

DREDGED MATERIAL PLACEMENT

**UPPER MISSISSIPPI RIVER POOL 16
RIVER MILES 475.0-476.6
LINWOOD DREDGE CUT**

ENVIRONMENTAL ASSESSMENT

**SCOTT COUNTY, IOWA
ROCK ISLAND COUNTY, ILLINOIS**

DRAFT

April 2021



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



**US Army Corps
of Engineers®**
St. Paul District

PREFACE

This Environmental Assessment is an after-the-fact National Environmental Policy Act (NEPA) compliance document. The emergency situation and time constraints prevented completion of NEPA documentation prior to the accomplishment of emergency work. NEPA documentation for the emergency dredging event will be accomplished after-the-fact as per Engineering Regulation 200-2-2, *Procedures for Implementing NEPA*, Paragraph 8, *Emergency Actions*, which allow the District Commander to respond to emergency situations to prevent or reduce imminent risk of life, health, property, or severe economic losses without first preparing specific documentation.

The purpose of this dredging Project and associated dredge placement site was to maintain a commercial navigation channel for the transport of commodities, etc., and thus avoid disruption to transport of those commodities, and to maintain the channel in such a manner so as to avoid potential loss of life, personal injury, or property damage that may result from inadequate maintenance of the channel and subsequent groundings and/or closures of the main channel. The maintenance of a reliable federal navigation system is essential to the economic well-being of the Midwest and the Nation.

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1. AUTHORITY AND PURPOSE

The Rivers and Harbors Acts of July 3, 1930, February 1932, and August 30, 1935; and a Resolution of the House Committee on Flood Control of September 18, 1944, authorized the Nine-foot Navigation Channel Project, and subsequent channel maintenance dredging in support of continued Project operation.

Under the authority delegated by the Secretary of the Army and in accordance with Section 404 of the Clean Water Act (CWA) of 1977, as amended, the U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged or fill material into waters of the United States. In addition, the Corps is guided by the dredging regulations published in the Code of Federal Regulations (CFR), 33 CFR Parts 335-338.

One of the missions of the Corps' Rock Island District (District) is to provide safe, reliable, efficient, and environmentally sustainable waterborne transportation systems. Channel maintenance, including dredging and dredged material placement, supports this mission.

The purpose of the Linwood Dredge Cut Project (Project) is to maintain a commercial navigation channel for the transport of commodities, etc., and thus avoid disruption to transport of those commodities, and to maintain the channel in such a manner so as to avoid potential loss of life, personal injury, or property damage that may result from inadequate maintenance of the channel and subsequent groundings and/or closures of the main channel. The maintenance of a reliable federal navigation system is essential to the economic well-being of the Midwest and the Nation.

The decision to be made at the time was to identify the most suitable placement site/s for the dredged material as there was an immediate need to dredge approximately 68,000 cubic yards (CYs) of material between river miles (RM) 475.0-476.6, referred to as the Linwood Reach. The Linwood Reach has no historic dredge material placement sites for use by hydraulic dredge which necessitates preparation of this Environmental Assessment (EA) as a single-purpose Project that focuses on the Linwood dredge cut and its potential placement sites.

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2. PROJECT LOCATION AND DESCRIPTION

The Linwood Reach Dredge Cut and Material Placement Sites Project area is located on the Upper Mississippi River (UMR) between RM 475.0 and 476.6 approximately 3 miles upstream of Buffalo, Iowa and Andalusia, Illinois. Figure EA-1 is a map of the Project area. Figure EA-2 is a map of Potential Placement Site Identification.

In order to maintain the Nine-foot navigation channel at the Linwood Reach, the District performed maintenance dredging. The dredged material consisted predominantly of medium to fine dark brown sand. Dredged material was removed from the channel by hydraulic dredging performed by a cutterhead dredge, which discharges material to a selected placement site via a floating pipeline. For this Project, approximately 68,000 CYs of material was placed on one or more selected bank placement sites.

Dredged material was placed up to but not exceeding the Ordinary High Water Mark. The material would be graded after placement, with side slopes falling at approximately a 3H:1V slope.

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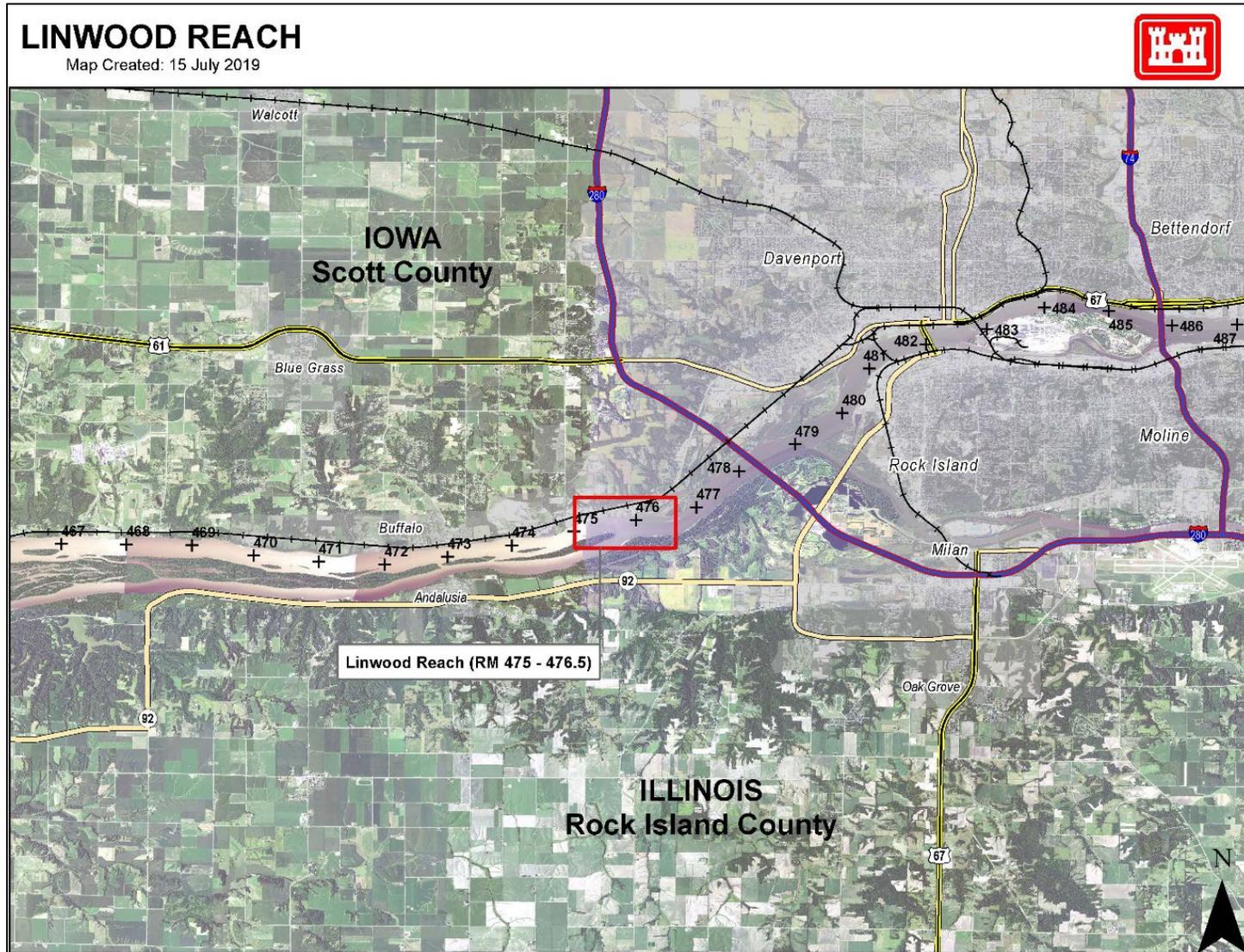


Figure EA-1. Map of the Project Area

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LINWOOD REACH - Potential Placement Site Identification

Map created 15 April 2021

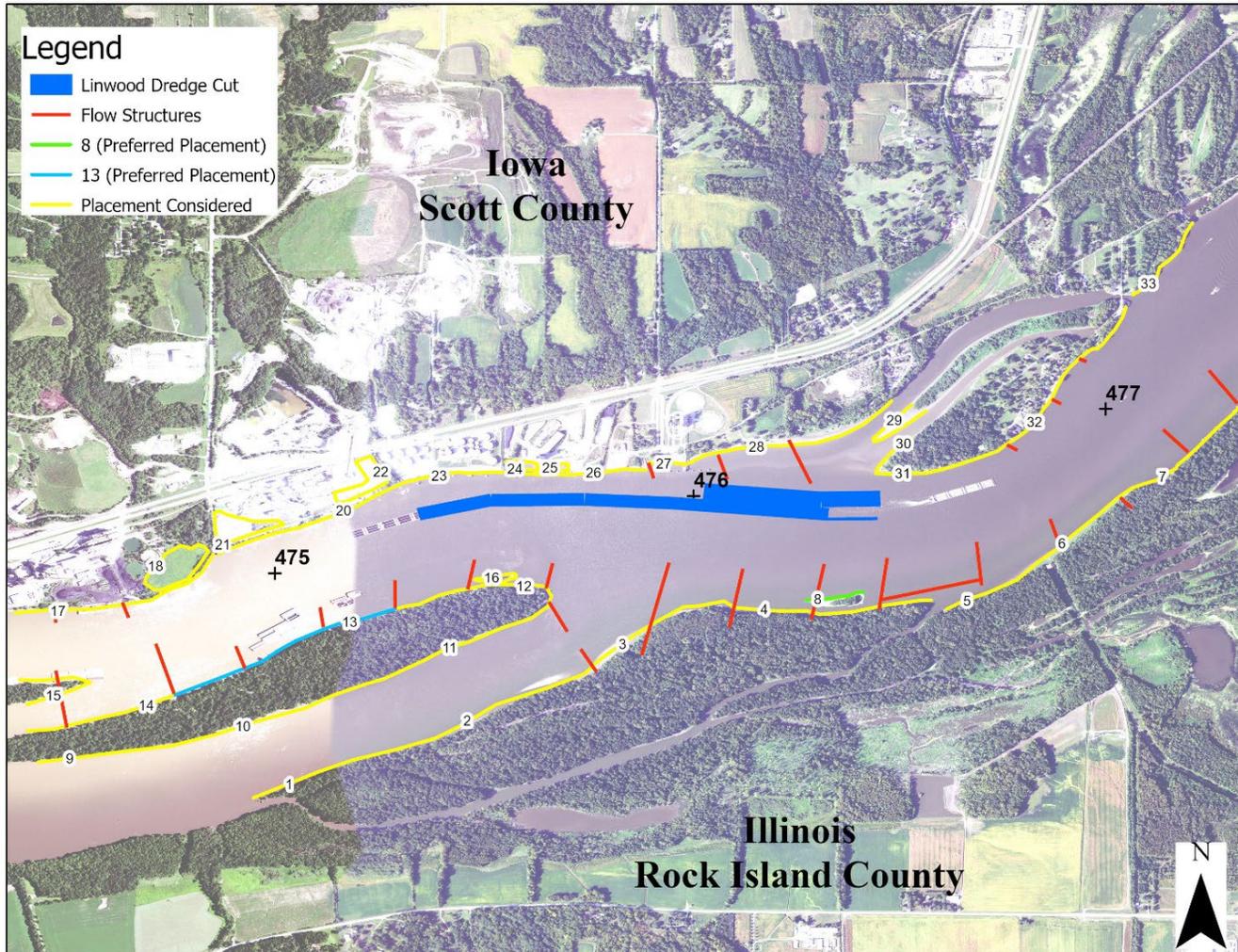


Figure EA-2. Potential Placement Site Identification

3. ALTERNATIVES

Of the 33 potential sites initially investigated for placement of dredged material (Figure EA-2), four remained as feasible placement sites.

A. Feasible Placement Sites. Feasible bankline placement sites that met overall criteria and Project purpose are

Site #8 mile marker 476.3 – A Small Island Between Wing Dams,

Site #13 mile marker 475 – Smith Island,

Site #28 mile marker 476.2 – Iowa Shoreline, and

Site #31 mile marker 476.4 – Horse Island.

The following descriptions provide approximate site dimensions. All sites are shown in Figure EA-2.

Site #8 River Mile 476.3 – A Small Island Between Wing Dams. The small island is located on the Illinois side of the channel upstream of Andalusia Slough, ~3 miles north of Andalusia, Illinois approximate RM 476.3. The site is in Section 24, Township 17 North, and Range 3 West, Rock Island County, Illinois. The small island is government owned. Placement is along the right descending bank, about 700 feet long by 65 feet wide. Dredged material would be placed up to but not exceeding the Ordinary High Water Mark (549.8 ft MSL). The material would be graded after placement. Side slopes of the placed material would fall at approximately 3H:1V slope. Return water is immediately discharged back into the river.

Site #13 River Mile 475 – Smith Island. Smith Island is located at the head of Andalusia Slough ~3 miles north of Andalusia, Illinois between RM 474.7 and 475.2. The site is in Section 24, Township 17 North, and Range 3 West, Rock Island County, Illinois. Smith Island is government owned. Placement may extend along the north bank from approximately RM 474.7 to 475.2, about 2,950 feet long by 50 feet wide. However, the entire length may not be needed. Dredged material would be placed up to but not exceeding the Ordinary High Water Mark (549.8 ft MSL). The material would be graded after placement. Side slopes of the placed material would fall at approximately 3H:1V slope. Return water is immediately discharged back into the river.

Site #28 River Mile 476.2 – Iowa Shoreline. This placement site is located on the Iowa side of the channel ~3 miles north of Buffalo, Iowa, approximate RM 476.2. The site is in Section 19, Township 77 North, and Range 3 East, Scott County, Illinois. The shoreline is privately owned, but Navigational Servitude applies to areas below the ordinary high water mark. Placement is along the right descending bank, about 1,000 feet long by 50 feet wide. Dredged material would be placed up to but not exceeding the Ordinary High Water Mark (549.8 ft MSL). The material would be graded after placement. Side slopes

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of the placed material would fall at approximately 3H:1V slope. Return water is immediately discharged back into the river.

Site #31 River Mile 476.4 – Horse Island Shoreline. This placement site is located on the Iowa side of the channel on Horse Island, approximately 3 miles north of Buffalo, Iowa, at approximate RM 476.4. The site is in Section 19, Township 77 North, and Range 3 East, Scott County, Iowa. The shoreline is privately owned, but Navigational Servitude applies to areas below the ordinary high water mark. Placement is along the left descending bank of the island, about 1,100 feet long by 50 feet wide. Dredged material would be placed up to but not exceeding the Ordinary High Water Mark (549.8 ft MSL). The material would be graded after placement. Side slopes of the placed material would fall at approximately 3H:1V slope. Return water is immediately discharged back into the river.

B. Alternative Placement Sites. From the potential sites, four feasible alternatives, including the no action alternative, were identified using screening criteria which evaluated numerous factors including, available for immediate placement, cost effectiveness, environmental acceptability and operational feasibility. For example, in order to hydraulically dredge material, it is essential that placement sites be located within 10,000 ft (~6,000 ft. floating pipe, ~4,000 ft. shore pipe) or less of the dredge cut.

Alternative 1. No Action. Dredging would continue as has been done in the past, mechanically removing approximately 9,000 CYs of material every 5 years to a historic placement site. This interpretation has been referred to as the No Change Alternative. Complying with the Federal mandate to maintain commercial navigation, the District would continue to place material on historic placement sites in small amounts to provide as much channel as possible. Present high risk conditions to navigation and structure would continue. This alternative would likely lead to channel closure as the existing historic placement sites are not able to accept the anticipated 68,000 CYs of dredged material without causing impacts to aquatic natural resources as compared to more suitable placement sites located near the dredging activity.

