction of his/her agency after implementation of proposed mitigation (the Chief has discretion to add IEPR under this circumstance; (5) there is significant public dispute regarding the size, nature, or effects of the project; (6) there is significant public dispute regarding the economic or environmental cost or benefit of the project; (7) cases where information is based on novel methods, presents complex challenges for interpretation, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices; and (8) any other circumstance where the Chief of Engineers determines IEPR is warranted.

**3. PCX Coordination.** The Circular outlines PCX coordination requirements in conjunction with preparation of the RP. Districts should prepare the plans in coordination with the appropriate PCX. The appropriate PCX for this project is the National Ecosystem Planning Center of Expertise. The Corps PCXs are responsible for the accomplishment and quality of ATR and IEPR for decision documents covered by the Circular. Centers may conduct the review or manage the review if conducted by others. Reviews are assigned to the appropriate Center based on business programs.

**4. Division Approval.** Final approval of the RP rests with the Division Commander. After the RP is approved by the Division Commander, the district should post the RP to the district website and the Division, PCX, and HQUSACE should provide links to each RP on their website.

## **II. PROJECT DESCRIPTION**

**A. Decision Document.** The purpose of the decision document entitled Project S. Backwater Restoration (Middle Peoria Pool) Ecosystem Restoration Project Implementation Report (PIR) with integrated Environmental Assessment and Appendices is to present the results of a feasibility study undertaken to restore the Middle Peoria Pool. The feasibility phase of this project is not cost shared with a project sponsor. This report provides planning, engineering, and implementation details of the recommended restoration plan to allow final design and construction to proceed subsequent to the approval of the plan.

**B. General Site Description.** Project S. Backwater Restoration (Middle Peoria Pool) is located in Illinois in Peoria and Marshall Counties. This project is focused on the reach of the Illinois River from Chillicothe, IL (RM 190) upstream to Lacon, IL (RM 182).

**C. Project Scope.** The proposed project area is approximately eight river miles in length with an average floodplain width of one mile. The preliminary estimated total project cost is unknown, but will not exceed \$25 million.

**D. Problems and Opportunities.** As part of the Illinois River Comprehensive Study, the Corps conducted an analysis of the rate of loss of backwater capacity and surface area for three backwaters (Babbs Slough-Sawyer Slough, Meadow Lake, and Wightman Lake) in the Peoria Pool. This analysis was based on the comparison of 2001 bathymetry data to data from 1903. Sedimentation rates between 1903 and 2001 for these backwaters ranged from 0.18 inches/year to 0.37 inches/year and the percentage reduction in storage capacity varied from 77.2% (0.78%/year) to 97.0% (0.99%/year). System wide, a dramatic loss in productive backwaters areas along the Illinois River due to excessive sedimentation is limiting ecological health and altering the character of this unique floodplain river system. In particular, the Illinois River has lost much of its critical spawning, nursery, and overwintering areas for fish, habitat for diving ducks and aquatic species, and backwater aquatic plant communities.

This project will look at opportunities to address these problems through various alternatives including dredging configurations, placement options, and technologies and approaches for the purpose of ecosystem restoration outside of the navigation channel. There is great potential for adaptive management activities with the backwaters based on their proximity, different size openings to the main channel, sizes, etc. Dredging options currently being studied include channels and more expansive areas with varied depths. Placement Options include: (a) on existing islands (increase elevations in selected areas to increase vegetation diversity and potential for mast trees); (b) creation of new islands (create habitat and potentially reduce sediment resuspension from wind and waves); (c) on adjacent agricultural lands; and (d) Beneficial reuse on brownfields, former mined lands, stockpile, gravel pits, etc.

**E. Product Delivery Team.** The product delivery team (PDT) is comprised of those individuals directly involved in the development of the decision document. Contact information and disciplines are listed below.

First	Last	Discipline	Phone	Email
REMOVED	REMOVED	Team Leader/planning	REMOVED	REMOVED
REMOVED	REMOVED	Environmental engineering/Civil design	REMOVED	REMOVED
REMOVED	REMOVED	Biology/NEPA	REMOVED	REMOVED
REMOVED	REMOVED	Hydraulics/hydrology	REMOVED	REMOVED
REMOVED	REMOVED	Socio-economics	REMOVED	REMOVED
REMOVED	REMOVED	Cost engineering	REMOVED	REMOVED
REMOVED	REMOVED	Real Estate/lands	REMOVED	REMOVED
REMOVED	REMOVED	Cultural resources	REMOVED	REMOVED
REMOVED	REMOVED	Geotechnical engineering	REMOVED	REMOVED

**F. Vertical Team.** The Vertical Team includes District management, District Support Team (DST) and Regional Integration Team (RIT) staff as well as members of the Planning of Community of Practice (PCoP). The District project manager is REMOVED, CEMVR-PM-M, at REMOVED. The regional project manager is REMOVED. DST manager for this project is REMOVED, CEMVD-PD-SP at REMOVED. The RIT manager is REMOVED at REMOVED. The PCoP contact is REMOVED, CEMVD-PD-N at REMOVED.

