# UPPER MISSISSIPPI RIVER RESTORATION
# FEASIBILITY REPORT
# WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

## GILEAD SLOUGH
## HABITAT REHABILITATION AND ENHANCEMENT PROJECT

**POOL 25, UPPER MISSISSIPPI RIVER MILES 253-248**
**CALHOUN COUNTY, IL**

Appendix A: Coordination

US Army Corps of Engineers
St. Louis District

October **2025**
Draft Version

Upper Mississippi River Restoration
Leading·Innovating·Partnering

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# 1 COORDINATING AGENCIES

Scoping is an early and open process for determining the range of issues to be addressed and for identifying the significant issues related to a proposed action. Scoping was conducted early in the planning process using a variety of communication methods with the affected public, agencies, and organizations, and was conducted with the following agencies, and other interested parties: River Resources Action Team (RRAT), U.S. Fish and Wildlife Service, Illinois Department of Natural Resources, and the Illinois State Historic Preservation Office (SHPO).

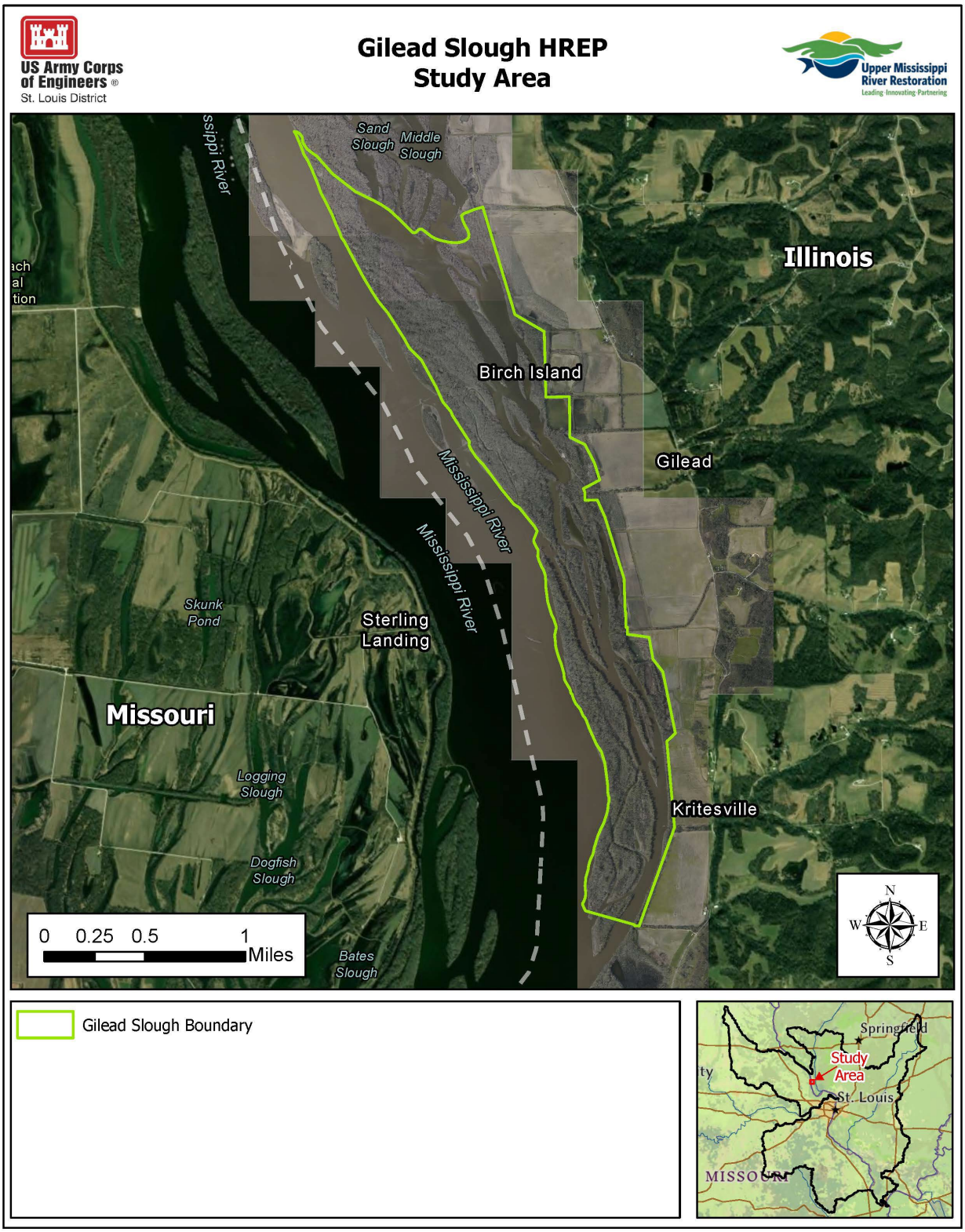



**Figure 1. Project location.**

# 2 STAKEHOLDER ENGAGEMENT

Numerous coordination and stakeholder meetings, as well as site visits, were conducted to discuss problems, opportunities, project goals and objectives, potential restoration measures, and expected outcomes with and without the proposed project. A scoping charrette was held January 30th and 31st, 2024, prior to the development of the study. Representatives from USFWS, IDNR, and USACE attended and provided input on project objectives, potential management measures, future conditions of the site, and identified resource issues. A full copy of the Planning Charrette report is available upon request. Site visits were conducted on April 12th, 2023 and October 4th and 5th 2023. Additional meetings with key partners and stakeholders were held as needed, including a habitat benefits workshop on July 31, 2024 and a March 13th, 2025 meeting to provide updates and receive feedback from the sponsor for refinement of the alternatives.

# 3 SHPO COORDINATION

## 3.1 SHPO Database Record

Project Details

| Project Information | | | |
|---|---|---|---|
| Project ID | 004080624 | Title | Gilead Slough Habitat Rehabilitation and Enhancement Project |
| County | -C | General Location | Gilead |
| Law | Federal | Ownership | Private |
| Received Date | 8/6/2024 | Completion Date | |
| Acres | 0 | Surveyed By | |
| Structural Sites | 0 | Archeological Sites | 0 |
| Comments | | | |

| List of Properties | | | | | | |
|---|---|---|---|---|---|---|
| HARGIS Ref. Number | Property Type | Address | City | State Site Number | STR | Determination Of Eligibility |
| | Archaeological | left descending bank of the Mississippi River between river miles 253 - 248, approximately five miles north-northwest of Batchtown | Gilead | | | undetermined |
| No Project Property Found | | | | | | |

| Project Status History | | |
|---|---|---|
| Status | Remarks | Date |
| Application Received | initiating consultation, will follow the Upper Mississippi River Restoration Program Habitat Rehabilitation and Enhancement Projects and the Navigation and Ecosystem Sustainability Program PA | 8/6/2024 |

| List of IN Correspondence | | | |
|---|---|---|---|
| Correspondence Name | Received Date | Remarks | Archaeology Survey ID |
| No In Correspondence Found | | | |

| List of OUT Correspondence | | |
|---|---|---|
| Correspondence Name | Date | Correspondence |
| No OUT Correspondence Found | | |

## 3.2 Letter to Illinois SHPO

**DEPARTMENT OF THE ARMY**
**U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT**
**1222 SPRUCE STREET**
**ST. LOUIS, MISSOURI 63103**

2 August, 2024

Engineering and Construction Division
Curation and Archives Analysis Branch (ECZ)

**Subject**: Request to Initiate Consultation on Gilead Slough Habitat Rehabilitation and Enhancement Project, Calhoun County, Illinois

Jeffrey D. Kruchten
State Historic Preservation Office – IDNR
Attn: Review & Compliance
One Natural Resources Way
Springfield, Illinois 62702

Dear Mr. Kruchten:

The U.S. Army Corps of Engineers, St. Louis District (District), in partnership with U.S. Fish and Wildlife Services (USFWS) acting as the study sponsor and coordinating agency are formulating alternatives to restore and improve the quality and diversity of backwater, side channel, sandbar, island, wetland, and floodplain forest resources within Gilead Slough, Calhoun County, Illinois (Figure 1). The project is located on the left descending bank of the Mississippi River between river miles (RM) 253 - 248, approximately five miles north-northwest of Batchtown, Illinois. The study area is located within Calhoun County, Illinois on federally owned lands, managed by the U.S. Fish and Wildlife Service (USFWS) under a cooperative agreement with USACE as part of the General Plan (GP) lands agreement. Pursuant to Section 106 of the National Historic Preservation Act (NHPA), as amended, and its implementing regulations 36 CFR 800, the District would like to initiate consultation regarding this Habitat Rehabilitation and Enhancement Project (HREP).

The study with an integrated Environmental Assessment (EA) will evaluate and compare the benefits, costs, and impacts (positive or negative) of alternatives including the No Action Alternative. The study will also satisfy the requirement of the National Environmental Policy Act (NEPA) to evaluate the proposed federal action. The District is currently in the Feasibility Planning stages, which means that multiple measures and alternatives are being developed in order to formulate a Tentatively Selected Plan (TSP). These alternatives intend to 1) enhance depth, flow and substrate diversity and connectivity of aquatic habitat throughout study area; 2) manage the sediment inputs in the side channel and slough area; and 3) restore topographic and bathymetric diversity and improve desired vegetative community composition throughout the project area.

Alternatives will range between No Action and Maximum Action. The alternatives involve actions at a subset of locations identified in the Maximum Action alternative (Figure 2). The No Action would mean no federal action takes place and there would be no change from the current management direction or level of management intensity. Maximum Action includes: building new water control and scour structures; shoreline protection, backwater excavations at varying depths, vegetative management activities, sandbar island and island creation; creation of moist

soil units, installation of hard points, sediment deflection dikes and barbs; and adding a connection from the river to the slough.