Alternative 2. Site #8 and #13 (Preferred Alternative). This alternative involves utilizing Site #8 until capacity is reached. Any remaining material would be placed at Site #13 if needed. This alternative meets all the screening criteria, providing capacity for the 68,000 CYs of material. This alternative also provides the ability for the District to use the sites in the future if the need arises and there is capacity available.

Alternative 3. Site #28. This alternative meets all the screening criteria however this site was not chosen as the preferred alternative because it is located near a barge terminal/facility and over time, dredged material could migrate into the facility work area.

Alternative 4. Site #31. This alternative meets all the screening criteria, however this site was not chosen as the preferred alternative because rock on the shoreline may provide fish habitat.

Other Alternatives Evaluated. Other combinations of feasible sites did not provide the needed ability to place material immediately.

4. AFFECTED ENVIRONMENT

A. Cultural Resources. This work is being conducted under the provisions of the *Programmatic Agreement (PA) Among the Rock Island District of the U.S. Army Corps of Engineers, the Advisory Council on Historic Preservation, and the Illinois State Historic Preservation Officer, the Iowa State Historic Preservation Officer, the Missouri State Historic Preservation Officer, and the Wisconsin State Historic Preservation Officer, Regarding Implementation of the Long Term Strategy for Dredged Material Placement Program* signed by the Corps on December 7, 1995; the Illinois State Historic Preservation Officer on January 3, 1996; the Iowa State Historic Preservation Officer on January 22, 1996; the Missouri State Historic Preservation Officer on February 15, 1996; the Wisconsin Historic Preservation Officer on February 26, 1996; and the Advisory Council on Historic Preservation on April 29, 1996 (Appendix D, *Programmatic Agreement*).

B. Natural Resources. Natural resources in the Project area include lands, waters, and biota of the UMR and its floodplain in Scott County, Iowa and Rock Island County, Illinois. Habitats with potential to be directly affected by dredged material placement include shallow main channel border aquatic habitat and somewhat deeper main channel border and aquatic habitat with improved rock structures (wing dams).

1. Lands

Soils. In general, soils found on floodplain lands of this reach of the UMR , range from nearly level to gently sloping, somewhat poorly drained to very poorly drained soils formed in silty and clayey alluvial (water-deposited) sediments. Utilizing data and search tools available through the U.S. Department of Agriculture, Natural Resources Conservation Service Web Soil Survey site, the Corps found the dominant soil type listed for the Project area was Fluvaquents loamy, 0 to 2 percent slopes, frequently flooded. The dominant soil type is classified as hydric.

Waterbottoms. Waterbottoms in the thalweg and other parts of the main channel are primarily composed of medium to coarse sand. The substrate in the main channel border areas of upper Pool 16 are much more varied, ranging from silt/clay to silty sand mixtures to fine/medium sand to gravel/cobble combinations. The substrate to be dredged was sampled July 2, 2019, and is medium to fine sand (Table EA-1).

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**Table EA-1. Mississippi Dredging Linwood-Horse Island
Grain Size Analysis of Sediment Samples**

SAMPLES COLLECTED: 2-Jul-19

Percent Finer by Weight

SAMPLE NUMBERS:	MS475.65L	MS476.05L	MS476.25L				
	1 1/2"						
S	3/4"	100.0%	100.0%	100.0%			
I	3/8"	99.9%	99.9%	99.9%			
E	#4	97.9%	98.3%	97.8%			
V	#10	93.6%	93.0%	87.1%			
E	#16	88.2%	85.1%	76.8%			
	#30	71.7%	59.7%	52.3%			
S	#40	53.5%	38.7%	30.5%			
I	#50	24.4%	16.5%	9.2%			
Z	#70	3.9%	1.6%	1.4%			
E	#100	0.0%	0.1%	0.1%			
S	#200	0.0%	0.0%	0.0%			
CLASSIFICATION:	SP, MEDIUM TO FINE SAND	SP, MEDIUM TO FINE SAND	SP, COARSE TO FINE SAND				

Notes:

1. Visual classification of soil is in accordance with "The Unified Soils Classification System (USCS)".
2. Laboratory testing was performed in accordance with EM 1110-2-1906, dated 30 Nov 70, revised 1 May 80 and 20 Aug 86. All samples were oven dried at 110 degrees centigrade. Sample designated (dup) is a duplicate sample.

Land Cover/Land Use. Lands within the Project area lie entirely within the historic floodplain of the UMR. Vegetative cover in this reach of the river floodplain has been extensively shaped by human activity, primarily river industry, agricultural cultivation, land management, and some urban development associated with the towns of Buffalo, Iowa, and Andalusia, Illinois. The Quad Cities area is also located relatively close upstream. Most of the floodplain forest is located on the Illinois side of the floodplain or on islands, but some forest cover also persists on narrow fragments of foreshore on the Iowa side of the river. Common floodplain forest tree species are black willow, cottonwood, green ash, and silver maple.

2. Waters

Surface Waters. The main channel, channel border, side channels, and backwaters of upper Pool 16 of the UMR comprise the dominant water features of the Project area.

There are two river islands in the Project area between RM 475.0 and 476.6—Smith Island on the Illinois side of the channel and Horse Island on the Iowa side. The largest side channel is Andalusia Slough on the Illinois side of Smith Island.

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In 2014, the Illinois Environmental Protection Agency (IL EPA) listed the reach of the Mississippi River in the Project area as impaired under Section 303(d) of the Federal Clean Water Act for: (1) fish consumption use due to elevated levels of mercury and polychlorinated biphenyls (PCBs), and (2) primary contact recreation due to fecal coliform.

3. Biota

General Habitat Characteristics. All proposed aquatic placement sites are within areas considered to be channel border habitat. The main channel border is considered to be the zone between the Nine-Foot Navigation Channel and the main river bank, islands, or submerged river channels, including all areas in which wing dams are located. This area is commonly thought of as part of the main channel; however it is considered a separate habitat from an ecological standpoint. Buoys often mark the edge of this zone. Within this habitat, substrate type varies from mainly sand near the edge of the main channel and the mouths of major side channels; to mixed sand and silt, with gravel and cobble adjacent to existing or historic (pre-dam) shorelines; with stone riprap present on wing dams and some limited areas of main channel shorelines. While minimal to no rooted aquatic vegetation is present, aquatic habitat in areas with stable and varied substrates is generally considered fair to good.

Fisheries and Invertebrates. Channels, channel borders, backwaters, and sloughs of upper Pool 16 support a wide variety of fish and invertebrates. A total of 163 species of fish (UMRCC, 2010) and 32 species of freshwater mussels (Kelner, 2011), are recorded as occurring on the UMR, many of which reside in Pool 16. According to the current version of the Upper Mississippi River Natural Resources Inventory 17 species of mussels have been found in the vicinity; Andalusia slough has important overwintering habitat, a sport fishery, a commercial fishery; and Horse Island has a sport fishery along the main channel border and at the head and mouth of the slough.

The Corps, US Fish and Wildlife Service (USFWS), the Illinois Department of Natural Resources (IL DNR) and the Iowa Department of Natural Resources (IA DNR) have historic records of mussels from Pool 16 including Federal and state-listed species. A brief pollywog survey of #8 on July 17, 2019, found no mussels present. The water was too high to survey the other sites. On August 2, 2019, a site visit to Site #13 using side scan sonar was used throughout the Project area and indicated shifting sand dunes, a ponar survey (substrate grab samples) verified sands, and shoreline search of middens or scattered shells of which none were found. For these reasons, the Corps determined that the likelihood of impacting a mussel bed at Sites #8 and #13 were low. A final report of the August survey is included with this document as Appendix C.

Waterbirds and Other Wildlife. The Mississippi River is an important flyway for waterfowl and neotropical migrants. However, aquatic plants and invertebrate food resources essential to migrating waterfowl are less abundant in the Project area. The Natural Resource Inventory for upper Pool 16 lists Smith and Andalusia Islands as

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providing habitat for migratory waterfowl. The Natural Resource Inventory also lists the head of Smith Island near river mile 475.5 as providing habitat for feeding and roosting bald eagles. A bald eagle nest was located near the Project vicinity; however, no eagles were spotted using the nest. It is, likely any eagles that may have utilized the nest have fledged. Shallow aquatic areas and exposed sandbars provide some habitat for wading birds and shorebirds. Numerous species of amphibians, reptiles, and small and large mammals are known to occur in the floodplain areas of the Project area. Some of these species may utilize habitats found within or adjacent to the alternative placement sites.

Threatened and Endangered Species. Using the USFWS online Information for Planning and Consultation (IPaC) website (<https://ecos.fws.gov/ipac/>) in July 2019, it revealed that federally listed threatened or endangered species known to occur or potentially occurring in Rock Island County, Illinois include the Higgins' eye pearlymussel (*Lampsilis higginsii*), Sheepsnose mussel (*Plethobasus cyphus*), Spectaclecase mussel (*Cumberlandia monodonta*), Indiana bat (*Myotis sodalis*), Northern long-eared bat (*Myotis septentrionalis*), and Eastern prairie fringed orchid (*Platanthera leucophaea*).

The IL DNR Natural Heritage Database documents 28 state-designated threatened or endangered plant and animal species as occurring in Rock Island County. Three of the state-listed mussel species (sheepsnose, spectaclecase, higgins eye) are also federally listed. State-designated species are listed in Table EA-2.

None of the listed plant or vertebrate animal species is known to reside within any of the potential placement sites. The spectaclecase, purple wartyback, butterfly, spike, ebonyshell, higgins eye, black sandshell, and sheepsnose are all freshwater mussel species historically recorded as occurring in Pool 16.

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Table EA-2. Rock Island County, Illinois, State-listed Species¹

Scientific Name	Common Name	State Protection
<i>Acipenser fulvescens</i>	Lake Sturgeon	LE
<i>Ammocrypta clarum</i>	Western Sand Darter	LE
<i>Anguilla rostrata</i>	American Eel	LT
<i>Castilleja sessiliflora</i>	Downy Yellow Painted Cup	LE
<i>Catostomus catostomus</i>	Longnose Sucker	LT
<i>Corallorhiza maculata</i>	Spotted Coral-root Orchid	LE
<i>Crystallaria asprella</i>	Crystal Darter	LT
<i>Cumberlandia monodonta</i>	Spectaclecase	LE
<i>Cyclonaias tuberculata</i>	Purple Wartyback	LT
<i>Dendroica cerulea</i>	Cerulean Warbler	LT
<i>Ellipsaria lineolata</i>	Butterfly	LT
<i>Elliptio dilatata</i>	Spike	LT
<i>Emydoidea blandingii</i>	Blanding's Turtle	LE
<i>Erimystax x-punctatus</i>	Gravel Chub	LT
<i>Fundulus diaphanus</i>	Banded Killifish	LT
<i>Fusconaia ebena</i>	Ebonysnail	LT
<i>Hemidactylium scutatum</i>	Four-toed Salamander	LT
<i>Hybopsis amnis</i>	Pallid Shiner	LE
<i>Lampsilis higginsii</i>	Higgins Eye	LE
<i>Ligumia recta</i>	Black Sandshell	LT
<i>Lycopodium clavatum</i>	Running Pine	LE
<i>Moxostoma carinatum</i>	River Redhorse	LT
<i>Necturus maculosus</i>	Mudpuppy	LT
<i>Notropis anogenus</i>	Pugnose Shiner	LE
<i>Nyctanassa violacea</i>	Yellow-crowned Night-Heron	LE
<i>Nycticorax nycticorax</i>	Black-crowned Night-Heron	LE
<i>Plethobasus cyphus</i>	Sheepnose	LE
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed Blackbird	LE

¹ LE = Endangered, LT = Threatened

Source: http://www.dnr.illinois.gov/ESPB/Documents/ET_by_County.pdf

C. Human-Constructed Resources. Infrastructure of the Nine-Foot Channel Navigation System is a primary human-constructed resource within this reach of the river. Other notable constructed resources are facilities associated with river industry and mooring sites for barge fleetings. In addition to these, the roadways, utilities, private and public buildings, and recreational spaces of Scott and Rock Island Counties are important constructed resources. Upper Pool 16 has a heavy urban presence with the Quad Cities a few miles upstream and Buffalo, Iowa, and Andalusia, Illinois, just downstream of the Project area.

D. Physical Environment

Climate. The published soil surveys for Scott County, Iowa, and Rock Island County, Illinois, describe the climate for the region including upper Pool 16 as characterized by cold winters and long, hot summer. Annual precipitation ranges from just over 34 inches (Scott County) to 38 inches (Rock Island County), with the majority (65-72 percent) falling during the months of April to September. Growing season generally extends from April through September/October. Average seasonal snowfall ranges from 28 to 34 inches. Prevailing winds are from the south during summer months and northwest in the winter.

Air Quality. Air quality for both counties in the Project area is generally good. No source of emissions currently exists within any of the alternative sites. The United State EPA (USEPA) *Green Book Nonattainment Areas for Criteria Pollutants* (Green Book) maintains a list of all areas within the United States that are currently designated nonattainment areas with respect to one or more criteria air pollutants.

Nonattainment areas are discussed by county or metropolitan statistical area (MSA)s. Metropolitan statistical areas are geographic locations, characterized by a large population nucleus, that are comprised of adjacent communities with a high degree of social and economic integration. Metropolitan statistical areas are generally composed of multiple counties. Review of the Green Book indicates that Rock Island County, IL and Scott County, Iowa, are in attainment for all federal NAAQS pollutants (<https://www.epa.gov/green-book>).

Noise. The Project area is a primarily rural location where ambient noise levels are relatively low. There are many different noise sources throughout the area including commercial and recreational boats and other recreational vehicles; automobiles and trucks, and all-terrain vehicles; aircraft; machinery and motors; and river industry-related noise. However, these sources are somewhat widely distributed, and there are no sensitive human receptors located in proximity to the dredge cut or any of the feasible proposed placement sites.

5. ENVIRONMENTAL EFFECTS

A. Effects of Preferred Alternative. This section summarizes the impacts of the preferred alternative to natural resources, cultural resources, and other aspects and features of the human environment. The preliminary screening of potential placement sites, and the subsequent formulation of alternative combinations of feasible placement sites, was conducted with the intent to minimize or reduce adverse effects, and to avoid potentially significant impacts where feasible. No significant adverse impacts are anticipated to result from implementation of the preferred alternative.

B. Social and Economic Resources

Noise. Heavy machinery would temporarily increase noise levels in the immediate Project area during construction activity. No permanent changes in ambient noise levels would be expected to result from dredged material placement.

Aesthetics. No permanent impacts to aesthetic values would result from placement of dredged material on the bankline at Sites #8 and #13. The material would be graded after placement to blend with the surrounding shoreline. Side slopes of the placed material would fall at approximately 3H:1V slope.

Life, Health, and Safety. The purpose of the Project is to maintain the commercial navigation channel in such a manner as to avoid potential loss of life or personal injury, or property damage that may result from inadequate maintenance of the channel and subsequent groundings.

Displacement of People. No residential relocations would be required as a result of the Project.

Farm Displacement. No farms would be displaced as a result of the proposed Project.

Public Facilities and Services. Maintenance of the channel for commercial, recreational, and environmental interests would positively impact public facilities and services.

Community Cohesion. No impacts to community cohesion would be realized as a result of the Project.

Community and Regional Growth. No adverse impacts to the growth of the community or region would be realized as a direct result of the proposed Project. However, the Mississippi River is a vital component of the national transportation infrastructure and has provided stimulus for the growth of river communities and the entire Midwest region. Maintenance of the navigation channel would indirectly help provide for continued growth opportunities in the local communities and the region.

Employment and Labor Force. No significant impacts on employment or labor force would be expected to occur in the Project vicinity.

Business and Industrial Activity. No long-term impacts to business or industrial activity would result from the proposed Project. No business or industrial relocations would be required.

Property Values and Tax Revenues. No change in property values or tax revenues would result from the proposed Project.