### III. AGENCY TECHNICAL REVIEW PLAN

As outlined above in paragraph 1.b. (1), the District is responsible for ensuring adequate technical review of decision documents. The responsible PDT District of this decision document is Rock Island (MVR). Rock Island District requests that the PCX nominate an ATR Manager. It is recommended that St. Paul District personnel comprise at least a portion of the ATR team as the District has many years of experience with large river system backwater restoration like the kind proposed for the Middle Peoria Pool.

**A. General.** An ATR Manager shall be designated for the ATR process. The proposed ATR Manager for this project will be determined by the PCX. As required by EC 1105-2-410, the manager will be from outside the PDT’s Division. The proposed scope of work for the ATR Process is provided in Appendix A. In general, the ATR Manager is responsible for providing information necessary for setting up the review, communicating with the PDT Leader, providing a summary of critical review comments, collecting grammatical and editorial comments from the ATR team (ATRT), ensuring that the ATRT has adequate funding to perform the review, facilitating the resolution of the comments, and certifying that the ATR has been conducted and resolved in accordance with policy.

**B. Team.** The ATRT will be comprised of individuals that have not been involved in the development of the decision document and will be chosen based on expertise, experience, and/or skills. The members will roughly mirror the composition of the PDT. The ATRT members and their areas of expertise are:

First	Last	Discipline	Phone	Email
TBD		ATR Manager/plan formulation		<a href="mailto:@usace.army.mil">@usace.army.mil</a>
TBD		Civil design		<a href="mailto:@usace.army.mil">@usace.army.mil</a>
TBD		Biology/NEPA		<a href="mailto:@usace.army.mil">@usace.army.mil</a>
TBD		Hydraulics/hydrology		<a href="mailto:@usace.army.mil">@usace.army.mil</a>
TBD		Socio-economics		<a href="mailto:@usace.army.mil">@usace.army.mil</a>
TBD		Cost engineering <sup>1</sup>		<a href="mailto:@usace.army.mil">@usace.army.mil</a>
TBD		Real estate/Lands		<a href="mailto:@usace.army.mil">@usace.army.mil</a>
TBD		Cultural resources		<a href="mailto:@usace.army.mil">@usace.army.mil</a>
TBD		Geotechnical engineering		<a href="mailto:@usace.army.mil">@usace.army.mil</a>

<sup>1</sup> The cost engineering team member nomination will be coordinated with the NWW Cost Estimating Directory of Expertise as required. The Directory will decide if the cost estimate will need to be reviewed by Directory Staff.

**C. Timing and Schedule**

1. Throughout the development of this document, the team will hold planning milestone reviews to ensure planning quality. Senior staff and subject matter experts from the PDT District and members of the vertical team (DST, Planning CoP, RIT) will attend the reviews and provide comments on the product to date. The WRDA implementation guidance for the program does not require a Feasibility Scoping Meeting with Corps Headquarters. However, the team will conduct a milestone review at the similar point in the planning process. The planning milestones are described in the table below:

<b>Review Milestone</b>	<b>ATR Team Involvement</b>	<b>Scheduled Date</b>
Planning Milestone Review #1		May 2008
Review of Draft Report	<b>X (partial team)</b>	October 2008
Planning Milestone Review #2/Feasibility Scoping Meeting	<b>X (partial team)</b>	November 2008
Planning Milestone Review #3	<b>X (partial team)</b>	February 2009
Review of Draft Report	<b>X</b>	March 2009
ATR of Draft Report	<b>X</b>	June 2009
Alternative Formulation Briefing (AFB)	<b>X</b>	July 2009
AFB Policy Memo Issued		August 2009
Interim ATR Certification	<b>X</b>	August 2009
ATR After Action Review	<b>X</b>	August 2009
Public and Agency Review of Draft Report		September 2009
ATR of Final Report (if needed)	<b>X</b>	October 2009
Final Report Submission		November 2009
Mississippi Valley Division Headquarters Review		January 2010

2. The ATR process is integrated with the planning process. The timeline above shows when the reviews will take place. Involvement of the ATR team is indicated in the second column of the table. Actual dates will vary depending on availability of funding. It may be necessary for the ATR team to review the report after the Public and Agency Reviews if substantial changes to the report are made as a result of review comments. The ATR team leader, in conjunction with the vertical team, will be asked to make this determination

#### **IV. IEPR PLAN**

A. This decision document will present the details of a feasibility study undertaken to restore the Project S. Backwater Restoration (Middle Peoria Pool) as described in paragraph 2 above. This critical restoration project is part of a larger program aimed at restoration of the Upper Mississippi River Basin. This project does not meet the IEPR standards outlined in the Circular.