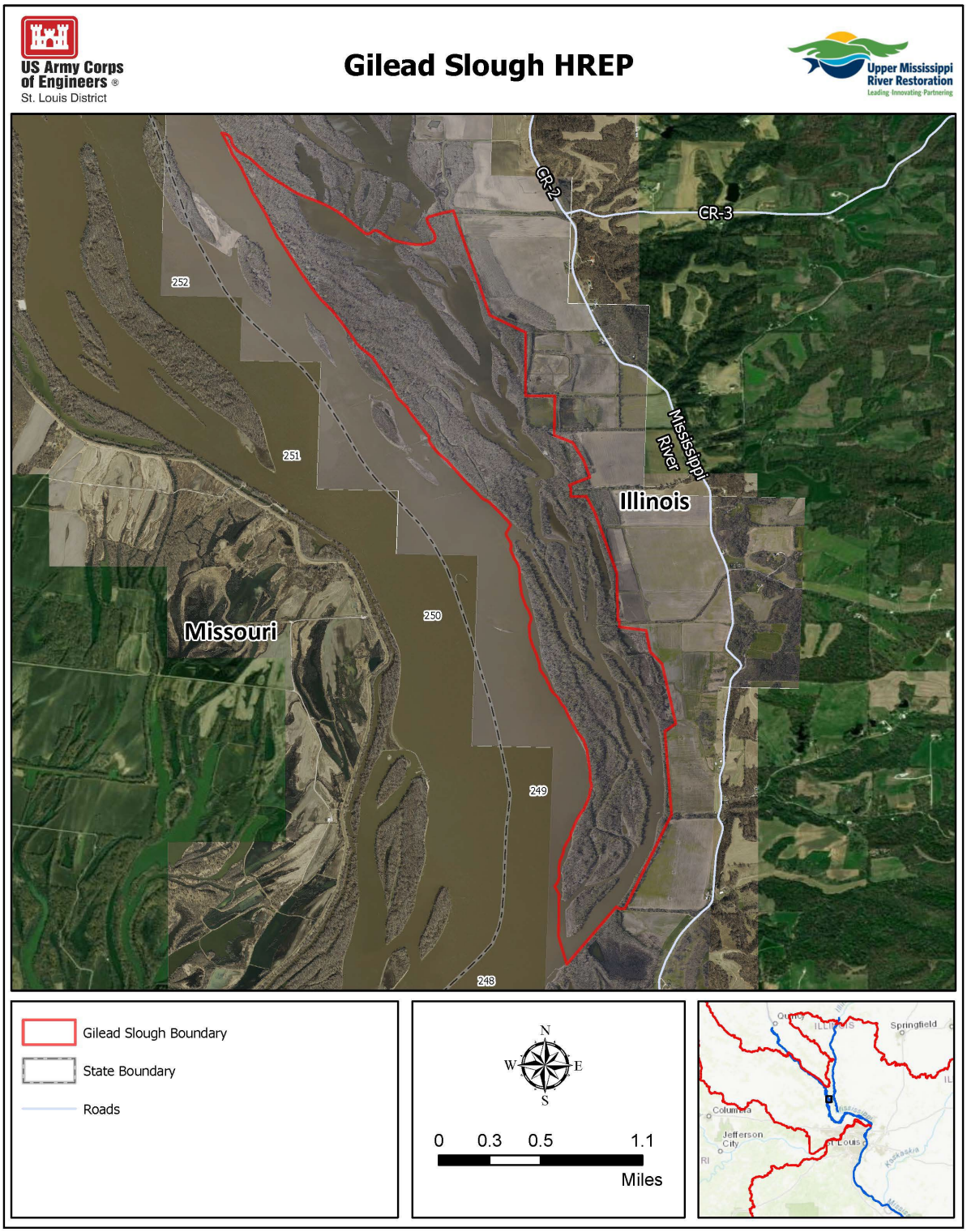
The District is presently aware of no previously identified archaeological sites located within the Gilead Slough boundary. For this project the District plans to utilize the June 25, 2024 implemented, Programmatic Agreement (PA) regarding the Upper Mississippi River Restoration Program Habitat Rehabilitation and Enhancement Projects and the Navigation and Ecosystem Sustainability Program in our compliance with Section 106 of the NHPA. The USACE shall achieve compliance with all relevant terms of this PA prior to initiating physical construction of the Program undertaking.

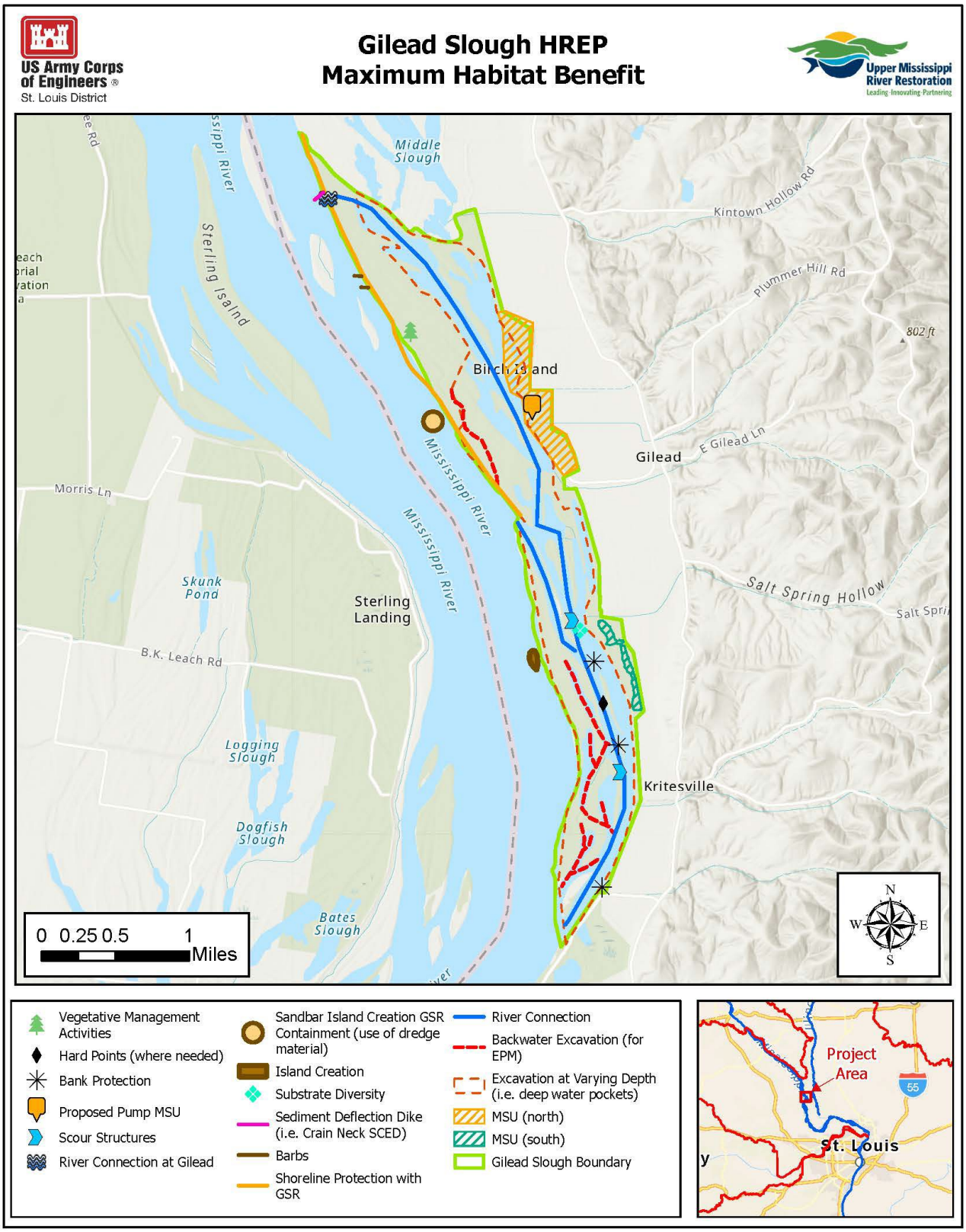
Given this information, the District would like to initiate consultation regarding this HREP project at Gilead Slough. If you have any questions pertaining to this project, please contact Lara Anderson (Archaeologist) at lara.anderson@usace.army.mil or call (314) 331-8779.

Sincerely,

RIORDAN.JENNIFER.L.1228919086 Digitally signed by RIORDAN.JENNIFER.L.1228919086 Date: 2024.08.05 13:25:49 -05'00'

Jennifer L. Riordan
Chief, Curation and Archives
Analysis Branch


US Army Corps of Engineers ®
St. Louis District
Gilead Slough HREP
Upper Mississippi River Restoration
Leading · Innovating · Partnering
CR-2
CR-3
252
251
250
249
248
Mississippi River
Illinois
Missouri
Gilead Slough Boundary
State Boundary
Roads
N
W
E
S
0
0.3
0.5
1.1
Miles
Springfield
Columbia
Jefferson City
St. Louis


US Army Corps of Engineers
St. Louis District
Gilead Slough HREP
Maximum Habitat Benefit
Upper Mississippi River Restoration
Middle Slough
Kintown Hollow Rd
Plummer Hill Rd
802 ft
Sterling Island
Mississippi River
Birch Island
Gilead
E Gilead Ln
Morris Ln
Skunk Pond
Sterling Landing
Salt Spring Hollow
B.K. Leach Rd
Logging Slough
Kritesville
Dogfish Slough
Bates Slough
0 0.25 0.5 1 Miles
N
W
E
S
Vegetative Management Activities
Hard Points (where needed)
Bank Protection
Proposed Pump MSU
Scour Structures
River Connection at Gilead
Sandbar Island Creation GSR Containment (use of dredge material)
Island Creation
Substrate Diversity
Sediment Deflection Dike (i.e. Crain Neck SCED)
Barbs
Shoreline Protection with GSR
River Connection
Backwater Excavation (for EPM)
Excavation at Varying Depth (i.e. deep water pockets)
MSU (north)
MSU (south)
Gilead Slough Boundary
Project Area
55
St. Louis

# 4 TRIBAL COORDINATION

## 4.1 Initial Letter to Consulting Tribes

## 4.2 Tribal Distribution List

**MVS Leaders**

| Tribe | Name | Street Address | City | State | Zip | Furnished Copy |
|---|---|---|---|---|---|---|
| Absentee-Shawnee Tribe of Indians of Oklahoma | Governor John Raymond Johnson c/o Representative Alicia Miller | 2025 S. Gordon Cooper Drive | Shawnee | OK | 74801 | Ms. Carol Butler and Ms. Devon Frazier Smith |
| Caddo Nation of Oklahoma | Chairman Bobby Gonzalez | P.O. Box 487 | Binger | OK | 73009 | Mr. Jonathan M. Rohrer |
| Citizen Potawatomi Nation, Oklahoma | Chairman John Barrett | 1601 S. Gordon Cooper Drive | Shawnee | OK | 74801 | Ms. Tracy Wind |
| Eastern Shawnee Tribe of Oklahoma | Chief Glenna J. Wallace | 12755 S. 705 Road | Wyandotte | OK | 74370 | Ms. Lora Nuckolls |
| Forest County Potawatomi Community, Wisconsin | Chairman James A. Crawford | P.O. Box 340, 5416 Everybody's Road | Crandon | WI | 54520 | Mr. Luke Heider |
| Hannahville Indian Community, Michigan | Chairman Kenneth Meshigaud | N 14911 Hannahville B-1 Road | Wilson | MI | 49896 | Mr. Dustin Meshigaud |
| Ho-Chunk Nation of Wisconsin | President Jon Greendeer | P.O. Box 667 | Black River Falls | WI | 54615 | Mr. William Quackenbush |
| Iowa Tribe of Kansas and Nebraska | Chairman Tim Rhodd | 3345 Thrasher Road, #8 | White Cloud | KS | 66094 | Mr. Lance Foster and Mr. Alan Kelley |
| Iowa Tribe of Oklahoma | Chairman Jake Keyes | 335588 E. 750 Rd | Perkins | OK | 74059 | Ms. Candace Pershall |
| Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas | Chairwoman Gail Cheatham | 824 111th Drive | Horton | KS | 66439 | Mr. Howard Allen |
| Kickapoo Tribe of Oklahoma | Chairman Darwin Kaskaske | P.O. Box 70 | McCloud | OK | 24851 | Tribal Historic Preservation Office |
| Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians | Chairman Bob Peters | 2872 Mission Dr. | Shelbyville | MI | 49344 | Ms. Lakota Hobia |
| Menominee Indian Tribe of Wisconsin | Chairperson Gena Kakkak | W2908 Tribal Office Loop Road, P.O. Box 910 | Keshena | WI | 54135 | Mr. David Grignon |
| Miami Tribe of Oklahoma | Chief Douglas Lankford | P.O. Box 1326 | Miami | OK | 74355 | Mr. Logan York |