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C. Cultural Resources. The District coordinated the proposed dredging and dredged material placement alternatives with the Illinois State Historic Preservation Office (SHPO) both informally (via email dated July 23, 2019,), and formally (via letter dated August 19, 2019,). Interested federally recognized tribes were also consulted via letter dated August 19, 2019. The District outlined the Project and described the placement sites, and informed the consulting parties that it was the opinion of the District that there was no potential for cultural resources at placement Site #8 (RM 476.3), and that the selective placement of material along the shoreline and high water at placement Site #13 (RM 476.2) would minimize any potential impacts at that location. This opinion was based on the negative evidence from literature reviews, the fact that placement Site #8 is a young island that does not appear on aerial photographs from the 1930s-1940s, and a site visit to the placement locations by a District archaeologist on July 17, 2019.

The report *entitled An Investigation of Submerged Historic Properties in the Upper Mississippi River and Illinois Waterway* (October 1997) prepared by American Resources Group, Ltd. for the Corps (Contract No. DACW25-93-D-0012, Delivery Order No. 37), was reviewed. No underwater historic properties are documented within the historic dredge cut and proposed dredged material placement alternatives. The online Illinois Inventory of Archaeological Sites geospatial database was consulted for placement site locations, and no known historic properties were identified. Therefore, the District made a determination of No Historic Properties Affected, and that further obligations under Section 106 of the NHPA for this undertaking was not required (36 CFR 800.3(a)(1)).

By letter dated August 23, 2019 (SHPO LOG #001080819), the Illinois SHPO concurred with the District determinations and had no objections to the Project proceeding as proposed. The District received a concurrence letter dated September 23, 2019, from the Osage Nation Tribal Historic Preservation Offices (File # 1819-4623IL-8) stating no further concerns with this Project. This District also received two letters stating no concern regarding historic properties from the Miami of Oklahoma Tribe letter dated August 30, 2019, and the Forest County Potawatomi Community Tribe email dated September 12, 2019. The District has received no other comments or requests regarding this undertaking. Based upon the District's documentation and associated State agency comments, Tribal Government comments, or lack thereof, the District has satisfied the requirements promulgated under Section 106 of the National Historic Preservation Act, as amended. In the event Project features change, the District will coordinate with interested parties in accordance with the attached PA (Appendix D) and in full compliance with Section 106 of the NHPA and its implementing regulations 36 CFR 800.

D. Natural Resources. Minor disruptions of daily activities of resident fish and wildlife would be expected during construction (dredging and placement) activity. These impacts would be temporary in nature and are not anticipated to be significant. The proposed placement sites contain no critical wildlife habitats, sand beaches, or unique physical features.

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Upper Mississippi River Pool 16, River Miles 475.0-476.6
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Fisheries and Invertebrates. Fish and other mobile aquatic species present in the immediate construction zone would be expected to relocate during dredging and placement activities, but should return to the area following completion of construction. Benthic organisms with limited or no mobility would be buried and probably destroyed during placement, but similar organisms would likely recolonize the aquatic placement areas post-construction. No significant impacts to overall benthic populations or trophic levels are anticipated. Hydrologic modeling of feasible aquatic placement sites indicates that dredged material should be relatively stable following placement.

Waterbirds and Other Wildlife. Dredging and placement activities are not expected to adversely affect waterbirds or other wildlife beyond avoidance of the immediate area during construction. No long-term effects are expected, and no significant impacts would occur either during or after construction.

Threatened and Endangered Species. The eastern prairie fringed orchid is found in mesic to wet prairies. This landscape is not found within any of the proposed placement areas. For this reason, the Corps has determined that placement of dredged material at any of the alternate sites will have no effect on this listed species.

The Indiana bat utilizes large trees with peeling bark or cavities as summer roosts, forages in upland forests or small stream corridors with well-developed riparian woods, and uses caves or mines as winter hibernacula. The northern long-eared bat similarly hibernates in caves and mines, swarming in surrounding wooded areas in autumn, and roosting and foraging in upland forests and woods during summer months. No winter hibernacula for either species are located within or adjacent to any of the alternative placement sites. No tree clearing would be required for placement of dredged material at the aquatic placement sites. For these reasons, the Corps has determined placement of dredged material at any of the alternative placement sites is not likely to adversely affect the two listed bat species.

The Higgins' eye, sheepnose, and spectaclecase mussels are all documented as historically occurring in Pool 16. A team of biologists (the On Site Inspection Team) conducted a mussel reconnaissance pollywog on July 17, 2019, for Site #8, no mussels were found. On August 2, 2019, a site visit at Site #13 was conducted using a side scan sonar which indicated shifting sand dunes. A ponar survey was also conducted which verified sands. There were no shoreline middens or scattered shells found during surveys. Based on the results of these surveys and avoiding placement of dredged material on wingdams, the Corps determined placement of dredged material on Sites #8 and #13 were not likely to adversely affect Higgins eye pearly mussel, sheepnose mussel or spectaclecase mussel. The USFWS concurred with this determination.

E. Cumulative Impacts. The proposed action is for the maintenance of the existing navigation channel. The impacts of the Nine-foot Channel navigation system are already in place. Past, present, and future operation and maintenance of the system is the primary cumulative impact. These impacts are anticipated to be short-term in nature.

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The total number of operation and maintenance actions along the Mississippi River and its tributaries is unknown at this time.

Cumulative impacts resulting from dredging and placement of material on the bankline of Sites #8 and #13 are not anticipated to be significant. The dredging and placement of material should not decrease the post-flood productivity of the UMR aquatic and floodplain ecosystem. Selection and use of the placement areas also will not contribute to cumulative impacts. Existing (historic) placement sites have been used in the past, in part to attempt to avoid sensitive areas and resources. All new feasible placement sites have been coordinated with the resource agencies in an attempt to avoid contributing to cumulative impacts.

6. ENVIRONMENTAL IMPACTS OF NONPREFERRED ALTERNATIVES

Environmental impacts of the nonpreferred alternatives would generally be similar in nature to those expected with the preferred alternative. None of the feasible alternative placement sites are anticipated to have significant environmental impacts either individually or in combination.

7. COMPLIANCE WITH APPLICABLE FEDERAL LAWS

A. Endangered Species Act. The Corps has determined that the proposed action is not likely to adversely affect any federally listed endangered or threatened species or their habitats. This determination has been coordinated with the USFWS Service, Rock Island Ecological Services Field Office, during informal consultation with that agency.

B. Archaeological and Historic Preservation Act. The District determined that no historic properties would be affected by dredging or dredged material placement in full compliance with the Archaeological and Historic Preservation Act.

C. National Historic Preservation Act. The District made a determination of No Historic Properties Affected for this undertaking and received concurrence documentation from the Illinois State Historic Preservation Office, Miami Tribe of Oklahoma, Forest County Potawatomi Community Tribe and the Osage Nation Historic Preservation Office (see Section 5.C, *Cultural Resources*). Based upon the District's documentation and associated State agency comments, Tribal Government comments, or lack thereof, the District has satisfied the requirements promulgated under Section 106 of the National Historic Preservation Act, as amended. In the event Project features change, the District will coordinate with interested parties in accordance with the attached PA (Appendix D) and in full compliance with Section 106 of the NHPA and its implementing regulations 36 CFR 800.

D. Clean Air Act. The proposed action is expected to be in compliance with the Act. Mobile source emissions will be temporary and limited to the construction period, and are expected to be *de minimis* for criteria air pollutants. Based on these findings, the

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proposed Project demonstrates conformity.

E. Clean Water Act. A Section 404(b)(1) Evaluation has been prepared for the proposed dredged material placement plan and is attached as Appendix E. Application for State Section 401 water quality certification has been submitted to the IL DNR and is pending.

F. Executive Order (EO) 11988. No change in existing levels of flood risk will occur as a result of dredged material placement. This action will not adversely impact floodplains or floodplain values.

G. Hazardous, Toxic and Radioactive Waste. No HTRW Environmental Site Assessments were performed. The sandy material to be dredged is of large enough particle size that contaminant binding is negligible. Historically, sediment sampling of sandy dredged material has demonstrated an insignificant level of contamination, since contaminants have a greater affinity for smaller-sized particles. In general, prior to dredging a Mississippi River navigation channel site, bed material samples are collected and analyzed for grain size. If the material is predominately sand/gravel (at least 80 percent), it is considered uncontaminated and further testing is generally not required. If the material consists of greater than 20 percent silt/clay, then typically an elutriate test is performed to determine if contaminants are present. Bed sediments sampled consisted of greater than 95 percent sand. There is no reason to believe the material may be contaminated, it is unlikely that testing other than a grain size analysis would be performed.

If any evidence of recognized environmental conditions is discovered during construction activities, operations should cease until the District's Environmental Engineering Section is able to reassess the Project area.

H. Federal Water Project Recreation Act. No increases or decreases in current public recreational opportunities would be realized if this Project is implemented. The proposed action is in full compliance.

I. Fish and Wildlife Coordination Act. Project plans have been coordinated with the USFWS. Coordination responses can be found in Appendix B. The proposed action is in full compliance.

J. Migratory Bird Treaty Act and Bald Eagle Act. One eagle nest was present within close proximity to one of the proposed placement sites. However, there were no eagles present and if the nest had been utilized it is likely that young have fledged based on time of year. Dredging and placement activities at both sites occurred in the summer when no ice cover is present on the river so eagles are not utilizing the area for roosting. Habitat is plentiful in the area for use by migratory birds, it is unlikely that the localized disturbance caused by dredging and placement activities would have any effect on migratory birds. For these reasons, no adverse impacts to bald eagles or other

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migratory birds are anticipated. The proposed action is in full compliance.

K. Wild and Scenic Rivers Act of 1968, as amended. The Project area is not listed on the National Rivers Inventory used to identify rivers or sections of rivers that may be designated by Congress to be component rivers of the National Wild and Scenic Rivers Systems. The proposed action is in full compliance.

L. Farmland Protection Policy Act of 1981. The proposed action will not result in the conversion of prime farmland to nonagricultural uses. The preferred alternative would be in full compliance with the Farmland Protection Policy Act.

M. National Environmental Policy Act of 1969, as amended. The compilation of this EA and the signing of the Finding of No Significant Impact by the District Engineer would fulfill National Environmental Policy Act (NEPA) compliance.

N. C 11990, Protection of Wetlands. The proposed action would not involve significant adverse impacts to wetlands.

O. EO 13112, Invasive Species. On February 3, 1999, President Bill Clinton issued EO 13112 to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause by establishing the National Invasive Species Council. The proposed action is consistent with EO 13112 as it will use relevant programs and authorities to prevent the introduction of invasive species and not authorize, fund, or carry out actions likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere.

P. EO 12898, Environmental Justice. Executive Order 12898 of 1994 and the Department of Defense's Strategy on Environmental Justice of 1995, which direct Federal agencies to identify and address any disproportionately high adverse human health or environmental effects of Federal actions to minority and/or low-income populations.

Low-income populations as of 2015 cover those whose income is \$24,250 for a family of four and are identified using the Census Bureau's statistical poverty threshold. The Census Bureau defines a "poverty area" as a Census tract with 20 percent or more of its residents below the poverty threshold and an "extreme poverty area" as one with 40 percent or more below the poverty level. This is updated annually at <http://aspe.hhs.gov/poverty/2015-poverty-guidelines.cfm>

A potential disproportionate impact may occur when the percent minority (50 percent) and/or percent low-income (20 percent) population in an Environmental Justice study area are greater than those in the reference community. No minority or low-income populations are present in the Project area. The proposed action will not result in any change in land use or other impacts that would disproportionately affect minority or low-

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income populations, and is therefore considered to be in compliance with this EO.

To identify low-income and minority populations within the Project area, the USEPA EJScreen mapping tool was used (<https://ejscreen.epa.gov/mapper/>).

Q. EO 13653, Preparing the U.S. for the Impacts of Climate Change. Executive Order 13653 requires Federal agencies to undertake actions enhancing climate preparedness and resilience, including the identification and assessment of climate change related impacts on and risks to the agency's ability to accomplish its missions, operations, and programs.

Potential climate change impacts to the Nine-Foot Channel Project would be associated with changes in long-term river level variations. Water levels in the UMR vary in annual cycles, with highs in the summer and lows in the winter. However, over longer periods annual averages can vary significantly. Water level is influenced by many factors, including precipitation, water temperature, runoff, drought, ice cover, evaporation rates, consumption, and diversion. The location of the Linwood dredge cut is in close proximity to Dam 15 and operation of the dam is the dominant factor controlling river levels in the Project area.

The period used to calculate historical dredging averages and predict dredging quantities includes both extreme high water levels (1993) and extreme low levels (1988). Therefore, this average is expected to be a reasonable estimate for dredging quantities over the period of analysis, even with the occurrence of extreme conditions. Extreme lows in future years could lead to a lowered pool elevation, reducing available draft in the channel. However, the critical shoal in this channel is in the area located at the existing dredge cut. Additional dredging to allow for continued use of a Nine foot draft would therefore focus on this limited area and increased dredging quantities would be small with respect to the total projected dredging volume.

USACE has considered and evaluated the risk associated with climate change on the effectiveness of the proposed action and is therefore considered to be in compliance with this Executive Order.

8. COORDINATION

The proposed dredged material placement actions have been coordinated with the following Federal and State agencies:

- U.S. Fish and Wildlife Service (Rock Island Ecological Services Field Office)
- U.S. Environmental Protection Agency (Region 5)
- IL DNR
- IL EPA
- Illinois SHPO
- Numerous Tribes (See Distribution List included in Appendix B, *Correspondence*, for complete list of Tribes.)

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Documentation of coordination with these agencies is included in Appendix B.

By letter dated August 6, 2019, a Public Notice was issued outlining the project for Section 404 of the Clean Water Act. The comment period ended on August 20, 2019, with no comments received.

By letter dated August 20, 2019, the USFWS provided concurrence with Corps' not likely to adversely affect determinations for Higgins eye pearlymussel, sheepnose mussel, and spectaclecase mussel.

By letter dated August 23, 2019 (Log #001080819), the Illinois SHPO provided a letter stating they had no objection to the undertaking proceeding as planned.

By letter dated August 30, 2019, the Miami Tribe of Oklahoma provided no objection to the Project however, if any human remains or Native American cultural items are discovered the Tribe requests immediate consultation.

By e-mail dated September 13, 2019, the Forest County Potawatomi Community Tribe provided concurrence with the finding of no historic properties will be affected, in the event that human remains or archaeological materials are exposed during the dredging work must halt the Tribe must be included in any consultation.

By letter dated September 23, 2019, the Osage Nation Historic Preservation Office provided that they have no further concern with the Project. In the event artifacts or human remains are discovered during Project-related activities they ask that activities cease immediately, and the Tribe be contacted.

DREDGED MATERIAL PLACEMENT

**UPPER MISSISSIPPI RIVER POOL 16
RIVER MILES 475.0-476.6
LINWOOD DREDGE CUT**

ENVIRONMENTAL ASSESSMENT

**SCOTT COUNTY, IOWA
ROCK ISLAND COUNTY, ILLINOIS**

APPENDIX A

FINDING OF NO SIGNIFICANT IMPACT

FINDING OF NO SIGNIFICANT IMPACT

DREDGED MATERIAL PLACEMENT, UPPER MISSISSIPPI RIVER POOL 16 RIVER MILES 475.0-476.6 LINWOOD DREDGE CUT

ENVIRONMENTAL ASSESSMENT SCOTT COUNTY, IOWA ROCK ISLAND COUNTY, ILLINOIS

The U.S. Army Corps of Engineers, Rock Island District (Corps) has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The final Integrated Feasibility Report and Environmental Assessment (IFR/EA) dated 18 June 2021, for the Dredged Material Placement Linwood Dredge Cut. The purpose of this Project is to maintain a commercial navigation channel for the transport of commodities, etc., and thus avoid disruption to transport of those commodities, and to maintain the channel in such a manner so as to avoid potential loss of life, personal injury, or property damage that may result from inadequate maintenance of the channel and subsequent groundings and/or closures of the main channel. Opportunities and feasibility in the Upper Mississippi River Pool 16 Scott County, IA, and Rock Island County, IL.

