
Three Rivers Southeast Arkansas Study

Appendix D: Clean Water Act Compliance

THREE RIVERS SOUTHEAST ARKANSAS

Introduction

The Three Rivers Southeast Arkansas Feasibility Study (Three Rivers Study) is being conducted by the U. S. Army Corps of Engineers (USACE) to recommend modifications to the McClellan-Kerr Arkansas River Navigation System (MKARNS) that would provide long-term sustainable navigation and promote the continued safe and reliable economic use of the MKARNS.

Study Authority

Section 216, Flood Control Act of 1970 (Public Law 91-611) authorizes a feasibility study due to examine significantly changed physical and economic conditions in the Three Rivers study area. The study will evaluate and recommend modifications for long-term sustainable navigation on the MKARNS.

Study Purpose

There is a risk of a breach of the existing Soil Cement Structure near the entrance channel to the MKARNS on the White River. During high water events, Mississippi backwater can create significant head differentials between the Arkansas and White rivers. The existing Soil Cement Structure in the isthmus between the Arkansas and White rivers is subject to damaging overtopping, flanking and seepage flows that could result in a catastrophic breach and failure of the system. The uninhibited development of a breach, or cutoff, has the potential to create navigation hazards, increase the need for dredging, and adversely impact an estimated 200 acres of bottomland hardwood forest in the isthmus.

Based on the Section 216 authority, the study is investigating alternatives that would minimize the risk of cut off development, including reducing the cost of maintenance associated with preventing cutoff development, while minimizing impacts to the surrounding ecosystem.

Non-Federal Sponsor

The Arkansas Waterways Commission is the non-federal sponsor for the Three Rivers Southeast Arkansas Study. An amended feasibility cost-sharing agreement was executed in June 2015.

Recommended Plan

The recommended plan consists of a newly constructed 2.5-mile long containment structure at an elevation of 157 feet above mean sea level (ft msl) that would begin on natural high ground just south and west of the existing Melinda Structure located on the south side of Owens Lake. It would continue east and cross the Melinda head cut south of the existing Melinda Structure. From there, it would head northeast and connect to the existing Soil Cement Structure north of Jim Smith Lake. It continues to follow the existing Soil Cement Structure alignment terminating at the existing Historic Closure Structure. The recommended plan also includes a relief opening at the Historic Cutoff to an elevation 145 ft msl regardless of the width. In addition, the existing Melinda Structure would be demolished in place and the debris would be pushed into the deep scour hole at the top of the head cut. Finally, adding an opening in the existing Owens Lake Structure between Owens Lake and the White River would prevent water from backing up into Owens Lake, which would impact the bottomland hardwood forest. The opening would be designed to allow fish passage into Owens Lake.

EVALUATION OF SECTION 404(b)(1) GUIDELINES (SHORT FORM)

PROPOSED PROJECT: Three Rivers Southeast Arkansas Integrated Feasibility Report and Environmental Assessment – Recommended Plan

	Yes	No*
1. Review of Compliance (230.10(a)-(d))		
A review of the proposed project indicates that:		
a. The placement represents the least environmentally damaging practicable alternative and, if in a special aquatic site, the activity associated with the placement must have direct access or proximity to, or be located in the aquatic ecosystem, to fulfill its basic purpose (if no, see section 2 and information gathered for EA alternative).	X	
b. The activity does not appear to:		
1) Violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act;	X	
2) Jeopardize the existence of Federally-listed endangered or threatened species or their habitat; and	X	
3) Violate requirements of any Federally-designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies).	N/A	
c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, an economic values (if no, see values, Section 2)	X	
d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see Section 5)	X	

	Not Applicable	Not Significant	Significant *
2. Technical Evaluation Factors (Subparts C-F) (where a 'Significant' category is checked, add explanation below.)			
a. Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)		X	

1) Substrate impacts		X	
2) Suspended particulates/turbidity impacts		X	
3) Water column impacts		X	
4) Alteration of current patterns and water circulation		X	
5) Alteration of normal water fluctuation/hydroperiod		X	
6) Alteration of salinity gradients	X		
b. Biological Characteristics of the Aquatic Ecosystem (Subpart D)			
1) Effect on threatened/endangered species and their habitat		X	
2) Effect on the aquatic food web		X	
3) Effect on other wildlife (mammals, birds, reptiles and amphibians)		X	
	Not Applicable	Not Significant	Significant *
2. Technical Evaluation Factors (Subparts C-F) (where a 'Significant' category is checked, add explanation below.)			
c. Special Aquatic Sites (Subpart E)			
1) Sanctuaries and refuges		X	
2) Wetlands		X	
3) Mud flats		X	
4) Vegetated shallows		X	
5) Coral reefs	X		
6) Riffle and pool complexes	X		
d. Human Use Characteristics (Subpart F)			
1) Effects on municipal and private water supplies	X		
2) Recreational and Commercial fisheries impacts		X	
3) Effects on water-related recreation		X	
4) Aesthetic impacts		X	