| | | | | | | |
|---|---|---|---|---|---|---|
| Nottawaseppi Huron Band of the Potawatomi, Michigan | Chairman Jamie Stuck | 2221—1 & 1/2 Mile Road | Fulton | MI | 49052 | Ms. Onyleen Zapata |
| Peoria Tribe of Indians of Oklahoma | Chief Craig Harper | P.O. Box 1527 | Miami | OK | 74355 | Ms. Burgundy Fletcher |
| Pokagon Band of Potawatomi Indians, Michigan and Indiana | Chairperson Rebecca J. Richards | P.O. Box 180 | Dowagiac | MI | 49047 | Mr. Matthew Bussler |
| Prairie Band Potawatomi Nation | Chairman Joseph Rupnick | Government Center, 16281 Q Road | Mayetta | KS | 66509 | Ms. Tara Mitchell |
| Sac & Fox Nation of Missouri in Kansas and Nebraska | Chairperson Tiauna Carnes | 305 N. Main Street | Reserve | KS | 66434 | Mr. Gary Bahr |
| Sac & Fox Nation, Oklahoma | Principal Chief Randle Carter | 920963 S Highway 99 | Stroud | OK | 74079 | Mr. Chris Boyd |
| Sac & Fox Tribe of the Mississippi in Iowa | Chairman Vern Jefferson | 349 Meskwaki Road | Tama | IA | 52339 | Mr. Johnathan Buffalo |
| United Keetoowah Band of Cherokee of Oklahoma | Chief Joe Bunch | P.O. Box 746 | Tahlequah | OK | 74464 | Mr. Roger Cain |

**MVS Reps – Hard Copy**

| Tribe | Name | Position | Street Address | City | State | Zip |
|---|---|---|---|---|---|---|
| Absentee-Shawnee Tribe of Indians of Oklahoma | Ms. Carol Butler | Cultural Preservation Director | 2025 S. Gordon Cooper Drive | Shawnee | OK | 74801 |
| Caddo Nation of Oklahoma | Mr. Jonathan M. Rohrer | Tribal Historic Preservation Officer | P.O. Box 487 | Binger | OK | 73009 |
| Hannahville Indian Community, Michigan | Mr. Dennis Meshigaud | Tribal Historic Preservation Officer | N14911 Hannahville B-1 Rd | Wilson | MI | 49896 |
| Iowa Tribe of Kansas and Nebraska | Mr. Lance Foster | Tribal Historic Preservation Officer | 3345B Thrasher Road | White Cloud | KS | 66094 |
| Iowa Tribe of Oklahoma | Ms. Candace Pershall | Cultural Preservation | 335588 E. 750 Rd | Perkins | OK | 74875 |
| Kickapoo Tribe of Oklahoma | Tribal Historic Preservation Office | | P.O. Box 70 | McCloud | OK | 24851 |
| Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians | Ms. Lakota Hobia | Tribal Historic Preservation Officer | ATTN: THPO, 2872 Mission Drive | Shelbyville | MI | 49344 |
| Menominee Indian Tribe of Wisconsin | Mr. David Grignon | Tribal Historic Preservation Officer | P.O. Box 910 | Keshena | WI | 54135 |
| Pokagon Band of Potawatomi Indians, Michigan and Indiana | Mr. Matthew Bussler | Tribal Historic Preservation Officer | P.O. Box 180 | Dowagiac | MI | 49047 |
| Prairie Band Potawatomi Nation | Ms. Tara Mitchell | Deputy Tribal Historic Preservation Officer | Government Center, 16281 Q Road | Mayetta | KS | 66509 |
| Sac & Fox Nation, Oklahoma | Mr. Chris Boyd | NAGPRA/Historic Preservation Office | 920963 S Highway 99 | Stroud | OK | 74079 |
| Sac & Fox Tribe of the Mississippi in Iowa | Mr. Johnathan Buffalo | Historic Preservation Office | 349 Meskwaki Road | Tama | IA | 52339 |

**MVS Reps – Email**

| Tribe | Name | Position | Street Address | City | State | Zip | Email |
|---|---|---|---|---|---|---|---|
| Absentee-Shawnee Tribe of Indians of Oklahoma | Ms. Devon Frazier Smith | Tribal Historic Preservation Officer | 2025 S. Gordon Cooper Drive | Shawnee | OK | 74801 | dfrazier@astribe.com |
| Citizen Potawatomi Nation, Oklahoma | Ms. Tracy Wind | Assistant Tribal Historic Preservation Officer | Cultural Heritage Center, 1601 S. Gordon Cooper Drive | Shawnee | OK | 74801 | cpnthpo@potawatomi.org |
| Eastern Shawnee Tribe of Oklahoma | Ms. Lora Nuckolls | Tribal Historic Preservation Officer | 70500 E. 128 Road | Wyandotte | OK | 74370 | THPO@estoo.net |
| Forest County Potawatomi Community, Wisconsin | Mr. Luke Heider | Tribal Historic Preservation Officer | 8130 Mish ko Swen Dr., P.O. Box 340 | Crandon | WI | 54520 | Luke.Heider@fcp.nsn.gov |
| Ho-Chunk Nation of Wisconsin | Mr. William Quackenbush | Tribal Historic Preservation Officer | P.O. Box 667 | Black River Falls | WI | 54615 | bill.quackenbush@ho-chunk.com |
| Iowa Tribe of Kansas and Nebraska | Mr. Alan Kelley | Deputy Tribal Historic Preservation Officer | 3345 Thrasher Road | White Cloud | KS | 66094 | akelley@iowas.org |
| Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas | Mr. Howard Allen | Secretary | 824 111th Drive | Horton | KS | 66439 | secretary@ktik-nsn.gov |
| Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians | Ms. Lakota Hobia | Tribal Historic Preservation Officer | 2872 Mission Drive | Shelbyville | MI | 49344 | section106@glt-nsn.gov |
| Miami Tribe of Oklahoma | Mr. Logan York | Tribal Historic Preservation Officer | 202 S. Eight Tribes Trail, P.O. Box 1326 | Miami | OK | 74355 | THPO@MiamiNation.com |
| Nottawaseppi Huron Band of the Potawatomi, Michigan | Ms. Onyleen Zapata | Tribal Historic Preservation Officer | 1485 MNO--Bmadzen Way | Fulton | MI | 49052 | Onyleen.Zapata@nhbp-nsn.gov |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| The Osage Nation | Dr. Andrea Hunter | Historic Preservation Office | 627 Grandview Avenue | Pawhuska | OK | 74056 | s106@osagenation-nsn.gov |
| Peoria Tribe of Indians of Oklahoma | Ms. Burgundy Fletcher | Tribal Historic Preservation Specialist | 118 S. Eight Tribes Trail | Miami | OK | 74354 | bfletcher@peoriatribe.com |
| Sac & Fox Nation of Missouri in Kansas and Nebraska | Mr. Gary Bahr | Vice Chairperson | 305 N. Main Street | Reserve | KS | 66434 | gary.bahr@sacfoxks.com |
| United Keetoowah Band of Cherokee of Oklahoma | Mr. Roger Cain | Tribal Historic Preservation Officer | P.O. Box 746 | Tahlequah | OK | 74464 | rcain@ukb-nsn.gov |

## 4.3 LETTER TO ABSENTEE-SHAWNEE TRIBE OF INDIANS OF OKLAHOMA (EXAMPLE OF TRIBAL LETTER SENT)

**DEPARTMENT OF THE ARMY**
**U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT**
**1222 SPRUCE STREET**
**ST. LOUIS, MISSOURI 63103**

August 8, 2024

Engineering and Construction Division
Curation and Archives Analysis Branch (ECZ)

**Subject**: Gilead Slough Habitat Rehabilitation and Enhancement Project, Calhoun County, IL

Ms. Devon Frazier Smith
Tribal Historic Preservation Officer
Absentee-Shawnee Tribe of Indians of Oklahoma
2025 S. Gordon Cooper Drive
Shawnee, OK 74801

Dear Ms. Frazier Smith:

The U.S. Army Corps of Engineers, St. Louis District (District), in partnership with U.S. Fish and Wildlife Services (USFWS) are formulating alternatives to restore and improve the quality and diversity of backwater, side channel, sandbar, island, wetland, and floodplain forest resources within Gilead Slough, Calhoun County, Illinois (Figure 1). The District is contacting your Tribe to initiate consultation under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, its implementing regulations 36 CFR 800, and the National Environmental Policy Act.

The District is currently in the feasibility planning stages, which means that multiple measures and alternatives are being developed in order to formulate a Tentatively Selected Plan (TSP). The study area is located on the left descending bank of the Mississippi River between river miles (RM) 253 - 248, approximately five miles north-northwest of Batchtown (Figure 1; 39.1323572, -90.6887921). This property is General Plan Lands owned by the District and is managed by USFWS.

The feasibility study, with integrated Environmental Assessment, will evaluate and compare the benefits, costs, and impacts (positive or negative) of alternatives to include the No Action Alternative. These alternatives intend to 1) enhance depth, flow and substrate diversity and connectivity of aquatic habitat throughout study area; 2) manage the sediment inputs in the side channel and slough area; and 3) restore topographic and bathymetric diversity and improve desired vegetative community composition throughout the study area. Alternatives will range between No Action and Maximum Action. The No Action would mean no federal action takes place and there would be no change from the current management direction or level of management intensity. Maximum Action includes building new water control and scour structures; shoreline protection, backwater excavations at varying depths, vegetative management activities, sandbar island and island creation; creation of moist soil units, installation of hard points, sediment deflection dikes and barbs; and adding a connection from the river to the slough (Figure 2).

The District is presently aware of no previously identified archaeological sites located within the Gilead Slough boundary. For this project the District plans to utilize the June 25, 2024, implemented, Programmatic Agreement (PA) regarding the Upper Mississippi River Restoration

Program Habitat Rehabilitation and Enhancement Projects and the Navigation and Ecosystem Sustainability Program in our compliance with Section 106 of the NHPA. The District shall achieve compliance with all relevant terms of this PA prior to initiating physical construction of the Program undertaking.

The District is requesting your Tribe to review the map and information about the project and notify our office if you have any concerns about traditional cultural properties, sacred sites, or other resources that may be located within the study. If you have any questions, comments, or would like to provide indigenous knowledge for the above referenced project, please contact me at (314) 331-8855 or contact Meredith Hawkins Trautt (Tribal Liaison) at (314) 925-5031 or email Meredith.M.Trautt@usace.army.mil.