The Final IFR/EA, incorporated herein by reference, evaluated various alternatives that would maintain the navigation channel in the study area. The recommended plan is the National Economic Development (NED) Plan and includes:

- **Alternative 2. Site #8 and #13:** This alternative involves utilizing Site #8 until it reaches capacity and then utilize Site #13 for the rest of the material if needed. This alternative meets all the screening criteria, providing capacity for the 68,000 CYs of material. This alternative also provides the ability for the District to use the sites in the future if the need arises and there is capacity available.

In addition to a “no action” plan, four alternatives were evaluated. The alternatives included:

- **Site #8 River Mile 476.3 – A Small Island Between Wing Dams** (Figure EA-2). The small island is located on the Illinois side of the channel upstream of Andalusia Slough, ~3 miles north of Andalusia, Illinois approximate RM 476.3.
- **Site #13 River Mile 475 – Smith Island** (Figure EA-2). Smith Island is located at the head of Andalusia Slough ~3 miles north of Andalusia, Illinois between RM 474.7 and 475.2.
- **Site #28 River Mile 476.2 – Iowa Shoreline** (Figure EA-2). This placement site is located on the Iowa side of the channel ~3 miles north of Buffalo, Iowa approximate RM 476.2.

- **Site #31 River Mile 476.4 – Horse Island Shoreline** (Figure EA-2). This placement site is located on the Iowa side of the channel on Horse Island, ~3 miles north of Buffalo, Iowa approximate RM 476.4.

For greater discussion of each alternative see Section 3 of accompanying Environmental Assessment.

SUMMARY OF POTENTIAL EFFECTS:

For all alternatives, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the recommended plan are listed in Table 1.

Table 1: Summary of Potential Effects of the Recommended Plan

	Insignificant Effects	Insignificant Effects as a Result of Mitigation*	Resource Unaffected by Action
Aesthetics	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Air quality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Aquatic resources/wetlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Invasive species	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fish and wildlife habitat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Threatened/Endangered species/critical habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Historic properties	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other cultural resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Floodplains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous, toxic & radioactive waste	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hydrology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Land use	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Navigation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise levels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Socio-economics	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental justice	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Soils	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tribal trust resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Water quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Climate change	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in the IFR/EA will be implemented, if appropriate, to minimize impacts. Dredging quantities would be kept to the minimum necessary to maintain a safe and unobstructed navigation channel, which is expected to minimize near-term impacts to biota at the placement sites.

No compensatory mitigation is required as part of the Recommended Plan.

Public review of the draft IFR/EA and FONSI was completed on **28 May 2021**. All

comments submitted during the public review period were responded to in the Final IFR/EA and FONSI. A 30-day state and agency review of the Final IFR/EA was completed on **28 May 2021**. Comments from state and federal agency review did not result in any changes to the final IFR/EA.

ENDANGERED SPECIES ACT

NO EFFECT:

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the U.S. Army Corps of Engineers determined that the recommended plan will have no effect on federally listed species or their designated critical habitat.

NATIONAL HISTORIC PRESERVATION ACT

NO EFFECT TO HISTORIC PROPERTIES:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers determined that the recommended plan has no effect on historic properties.

CLEAN WATER ACT SECTION 404(B)(1) COMPLIANCE

Pursuant to the Clean Water Act of 1972, as amended, the discharge of dredged or fill material associated with the recommended plan has been found to be compliant with section 404(b)(1) Guidelines (40 CFR 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is found in Appendix E with 404(B)(1) Evaluation of the IFR/EA.

CLEAN WATER ACT SECTION 401 COMPLIANCE:

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed.

FINDING

Technical, environmental, economic, and cost effectiveness criteria used in the formulation of alternative plans were those specified in the Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on this report, the reviews by other Federal, State and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

Date

Steven M. Sattinger, P.E.
Colonel, US Army
Commander & District Engineer

DREDGED MATERIAL PLACEMENT

**UPPER MISSISSIPPI RIVER POOL 16
RIVER MILES 475.0-476.6
LINWOOD DREDGE CUT**

ENVIRONMENTAL ASSESSMENT

**SCOTT COUNTY, IOWA
ROCK ISLAND COUNTY, ILLINOIS**

APPENDIX B

CORRESPONDENCE



US Army Corps
of Engineers
Rock Island District

PUBLIC NOTICE

Applicant: US Army Corps of Engineers Date: August 6, 2019
Expires: August 20, 2019
CEMVR-OD-P-2019-0896 Section 404

Joint Public Notice US Army Corps of Engineers Illinois Department of Natural Resources

1. **Applicant:** U.S. Army Corps of Engineers (USACE) – Rock Island District, Clock Tower Building, Rock Island, Illinois 61204-2004.

2. **Project Location:**

- The proposed project, dredge material placement, is located on the Mississippi River (figure 1) at two potential locations, #8 and #13 (figure 2).
 - The preferred primary location (#8) is located near the head of Andalusia Slough on the left descending bank at approximately mile marker 476.3.
 - The approximate center of this location is: latitude 41.457751, longitude -90.660995.
 - The preferred secondary location (#13) is located on Smith Island (Island 317), channel side, at approximately mile marker 475.1.
 - The approximate center of this location is: latitude 41.454266, longitude -90.687939.
- Both locations are on the Illinois side of the channel in Section 24, Township 17 North, and Range 3 West, Rock Island County, Illinois.

3. **Project Description:**

A. In order to maintain the 9-foot navigation channel, dredging needs to be performed at various locations on the Upper Mississippi River within the USACE, Rock Island District (District). There is currently an immediate need to dredge the navigation channel between river miles 475.6-476.6, referred to as the Linwood Reach. Dredged material is removed from the channel by hydraulic dredging performed by a cutterhead dredge which discharges material to the placement site via a floating pipeline. Historically, the Linwood Reach would need approximately 9,000 cubic yards of material removed every (5) five years, this material was generally mechanically dredged and transported to a historic placement site. Currently, the Linwood Reach needs approximately 68,000 cubic yards removed and historic placement sites are being fully utilized by other local dredging needs.

B. The proposed project would involve hydraulic dredging then placing approximately 68,000 cubic yards of material on a small Island bankline (#8) and if more capacity is needed potentially using Smith Island's (Island 317) bankline (#13). Dredged material would be placed up to but not exceeding the Ordinary High Water Mark (549.8 feet MSL). The material would be graded after placement. Side slopes of the placed material would fall at approximately 3H:1V slope. Bankline placement would be approximately 700 feet long x 65 feet wide for

site #8 and 2,950 feet long x 50 feet wide for site #13. Placing dredged material on the bankline to an elevation of 549.8 feet MSL has no impact on flow velocity and placement between rock structures (wing dams) provides a stable location for the dredged material. Placement of dredged material at these sites would present no-rise in the water surface elevations at this site or upstream of this site.

4. Avoidance and Minimization Statement. Prior to the placement of any dredged material, representatives of the District and the On-Site Inspection Team (OSIT) which included the U.S. Department of the Interior, Fish and Wildlife Service and representatives from the Illinois Department of Natural Resources met to discuss and determine the preferred placement sites for the material and avoid placement sites that may have sensitive resources or have detrimental impacts. The Corps initially looked at 33 potential placement sites for this project. Sites were removed from consideration based on agency input, operational logistics, and potential impacts to river industry.

5. Agency Review.

A. Department of the Army, Corps of Engineers. The Department of the Army application is being processed under the provisions of Section 404 of the Clean Water Act (33 U.S.C. 1344).

B. State of Illinois.

- (1) The project plans have been submitted to the Illinois Environmental Protection Agency (IEPA) for review.
- (2) The Illinois Department of Natural Resources, Office of Water Resources (IDNR/OWR) is a participant in the joint application process and requires that IDNR/OWR permits be obtained for construction within floodways; construction and other activities within public bodies of water; and construction, operation and maintenance of dams pursuant to the State of Illinois Rivers, Lakes, and Streams Act (615 ILCS 5). Inquiries concerning IDNR/OWR jurisdiction and/or review of the activity should be directed to the Office of Water Resources at dnr.dworm@illinois.gov or 217/782-3863. Information on the IDNR/OWR regulatory and other programs can be found at <http://dnr.state.il.us/owr>.

6. Historical/Archaeological.

A. The District and the Illinois State Historic Preservation Officers (SHPOs); and the Advisory Council on Historic Preservation (Council) have signed Programmatic Agreements (PA's) regarding implementation of dredged material placement for the Mississippi River miles 300.0 to 614.0. These PAs are appropriate for addressing historic property concerns for dredged material placement promulgated by the National Historic Preservation Act (NHPA), as amended and its implementing regulation 36 CFR Part 800: "Protection of Historic Properties."

- (1) Programmatic Agreement Among the District of the USACE, the Advisory Council on Historic Preservation, and the Illinois State Historic Preservation Officer, the Iowa State Historic Preservation Officer, the Missouri State Historic Preservation Officer and the Wisconsin State Historic Preservation Officer Regarding Implementation of the Short-Term Dredged Material Placement.
- (2) Programmatic Agreement Among the District of the USACE, the Advisory Council on Historic Preservation, and the Illinois State Historic Preservation Officer, the Iowa State Historic Preservation Officer, the Missouri State Historic Preservation Officer and the Wisconsin State Historic Preservation Officer Regarding Implementation of the Long-Term Dredged Material Placement.

B. If human remains, funerary objects, sacred objects, or objects of cultural patrimony are encountered or collected, the District will comply with all provisions outlined in the appropriate State acts, statutes, guidance, provisions, etc., and any decisions regarding the treatment of human remains will be made recognizing the rights of lineal descendants, Tribes, and other Native American Indians and under consultation with the SHPO/THPO(s) and other consulting parties, designated Tribal Coordinator, and/or other appropriate legal authority for future and expedient disposition or curation. When finds of human remains, funerary objects, sacred objects, or objects of cultural patrimony are encountered or collected from Federal lands or federally recognized tribal lands, the District will coordinate with the appropriate federally recognized Native American Tribes, pursuant to the Native American Graves Protection and Repatriation Act.

C. There are no shipwrecks or underwater historic properties in the dredging vicinity according to relevant reports curated by District. The small Island site #8 that will be utilized for primary dredge placement is a product of recent post-settlement alluvium and does not appear on historic aerial photos taken from between 1937-1947. The Islands young age suggests it lacks potential for cultural resources. The Island was visited by the OSIT, which included a District archaeologist, on July 17th 2019. The Islands entire shoreline was subjected to pedestrian survey and no cultural materials of any kind were observed. A secondary placement site #13 on the channel side shore of Smith Island (Island 317), will be utilized for any dredge material that does not fit at the primary location. The dredge material at the secondary site will be deposited up to the tree line but will primarily be placed along the exposed shore and in the high water immediately adjacent to the shore. Due to the primary placement location's lack of cultural potential and the limited utilization of the shoreline at the secondary location, the District determined that no historic properties would be affected by dredging or dredge material placement associated with this action. District will coordinate this action with the Illinois SHPO and all interested parties in accordance with the existing PAs, and in full compliance with Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR 800.

7. Endangered Species.

A. There are 6 federally-listed threatened and endangered species for Rock Island County, Illinois.

- Higgins eye pearly mussel (*Lampsilis higginsii*),
- Sheepnose mussel (*Plethobasus cyphus*),
- Spectaclecase mussel (*Cumberlandia monodonta*),
- Indiana bat (*Myotis sodalist*),
- Northern long-eared bat (*Myotis septentrionalis*),
- Eastern prairie fringed orchid (*Platanthera leucophaea*).

B. Based on the habitat needs of the species, the dredging season, and typical dredge and placement practices, the only species perceived to be potentially affected by dredge and placement operations are the Higgins eye pearly mussel, the Spectecase mussel, and the Sheepnose mussel. Potential impacts to other species such as the bat species are likely to be more easily identified and avoided during the coordination process. To avoid impacts to endangered mussel species, a mussel reconnaissance survey was conducted by the OSIT on July 17th, 2019, at site #8 no mussels were present. Conditions did not allow for a preliminary survey at site #13. The provisional site inspection will be completed as conditions allow. The District has determined that this project may effect but is not likely to adversely affect any federally listed threatened or endangered species.

C. At this time, we are coordinating this application with the U.S. Fish and Wildlife Service and the respective resource agencies through this public notice. Accordingly, our preliminary determination is subject to change should further information become available.

8. Dredge/Fill Material Guidelines. The evaluation of the impact of the proposed activity on the public interest will also include application of the guidelines promulgated by the Administrator of the United States Environmental Protection Agency under authority of Section 404(b) of the Clean Water Act (40 CFR Part 230).

9. **Public Interest Review.** The decision whether to proceed with the project will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

10. **Who Should Reply.** The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. These statements should be submitted on or before the expiration date specified at the top of page 1. These statements should bear upon the adequacy of plans and suitability of locations and should, if appropriate, suggest any changes considered desirable.

11. **Public Hearing Requests.** Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. A request may be denied if substantive reasons for holding a hearing are not provided.

12. **Reply to the Corps of Engineers.** Comments concerning the Corps permit should be addressed to the District Engineer, USACE, Rock Island District, ATTN: OD-P (B. Vollman), Clock Tower Building - Post Office Box 2004, Rock Island, Illinois 61204-2004. [Wendy Frohlich \(309/794-5573\)](tel:3097945573) may be contacted for additional information or emailed at wendy.m.frohlich@usace.army.mil. Also, [Brant Vollman \(309/794-5380\)](tel:3097945380) may be contacted for additional information or emailed at brant.j.vollman@usace.army.mil.

Attachments



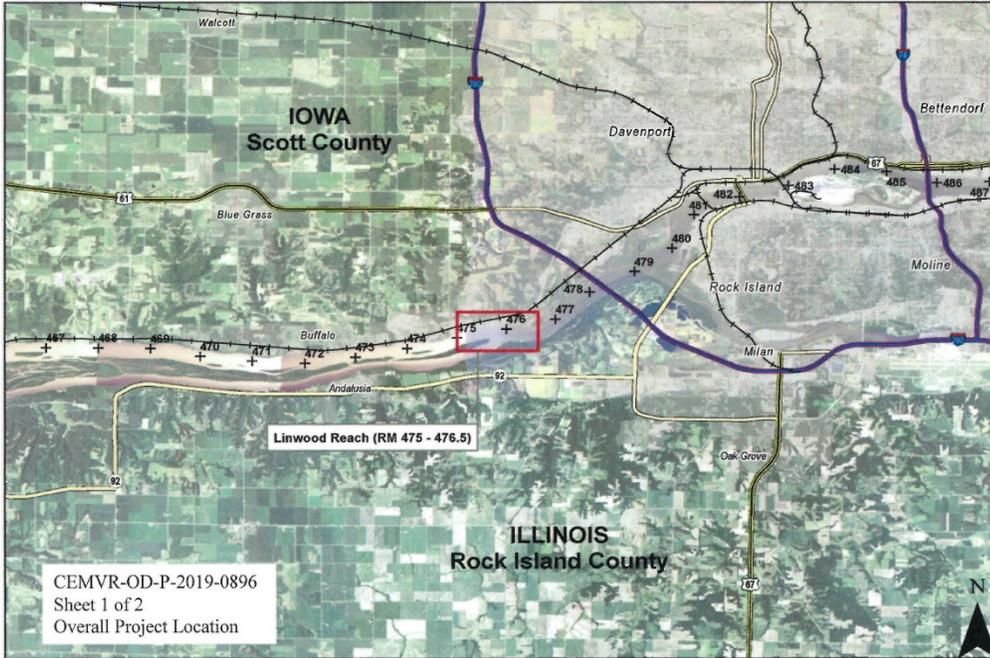
Steven M. Sattinger
Colonel, US Army
Commander and District Engineer

REQUEST TO POSTMASTERS: Please post this notice conspicuously and continuously until the expiration date specified at the top of page 1.