5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves		X	
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	Yes
3. Evaluation of Dredged or Fill Material (Subpart G)	
a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material (check only those appropriate)	
1) Physical characteristics	X
2) Hydrography in relation to known or anticipated sources of contaminants	
3) Results from previous testing of the material or similar material in the vicinity of the project	
4) Known, significant sources of persistent pesticides from land runoff or percolation	
5) Spill records for petroleum products or designated (Section 311 of Clean Water Act) hazardous substances	
6) Other public records of significant introduction of contaminants from industries, municipalities or other sources	
7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	

List appropriate references:

- 1 (a) - Chapter 4 - Water Resources/Surface Water/Clean Water (pages 78-79).
- 1 (b)(1) - Chapter 4 - Water Resources/Surface Water/Clean Water Act (page 78).
- 1 (b)(2) - Appendix E - Biological Evaluation. Chapter 4 - Biological Resources/Threatened and Endangered Species Effects Determination (pages 87-90).
- 1 (c) - Chapter 4.
- 1 (d) - Chapter 4 - Water Resources/Surface Water/Clean Water (pages 78-79); Appendix C - Engineering #9 & 10 (page 14).
- 2 (a)(1-5) - Chapter 4 - Water Resources/Surface Water/Clean Water Act (pages 77-78).
- 2 (b)(1-3) - Chapter 4 - Biological Resources (page 83-87).
- 2 (c)(1) - Chapter 4 - Biological Resources/Fish and Wildlife Management (page 87).
- 2 (c)(2) - Chapter 4 - Water Resources/Surface Water/Clean Water Act (page 78).
- 2(c)(3-4) - Chapter 4 - Biological Resources/Aquatic Habitat (page 84).
- 2 (d)(2) - Chapter 4 - Biological Resources (page 83).
- 2 (d)(3) - Chapter 4 - Recreation and Aesthetics Section (page 89).
- 2 (d)(4) - Chapter 4 - Recreation and Aesthetics Section (page 89).
- 2 (d)(5) - Chapter 4 - Biological Resources/Fish and Wildlife Management (page 87); Construction of the new containment structure will affect <5 acres of USFWS property.
- 3 (a) - Appendix C - Engineering/#9 (page 14).

	Yes	No
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b. An evaluation of the appropriate information in 3a above indicates that there is reason to believe the proposed dredged or fill material is not a carrier of contaminants, or that levels of contaminants are substantively similar at extraction and placement sites and not likely to degrade the placement sites, or the material meets the testing exclusion criteria.	X	
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	Yes
4. Placement Site Delineation (230.11(f))	
a. The following factors as appropriate, have been considered in evaluating the placement site:	
1) Depth of water at placement site	X
2) Current velocity, direction, and variability at placement site	
3) Degree of turbulence	
4) Water column stratification	
5) Discharge vessel speed and direction	
6) Rate of discharge	
7) Fill material characteristics (constituents, amount, and type of material, settling velocities)	X
8) Number of discharges per unit of time	
9) Other factors affecting rates and patterns of mixing (specify)	

List appropriate references:

- Appendix B – H&H; Appendix C - Engineering

	Yes	No
b. An evaluation of the appropriate factors in 4a above indicates that the placement site and/or size of mixing zone are acceptable.	X	

	Yes	No
5. Actions to Minimize Adverse Effects (Subpart H)		
All appropriate and practicable steps have been taken, through application of recommendations of 230.70-230.77 to ensure minimal adverse effects of the proposed discharge.	X	

List actions taken:

- 1) Best Management Practices for construction will be implemented at all construction sites to minimize possible adverse effects. Chapter 4 – Future With-Project Conditions; Chapter 5 - Description of Recommended Plan; Appendix L – BMPs.