Sincerely,

Jennifer L. Riordan
Chief, Curation and Archives
Analysis Branch

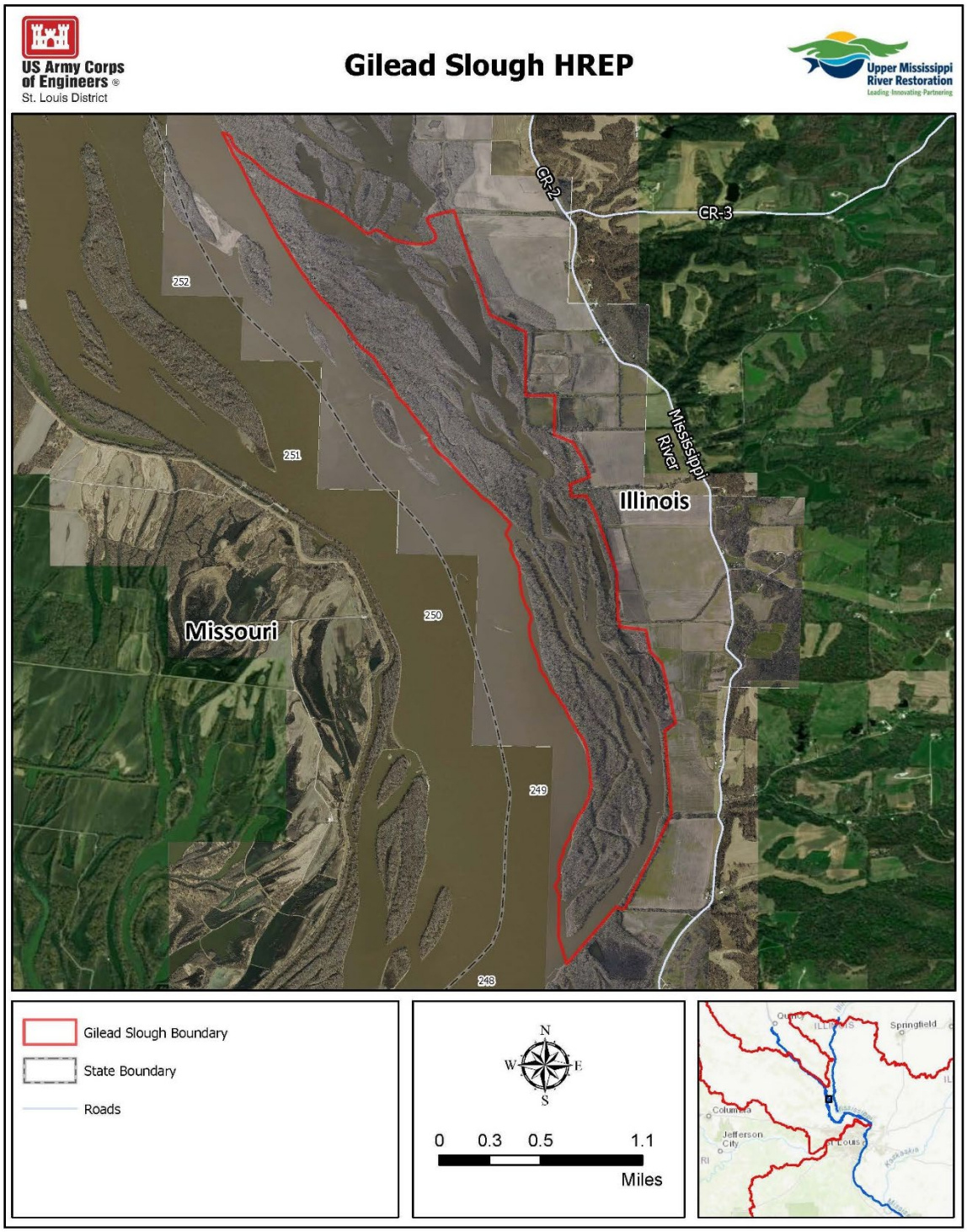



Figure 1. Location of study area.

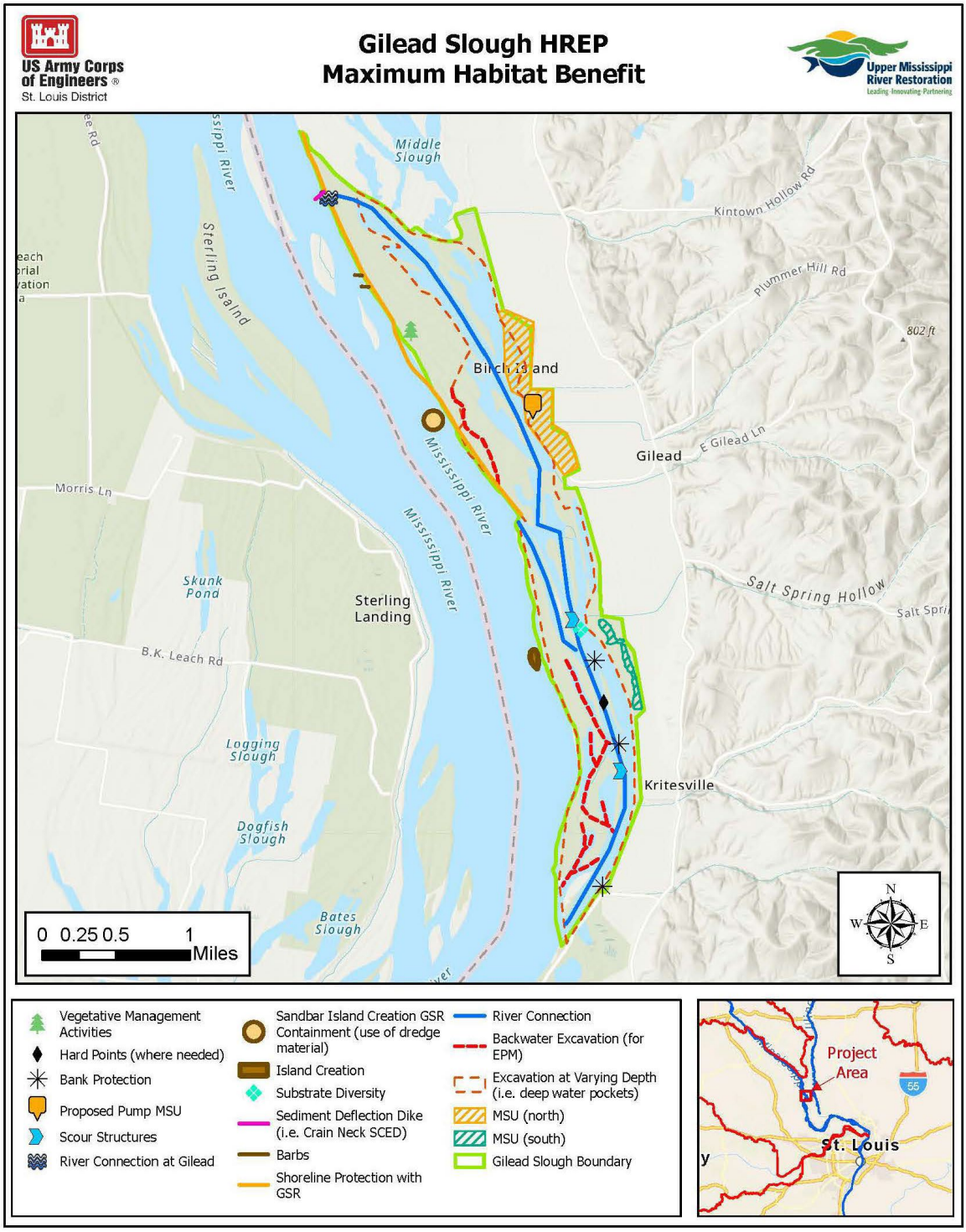



Figure 2. Maximum Alternative for Gilead Slough.

# 5 U.S. FISH AND WILDLIFE SERVICE

## 5.1 Endangered Species IPaC Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Southern Illinois Sub-Office
Southern Illinois Sub-office
8588 Route 148
Marion, IL 62959-5822
Phone: (618) 998-5945
Email Address: Marion@fws.gov

In Reply Refer To: 09/04/2025 12:31:19 UTC
Project Code: 2024-0097216
Project Name: Gilead Slough HREP

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat, if present, within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation. If you determine that other federally protected species not listed in this Official Species List are present in your action area, you are still responsible to analyze your potential effects to those species and consult with the U.S. Fish and Wildlife Service if consultation is required.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) **the accuracy of this species list should be verified after 90 days.** This verification can be completed formally or informally. You may verify the list by visiting the Information for Planning and Consultation (IPaC) website https://ipac.ecosphere.fws.gov at regular intervals during project planning and implementation and completing the same process you used to receive the attached list.

**Section 7 Consultation**

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the U.S. Fish and Wildlife Service (Service) if they determine their project "may affect" listed species or designated critical habitat.

Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action may affect endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service to make "no effect" determinations. If you determine that your proposed action will have no effect on threatened or endangered species or their respective designated critical habitat, you do not need to seek concurrence with the Service.

**Note:** For some species or projects, IPaC will present you with *Determination Keys*. You may be able to use one or more Determination Keys to conclude consultation on your action for species covered by those keys.

***Technical Assistance for Listed Species***

1. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain information on the species life history, species status, current range, and other documents by selecting the species from the thumbnails or list view and visiting the species profile page.???????

***No Effect Determinations for Listed Species***

1. If there are *no* species or designated critical habitats on the Endangered Species portion of the species list: conclude "no species and no critical habitat present" and document your finding in your project records. No consultation under ESA section 7(a)(2) is required if the action would result in no effects to listed species or critical habitat. Maintain a copy of this letter and IPaC official species list for your records.
2. If any species or designated critical habitat are listed as potentially present in the **action area** of the proposed project the project proponents are responsible for determining if the proposed action will have “no effect” on any federally listed species or critical habitat. No effect, with respect to species, means that no individuals of a species will be exposed to any consequence of a federal action or that they will not respond to such exposure.
3. If the species habitat is not present within the action area or current data (surveys) for the species in the action area are negative: conclude “no species habitat or species present” and document your finding in your project records. For example, if the project area is located entirely within a “developed area” (an area that is already graveled/paved or supports structures and the only vegetation is limited to frequently mowed grass or conventional landscaping, is located within an existing maintained facility yard, or is in cultivated cropland conclude no species habitat present. Be careful when assessing actions that affect: 1) rights-of-ways that contains natural or semi-natural vegetation despite periodic mowing or other management; structures that have been known to support listed species (example: bridges), and 2) surface water or groundwater. Several species inhabit rights-of-ways, and you should carefully consider effects to surface water or groundwater, which often extend outside of a project's immediate footprint.
4. Adequacy of Information & Surveys - Agencies may base their determinations on the best evidence that is available or can be developed during consultation. Agencies must give the benefit of any doubt to the species when there are any inadequacies in the information. Inadequacies may include uncertainty in any step of the analysis. To provide adequate information on which to base a determination, it may be appropriate to conduct surveys to determine whether listed species or their habitats are present in the action area. Please contact our office for more information or see the survey guidelines that the Service has made available in IPaC.