NOTICE TO EDITORS: This notice is provided as background information for your use in formatting news stories. This notice is not a contract for classified display advertising.

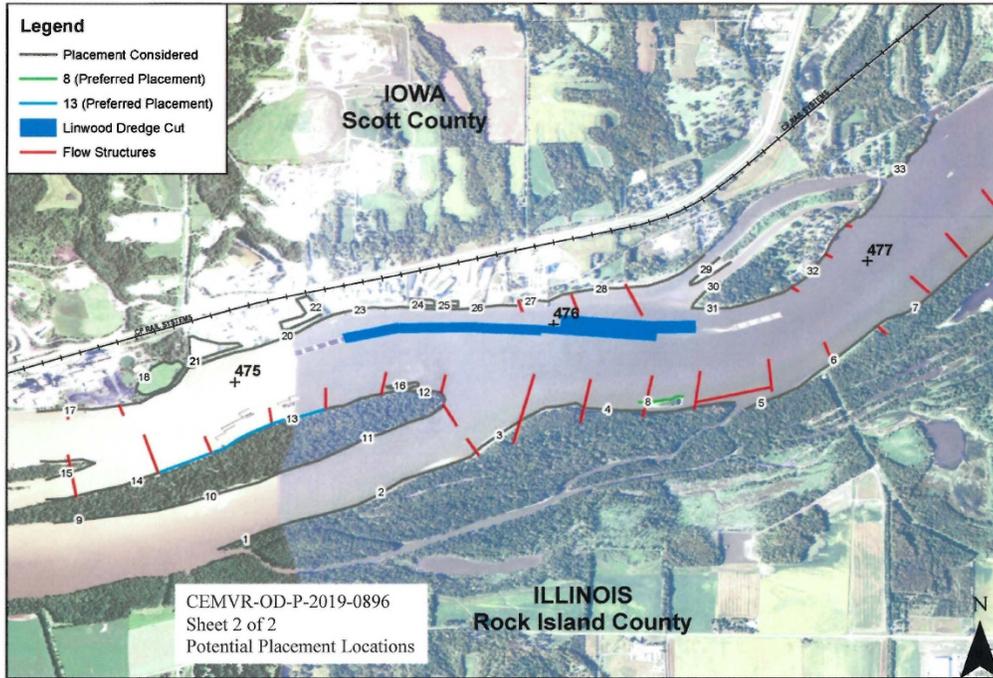
LINWOOD REACH

Map Created: 15 July 2019



LINWOOD REACH- Potential Placement Site Identification

Map Created: 24 July 2019





United States Department of the Interior



FISH AND WILDLIFE SERVICE
Illinois & Iowa ES Field Office
1511 47th Avenue
Moline, Illinois 61265
Phone: (309) 757-5800 Fax: (309) 757-5807

IN REPLY REFER
TO:
FWS/ILIAFO

AUG 21 2019

August 20, 2019

Colonel Steven M. Sattinger
Commander and District Engineer
Attn: OD-P (B. Vollman)
U.S. Army Corps of Engineers
Rock Island District
Clock Tower Building
P. O. Box 2004
Rock Island, Illinois 61204-2004

Colonel Sattinger:

This letter responds to your request for may affect, not likely to adversely affect (NLAA) determination concurrence, dated August 6, 2019 (CEMVR-OD-P-2019-0896), for proposed dredged material placement associated with maintenance of the 9-foot navigation channel. The Corps proposes to hydraulically dredge the 9-foot navigation channel between river miles 475.6-476.6, referred to as the Linwood Reach. Currently, the Linwood Reach needs approximately 68,000 cubic yards of material removed and historic placement sites are being fully utilized by other local dredging needs. The project area includes two new proposed placement sites that are located within Pool 16 of the Mississippi River, Section 24, Township 17 North, Range 3 West, Rock Island County, Illinois. These sites are referred to as Site #8 and Site #13, corresponding to Figure 2 of the Public Notice.

- Primary placement location (Site #8): located near the upstream end of Andalusia Slough, along the right descending bankline and downstream of an unnamed island at approximate river mile 476.3. The proposed dredged material placement at this site includes a footprint of approximately 700 feet long by 65 feet wide.
- Secondary placement location (Site #13): located along the Smith Island (Island 317) right descending bankline at approximate river mile 475.1. The proposed dredged material placement at this site includes a footprint of approximately 2,950 feet long by 50 feet wide.

The proposed project would place the majority of the approximated 68,000 cubic yards of material on the Site #8 bankline, with any additional capacity being placed along the Smith Island (Site #13) bankline. Both placement sites are bordered by wingdams at the upstream and downstream ends. It is the Service's understanding that access dredging will not be required to access the proposed Site #8 and Site #13 dredged material placement sites. We have reviewed your letter and have the following comments.

As provided in the Public Notice, six federally listed species are known to have ranges coincident with the project area: Higgins eye pearl mussel (*Lampsilis higginsii*), sheepsnose mussel (*Plethobasus cyphus*), spectaclecase mussel (*Cumberlandia monodonta*), Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), and eastern prairie fringed orchid (*Platanthera leucophaea*). No effect determinations were made for the Indiana bat, northern long-eared bat, and eastern prairie fringed orchid. We recommend you maintain a written record of why a "no effect" finding is warranted and include it in your administrative record. An example "no effect" memo can be found on our website at <http://www.fws.gov/midwest/angered/section7/s7process/letters.html>. A follow-up email dated August 16, 2019, requested NLAA determination concurrence for the Higgins eye pearl mussel, sheepsnose mussel, and spectaclecase mussel. Ideal habitats for these species include:

Higgins-eye pearl mussels are typically found in deep water habitats with moderate currents over sand or gravel substrate.

Sheepsnose mussels are typically found in shallow areas within large rivers and streams, with moderate to swift currents over coarse sand and gravel substrate. On occasion, sheepsnose mussels have been found in areas of mud, cobble, and boulders.

Spectaclecase mussels are typically found in sheltered areas of larger rivers, away from the main current. Individuals are typically found beneath rock slabs or between boulders or tree roots. Documented populations tend to be highly fragmented and restricted to short stream reaches.

The On-Site Inspection Team (OSIT) conducted a site visit on July 17, 2019. During the site visit, the OSIT assessed Site #8, where an unnamed island has formed between two wingdams. The OSIT conducted a mussel reconnaissance along the right descending bankline (main channel-border) and downstream end of the island. There were no mussels identified. The substrate was observed to be sandy along the length of the bankline with a sandbar extending downstream of the island. The OSIT identified Site #8 as the preferred dredged material placement site for the Linwood Reach. The OSIT recommended that placement at this site be restricted to the main channel border, tying the placement into the existing vegetation, and limiting placement encroachment into the side channel along the island's left-descending bankline. The OSIT was not able to assess Site #13 during the site visit due to high water conditions.

The Corps conducted a reconnaissance of the proposed Smith Island (Site #13) dredged material placement site on August 2, 2019. The reconnaissance included the collection of side-scan sonar images and ponar sediment samples from nine locations spanning the length of the Site #13 bankline. A report documenting the findings was provided to the Service on August 16, 2019. Sample depths ranged from 5.9 to 9.2 feet. Sediment ponar samples consisted primarily of sand, with combinations of silt, detritus, and zebra mussel shells intermixed at a sub-set of the locations. A rock wingdam was encountered at one of the sample sites. One freshwater mussel of a common species (*Amblema plicata*) was encountered within a ponar sediment sample comprised of silt and sand substrate. Overall, the ponar samples and sonar side scanning images indicated the substrate along the Site #13 bankline to predominantly consist of shifting sands. Stable substrate indicative of suitable habitat for the Higgins eye pearl mussel and sheepsnose mussel, was not identified. Additionally, the shoreline was observed for evidence of middens or shells. None were observed.

As a result of the lack of mussels resources and potentially suitable habitat identified during the site visits and the presence of wingdams at the upstream and downstream ends of the proposed placement sites aiding to reduce sand migration, we concur with your NLAA determination for the Higgins eye pearl mussel and sheepsnose mussel.

The Service continues to be concerned regarding the potential habitat suitability and occupancy of wingdams by the spectacle mussel. In a telephone conversation with the Corps on August 19, 2019, it was agreed that dredged material placement would be tapered towards the downstream end, and no dredged material would be placed directly on the upstream or downstream wingdams. Based on this information and the absence of additional information indicating their presence, we concur with your NLAA determination for the spectacle mussel. This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. Should the project be modified or new information indicate endangered species may be affected, consultation should be initiated.

Additionally, the Corps observed an eagle nest on Smith Island (Site #13) during their August 2, 2019 site visit. The eagle nest was located between sample sites #3 and #4, as described in the site visit report. The Service removed bald eagles from protection under the ESA on August 8, 2007. However, they remain protected today under the MBTA and the Eagle Act. The Eagle Act prohibits take which is defined as, "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb" (50 CFR 22.3). Disturb is defined in regulations as, "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." Please coordinate with the Service if activities associated with the project are expected to result in disturbance within 660 feet of the nest, when active.

This letter provides comments under the authority of and in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.); and the Endangered Species Act of 1973, as amended. Thank you for the opportunity to provide comments. If you have any additional questions or concerns, please contact Sara Schmuecker of my staff at [REDACTED]

Sincerely,

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

Kraig McPeek
Field Supervisor

Cc:

Bradley Hayes (IL DNR)
Kirk Hansen (IA DNR)

S:\Office Users\Sara River Projects\Mississippi River Pool 16\Linwood Reach_Dredged Material Placement 2019
08-19 Concurrence Letter.doc



Illinois Department of Natural Resources

www.dnr.illinois.gov

JB Pritzker, Governor
Colleen Callahan, Director

Mailing address: State Historic Preservation Office, 1 Old State Capitol Plaza, Springfield, IL 62701

Rock Island County
Rock Island

PLEASE REFER TO: SHPO LOG #001080819

Dredging: Mississippi River mile 475.6-476.6 / Fill Placement: River mile 476.3-Andalusia Slough and/or River mile 475.1-Smith Island
Section:24-Township:17N-Range:3W
COERI-CEMVR-OD-P-2019-896
Maintenance dredging/fill placement

August 23, 2019

Brant Vollman
Department of the Army
Rock Island District, Corps of Engineers
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004



Dear Mr. Vollman:

We have reviewed the documentation submitted for the referenced project(s) in accordance with 36 CFR Part 800.4. Based upon the information provided, no historic properties are affected. We, therefore, have no objection to the undertaking proceeding as planned.

Please retain this letter in your files as evidence of compliance with section 106 of the National Historic Preservation Act of 1966, as amended. This clearance remains in effect for two (2) years from date of issuance. It does not pertain to any discovery during construction, nor is it a clearance for purposes of the Illinois Human Skeletal Remains Protection Act (20 ILCS 3440).

If you are an applicant, please submit a copy of this letter to the state or federal agency from which you obtain any permit, license, grant, or other assistance. If further assistance is needed contact Jeff Kruchten, Chief Archaeologist at 217/785-1279 or Jeffery.kruchten@illinois.gov.

Sincerely,

Robert F. Appleman
Deputy State Historic
Preservation Officer



Miami Tribe of Oklahoma

3410 P St. NW, Miami, OK 74354 • P.O. Box 1326, Miami, OK 74355
Ph: (918) 541-1300 • Fax: (918) 542-7260
www.miamination.com



Via email: wendy.m.frohlich@usace.army.mil

August 30, 2019

District Engineer
USACE, Rock Island District,
ATTN: OD-P (B. Vollman),
Clock Tower Building – Post Office Box 2004
Rock Island, Illinois 61204-2004

Re: CEMVR-OD-P-2019-0896 – Comments of the Miami Tribe of Oklahoma

Greetings:

Aya, kikwehsitoole – I show you respect. My name is Diane Hunter, and I am the Tribal Historic Preservation Officer for the Federally Recognized Miami Tribe of Oklahoma. In this capacity, I am the Miami Tribe's point of contact for all Section 106 issues.

The Miami Tribe offers no objection to the above-mentioned project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site. However, as this project is within the aboriginal homelands of the Miami Tribe, if any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project, the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery. In such a case, please contact me at [REDACTED] or by email at [REDACTED] to initiate consultation.

The Miami Tribe accepts the invitation to serve as a consulting party to the proposed project. In my capacity as Tribal Historic Preservation Officer I am the point of contact for consultation.

Respectfully,

Diane Hunter

Diane Hunter
Tribal Historic Preservation Officer



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT
PO BOX 2004 CLOCK TOWER BUILDING
ROCK ISLAND, ILLINOIS 61204-2004

August 19, 2019

Regional Planning and
Environmental Division North

Jeff Kruchten
Illinois State Historic Preservation Office
Old State Capital Building, 2nd Floor
One Old State Capitol Plaza
Springfield, Illinois 62701

Dear Mr. Kruchten,

The Rock Island District of the U.S. Army Corps of Engineers (District) informally coordinated with your agency (email dated July 23, 2019) concerning the emergency placement of dredge material that will be removed from the Mississippi River's 'Linwood Reach' area located between river miles 475.6 and 476.6, roughly half way between the towns of Andalusia and Rock Island, Illinois. A primary and secondary location were selected for placement of approximately 61,000 cubic yards of material that will be removed in order to maintain the 9-foot Congressionally mandated depth, and avoid an imminent closure of the navigation channel.

The primary placement location is a small island located in Sec. 19, T17N - R02W, just north of the Illinois shoreline in Rock Island County. If this primary location proves inadequate for all material, the secondary location will be utilized for any excess. The secondary placement location is also in Rock Island County, on the much larger Smith Island (Island 317) in Sec. 24, T17N - R03W. Only the north sides of the islands facing the channel will be utilized for placement (Enclosure 1).

The primary placement location is a product of recent post-settlement alluvium and does not appear on historic aerial photos taken from between 1937-1947 (Enclosures 1A and 2). Despite the island's young age and lack of potential for cultural resources, it was visited by a District archaeologist on July 17, 2019. The island is approximately 175 meters long and the entire shoreline was subjected to pedestrian survey. No cultural materials of any kind were observed (Enclosure 3).

Smith Island was included as part of a 1983 survey/geomorphological assessment and associated report, entitled *Preliminary Cultural Resource Survey and Geomorphological Assessment of Selected Areas in Navigation Pool 16, Mississippi River* (IL Survey ID. #791). The survey did not identify any cultural material or archaeological sites, but the report does suggest Smith Island has some potential for deeply buried deposits. However, any dredge material placed at the secondary site will be deposited exclusively along the exposed shore and in the high water immediately adjacent to the shore. No material will be placed beyond the tree line.

There are no shipwrecks or underwater historic properties in the dredging vicinity according to relevant reports curated by the District. Due to the primary placement location's lack of cultural potential and the limited utilization of the shoreline at the secondary location, the District has made a determination of *No Historic Properties Affected* for this Undertaking and requests your comments within 30 days of receiving this correspondence. Agency concurrence will meet our requirements under Section 106 of the NHPA and its implementing regulations, 36 CFR 800.

Please send comments to Tom Hale at [REDACTED] or write to our address, ATTN: Regional Planning and Environmental Division North (Tom Hale).