	Yes	No*
6. Factual Determination (230.11)		
A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short- or long-term environmental effects of the proposed discharge as related to:		
a. Physical substrate at the placement site (review Sections 2a. 3, 4, and 5 above)	X	
b. Water circulation, fluctuation and salinity (review Sections 2a. 3, 4, and 5)	X	
c. Suspended particulates/turbidity (review Sections 2a. 3, 4, and 5)	X	
d. Contaminant availability (review Sections 2a. 3, and 4)	X	
e. Aquatic ecosystem structure and function (review Sections 2b and c, 3, and 5)	X	
f. Placement site (review Sections 2, 4, and 5)	X	
g. Cumulative impacts on the aquatic ecosystem	X	
h. Secondary impacts on the aquatic ecosystem	X	

7. Evaluation Responsibility
a. This evaluation was prepared by: Craig Hilburn Position: Biologist, Regional Planning and Environmental Center

8. Findings	Yes
a. The proposed placement site for discharge of or fill material complies with the Section 404(b)(1) Guidelines.	X
b. The proposed placement site for discharge of dredged or fill material complies with the Section 404(b)(1) Guidelines with the inclusion of the following conditions:	

List of conditions:

c. The proposed placement site for discharge of dredged or fill material does not comply with the Section 404(b)(1) Guidelines for the following reason(s):	
1) There is a less damaging practicable alternative	
2) The proposed discharge will result in significant degradation of the aquatic ecosystem	

3) The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem	
3/27/18 Date	 Douglas Sims, PMP, RPA Chief, Environmental Compliance Branch

NOTES:

- * A negative, significant, or unknown response indicates that the permit application may not be in compliance with the Section 404(b)(1) Guidelines.

Negative responses to three or more of the compliance criteria at the preliminary stage indicate that the proposed projects may not be evaluated using this "short form" procedure. Care should be used in assessing pertinent portions of the technical information of items 2a-e before completing the final review of compliance.

Negative response to one of the compliance criteria at the final stage indicates that the proposed project does not comply with the Guidelines. If the economics of navigation and anchorage of Section 404(b)(2) are to be evaluated in the decision-making process, the "short form" evaluation process is inappropriate.

**APPENDIX D
EVALUATION OF SECTION 404(b)(1) GUIDELINES**

**PROPOSED PROJECT: THREE RIVERS SOUTHEAST ARKANSAS
INTEGRATED FEASIBILITY REPORT AND ENVIRONMENTAL
ASSESSMENT – FWOP**

	Yes	No*
1. Review of Compliance (230.10(a)-(d))		
A review of the proposed project indicates that:		
a. The placement represents the least environmentally damaging practicable alternative and, if in a special aquatic site, the activity associated with the placement must have direct access or proximity to, or be located in the aquatic ecosystem, to fulfill its basic purpose (if no, see section 2 and information gathered for EA alternative).		X
b. The activity does not appear to:		
1) Violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act;	X	
2) Jeopardize the existence of Federally-listed endangered or threatened species or their habitat; and	X	
3) Violate requirements of any Federally-designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies).	N/A	
c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, an economic values (if no, see values, Section 2)	X	
d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see Section 5)	X	

	Not Applicable	Not Significant	Significant *
2. Technical Evaluation Factors (Subparts C-F) (where a 'Significant' category is checked, add explanation below.)			

a. Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)			
1) Substrate impacts		X	
2) Suspended particulates/turbidity impacts		X	
3) Water column impacts		X	
4) Alteration of current patterns and water circulation		X	
5) Alteration of normal water fluctuation/hydroperiod		X	
6) Alteration of salinity gradients	X		
b. Biological Characteristics of the Aquatic Ecosystem (Subpart D)			
1) Effect on threatened/endangered species and their habitat		X	
2) Effect on the aquatic food web		X	
3) Effect on other wildlife (mammals, birds, reptiles and amphibians)		X	
	Not Applicable	Not Significant	Significant *
2. Technical Evaluation Factors (Subparts C-F) (where a 'Significant' category is checked, add explanation below.)			
c. Special Aquatic Sites (Subpart E)			
1) Sanctuaries and refuges		X	
2) Wetlands			X
3) Mud flats		X	
4) Vegetated shallows		X	
5) Coral reefs	X		
6) Riffle and pool complexes	X		
d. Human Use Characteristics (Subpart F)			
1) Effects on municipal and private water supplies	X		
2) Recreational and Commercial fisheries impacts		X	
3) Effects on water-related recreation		X	
4) Aesthetic impacts		X	

5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves			X
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	Yes
3. Evaluation of Dredged or Fill Material (Subpart G)	
a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material (check only those appropriate)	
1) Physical characteristics	X
2) Hydrography in relation to known or anticipated sources of contaminants	
3) Results from previous testing of the material or similar material in the vicinity of the project	
4) Known, significant sources of persistent pesticides from land runoff or percolation	
5) Spill records for petroleum products or designated (Section 311 of Clean Water Act) hazardous substances	
6) Other public records of significant introduction of contaminants from industries, municipalities or other sources	
7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	