***May Effect Determinations for Listed Species***

1. If the species habitat is present within the action area and survey data is unavailable or inconclusive: assume the species is present or plan and implement surveys and interpret results in coordination with our office. If assuming species present or surveys for the species are positive continue with the may affect determination process. May affect, with respect to a species, is the appropriate conclusion when a species might be exposed to a consequence of a federal action and could respond to that exposure. For critical habitat, 'may affect' is the appropriate conclusion if the action area overlaps with mapped areas of critical habitat and an essential physical or biological feature may be exposed to a consequence of a federal action and could change in response to that exposure.
2. Identify stressors or effects to the species and to the essential physical and biological features of critical habitat that overlaps with the action area. Consider all consequences of the action and assess the potential for each life stage of the species that occurs in the action area to be exposed to the stressors. Deconstruct the action into its component parts to be sure that you do not miss any part of the action that could cause effects to the species or physical and biological features of critical habitat. Stressors that affect species' resources may have consequences even if the species is not present when the project is implemented.
3. If no listed or proposed species will be exposed to stressors caused by the action, a 'no effect' determination may be appropriate – be sure to separately assess effects to critical habitat, if any overlaps with the action area. If you determined that the proposed action or other activities that are caused by the proposed action may affect a species or critical habitat, the next step is to describe the manner in which they will respond or be altered. Specifically, to assess whether the species/critical habitat is "not likely to be adversely affected" or "likely to be adversely affected."
4. Determine how the habitat or the resource will respond to the proposed action (for example, changes in habitat quality, quantity, availability, or distribution), and assess how the species is expected to respond to the effects to its habitat or other resources. Critical habitat analyses focus on how the proposed action will affect the physical and biological features of the critical habitat in the action area. If there will be only beneficial effects or the effects of the action are expected to be insignificant or discountable, conclude "may affect, not likely to adversely affect" and submit your finding and supporting rationale to our office and request concurrence.
5. If you cannot conclude that the effects of the action will be wholly beneficial, insignificant, or discountable, check IPaC for species-specific Section 7 guidance and conservation measures to determine whether there are any measures that may be implemented to avoid or minimize the negative effects. If you modify your proposed action to include conservation measures, assess how inclusion of those measures will likely change the effects of the action. If you cannot conclude that the effects of the action will be wholly beneficial, insignificant, or discountable, contact our office for assistance.
6. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

For additional information on completing Section 7 Consultation including a Glossary of Terms used in the Section 7 Process, information requirements for completing Section 7, and example letters visit the Midwest Region Section 7 Consultations website at: https://www.fws.gov/library/collections/midwest-region-section-7-consultations.

https://www.fws.gov/office/midwest-region-headquarters/midwest-section-7-technical-assistance

You may find more specific information on completing Section 7 on communication towers and transmission lines on the following websites:

- Incidental Take Beneficial Practices: Power Lines - https://www.fws.gov/story/incidental-take-beneficial-practices-power-lines
- Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning. - https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation

***Tricolored Bat Update***

On September 14, 2022, the Service published a proposal in the Federal Register to list the tricolored bat (Perimyotis subflavus) as endangered under the Endangered Species Act (ESA). The Service has up to 12-months from the date the proposal published to make a final determination, either to list the tricolored bat under the Act or to withdraw the proposal. The Service determined the bat faces extinction primarily due to the rangewide impacts of white-nose syndrome (WNS), a deadly fungal disease affecting cave-dwelling bats across North America. Because tricolored bat populations have been greatly reduced due to WNS, surviving bat populations are now more vulnerable to other stressors such as human disturbance and habitat loss. Species proposed for listing are not afforded protection under the ESA; however, as soon as a listing becomes effective (typically 30 days after publication of the final rule in the Federal Register), the prohibitions against jeopardizing its continued existence and “take” will apply. Therefore, if your future or existing project has the potential to adversely affect tricolored bats after the potential new listing goes into effect, we recommend that the effects of the project on tricolored bat and their habitat be analyzed to determine whether authorization under ESA section 7 or 10 is necessary. Projects with an existing section 7 biological opinion may require reinitiation of consultation, and projects with an existing section 10 incidental take permit may require an amendment to provide uninterrupted authorization for covered activities. Contact our office for assistance.

***Bald and Golden Eagles***

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act, as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, please contact our office for further coordination. For more information on permits and other eagle information

visit our website https://www.fws.gov/library/collections/bald-and-golden-eagle-management.

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

# OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

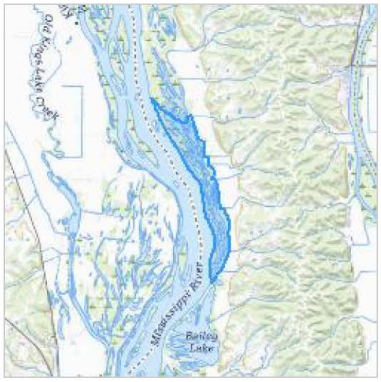
**Southern Illinois Sub-Office**
Southern Illinois Sub-office
8588 Route 148
Marion, IL 62959-5822
(618) 998-5945

## PROJECT SUMMARY

Project Code: 2024-0097216
Project Name: Gilead Slough HREP
Project Type: Restoration / Enhancement of Waterbody
Project Description: Ecosystem rehabilitation project with a focus on aquatic habitat restoration. Proposed backwater and side channel habitat enhancements consist of deep water pockets, substrate enhancement, scour structures, hard points, and overall improved connectivity.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.11837835,-90.67728999822612,14z




Counties: Calhoun County, Illinois

## ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Project code: 2024-0097216 09/04/2025 12:31:19 UTC

## MAMMALS

| NAME | STATUS |
|---|---|
| Indiana Bat *Myotis sodalis*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/5949 | Endangered |
| Tricolored Bat *Perimyotis subflavus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/10515 | Proposed Endangered |

## CLAMS

| NAME | STATUS |
|---|---|
| Spectaclecase (mussel) *Cumberlandia monodonta*<br>There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/7867 | Endangered |

## INSECTS

| NAME | STATUS |
|---|---|
| Monarch Butterfly *Danaus plexippus*<br>There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/9743 | Proposed Threatened |
| Western Regal Fritillary *Argynnis idalia occidentalis*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/12017 | Proposed Threatened |

## FLOWERING PLANTS

| NAME | STATUS |
|---|---|
| Decurrent False Aster *Boltonia decurrens*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/7705 | Threatened |

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

The following FWS National Wildlife Refuge Lands and Fish Hatcheries lie fully or partially within your project area:

| FACILITY NAME | ACRES |
|---|---|
| MISSISSIPPI RIVER WILDLIFE MANAGEMENT AREA<br>https://www.fws.gov/our-facilities?$keywords="%5C%22MISSISSIPPI+RIVER+WILDLIFE+MANAGEMENT+AREA%5C%22" | 13,899.432 |

## IPAC USER CONTACT INFORMATION

| | |
|---|---|
| Agency: | Army Corps of Engineers |
| Name: | Justin Garrett |
| Address: | 1222 Spruce Street |
| Address Line 2: | Environmental Planning Section - RPEDN |
| City: | St. Louis |
| State: | MO |
| Zip: | 63103 |
| Email | justin.m.garrett@usace.army.mil |
| Phone: | 3143318047 |

## 5.2 US Fish and Wildlife Service Coordination Act Report

On 05NOV2025, USACE St. Louis District received the draft Coordination Act Report (CAR) from the USFWS.

United States Department of the Interior

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

In Reply Refer To:
FWS/SISO
Consultation Code: 2024-0097216

November 5, 2025

Colonel Andy J. Pannier
U.S. Army Corps of Engineers
St. Louis District
1222 Spruce Street
St. Louis, Missouri 63103-2833

Dear Colonel Pannier:

This letter constitutes our ***draft*** Fish and Wildlife Coordination Act Report for the Gilead Slough Rehabilitation and Enhancement Project (HREP) Project located between Upper Mississippi River miles, 253-248, Calhoun County, Illinois. This report is intended to provide partial compliance with Subsection 2(b) of the Fish and Wildlife Coordination Act, (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.); the Endangered Species Act of 1973, as amended; the National Environmental Policy Act; and the Migratory Bird Treaty Act (40 Stat, 755, as amended; 16 U.S.C. 703 et seq).

**Introduction**

The Gilead Slough HREP project is a component of the Upper Mississippi River Restoration (UMRR) Program authorized by Section 1103 of the Water Resources Development Act (WRDA) of 1986. The interagency planning team designed the Gilead Slough HREP to further the mission of the UMRR Program: "To work within a partnership among federal and state agencies and other organizations; to construct high-performing habitat restoration, rehabilitation projects; to produce state-of-the-art knowledge through monitoring, research, and assessment; and to engage other organizations to accomplish the UMRR Program's vision."

Gilead Slough consists of approximately 160 acres of side channel and 215 acres of backwater habitat in Pool 25 of the Upper Mississippi River (UMR). Pool 25 is a 32-mile segment of the UMR extending upstream from Lock and Dam 25 (RM 241.4) near Winfield, MO to Lock and Dam 24 (RM 273.4) near Clarksville, MO. The UMRR Program's second Habitat Needs Assessment (HNA-II) included Pool 25 as part of the Lower Impounded pools (McCain et al. 2018). The Lower Impounded pools are generally characterized by more lotic area and water-surface elevation fluctuation than the Upper and Middle Impounded pools, but exhibit less longitudinal and lateral floodplain connectivity than they had historically (De Jager et al. 2018, McCain et al. 2018). Desired conditions for the Lower Impounded pools directly related to this project include improving quality, depth, and distribution of lotic and lentic habitats as well as restoring floodplain habitat and connectivity to the main channel. A full discussion on desired conditions for the Lower Impounded pools as outlined in HNA-II can be found in Section 2.3.2 of the draft Feasibility Report.

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**Project Goals, Objectives, and Opportunities**

Key problems in the project area include sedimentation and reduction in desired vegetation due to a loss of topographic diversity. As noted in Section 2.4. of the draft Feasibility Report, project objectives designed to address these problems are:

1. Enhance depth, flow and substrate diversity and connectivity of aquatic habitat throughout the study area.
2. Manage the sediment inputs in the side channel and slough areas.
3. Restore topographic and bathymetric diversity and improve desired vegetative community composition throughout the project area.