Sincerely,



Jodi K. Creswell
Chief, Economic and Environmental
Analysis Branch

Enclosures (4)

DISTRIBUTION LIST

Citizen Potawatomi Nation
Dr. Kelli Mosteller, THPO
1601 S Gordon Cooper Drive
Shawnee OK 74801

Forest County Potawatomi Community
Mr. Michael LaRonge, THPO
5320 Wensaut Ln.
P.O. Box 340
Crandon, WI 54520

Ho-Chunk Nation
Mr. Bill Quackenbush, THPO
PO Box 667
Black River Falls, WI 54615

Iowa Tribe of Kansas and Nebraska
Mr. Lance Foster, THPO
3345 B Thrasher Rd.
White Cloud, KS 66094

Iowa Tribe of Oklahoma
Mr. Eagle McClellan, Cultural Preservation
Director
335588 E. 750 Rd.
Perkins, OK 74059

Kickapoo Tribe in Kansas
Mr. Curtis Simon, NAGPRA Director
1107 Goldfinch Rd
Horton, KS 66439

Kickapoo Tribe of Oklahoma
Mr. Kent Collier, NAGPRA Coordinator
PO Box 70
Meloud, OK 74851

Menominee Indian Tribe of Wisconsin
Mr. David J. Grignon, THPO
W2908 Tribal Office Loop Road
P.O. Box 910
Keshena, WI 54135-0910

Meskwaki Nation
Mr. Johnathan Buffalo
Director, Historic Preservation Department
303 Meskwaki Road
Tama, IA 52339

Miami Tribe of Oklahoma
Ms. Diane Hunter, THPO
P.O. Box 1326
Miami, OK 74355

Omaha Tribe of Nebraska
Mr. Thomas Parker, THPO
PO Box 368
Macy, NE 68039

Osage Nation
Dr. Andrea A. Hunter, THPO
627 Grandview
Pawhuska, OK 74056

Otoe-Missouria Tribe
Ms. Elsie Whitehorn, THPO
8151 Hwy 177
Red Rock OK 74651

Peoria Tribe of Indians of Oklahoma
Mr. Logan Pappenfort, THPO
P.O. Box 1527
Miami, OK 74355

Ponca Nation
Ms. Halona Cabe, THPO
20 White Eagle Dr.
Ponca City, OK 74601

Ponca Tribe of Nebraska
Mr. Dwight Howe, THPO
PO Box 288
Niobrara, NE 68760

Prairie Band Potawatomi Nation
Ms. Hattie Mitchell, NAGPRA Representative
16281 Q Road
Mayetta, KS 66509

Prairie Island Indian Community
Mr. Noah White, THPO
5636 Sturgeon Lake Road
Welch, MN 55089

DISTRIBUTION LIST

**Sac & Fox Nation of Missouri in Kansas
& Nebraska**
The Honorable Tiauna Carnes, Chairperson
305 North Main Street
Reserve, KS 66434

Sac and Fox Nation of Oklahoma
Historic Preservation Officer
P.O. Box 230
Drumright, OK 74030

Sac and Fox Nation of Oklahoma
The Honorable Kay Rhoads, Principle Chief
920883 S Hwy 99, Admin Bldg A
Stroud, OK 74079

Upper Sioux Community, Minnesota
Ms. Samantha Odegard, THPO
P.O. Box 147
Granite Falls, MN

Winnebago Tribe of Nebraska
Mr. Randy Teboe, THPO
PO Box 687
Winnebago, NE 68071

From: Michael LaRonge [REDACTED]
Sent: Thursday, September 12, 2019 8:34 AM
To: Vollman, Brant J CIV USARMY CEMVR (USA) [REDACTED]
Subject: [Non-DoD Source] Re: Application No. CEMVR-OD-P-2019-0896, Dredge Material Storage at the Head of the Andalusia Slough and Potentially Smith Island, Rock Island County, Illinois.

Re: Application No. CEMVR-OD-P-2019-0896, Dredge Material Storage at the Head of the Andalusia Slough and Potentially Smith Island, Rock Island County, Illinois.

Dear Mr. Vollman,

Pursuant to consultation under Section 106 of the National Historic Preservation Act (1966 as amended) the Forest County Potawatomi Community, a Federally Recognized Native American Tribe, reserves the right to comment on Federal undertakings, as defined under the act.

Thank you for your notice of intent for the proposed project referenced above. Based on the information provided it appears the creation of the new storage facility and its alternate will have no impact on historic properties. Therefore the Tribal Historic Preservation Office, on behalf of the Tribe, is pleased to concur with the finding of no historic properties affected as issued in the public notice, with two conditions. First should the SHPO finding differ the Tribe reserves the right to reconsider. Second, in the event that human remains or archaeological materials are exposed during the dredging work must halt and the Tribe must be included in any consultation concerning treatment and disposition of the find if possible prior to removal.

Your interest in protecting cultural and historic properties is appreciated. If you have any questions or concerns, please contact me at phone number or email listed below.

Respectfully,

Michael LaRonge
Tribal Historic Preservation Officer
Natural Resources Department
Forest County Potawatomi Community
5320 Wensaut Lane
P.O. Box 340
Crandon, Wisconsin 54520
Phone: [REDACTED]
Fax: 715-478-7225
Email: [REDACTED]



Osage Nation Historic Preservation Office

HAZAZA BOSN BOPPA

Date: September 23, 2019

File: 1819-46231L-8

RE: USACE, Rock Island District, Emergency Placement of Dredge Material removed from Linwood Reach, Rock Island County, Illinois

Rock Island District, USACE
Tom Hale
Clock Tower Bldg, P.O. Box 2004
Rock Island, IL 61204-2004

Dear Mr. Hale,

The Osage Nation Historic Preservation Office has evaluated your submission and concurs that the proposed USACE, Rock Island District, Emergency Placement of Dredge Material removed from Linwood Reach, Rock Island County, Illinois most likely will not adversely affect any sacred properties and/or properties of cultural significance to the Osage Nation. **The Osage Nation has no further concern with this project.**

In accordance with the National Historic Preservation Act, (NHPA) [54 U.S.C. § 300101 et seq.] 1966, undertakings subject to the review process are referred to in 54 U.S.C. § 302706 (a), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969). **The Osage Nation concurs that the Rock Island District, USACE has fulfilled NHPA compliance by consulting with the Osage Nation Historic Preservation Office in regard to the proposed USACE, Rock Island District, Emergency Placement of Dredge Material removed from Linwood Reach, Rock Island County, Illinois.**

The Osage Nation has vital interests in protecting its historic and ancestral cultural resources. We do not anticipate that this project will adversely impact any cultural resources or human remains protected under the NHPA, NEPA, the Native American Graves Protection and Repatriation Act, or Osage law. **If, however, artifacts or human remains are discovered during project-related activities, we ask that activities cease immediately and the Osage Nation Historic Preservation Office be contacted.**

Should you have any questions or need any additional information please feel free to contact me at the number listed below. Thank you for consulting with the Osage Nation on this matter.


Jess G. Hendrix
Archaeologist

DREDGED MATERIAL PLACEMENT

**UPPER MISSISSIPPI RIVER POOL 16
RIVER MILES 475.0-476.6
LINWOOD DREDGE CUT**

ENVIRONMENTAL ASSESSMENT

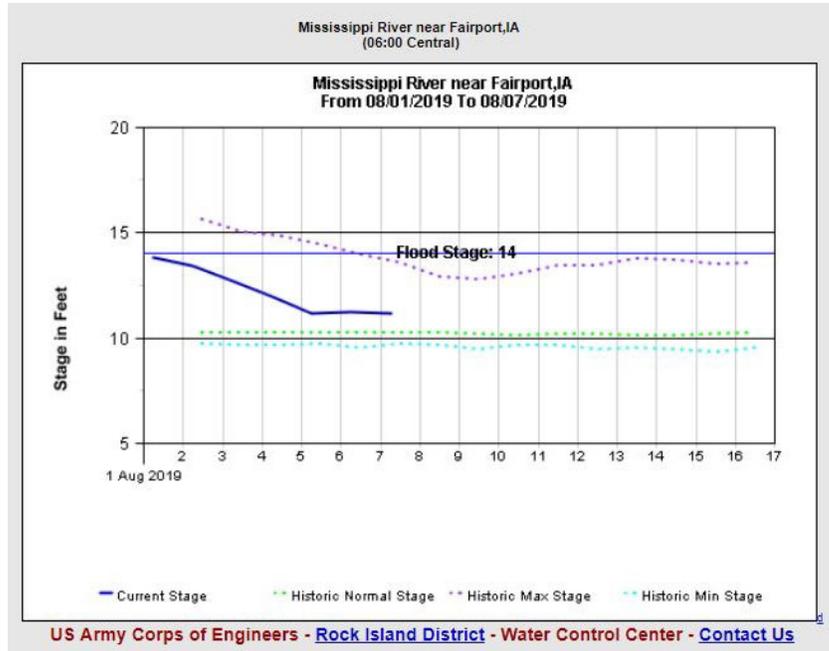
**SCOTT COUNTY, IOWA
ROCK ISLAND COUNTY, ILLINOIS**

APPENDIX C

**LINWOOD DREDGE PLACEMENT SITE #13 MUSSEL
RECONNAISSANCE REPORT**

Date: August 2, 2019
Time: 10:00 a.m. – 2:00 p.m.
River Gage: Fairport, 13.38 (about 3 ft above normal pool)
Weather: 88 degrees, sunny and calm
Team: Wendy Frohlich, Bre Popkin, Matt Afflerbaugh, and Tom Hale

Location: Linwood Dredge Placement Site #13 is located on Smith Island (Island 317), channel side, at approximately Mississippi River Mile Marker 475.1. The approximate center of this location is: latitude 41.454266, longitude -90.687939. It is located on the Illinois side of the channel in Section 24, Township 17 North, and Range 3 West, Rock Island County, Illinois.



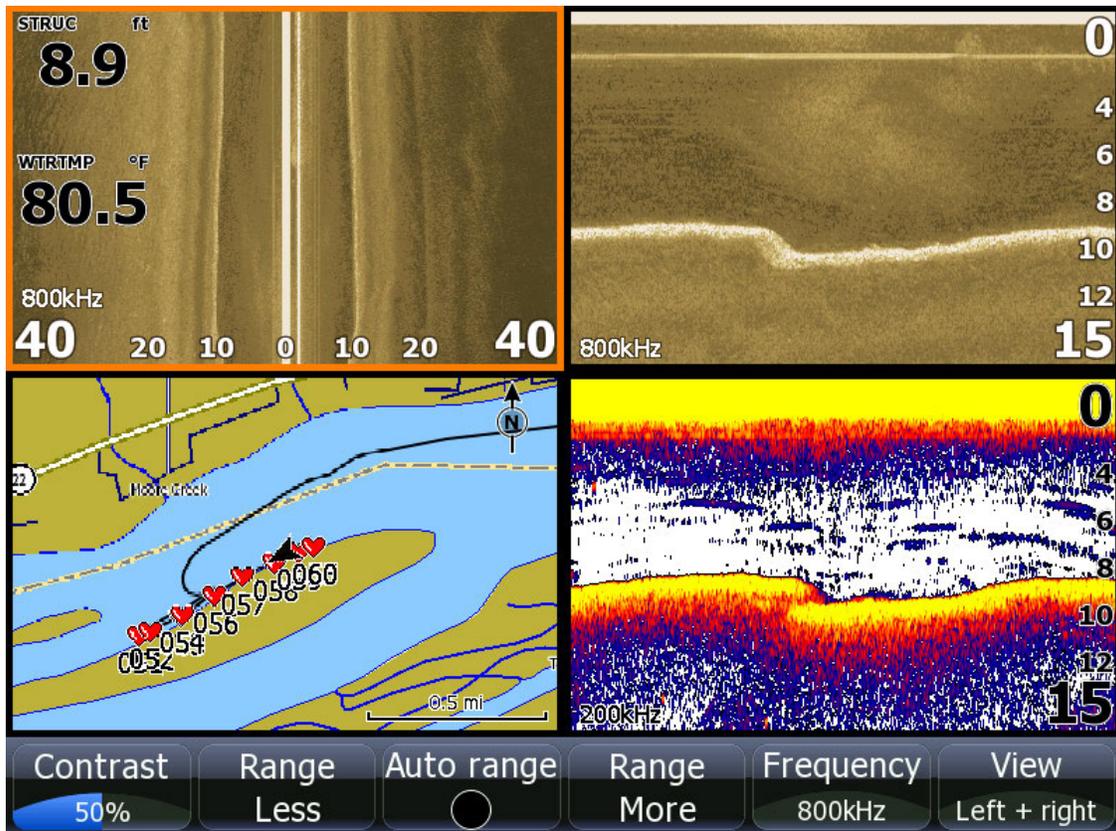
Project: In order to maintain the Nine-foot navigation channel, dredging needs to be performed at various locations on the Upper Mississippi River within the U.S. Army Corps of Engineers, Rock Island District (District). There is currently an immediate need to dredge the navigation channel between river mile 475.6-476.6, referred to as the Linwood Reach. Dredged material is removed from the channel by hydraulic dredging performed by a cutterhead dredge which discharges material to the placement site via a floating pipeline. Historically, the Linwood Reach would need approximately 9,000 CYs of material removed every 5 years, this material was generally mechanically dredged and transported to a historic placement site. Currently, the Linwood Reach needs approximately 68,000 CYs removed and historic placement sites are being fully utilized by other local dredging needs.

The proposed Project would involve hydraulic dredging then placing approximately 68,000 CYs of material on a small island bankline (#8) and if more capacity is needed potentially using Smith Island's (Island 317) bankline (#13). Dredged material would be placed up to but not exceeding the Ordinary High Water Mark (549.8 ft MSL). The material would be graded after placement. Side slopes of the placed material would fall at approximately 3H:1V slope. Bankline placement would be approximately 700 ft long x 65 ft wide for Site #8 and 2,950 ft long x 50 ft wide for Site #13. Placing dredged material on the bankline to an elevation of 549.8 ft MSL has no impact on flow velocity and placement between rock structures (wing dams) provides a stable location for the dredged material. Placement of dredged material at these sites would present no-rise in the water surface elevations at this site or upstream of this site.

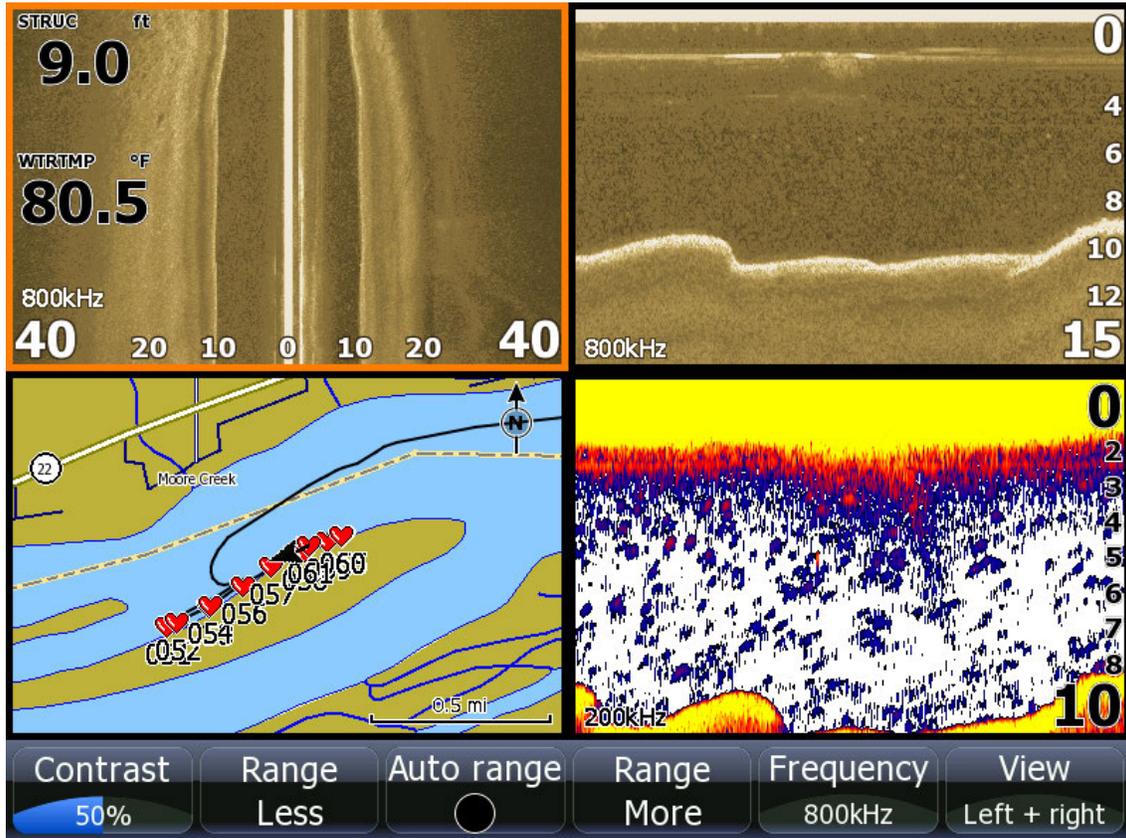
Site #13 Data: Took Ponar samples and Side Scan Sonar screen shots at nine sites, starting at the downstream end and working upstream. This report does not include every screen shot as most were similar, a few have been included as representative of the other sites.