List appropriate references:

- 1 (a) - Chapter 2 – Impacts from FWOP Actions (pages 55-66).
- 1 (b)(1) - Chapter 2 - Water Quality (page 59).
- 1 (b)(2) – Chapter 2 – Biological Resources (page 61).
- 1 (b)(3) - Not applicable; project is an inland site.
- 1 (c) - Chapter 2 - Water Resources (pages 56-60).
- 1 (d) - Chapter 2 - Water Resources/Water Quality (page 59)
- 2 (a)(1-5) - Chapter 2 - Water Resources (pages 56-60).
- 2(a)(6) – Not applicable.
- 2 (b)(1-3) - Chapter 2 - Biological Resources (page 61).
- 2 (c)(1) - Chapter 2 - Biological Resources (page 61).
- 2 (c)(2) – Chapter 2 – Land Use (page 49); Biological Resources (pages 58-59). A complete breach would destroy 200+ acres of forested wetlands.
- 2 (c)(3-4) - Chapter 2 - Biological Resources (pages 58-59).
- 2 (d)(1) – Not applicable.
- 2 (d)(2-4) - Chapter 2 – Recreation and Aesthetics (page 62).
- 2 (d)(5) – The loss of 200+ acres of forested wetlands that would occur with a breach will include some USFWS lands.

- 3 (a) - Appendix C - Engineering/#9.

	Yes	No
b. An evaluation of the appropriate information in 3a above indicates that there is reason to believe the proposed dredged or fill material is not a carrier of contaminants, or that levels of contaminants are substantively similar at extraction and placement sites and not likely to degrade the placement sites, or the material meets the testing exclusion criteria.	X	

	Yes
4. Placement Site Delineation (230.11(f))	
a. The following factors as appropriate, have been considered in evaluating the placement site:	
1) Depth of water at placement site	X
2) Current velocity, direction, and variability at placement site	
3) Degree of turbulence	
4) Water column stratification	
5) Discharge vessel speed and direction	
6) Rate of discharge	
7) Fill material characteristics (constituents, amount, and type of material, settling velocities)	X
8) Number of discharges per unit of time	
9) Other factors affecting rates and patterns of mixing (specify)	

List appropriate references:

- 4(a)1) & 7): Appendix B – H&H; Appendix C - Engineering

	Yes	No
b. An evaluation of the appropriate factors in 4a above indicates that the placement site and/or size of mixing zone are acceptable.	X	

	Yes	No
5. Actions to Minimize Adverse Effects (Subpart H)		
All appropriate and practicable steps have been taken, through application of recommendations of 230.70-230.77 to ensure minimal adverse effects of the proposed discharge.	X	

List actions taken:

Best Management Practices for construction will be implemented at all construction sites to minimize possible adverse effects. Chapter 2 – Future Without-Project Condition/Assumptions; Appendix L - BMPs.

	Yes	No*
6. Factual Determination (230.11)		
A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short- or long-term environmental effects of the proposed discharge as related to:		
a. Physical substrate at the placement site (review Sections 2a. 3, 4, and 5 above)	X	
b. Water circulation, fluctuation and salinity (review Sections 2a. 3, 4, and 5)	X	
c. Suspended particulates/turbidity (review Sections 2a. 3, 4, and 5)	X	
d. Contaminant availability (review Sections 2a. 3, and 4)	X	
e. Aquatic ecosystem structure and function (review Sections 2b and c, 3, and 5)	X	
f. Placement site (review Sections 2, 4, and 5)		X
g. Cumulative impacts on the aquatic ecosystem	X	
h. Secondary impacts on the aquatic ecosystem	X	

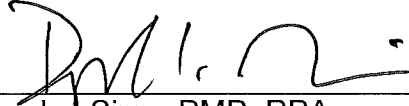
- 6f – Chapter 2 - Biological Resources (pages 58-59) – impacts to wetlands.