These objectives were developed in accordance with the UMRR Program's ecosystem objectives for the reach (USACE 2011), and HNA-II (McCain et al. 2018). Although the Gilead Slough is a component of the UMRR Program, the project also supports several additional efforts identifying ecosystem restoration needs and priorities across systemic, regional, and local scales. The U.S. Fish and Wildlife Service (Service) is the project sponsor, and Gilead Slough is located within the Two Rivers National Wildlife Refuge (Refuge). This HREP supports the resource management goals of the Refuge, as well as objectives identified by the Two Rivers National Wildlife Refuge Habitat Management Plan (HMP, 2011). Specific habitat goals outlined in the Two Rivers NWR HMP are listed in Section 2.3.3 of the draft Feasibility Report.

Opportunities identified by the Project Development Team (PDT) and considered during project planning beyond the project objectives included:

- Improve the resiliency of the habitats within the study area;
- Support local community by improving nature-based tourism and recreation;
- Enhance partnerships with organizations for monitoring and education;
- Use dredged material more effectively to benefit or create habitats;
- Improve water clarity;
- Use innovative solutions to create sustainable habitat conditions;
- Reduce the quantity of invasive species;
- Improve sediment or substrate quality;
- Improve habitat for Threatened and Endangered (T&E) species;
- Improve substrate consolidation;
- Improve opportunities for nearby communities.

**Discussion of Selected Project Measures**

The PDT identified and considered a wide range of potential structural and non-structural management measures to support the objectives identified for the Gilead Slough HREP. Refer to Section 4.1. of the draft Feasibility Report for full descriptions of the identified project measures. After screening, the following structural and non-structural measures were retained for alternative formulation.

- Shoreline Protection with Gradual Slope Revetment (GSR)
- Excavation at Varying Depths
- Moist Soil Unit Creation with Pump (Active Management)
- Moist Soil Unit Creation with Overflow (Passive Management)
- Scour Structures
- Hard Points

- Backwater Excavation (Environmental Pool Management)
- River Connection Starting at Gilead
- Island Creation
- Barbs
- Sediment Deflection Dike
- Bank Protection
- Substrate Diversity

Each measure was considered independently in combining to formulate the initial array of alternatives (Section 4.2, Table 5 of the draft Feasibility Report). Once the initial array was created, the PDT reviewed each alternative to ensure the problems identified in the study area could be addressed.

**Evaluation Methodology**

Anticipated habitat benefits provided by each alternative were assessed by a multi-agency team of representatives from the U.S. Army Corps of Engineers (Corps), Service, and Illinois DNR. The team evaluated existing conditions, future without, and future with project conditions using the dabbling duck habitat suitability index model (Devendorf 2013) for measures involving vegetation management, the yellow warbler model (Schroeder 1982) for island creation, the smallmouth buffalo model (Edwards and Twomey 1982) for depth diversity and GSR measures, and the white bass model (Hamilton and Nelson 1984) for all other aquatic structures (Table 1). The habitat evaluation models produced a rating of habitat quality for each respective habitat type. This rating is referred to as a Habitat Suitability Index (HSI). The HSI, a value ranging from 0 to 1, measures the existing and future habitat conditions compared to optimum habitat, which is 1. This value, when multiplied by the available habitat within the project area, will provide a measure of available habitat quality and quantity known as habitat units (HUs). Changes in HUs will occur as a habitat either naturally matures or is influenced by development or restoration. Average annual habitat units (AAHUs) for each species are typically calculated to reflect expected habitat conditions over a 50-year project life. Habitat evaluation assumptions, HSI scores, and AAHU values by model can be found within Appendix B of the draft Feasibility Report.

Further evaluations were conducted to (1) assess which alternatives are cost-effective, meaning the associated plan has the greatest benefit of all alternatives for that cost, and (2) identify "best buy" options that provide the greatest increase in AHHUs for the least increase in cost. Two of the alternatives, (No Action and Intermediate Habitat Benefit), were identified as "best buy" options and one (Minimum Habitat Benefit) was considered "cost effective" (Table 2). All were further assessed by the planning team. Of these, the No Action had the lowest incremental cost, but produced no benefit and the team did not consider this alternative further. The Minimum Habitat Benefit alternative was "cost effective"; and while it would meet all three objectives, it provided the lowest total net AAHUs and was expected to be less resilient over the life of the project. The Intermediate Habitat Benefit alternative was identified as a "best buy", would fully meet all three project objectives and would provide the highest total net AAHUs (Table 2). The Intermediate Habitat Benefit alternative was ultimately recommended by the PDT as the preferred alternative and carried forward as the tentatively selected plan (TSP) (Figure 1). Measures included in the Intermediate Habitat Benefit plan include:

- Shoreline Protection with GSR
- Excavation At Varying Depths
- Moist Soil Unit Creation
- Scour Structures
- Hard Points
- Backwater Excavation (Environmental Pool Management, EPM)

- Island Creation
- Barbs
- Water Control Structures
- Substrate Diversity

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**Table 1:** Habitat Suitability Index (HSI, 0.0-1.0) scores by target year (TY) for the final array of alternatives and measures evaluated by each model. See Table 5 of the draft Feasibility Report for a full list of the measures in each alternative. See Appendix B of the draft Feasibility Report for acreage delineations by model.

| **Dabbling Duck Model HSI Scores**<br>Excavation at Varying Depths, Backwater Excavation, Moist Soil Unit Creation with Overflow, Moist Soil Unit Creation with Pump | | | | | |
|---|---|---|---|---|---|
| **Alternative** | **TY 0** | **TY 5** | **TY 10** | **TY 25** | **TY 50** |
| No Action* | 0.39 | 0.38 | 0.38 | 0.32 | 0.27 |
| Minimum Habitat Benefit | 0.39 | 0.48 | 0.48 | 0.45 | 0.41 |
| Intermediate Habitat Benefit | 0.39 | 0.56 | 0.56 | 0.53 | 0.48 |
| Maximum Habitat Benefit | 0.39 | 0.73 | 0.67 | 0.64 | 0.59 |
| **Yellow Warbler Model HSI Scores**<br>Island Creation | | | | | |
| **Alternative** | **TY 0** | **TY 1** | **TY 5** | **TY 25** | **TY 50** |
| No Action* | 0 | 0 | 0 | 0 | 0 |
| Minimum Habitat Benefit | 0 | 0.09 | 0.46 | 1 | 0.65 |
| Intermediate Habitat Benefit | 0 | 0.09 | 0.46 | 1 | 0.65 |
| Maximum Habitat Benefit | 0 | 0.09 | 0.46 | 1 | 0.65 |
| **Smallmouth Buffalo Model HSI Scores**<br>Excavation at Varying Depths, Shoreline Protection with GSR | | | | | |
| **Alternative** | **TY 0** | **TY 1** | **TY 5** | **TY 25** | **TY 50** |
| No Action* | 0.12 | 0.12 | 0.11 | 0.07 | 0 |
| Minimum Habitat Benefit | 0.12 | 0.73 | 0.7 | 0.66 | 0.6 |
| Intermediate Habitat Benefit | 0.12 | 0.78 | 0.76 | 0.75 | 0.7 |
| Maximum Habitat Benefit | 0.12 | 0.31 | 0.31 | 0.32 | 0.3 |
| **White Bass Model HSI Scores**<br>Shoreline Protection with GSR, Scour Structures, Barbs, Hard Points, Island Creation Rock, Bank Protection, Substrate Diversity, River Connection, Sediment Deflection Dike | | | | | |
| **Alternative** | **TY 0** | **TY 1** | **TY 5** | **TY 25** | **TY 50** |
| No Action* | 0.53 | 0.52 | 0.53 | 0.48 | 0.28 |
| Minimum Habitat Benefit | 0.53 | 0.61 | 0.60 | 0.59 | 0.57 |
| Intermediate Habitat Benefit | 0.53 | 0.65 | 0.73 | 0.73 | 0.64 |
| Maximum Habitat Benefit | 0.53 | 0.74 | 0.75 | 0.76 | 0.76 |

*No Action alternative presents anticipated future conditions without project measures.

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**Table 2:** Summary of acres restored, rounded environmental benefits, cost effectiveness, and incremental cost analyses for the final array of alternatives based on Table 14, and Appendix B of the draft Feasibility Report.

| Alternative | Acres Restored | Net AAHUs by HSI Model | | | | Total Net AAHUs | Cost Effectiveness | Best Buy Ranking of Incremental Cost Per AAHU |
|---|---|---|---|---|---|---|---|---|
| | | Dabbling Duck Model Net AAHUs | Yellow Warbler Model Net AAHUs | Smallmouth Buffalo Model Net AAHUs | White Bass Model Net AAHUs | | | |
| **No Action** | 0 | 0 | 0 | 0 | 0 | 0 | Best Buy | 1 |
| **Minimum Habitat Benefit** | 369 | 2 | 18 | 108 | 21 | 149 | Cost Effective | 3 |
| **Intermediate Habitat Benefit*** | 397 | 13 | 20 | 123 | 41 | 197 | Best Buy | 2 |
| **Maximum Habitat Benefit** | 402 | 16 | 22 | 17 | 120 | 175 | Non Cost Effective | - |

*denotes the TSP

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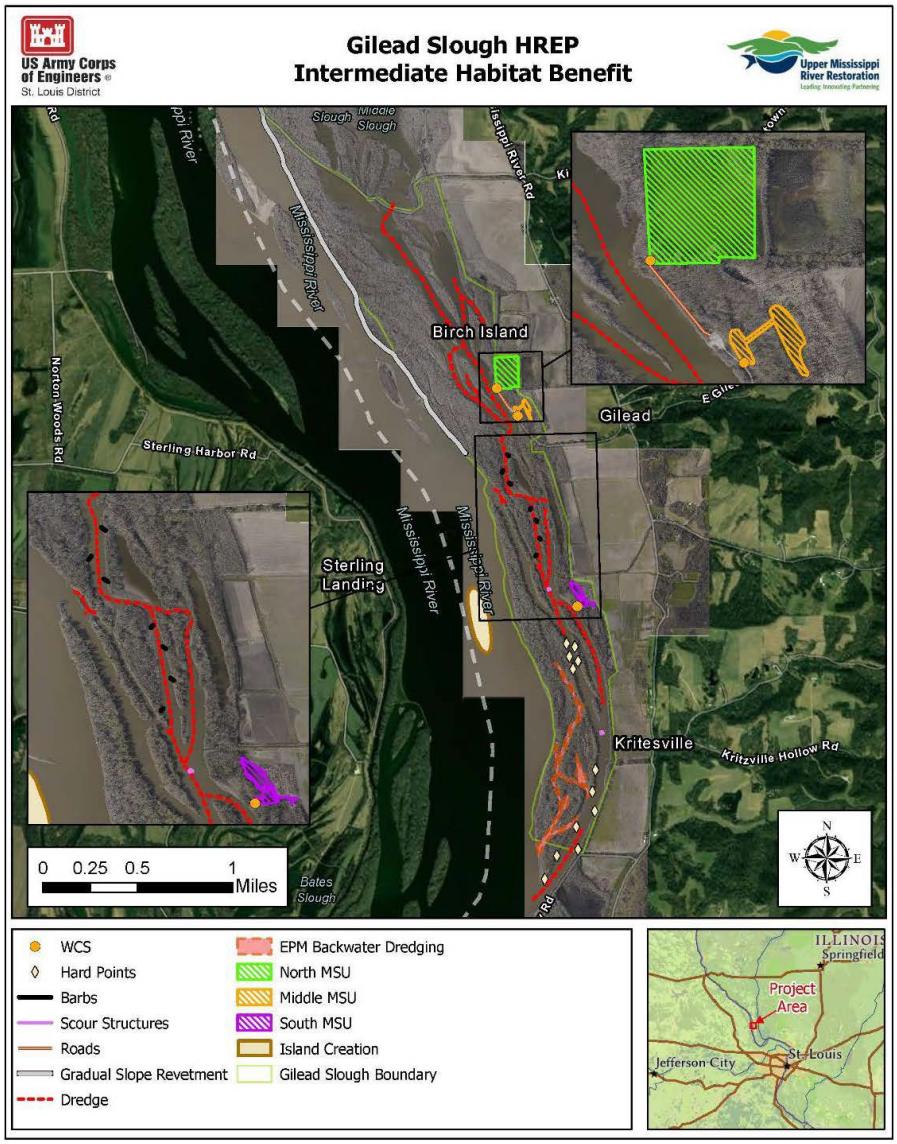


**Figure 1**: Tentatively Selected Plan (TSP). *Extracted from the draft Feasibility Report.*

Several general and site-specific assumptions were made as to what the project area and vicinity would be like 50 years in the future with and without the project and can be found in Appendix B (Habitat Evaluation & Quantification) of the draft Feasibility Report (USACE 2025).