Upstream Data Point – 41°27'26.74" 90°40'49.16"
Downstream Data Point - 41°27'13.36"90°41'23.36"

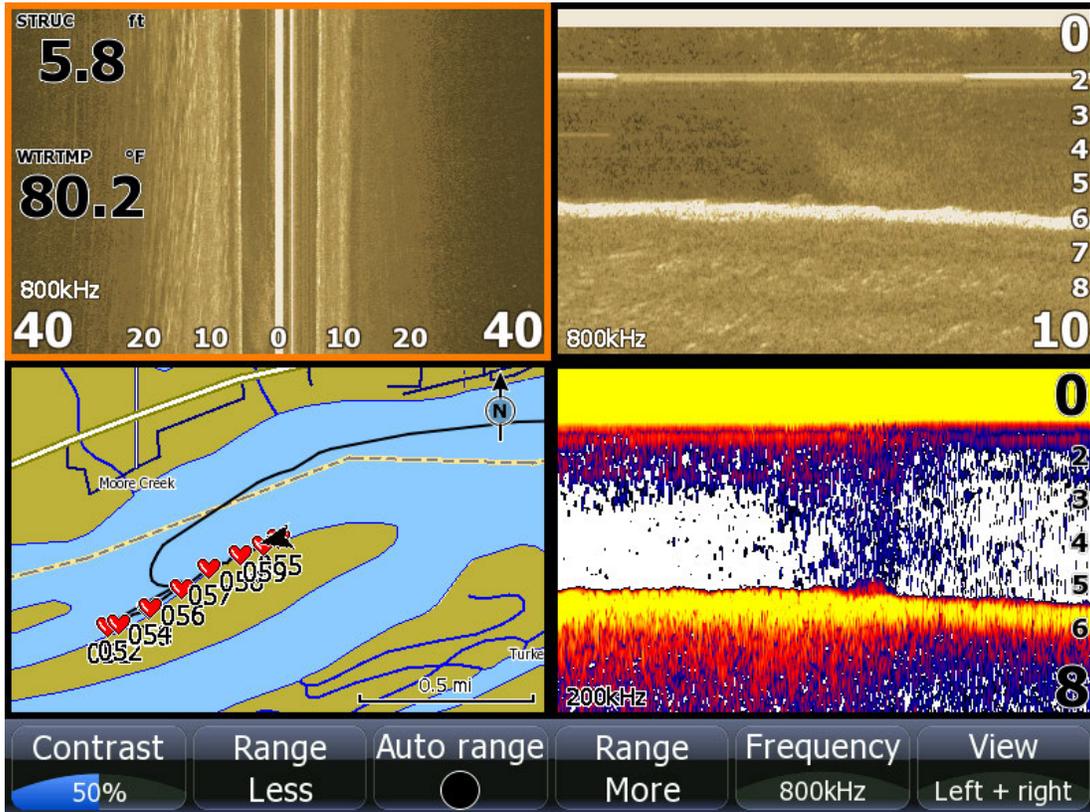
Site #1 – Ponar grab at 8.5 feet result: Sandy Silt
Side Scan Sonar Screen shot



Site #2 – Ponar grab at 9 feet result: Sandy
Side Scan Sonar Screen Shot



Site #3 – Ponar grab at 9.2 feet result: Sandy
Side Scan Sonar Screen Shot



Between Site #3 and Site #4 – Eagle nest observed.

Site #4– Ponar grab at 7.2 feet result: Chunks of Silt, Sandy, and a Three Ridge Mussel

Site #5 – Ponar grab at 7.7 feet result: Sandy Silt plus detritus

Site #6 – Ponar grab at 7.7 feet result: Sand

Site #7 – Ponar grab at 9 feet result: Sand and Zebra Mussel Shells

Site #8 – 10 Ponar grabs with 1 result at 5.9 feet: rock (wingdam)

Site #9 – Ponar grab at 9 feet result: Sandy

Results: Area between wing dams appears to be predominantly shifting sands, no gravel substrate was found. No mussel middens or shells were observed on shoreline.

DREDGED MATERIAL PLACEMENT

**UPPER MISSISSIPPI RIVER POOL 16
RIVER MILES 475.0-476.6
LINWOOD DREDGE CUT**

ENVIRONMENTAL ASSESSMENT

**SCOTT COUNTY, IOWA
ROCK ISLAND COUNTY, ILLINOIS**

APPENDIX D

PROGRAMMATIC AGREEMENT

PROGRAMMATIC AGREEMENT

AMONG THE ROCK ISLAND DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND
THE ILLINOIS STATE HISTORIC PRESERVATION OFFICER,
THE IOWA STATE HISTORIC PRESERVATION OFFICER,
THE MISSOURI STATE HISTORIC PRESERVATION OFFICER,
AND THE WISCONSIN STATE HISTORIC PRESERVATION OFFICER
REGARDING IMPLEMENTATION OF THE LONG-TERM MANAGEMENT STRATEGY
FOR DREDGED MATERIAL PLACEMENT

WHEREAS, the Rock Island District of the U.S. Army Corps of Engineers (Corps) has determined that the Illinois Waterway and Mississippi River have historic and chronic shoaling areas and that dredging is generally required to provide adequate channels for commercial navigation and that dredged material placement undertakings are required for the Corps' long-term (greater than 10 years) needs, as documented in the Long-Term Management Strategy for Dredged Material Placement Upper Mississippi River Miles 300-614, dated August 1990, and the Long-Term Management Strategy for Dredged Material Placement Illinois Waterway River Miles 80-327, dated June 1995, all presently referred to as the Dredged Material Management Plan.

WHEREAS, the Corps has determined that the dredged material placement undertakings may have an effect upon properties listed on, or eligible for, inclusion in the National Register of Historic Places (National Register), and has consulted with the Advisory Council on Historic Preservation (Council) and the Illinois, Iowa, Missouri, and Wisconsin State Historic Preservation Officers [SHPO(s)] pursuant to Section 800.13 of the regulations (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f), [and Section 110(f) of the same Act (16 U.S.C. 470h-2(f)); and,

NOW, THEREFORE, the Corps, the Council, and the appropriate SHPO(s) agree that the undertakings shall be implemented in accordance with the following stipulations to satisfy the Corps' Section 106 responsibility for all individual actions.

I. HISTORIC PROPERTY SURVEYS AND TESTING

A. The Corps will take all measures necessary to discover, preserve, and avoid significant historic properties, listed on, or eligible for, inclusion in the National Register of Historic Places, burials, cemeteries, or sites likely to contain human skeletal remains/artifacts and objects associated with interments or religious activities, and provide this information, studies, and/or reports to the appropriate SHPO(s) through the implementation of historic property surveys and testing, and the treatments of historic properties. The Corps will ensure that the following measures are implemented:

1. Unless recent and modern ground surface disturbances and/or historic use can be documented, the Corps will conduct a historic property visual (reconnaissance) survey with subsurface testing on all new and expanded dredged material placement sites and all other areas indirectly and directly affected by construction, use, maintenance, and operation of the new and expanded dredged material placement sites having the potential for historic properties. The Corps will evaluate historic properties identified through the

reconnaissance survey in accordance with 36 CFR Part 800.4(c) and reports of the findings shall be submitted to the appropriate SHPO(s) for review and comment. If the reconnaissance survey results in the identification of historic properties that are eligible for the National Register of Historic Places, the Corps, in consultation with the appropriate SHPO(s), shall develop and implement plans for the appropriate treatment of historic properties. Treatment will include, but not be limited to, avoidance of the historic property, avoidance of a portion of the historic property, and data recovery of the portion of the historic property to be affected, or data recovery of the entire historic property.

2. The reconnaissance surveys and subsurface testing will be conducted in a manner consistent with the Secretary of the Interior's Standards and Guidelines for Identification and Evaluation (48 FR 44720-23) and take into account the National Park Service publication The Archaeological Survey: Methods and Uses (1978) and any extant or most recent version of appropriate SHPO(s) guidelines for historic properties reconnaissance surveys/reports, related guidance, and etc. The reconnaissance surveys and subsurface testing will be implemented by the Corps and monitored by the appropriate SHPO(s).

3. In consultation with the appropriate SHPO(s), the Corps shall evaluate for eligibility all significant historic properties by applying the National Register criteria (36 CFR Part 60.4).

a. For those properties that the Corps and the appropriate SHPO(s) agree are not eligible for nomination to or inclusion in the National Register, no further historic properties investigations will be required, and the project may proceed in those areas.

b. If the survey results in the identification of properties that the Corps and the appropriate SHPO(s) agree are eligible for nomination to, or inclusion on, the National Register, such properties shall be treated in accordance with Part II below.

c. If the Corps and the appropriate SHPO(s) do not agree on National Register eligibility, or if the Council or the National Park Service so request, the Corps will request a formal determination of eligibility from the Keeper of the National Register, National Park Service, whose determination shall be final.

II. TREATMENT OF HISTORIC PROPERTIES

A. Those properties that the Corps and the appropriate SHPO(s) agree are eligible for nomination to, or that the Keeper has determined eligible for inclusion in, the National Register will be treated in the following manner:

1. If The Corps determines, and documents this determination, in consultation with the appropriate SHPO(s) that no other actions are feasible to avoid and minimize effects to properties and the Corps and SHPO(s) agree under consultation that properties cannot be avoided, then a treatment plan, which may include data recovery, documentation, avoidance, protection, or removal, will be coordinated with the appropriate SHPO(s). If data recovery is the agreed upon treatment, the data recovery plan will address substantive research questions developed in consultation with the appropriate SHPO(s). The treatment plan shall be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-37) and take into account the Council's publication, Treatment of Archaeological Properties (Advisory Council on Historic Preservation, 1980) and appropriate SHPO(s) guidance. It shall specify, at a minimum, the following:

- a. The property, properties, or portions of properties where the treatment plan is to be carried out;
- b. The research questions to be addressed, with an explanation of research relevance and importance;
- c. The methods to be used, with an explanation of methodological relevance to the research questions;
- d. Proposed methods of disseminating results of the work to the interested public; and,
- e. A proposed schedule for the submission of progress reports to the appropriate SHPO(s).

2. The treatment plan shall be submitted by the Corps to the appropriate SHPO(s) for 30 days review. The Corps will take into account SHPO comment and shall ensure that the data recovery plan is implemented. The appropriate SHPO(s) shall monitor this implementation.

B. The Corps will ensure that the data recovery plan is carried out by or under the direct supervision of an archaeologist(s), architectural historian(s) and/or other appropriate cultural resource specialist that meets, at minimum, the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-9).

C. The Corps will ensure that adequate provisions, including personnel, time, and laboratory space, are available for the analysis of recovered materials from historic properties.

D. The Corps will develop and implement an adequate program in consultation with the appropriate SHPO(s) to secure and historic properties from vandalism during data recovery.

III. CURATED ITEMS

In consultation with the appropriate SHPO(s), the Corps will ensure that all materials and records resulting from the historic properties studies conducted for the dredged material placement sites project are curated at a repositories within the States of Illinois, Iowa, Missouri, and Wisconsin in accordance with 36 CFR Part 79.

IV. TREATMENT OF HUMAN REMAINS

If incidental finds of human remains are encountered either during the data recovery or during any project construction activities, the Corps will comply with all provisions outlined in the appropriate state acts, statutes, guidance, provisions, etc., and any decisions regarding the treatment of human remains will be made under consultation with the SHPO(s). If incidental finds of human remains are encountered or collected from Federal lands or Federally-Recognized Tribal lands, the Corps will coordinate with the appropriate Federally-recognized Native Americans, as promulgated by the Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. § 3001 *et seq.*), under consultation with the appropriate SHPO(s).

V. REPORTS

The Corps will ensure that all final historic properties reports resulting from the actions pursuant to this Programmatic Agreement (Agreement) will be provided in a format acceptable to the appropriate SHPO(s) and the National Park Service for possible peer review and submission to the National Technical Information Service. The Corps will ensure that all such reports are responsive to contemporary standards, and to the Department of the Interior's Format Standards for Final Reports of Data Recovery (42 FR 5377-79). Precise locational data may be provided only in a separate appendix if it appears that the release of this locational data could jeopardize historic properties. The reports and reports data will be made available for publication and public dissemination.

VI. PROVISION FOR UNDETECTED HISTORIC PROPERTIES DISCOVERED DURING IMPLEMENTATION

In accordance with 36 CFR Section 800.11(a), if previously undetected or undocumented historic properties are discovered during project activities, the Corps will cease, or cause to stop, any activity having an effect and consult with the appropriate SHPO(s) to determine if additional investigation is required. If further archaeological investigations are warranted or required, any treatment plan will be performed in accordance with Part II TREATMENT OF HISTORIC PROPERTIES and Part III CURATION AND DISSEMINATION OF INFORMATION of this Agreement. If both the Corps and the appropriate SHPO(s) determine that further investigation is not necessary, activities may resume with no further action required. Any disagreement between the Corps and the appropriate SHPO(s) concerning the need for further investigations will be handled pursuant to Part V DISPUTE RESOLUTION of this Agreement.

VII. DISPUTE RESOLUTION

Should the appropriate SHPO(S) or the Council object within 30 days to any plans or actions provided for review pursuant to this agreement, the Corps will consult with the objecting party to resolve the objection. If the Corps determines that the disagreement cannot be resolved, the Corps will request further comment from the Council in accordance with 36 CFR Part 800.6(b). Any Council comment provided in response will be taken into account by the Corps in accordance with 36 CFR Part 800.6(c)(2), with reference only to the subject of the dispute. The Corps' responsibility to carry out all actions under this Agreement that are not the subjects of the dispute will remain unchanged.

VIII. TERMINATION

Any of the signatories to this Agreement may request a reconsideration of its terms or revoke the agreement upon written notification to the other signatories, by providing thirty (30) days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the advent of termination, the Corps will comply with 36 CFR Parts 800.4 through 800.6 with regard to individual undertakings covered by this Agreement.

IX. AMENDMENTS

Any party to this Agreement may request that it be amended, whereupon the parties will consult in accordance with 36 CFR Part 800.13, to consider such amendment.

X. PERIODIC REVIEW

The Corps will provide the SHPO(s) with evidence of compliance with this Agreement by letter on January 30, 1997, and once every two years thereafter said date. This letter shall contain the name of the project, title of the documents which contained the Agreement, historic properties identified, determinations of effect, avoidance procedures, level of investigation(s) and/or mitigation(s) conducted with titles of all project reports related to such investigation(s) and/or mitigation(s) which have been completed.

XI. EXECUTION AND IMPLEMENTATION

A. Nothing in this Agreement is intended to prevent the Corps from consulting more frequently with the appropriate SHPO(s) or the Council concerning any questions that may arise or on the progress of any actions falling under or executed by this Agreement. Any resulting modifications to this Agreement will be coordinated in accordance with Section 800.5(e)(5).