**1. Project Magnitude.** The magnitude of this project is determined as low. The cost of the project will likely not exceed \$25 million. It is assumed that the amount of benefits accrued by the project will be worth the cost. The scale of the project is limited because the project construction footprint will be limited. While a construction footprint has not been identified, similar projects of this nature, already constructed, range from 20-1000 acres. The project is not considered complex and involves restoration of aquatic habitat through the implementation of standard concepts. The project will have positive long term and cumulative effects.

**2. Project Risk.** This project is considered low risk overall. The potential for failure is low because restoration of wetlands, islands, natural levees and backwater lakes is a straightforward concept with numerous successful national applications. The potential for controversy regarding project implementation is low because the recommended plan will take into account the public's concerns. A socio-economic analysis will be prepared and at least one public meeting will be held. The uncertainty of success of the project is low because the methods used for evaluating the

project are standard and the concept of implementing deepwater habitat, wetland and moist soil plant restoration is not innovative. The ecosystem has not reached an irreversible state so it is likely that a restoration effort of the magnitude proposed will be successful. No influential scientific information will likely be generated from this project.

**3. Vertical Team Consensus.** The vertical team concurrence that the subject matter covered in the decision document is NOT novel, controversial, or precedent setting and the project will not have significant interagency interest or significant economic, environmental or social effects will be indicated by the Division approval of the peer review plan.

4. Therefore, a separate IEPR will not be conducted on the decision document. The ATR, Public, and Agency Review will serve as the main review approaches.

## **V. PUBLIC AND AGENCY REVIEW**

A. Public review of the document will occur after issuance of the AFB policy guidance memo and concurrence that the document is ready for public release. As such, public comments other than those provided at any public meetings held during the planning process will not be available to the review team.

B. Public review of this document will begin approximately one month after the completion of the ATR process and issuance of the policy guidance memo. The estimated timeframe for this review is March 2009. The period will last 30 days.

C. The public review of necessary State or Federal permits will also take place during this period.

D. A formal State and Agency review will occur concurrently with the public review. However, it is anticipated that intensive coordination with these agencies will have occurred concurrent with the planning process. A summary of this coordination will be included in all drafts of the report. Possible public concern issues are public access, real estate, and fish and waterfowl hunting restrictions. A summary of public comments to date will be included in all the drafts of the report. No possible State and Agency issues are apparent at this time. No possible coordinating parties' issues are apparent at this time.

E. Upon completion of the review period, comments will be consolidated in a matrix and addressed, if needed. A comment resolution meeting will take place if needed to decide upon the best resolution of comments. A summary of the comments and resolutions will be included in the document.

## **VI. MODEL CERTIFICATION**

Suitable evaluation methodology will be established when project measures have been identified that can address the ecosystem restoration needs of the reach. The proposed evaluation methodology will be coordinated with the Ecosystem PCX when the Planning Milestone Review #2 is reached.

## **VII. PCX COORDINATION**

The appropriate PCX for this document is the National Ecosystem Planning Center of Expertise. This review plan will be submitted through the PDT District Planning Chief to the PCX Director, Rayford Wilbanks, for concurrence. Because it was determined that this project is low magnitude and low risk, an IEPR will not be required. As such, the PCX was requested to review and comment on the sufficiency of the ATR team proposed in paragraph 3.b. above and will provide quality assurance of

the ATR. The approved review plan will be posted to the District website and linked to the PCX and HQUSACE websites. Any public comments on the review plan will be collected by the Office of Water Project Review (OWPR) and provided to the PDT District for resolution and incorporation if needed.

**VIII. APPROVAL**

The PDT will carry out the review plan as described. The Team Leader will submit the plan to the PDT District Planning Chief for approval. Coordination with PCX will occur through the PDT District Planning Chief. Signatures by the individuals below indicate approval of the plan as proposed.

\_\_\_\_\_  
REMOVED  
Team Leader, Project S. Backwater Restoration (Middle Peoria Pool)  
Product Delivery Team  
Date \_\_\_\_\_

\_\_\_\_\_  
REMOVED  
Ecosystem Technical Manager,  
Navigation and Ecosystem Sustainability Program  
Date \_\_\_\_\_

\_\_\_\_\_  
REMOVED  
Plan Formulation Technical Manager,  
Navigation and Ecosystem Sustainability Program  
Date \_\_\_\_\_

\_\_\_\_\_  
REMOVED  
District Project Manager,  
Navigation and Ecosystem Sustainability Program  
Date \_\_\_\_\_

\_\_\_\_\_  
REMOVED  
Chief, Planning and Policy Branch  
Rock Island District  
Date \_\_\_\_\_