**Discussion of Future Without Project**

The Gilead Slough complex is currently experiencing heavy sedimentation. In the Future Without Project (FWOP), we expect shallower water depths throughout and decreased connectivity between the main channel, side channel, and backwater areas. Current side channel conditions include shifting sand, which is not a suitable substrate for many aquatic macroinvertebrates. We expect these conditions will persist in the FWOP and we expect macroinvertebrate diversity in these areas to remain low. In the backwaters, shallow conditions and high summer temperatures may result in low dissolved oxygen levels, reducing habitat suitability and directly affecting aquatic species sensitive to water quality. In the winter, those shallow areas may also limit thermal refugia availability for overwintering fish and herptiles. Lentic backwater areas are expected to become completely unsuitable for fish within 50 years in the FWOP (Table 1). As sediment continues to shift and deposit, we expect the amount of terrestrial habitat within the project footprint to increase and the size and location of aquatic transitional habitats to change. While accretion may occur, an overall loss of topographic diversity is expected in the FWOP and may eventually contribute to the growth of undesirable floodplain forest and herbaceous species (Table 1).

**Discussion of Future With Project**

*Lotic Habitat*

We expect shoreline protection with GSR, scour structures, barbs, hard points, and substrate diversity to introduce flow diversity to side channel habitats in the Future With Project (FWP). Shoreline protection will help reduce sedimentation into the aquatic areas, and both GSR and substrate diversity will provide heterogeneity in fish and aquatic macroinvertebrates habitat while supporting project longevity. In addition to limiting sedimentation, these measures will help stabilize shifting substrates, making them more suitable for colonization of freshwater mussels and other aquatic species in the FWP.

*Lentic Habitat*

Excavation of deepwater areas is expected to provide additional and improved thermal overwintering refugia for fish and herptiles in the FWP. Depth diversity created in backwaters during these excavations will also provide a variety of suitable spawning, rearing, and foraging habitats for these species. The life of these features will be extended when combined with the shoreline protection measures.

*Island Creation*

Island creation will provide an opportunity for beneficial use of dredge material and add depth diversity to the main channel border area in the FWP. We anticipate that the rock berm used to contain the new island structure will introduce additional flow diversity for aquatic species, providing habitat for spawning, rearing, or foraging depending on river conditions and time of year. Later in the FWP, early successional forest is likely to establish based on the local seed source. Floodplain forest provides important nesting, foraging, and stopover habitat for passerines. Adding this will help improve overall habitat connectivity within the UMR corridor.

*Moist Soil Units and Emergent Backwaters*

Increasing the amount of moist soil habitat available within the project area will provide forage and cover for a variety of wildlife but will particularly benefit migrating waterfowl. Using dredge material to raise elevation in certain areas will support emergent vegetation growth during EPM drawdowns occurring throughout the life of the project (Table 1).



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*Other Restoration Projects*

Five active or complete HREP projects are located within Pool 25, providing opportunity for synergistic benefits and continuity. Most notably, the Red's Landing HREP project is at the end of the planning phase and will benefit 1,360 acres of backwater, wetland, and floodplain forest habitats directly adjacent to the Gilead Slough HREP. Future projects under the Navigation and Ecosystem Sustainability Program (NESP) have the potential to further enhance ecosystem structure and function of the Pool and UMR system.

**Threatened and Endangered Species**

To facilitate compliance with Section 7 of the Endangered Species Act of 1973, as amended, Federal agencies are required to obtain information concerning any species, listed or proposed to be listed, which may be present in the area of a proposed action through the Service's Information for Planning and Consultation (IPaC) website. In the draft Feasibility Report, you provided a list of species, which may be present within the project area that was obtained from IPaC on September 4, 2025. That list includes the endangered Indiana bat (*Myotis sodalis*), endangered spectaclecase mussel (*Cumberlandia monodonta*), threatened decurrent false aster (*Boltonia decurrens*), proposed endangered tricolored bat (*Perimyotis subflavus*), proposed threatened monarch butterfly (*Danaus plexippus*), and proposed threatened western regal fritillary (*Argynnis idalia occidentalis*). There is no designated critical habitat in the project area at this time. You can visit IPAC at the following link to obtain an updated official U.S. Fish and Wildlife species list as needed: https://ipac.ecosphere.fws.gov.

Although the bald eagle has been removed from the threatened and endangered species list, it continues to be protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (BGEPA). The Service developed the National Bald Eagle Management Guidelines to provide landowners, land managers, and others with information and recommendations regarding how to minimize potential project impacts to bald eagles, particularly where such impacts may constitute "disturbance," which is prohibited by the BGEPA. The Service is unaware of any bald eagle nests in the proposed project area; however, if a bald eagle nest is found in the project area or vicinity of the project area then our office should be contacted, and the guidelines implemented. A copy of the guidelines is available at: https://www.fws.gov/media/national-bald-eagle-management-guidelines-0

State threatened and endangered species may also occur within the project area. The Illinois Natural Heritage Database lists 14 endangered species (3 fish, 1 mammal, 2 freshwater mussels, 2 birds, 6 plants) and 11 threatened species (2 fish, 3 reptiles, 1 mammal, 1 freshwater mussel, 4 plants) in Calhoun County (IL DNR 2025).

**Recommendations and Conclusion**

This plan restores approximately 397 acres of side channel, backwater, and floodplain habitats critical to a variety of fish and wildlife species. The project will improve the quality and diversity of aquatic habitats within the project area by improving flow and substrate diversity. Riverine fish and other aquatic organisms will have enhanced access to aquatic habitats at critical life stages, such as spawning, rearing and overwintering. The project will also improve the quality of terrestrial wetland habitats that migratory birds will use for resting, feeding, and nesting.

In support of the Gilead Slough HREP, the Service and State partner agencies offer the following recommendations:

- As the purpose of this project is to provide wildlife benefits through habitat rehabilitation and enhancement, we continue to recommend the Corps coordinate with State partners to avoid and minimize potential impacts to state-protected resources to the extent practicable.

- As the project continues to be adjusted and "optimized" to maximize habitat benefits while protecting, avoiding, and minimizing impacts to sensitive habitat and resource areas, we recommend partner agencies be convened to reassess and provide input on the monitoring and adaptive management plan and objectives prior to finalization and implementation.

The Gilead Slough HREP represents an opportunity to provide additional needed aquatic diversity in Pool 25 of the UMR. The project is expected to support habitat connectivity within the project boundary and systemwide continuity through synergy with other existing HREPs. The significant interagency coordination throughout the planning process demonstrates the ecological value of this project towards maintaining and restoring habitat quality, diversity, and resilience within Pool 25 and the larger UMR system. Finally, the post-construction performance monitoring and adaptive management plan will allow the project features to be evaluated and modified, as necessary, to further support the intended ecological goals and benefits of the project.

Therefore, we support the preferred alternative as outlined in Section 6 of the draft Feasibility Report which includes:

- Shoreline protection with GSR, scour structures, barbs, hard points, and substrate diversity to improve hydrologic dynamics within the project area and stabilize both terrestrial and aquatic substrates.
- Island creation for depth and flow diversity.
- Backwater excavation at varying depths for improved foraging, breeding, and overwintering habitat for fish and other aquatic wildlife.
- Moist soil unit creation with water control structures to improve vegetation management for resident and migratory bird species.

Thank you for the opportunity to provide this ***draft*** Fish and Wildlife Coordination Act Report. If you have any questions, please contact Lauren Larson of my staff at (309) 807-0200.

Sincerely,

Sara Schmuecker
Deputy Field Supervisor

Cc:

| | |
|---|---|
| USFWS Refuge | C. Deutsch |
| USFWS ES | M. Mangan |
| IL DNR | B. Atwood |
| USACE | J. Garrett |
| MDC | M. Vitello |

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**LITERATURE CITED**

De Jager, N., Rogala, J., Roheder, J., Van Appledorn, M., Bouska, K., Houser, J., & Jankowski, K. 2018. Indicators of ecosystem structure and function for the Upper Mississippi River System. United States Geological Survey Open File Report 2018-1143, 115 pp.

Devendorf, Randall D. 2013. A Dabbling Duck Migration Model for the Upper Mississippi River. U.S. Army Corps of Engineers, St. Paul District, St. Paul.

Edwards, E., & Twomey, K. 1982. Habitat Suitability Index Models: Smallmouth Buffalo. US Department of Interior, Fish and Wildlife Services.

Hamilton, K., & Nelson, P. 1984. Habitat Suitability Index Models and Instream Flow Suitability Index Curves: White Bass. US Department of Interior, Fish and Wildlife Services.

[IL DNR] Illinois Department of Natural Resources. 2025. Illinois Threatened and Endangered Species by County. Illinois Natural Heritage Database. Accessed November 4, 2025. https://naturalheritage.illinois.gov/content/dam/soi/en/web/naturalheritage/documents/Feb2025_ET_ByCounty.pdf

McCain, K.N.S., Schmuecker, S., & De Jager, N. 2018. Habitat needs assessment II for the Upper Mississippi River Restoration Program: linking science to management perspectives. U.S. Army Corps of Engineers, Rock Island, Rock Island, IL. 90 pp. and appendices.

Schroeder, R. 1982. Habitat Suitability Index Models: Yellow Warbler. US Department of Interior, Fish and Wildlife Services.