B. The undersign concur that the Corps has satisfied its Section 106 responsibilities for all individual undertakings through this Agreement regarding the implementation of the Long-Term Management Strategy for Dredged Material Placement.

XII. SIGNATORIES

A. ROCK ISLAND DISTRICT, U.S. ARMY CORPS OF ENGINEERS:

BY: Charles S. Cox Date: 7 Dec 95
Colonel Charles S. Cox
District Engineer
U. S. Army Corps of Engineers
Rock Island District

B. ILLINOIS STATE HISTORIC PRESERVATION OFFICER:

BY: William L. Wheeler Date: 1-3-96
William L. Wheeler
Illinois State Historic Preservation Officer
Illinois Historic Preservation Agency

XII. SIGNATORIES (Continued)

C. IOWA STATE HISTORIC PRESERVATION OFFICER:

BY: Patricia Ohlerking Date: 1-22-96
Patricia Ohlerking
Iowa State Historic Preservation Officer
State Historical Society of Iowa

D. MISSOURI STATE HISTORIC PRESERVATION OFFICER:

BY: David A. Shorr Date: 15 FEB. 96
David A. Shorr
Missouri State Historic Preservation Officer
Department of Natural Resources

E. WISCONSIN STATE HISTORIC PRESERVATION OFFICER:

BY: Jeff M. Dean Date: 2/26/96
Jeff M. Dean
Wisconsin State Historic Preservation Officer
State Historical Society

F. ADVISORY COUNCIL ON HISTORIC PRESERVATION:

BY: Robert D. Bush Date: 4/29/96
Robert D. Bush
Executive Director
Advisory Council on Historic Preservation

DREDGED MATERIAL PLACEMENT

**UPPER MISSISSIPPI RIVER POOL 16
RIVER MILES 475.0-476.6
LINWOOD DREDGE CUT**

ENVIRONMENTAL ASSESSMENT

**SCOTT COUNTY, IOWA
ROCK ISLAND COUNTY, ILLINOIS**

APPENDIX E

**CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION**

DREDGED MATERIAL PLACEMENT

**UPPER MISSISSIPPI RIVER POOL 16
RIVER MILES 475.0-476.6
LINWOOD DREDGE CUT**

ENVIRONMENTAL ASSESSMENT

**SCOTT COUNTY, IOWA
ROCK ISLAND COUNTY, ILLINOIS**

**APPENDIX E
CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION**

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DREDGED MATERIAL PLACEMENT

UPPER MISSISSIPPI RIVER POOL 16 RIVER MILES 475.0-476.6 LINWOOD DREDGE CUT

ENVIRONMENTAL ASSESSMENT

APPENDIX E CLEAN WATER ACT SECTION 404(b)(1) EVALUATION

SECTION 1: PROJECT DESCRIPTION

A. LOCATION

The proposed Project, dredge material placement, is located on the Mississippi River (Figure EA-1) at two potential locations, #8 and #13 (Figure EA-2). The preferred primary location (#8) is located near the head of Andalusia Slough on the left descending bank at approximately mile marker 476.3. The approximate center of this location is: latitude 41.457751, longitude -90.660995. The preferred secondary location (#13) is located on Smith Island (Island 317), channel side, at approximately mile marker 475.1. The approximate center of this location is: latitude 41.454266, longitude -90.687939. Both locations are on the Illinois side of the channel in Section 24, Township 17 North, and Range 3 West, Rock Island County, Illinois.

B. GENERAL DESCRIPTION

In order to maintain the Nine-foot navigation channel at the Linwood Reach, the District performed maintenance dredging. The dredged material consisted predominantly of medium to fine dark brown sand. Dredged material was removed from the channel by hydraulic dredging performed by a cutterhead dredge, which discharges material to a selected placement site via a floating pipeline. For this Project, approximately 68,000 cubic yards of material was placed on one or more selected bank placement sites. Dredged material was placed up to but not exceeding the Ordinary High Water Mark. The material would be graded after placement, side slopes would fall at approximately a 3H:1V slope.

C. AUTHORITY AND PURPOSE

The authority and purpose of this evaluation is to comply with Section 404 of the Clean Water Act pertaining to guidelines for placement of dredged or fill material into waters of the United States. This evaluation, in conjunction with the EA, will assist in analysis of the alternatives for this Project, resulting in the Base Plan (Federal Standard). Further, this evaluation will provide information and data to the State water quality certifying

agency demonstrating compliance with State water quality standards. This will aid in the decision making process concerning State 401 water quality certification.

D. GENERAL DESCRIPTION OF THE DREDGED MATERIAL

The substrate to be dredged was sampled July 2, 2019, and is medium to fine sand, detailed results can be found in the EA Section 4, B. *Natural Resources*. Laboratory testing was performed in accordance with EM 1110-2-1906, dated November 30, 1970, revised May 1, 1980, and August 20, 1986. All samples were oven dried at 110 degrees centigrade and then shaken through a nest of sieves ranging in size from largest to smallest of 1.5 inches to #200. Visual classification is in accordance with USCS (Unified Soils Classification System).

E. DESCRIPTION OF THE PROPOSED PLACEMENT SITES

Site #8 River Mile 476.3 – A Small Island Between Wing Dams (Figure EA-2). The small island is located on the Illinois side of the channel upstream of Andalusia Slough, ~3 miles north of Andalusia, Illinois approximate RM 476.3. The site is in Section 24, Township 17 North, and Range 3 West, Rock Island County, Illinois. The small island is government owned. Placement is along the right descending bank, about 700 feet long by 65 feet wide. Dredged material would be placed up to but not exceeding the Ordinary High Water Mark (549.8 ft MSL). The material would be graded after placement. Side slopes of the placed material would fall at approximately 3H:1V slope. Return water is immediately discharged back into the river.

Site #13 River Mile 475 – Smith Island (Figure EA-2). Smith Island is located at the head of Andalusia Slough ~3 miles north of Andalusia, Illinois between RM 474.7 and 475.2. The site is in Section 24, Township 17 North, and Range 3 West, Rock Island County, Illinois. Smith Island is government owned. Placement may extend along the north bank from approximately RM 474.7 to 475.2, about 2,950 feet long by 50 feet wide. However, the entire length may not be needed. Dredged material would be placed up to but not exceeding the Ordinary High Water Mark (549.8 ft MSL). The material would be graded after placement. Side slopes of the placed material would fall at approximately 3H:1V slope. Return water is immediately discharged back into the river.

F. DESCRIPTION OF PLACEMENT METHOD

Dredged material was excavated by hydraulic dredge that utilizes a cutterhead in combination with a centrifugal pump to entrain dredged solid materials in high velocity water. Dredged material is then pumped in slurry via floating discharge lines and onto the placement areas through movable shore pipe. Shore pipe is positioned by use of a bulldozer and pipe handlers to the desired location.

SECTION 2: FACTUAL DETERMINATIONS

A. PHYSICAL SUBSTRATE DETERMINATIONS

1. Substrate Elevation and Slope. Flat pool for the Mississippi River in the vicinity of the aquatic placement sites is 545.0.

2. Sediment Type. Hydrographic surveys of the aquatic placement sites indicate the substrates primarily consist of unstable sands. Dredged sediments are described in this evaluation in Section D, *General Description of Dredged Material*.

3. Dredged/Fill Material Movement. No movement or second handling of the dredged material is anticipated after placement activity is completed. Natural process may move sand downstream over time however choosing sites between wing dams provides a fairly stable location for the dredged material as to not return to the channel.

4. Physical Effect on Benthos. The impact to any benthic organism is not anticipated to be significant. Benthic organisms existing in the footprint of the bankline and aquatic placement likely would be buried during placement activity and destroyed. However, similar organisms would be expected to recolonize these areas after placement.

5. Actions Taken to Minimize Impacts. Dredging quantities would be kept to the minimum required to maintain safe navigation. Avoidance of sites with high likelihood of benthos (mussels) was utilized.

B. WATER CIRCULATION AND FLUCTUATION

1. Water. The proposed action would have a temporary and insignificant effect on water quality in the Mississippi River. Water chemistry, water temperature, pH, clarity, color, odor, taste, dissolved gas levels, nutrient levels, or organic matter influxes would either be nonexistent or would cause insignificant and temporary impacts to aquatic organisms. Aquatic vegetation is severely limited in the Project area and hence would not be significantly affected. Impacts to the human population concerning the suitability of this water body for human consumption, recreation, and aesthetics would be negligible or nonexistent.

2. Current Patterns and Water Circulation. Current patterns and water circulation may be altered in the immediate vicinity of the discharge pipe during dredged material placement activity at the placement sites. No major changes in main channel current patterns and circulations are anticipated.

3. Normal Water Level Fluctuation. Placement of dredged material at the placement sites within the maximum height restrictions will have no impact on the water surface profile. As such, the preferred placement sites will comply with the State floodplain 'no rise' requirement.

4. Actions Taken to Minimize Impacts. Dredging quantities would be kept to the minimum to maintain safe navigation.

C. SUSPENDED PARTICULATE/TURBIDITY DETERMINATIONS

1. Effects on Physical and Chemical Properties of the Water Column. Grain size analysis can be found in EA Section 4.B.1, *Lands*. Impacts on turbidity levels, suspended particulate levels, light penetration, dissolved oxygen, toxic metals, organic influxes, pathogens, and aesthetics would be minor and insignificant with only short-term duration.

2. Effects on Biota. Impacts to the aquatic plant community would be negligible and insignificant. Impacts to sight feeders and to suspension/filter feeders would be insignificant and temporary.

3. Actions Taken to Minimize Impacts. Dredging quantities would be kept to the minimum necessary to maintain a safe and unobstructed navigation channel, which is expected to minimize near-term impacts to biota at the placement sites.

D. CONTAMINANT DETERMINATIONS

The sandy material to be dredged is of large enough particle size that contaminant binding is negligible. Historically, sediment sampling of sandy dredged material has shown an insignificant level of contamination, since contaminants have a greater affinity for smaller-sized particles. In general, prior to dredging a Mississippi River navigation channel site, bed material samples are collected and analyzed for grain size. If the material is predominately sand/gravel (at least 80 percent), it is considered uncontaminated and further testing is generally not required. If the material consists of greater than 20 percent silt/clay, then typically an elutriate test is performed to determine if contaminants are present.

Bed sediments sampled consisted of greater than 95 percent sand. There is no reason to believe the material may be contaminated, it is unlikely that testing other than a grain size analysis would be performed.

E. AQUATIC ECOSYSTEM AND ORGANISMIC DETERMINATIONS

1. Effects on Plankton and Nekton. No significant impacts to plankton or nekton are anticipated to result from dredged material placement at aquatic sites. The extended flushing action from return water may displace planktonic organisms by washing them downriver. Affected areas would recolonize quickly from drifting planktonic organisms from upstream locations after placement activities cease. Free-swimming organisms would avoid the area during dredging and placement activities.

2. Effects on Benthos. The impact to benthic organisms is not anticipated to be significant. Benthic organisms existing in the footprint of the bankline and aquatic

placement likely would be buried during placement activity and destroyed. The small island placement location was surveyed (pollywogging) for mussels and no mussels were found. Organisms would be expected to recolonize these areas after placement.

3. Effects on Aquatic Food Web. The proposed action would not cause or establish the proliferation of any undesirable competitive species that may usurp resident plant or animal species. No significant reduction or elimination of any food chain organism would occur if either the near-term placement sites or the long-term placement sites is utilized.

4. Effects on Special Aquatic Sites. There are no refuges, mudflats, vegetated shallows, or riffle and pool complexes in the Project area. No impact to Special Aquatic sites is expected.

5. Threatened and Endangered Species. See EA Section 5. *Environmental Effects, D. Threatened and Endangered Species.*

6. Other Wildlife. Other wildlife normally present in the dredging or placement areas would be expected to move from and avoid these areas temporarily during dredging operations. No significant impacts to wildlife populations and use would be expected over the long term following placement. This assessment is supported by several conclusions from a report entitled, *Final Report, Natural Resource Survey of Fauna Inhabiting Dredged Material Disposal Sites in Pool 18 of the Upper Mississippi River*. No significant difference was detected between the dredged material placement sites and floodplain forest areas with respect to small mammal capture rates. Evidence of opossum and cottontail rabbit usage was only observed in dredged material placement sites. Fox squirrel and woodchuck signs were observed in both habitat types. Turtles, snakes, and toads were more abundant on dredged material placement sites.

7. Actions Taken to Minimize Impacts. Dredging quantities would be kept to a minimum to maintain safe navigation.

F. PROPOSED PLACEMENT SITE DETERMINATIONS

1. Mixing Zone Determinations. A mixing zone is an area in which the water quality is allowed to be degraded. The idea is to allow for a zone of dilution before compliance with relevant water quality standards is met. The large volumetric capacity of the main channel border would provide a more than adequate mixing zone for any contaminated sediments or return water that may be present. As noted earlier in this evaluation, most contaminants have affinities for finer sediments than are found at either the dredge cut or the placement locations.

2. Determination of Compliance with Applicable Water Quality Statutes. See EA Section 7, *Compliance with Applicable Federal Laws.*

3. Clean Water Act (Sections 401 and 404.) Section 401 Water Quality Certification from Illinois would need to be obtained after-the-fact for the bankline

placement at Sites #8 and #13, this action is pending. This document serves as compliance for Section 404.

G. DETERMINATION OF CUMULATIVE EFFECTS ON THE AQUATIC ECOSYSTEM

Utilization of the small island #8 and the channel border on Smith Island #13 would not be expected to have significant long-term effects to any component of the aquatic ecosystem.

Indirect and cumulative impacts from placement of dredged material are not expected to be significant. Placement of dredged material in this area should not decrease overall terrestrial or aquatic productivity, either in the Project vicinity or in surrounding areas. Identifying practical methodologies for the quantitative assessment of the cumulative impacts of all past operation and maintenance dredging activities on the environment has been problematic. The establishment of a clear and unequivocal relationship concerning causes of ecological harm resulting from the cumulative impacts of channel maintenance dredging activities is difficult. Efforts to improve in this area are ongoing.

H. DETERMINATION OF SECONDARY EFFECTS ON THE AQUATIC ECOSYSTEM

Placing the dredged sand on an island site in the long term will avoid most impacts to more environmentally productive areas, such as main channel borders and backwaters. No other secondary effects to the aquatic ecosystem are anticipated. This determination is subject to reevaluation if warranted by Federal, State, or local agency comment, as well as from the interested public.

SECTION 3: FINDINGS OF COMPLIANCE OR NONCOMPLIANCE WITH THE RESTRICTIONS ON PLACEMENT

A. No significant adaptations of the 404(b)(1) Guidelines were made relative to this valuation.

B. Alternatives that were considered in addition to the proposed action were as follows:

C. No Action

D. Alternative Placement Sites

E. Certification under Section 401 of the Clean Water Act will be obtained from the State of Illinois.

F. The Project would not introduce hazardous or toxic substances into the waters of the United States or result in appreciable increases in existing levels of toxic materials.

G. No adverse effect to Federally listed endangered or threatened species is

anticipated from this Project, and no significant effect to state-listed threatened or endangered is expected to result from the proposed placement.

H. No municipal or private water supplies would be affected. There would be no adverse impacts to recreational or commercial fishing. No significant adverse changes to the ecology of the river system would result from this action.

I. No contamination of the river is anticipated. The proposed actions would cause only minimal adverse environmental effects when performed separately, and would have only minimal cumulative adverse effects on the environment.

J. No other practicable alternatives have been identified that would have less adverse impacts on the aquatic ecosystem. The proposed actions, both near-term and long-term, are in compliance with Section 404(b)(1) of the Clean Water Act, as amended. The proposed actions would not significantly impact water quality and would improve the long-term integrity of the authorized navigation system.

Date

Steven M. Sattinger, P.E.
Colonel, US Army
Commander & District Engineer