7. Evaluation Responsibility
a. This evaluation was prepared by: Craig Hilburn Position: Biologist, Regional Planning & Environmental Center

8. Findings	Yes
a. The proposed placement site for discharge of or fill material complies with the Section 404(b)(1) Guidelines.	
b. The proposed placement site for discharge of dredged or fill material complies with the Section 404(b)(1) Guidelines with the inclusion of the following conditions:	X

List of conditions:

c. The proposed placement site for discharge of dredged or fill material does not comply with the Section 404(b)(1) Guidelines for the following reason(s):	X
1) There is a less damaging practicable alternative	X

2) The proposed discharge will result in significant degradation of the aquatic ecosystem	
3) The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem	
<p>11 April 18</p> <hr/> Date	 <hr/> Douglas Sims, PMP, RPA Chief, Environmental Compliance Branch

- 8.c.1) – Rationale for decision: Chapter 2 - Biological Resources (pages 58-59) – impacts to wetlands.

NOTES:

* A negative, significant, or unknown response indicates that the permit application may not be in compliance with the Section 404(b)(1) Guidelines.

Negative responses to three or more of the compliance criteria at the preliminary stage indicate that the proposed projects may not be evaluated using this “short form” procedure. Care should be used in assessing pertinent portions of the technical information of items 2a-e before completing the final review of compliance.

Negative response to one of the compliance criteria at the final stage indicates that the proposed project does not comply with the Guidelines. If the economics of navigation and anchorage of Section 404(b)(2) are to be evaluated in the decision-making process, the “short form” evaluation process is inappropriate.

Three Rivers Southeast Arkansas Study
Section 401
Water Quality Certification



A R K A N S A S
Department of Environmental Quality

January 24, 2018

Colonel Robert G. Dixon, District Commander
Little Rock District Corps of Engineers
P. O. Box 867
Little Rock, Arkansas 72203-0867

RE: 401 Water Quality Certification **ADEQ No. 20170392**–U.S. Army Corp of Engineers-Three Rivers Study, Arkansas and Desha County, Arkansas

Dear Colonel Dixon:

The Arkansas Department of Environmental Quality (“ADEQ”) has completed its review of the above referenced project for the placement of dredge and fill material in waters of the United States associated with the Three Rivers Study. This project is located in Section 19, 29,30,32 and 33, Township 8 South, Range 1 West, in Arkansas and Desha County, Arkansas.

ADEQ has determined that there is a reasonable assurance that this activity will be conducted in a manner which, according to the Arkansas Pollution Control and Ecology Commission’s Regulation No.2, will not physically alter a significant segment of the waterbody and will not violate the water quality criteria.

Pursuant to §401(a)(1) of the Clean Water Act, the ADEQ hereby issues water quality certification for this project: **ADEQ No. 20170392** contingent upon the following conditions:

- 1) The applicant may need to obtain a Short Term Activity Authorization (STAA) from ADEQ before performing work in the wetted area of any stream. More information can be obtained by contacting the ADEQ Office of Water Quality Planning Section at 501-682-0946.
- 2) The applicant shall implement all practicable best management practices (BMPs) to avoid excessive impacts of sedimentation and turbidity to the surface waters.
- 3) The applicant will take all reasonable measures to prevent the spillage or leakage of any chemicals, oil, grease, gasoline, diesel, or other fuels. In the unlikely event such spillage or leakage occurs, the applicant must contact ADEQ immediately.
- 4) The applicant shall limit construction to low flow periods as much as possible to minimize adverse effects on water quality and aquatic life.
- 5) If a construction site will disturb equal to or greater than one (1) acre and less than five (5) acres, the applicant shall comply with the requirements in Reg. 6.203 for Stormwater discharge associated with a small construction site, as defined in APC&EC Regulation No. 6. If the construction site will disturb five (5) acres or more, the applicant shall comply with the terms of the Stormwater Construction General Permit Number ARR150000 prior to the start of construction. BMPs must be implemented regardless of the size. More information can be obtained by contacting the NPDES Stormwater Section of ADEQ at (501) 682-0621.

In issuing this certification, ADEQ does not assume any liability for the following:

- A. Damages to the proposed project, or uses thereof, as a result of other permitted or unpermitted activities or from natural causes.
- B. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity specified in this certification.
- C. Design or construction deficiencies associated with this proposed project.

Please contact Ms. Lazendra Hairston, at (501) 682-0946 if you have any questions regarding this certification.

Sincerely,

A handwritten signature in blue ink, appearing to read "Caleb J. Osborne", with a long horizontal flourish extending to the right.

Caleb J. Osborne
Associate Director, Office of Water Quality

cc: Craig Hilburn, USACE, David.C.Hilburn@usace.army.mil
Wanda Boyd, EPA,
Melvin Tobin, USFWS,
Jennifer Sheehan, AGFC,
Steve Henderson, ADEQ District 6 Inspector