[USACE] U.S. Army Corps of Engineers. 2011. Upper Mississippi River ecosystem restoration objectives 2009. Retrieved from: https://www.mvr.usace.army.mil/Portals/48/docs/Environmental/UMRR/UMRR_Ecosystem_Restoration_Objectives_2009.pdf

[USACE] U.S. Army Corps of Engineers 2025. Draft Upper Mississippi River Restoration feasibility report with integrated environmental assessment, Gilead Slough Habitat Rehabilitation and Enhancement Project, Pool 25, Upper Mississippi River Mile 253-248, Calhoun County, IL. (October, 2025). 83 pp. and appendices.

[USFWS] U.S. Fish and Wildlife Service. 2011. Two Rivers National Wildlife Refuge Habitat Management Plan. 183 pp. and appendices.

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# 6 ILLINOIS DEPARTMENT OF NATURAL RESOURCES

The Illinois DNR's Ecological Compliance Assessment Tool was used to determine the presence of natural resources within the affected habitats in the study area. On 9 September 2025, the EcoCAT tool was used to generate the following report #2605049.

**EcoCAT**
**Ecological Compliance Assessment Tool**

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

| | | | |
|---|---|---|---|
| *Applicant:* | US Army Corps of Engineers | *IDNR Project Number:* | 2605049 |
| *Contact:* | Justin Garrett | *Date:* | 09/09/2025 |
| *Address:* | 1222 Spruce St<br>St. Louis, MO 63103 | | |
| *Project:* | Gilead Slough Habitat Rehabilitation and Enhancement Project | | |
| *Address:* | 364 Wildlife Conservation Rd, Brussels | | |

*Description:* Restore and enhance side channel and backwater habitat within the project area.

## Natural Resource Review Results

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Batchtown Mussel Bed INAI Site
Maple Island Bed INAI Site
Butterfly *(Ellipsaria lineolata)*
Indiana Bat *(Myotis sodalis)*
Indiana Bat *(Myotis sodalis)*
Indiana Bat *(Myotis sodalis)*
Northern Long-Eared Myotis *(Myotis septentrionalis)*

**An IDNR staff member will evaluate this information and contact you to request additional information or to terminate consultation if adverse effects are unlikely.**

**Location**
The applicant is responsible for the accuracy of the location submitted for the project.

*County:* Calhoun

*Township, Range, Section:*
10S, 2W, 31
10S, 3W, 36
11S, 2W, 6
11S, 2W, 7
11S, 2W, 8
11S, 2W, 17
11S, 2W, 18
11S, 2W, 19
11S, 2W, 20
11S, 3W, 1
11S, 3W, 12

**IL Department of Natural Resources Contact**
Alex Davis
217-785-5500
Division of Ecosystems & Environment

**Government Jurisdiction**
U.S. Army Corps of Engineers

Page 1 of 2

*IDNR Project Number: 2605049*

**Disclaimer**

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

**Terms of Use**

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

**Security**

EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law.

Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

**Privacy**

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

Illinois Department of **Natural Resources**

JB Pritzker, Governor • Natalie Phelps Finnie, Director
One Natural Resources Way • Springfield, Illinois 62702-1271
**www.dnr.illinois.gov**

September 15, 2025

Justin Garrett
Biologist
1222 Spruce St
St. Louis, MO 63103

**RE: Gilead Slough Habitat Rehabilitation and Enhancement Project Consultation Program**
**EcoCAT Review #2605049**
**Calhoun County**

Dear Mr. Garrett:

The Department has received your submission for this project for the purposes of consultation pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code* Part 1075.

The proposed action consists of the restoration and enhancement of side channel and backwater habitat, including shoreline protection with gradual slope revetment, creating moist soil habitat with stoplog type control structures to manipulate water levels for emergent and moist soil vegetation, scour structures, hard points, island/sandbar creation, barbs, and bank armoring. The project area is located within Two River National Wildlife Refuge.

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

**Illinois Natural Areas Inventory (INAI)**
**Batchtown Mussel Bed INAI**
**Maple Island Bed INAI**

**State Threatened or Endangered Species**
**Butterfly (*Ellipsaria lineolata*)**
**Indiana Bat (*Myotis sodalist*)**
**Northern Long-eared Bat (*Myotis septentrionalis*)**

Gilead Slough Habitat Rehabilitation and Enhancement Project Consultation, Consultation #2605049

Due to the project scope and proximity to protected resources the Department offers the following comments and recommends the following actions be taken to avoid adversely impacting listed species and protected natural areas in the vicinity of the project:

**Batchtown Mussel Bed INAI**
The Department has determined that adverse impacts to this natural area are unlikely.

**Maple Island INAI and Butterfly**
This project overlaps Maple Island INAI site. Maple Island INAI site is a Category VI INAI site, meaning it supports an unusual concentration of flora and or fauna. EcoCAT also indicated records for the state-listed Butterfly in the vicinity of the project area. Plans indicate that dredging, dredge disposal and or bankline protection activities shall occur within the boundaries of the INAI site, as well as within other areas of the project. The Department recommends:

- A mussel survey be conducted in the proposed project area. A mussel survey proposal should be sent to the Department and USFWS for concurrence on methods, followed by a report on the survey results for a final determination on impacts to state-listed species. The principal investigator should obtain the necessary permits from the Department and USFWS to conduct such surveys. A list of mussel survey contractors can be provided upon request. Instructions on how to apply for research permits can be found at: General Scientific - Permits (illinois.gov)
- All equipment, including but not limited to boots, tools, equipment, tires, and treads should be cleaned of all debris prior to entry of the project area in order to avoid spreading of non-native/invasive aquatic plant and animal species into the INAI site.

**Indiana Bat & Northern Long-eared Bat**
EcoCAT indicated records for the state-listed Indiana Bat and Northern Long-eared Bat in the vicinity of the project area. If tree clearing is required, the Department recommends:

- Trees should be removed between November 1 and March 31 to avoid impacts to the Indiana Bat and Northern Long-eared Bat.

Please note that due to the federal status of the Indiana Bat and Northern Long-eared Bat, and their potential occurrence in the project area, coordination with the U.S. Fish and Wildlife Service may be necessary and is separate from this consultation and Illinois State regulations.

Given the above recommendations are adopted, the Department has determined that impacts to these protected resources are unlikely. The Department has determined impacts to other protected resources in the vicinity of the project location are also unlikely.

*In accordance with 17 Ill. Adm. Code 1075.40(h), please notify the Department of your decision regarding these recommendations.*

Consultation on the part of the Department is closed, unless the applicant desires additional information or advice related to this proposal. Consultation for Part 1075 is valid for two years

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unless new information becomes available which was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the action has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal and should not be regarded as a final statement on the project being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are unexpectedly encountered during the project's implementation, the applicant must comply with the applicable statutes and regulations.

This letter does not serve as permission to take any listed or endangered species. As a reminder, no take of an endangered species is permitted without an Incidental Take Authorization or the required permits. Anyone who takes a listed or endangered species without an Incidental Take Authorization or required permit may be subject to criminal and/or civil penalties pursuant to the *Illinois Endangered Species Act*, the *Fish and Aquatic Life Act*, the *Wildlife Code* and other applicable authority.

Please contact Alexandra (Alex) Davis (Alexandra.Davis@illinois.gov) with any questions about this review.

Sincerely,

Bradley Hayes
Manager, Impact Assessment Section
Division of Real Estate Services and Consultation
Office of Realty & Capital Planning
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702
Bradley.Hayes@Illinois.gov
Phone: (217) 782-0031

# 7 PUBLIC COMMENTS

In accordance with NEPA, the draft report with integrated EA will be available to interested members of the public during a 30-day public review period, yet to be scheduled. The report will be on the St. Louis District website and a letter will be mailed to interested members of the public identifying where to find the report, how to provide comments, and the date of the public meeting/open house to be held. Comments received during public review will be incorporated into the report where appropriate prior to finalizing the design.

## 7.1 Public Review Distribution List

In addition to the tribal entities listed in Section 4.2, the following parties listed below, and all adjoining property owners were sent a weblink and instructions on how to access our draft report during the 30-day Public Review period.

| Group | Contact Name |
|---|---|
| Migratory Waterfowl | Jason Jackson |
| IFOR | Scott Bryant |
| Audubon Society | Tara Hohman |
| Audubon Society | Ken Buchholz |
| Alton Motorboat Club | Jim Neuman |
| Great Rivers Land Trust | Ali Ringhausen |
| Mississippi Valley Duck Hunters Association | n/a |
| Ducks Unlimited | Dan Cramer |
| American Rivers | Mike Sertle |
| One Mississippi | Olivia Dorothy |
| East West Gateway | Mary Grace Lewandowski |
| Heartlands Conservancy | Mary Vandevord |
| MO Coalition for the Environment | Maisah Khan |
| IDNR | Butch Atwood |
| IDNR | Cody Alger |
| IDNR | Bradley Hayes |
| IDNR | Kyle Burkwald |
| IDNR | John Sietz |
| IDNR | Chad Craycraft |
| IL EPA | Darren Gove |
| Mo DNR | Billy Hackett |
| IL Natural History Survey | Levi Solomon |
| NGRREC | Lyle Guyon |
| NGRREC | Jason Knouft |
| Waterways Council Inc | Paul Rohde |
| USGS | Amy Beussink |
| USGS | Kristen Bouska |
| Great Rivers Habitat Alliance | Mike Checkett |
| Great Rivers Habitat Alliance | Karen Coleman |

| | |
|---|---|
| TNC | Doug Blodgett |
| TNC | Bryan Hopkins |
| USFWS | Kirsten Schmidt |
| USFWS | Charlie Deutsch |
| USFWS | Matt Mangan |
| USFWS | Lauren Larson |
| USFWS | Kraig McPeek |
| USFWS | Sara Schmuecker |
| The Conservation Fund | Clint Miller |
| NWTF | John Burk |
| Wildlife Forever | Pat Conzemius |
| Prairie Rivers Network | Vickie Nudelman |
| Prairie Rivers Network | Maggie Bruns |
| UMRCC | Neal Jackson |
| UMRBA | Henry Hansen |
| NRCS | Rich Vaughn |
| EPA Region 7 | Jim Macy |
| EPA Region 5 | Anne Vogel |
| River City Outdoors | n/a |
| Frederick Douglass Wildlife & Conservation Club | n/a |
| MO SHPO | Amy Rubingh |
| IL SHPO | Rita Baker |
| Southwest Power Administration | Ashley Corker |
| Southwest Power Administration | Gary Slim |
| MDC | Matt Vitello |
| MDC | Travis Moore |
| MDC | Annie Hentschke |
| MDC | Sarah Peper |
| MDC | Gary Calvert |
| MDC | Ryan Kelly |
| MDC | Doyle Brown |
| USCG | Justin Morgan |
| MSD | Jason Peterrin |
| MSD | Nora Estopare |
| Heartlands Conservancy | Mary Vandevord |
| Land Learning Foundation | Katie Weishan |
| Cultural Resource Analysts | Charles Niquette |
| Great Rivers Environmental | Bruce Morrison |
| Sierra Club | Christine Favilla |
| Meeco Sullivan Company | Christi Fabrizio |
| J.F. Brennan Company | Kent Pehler |
| Marquette Transportation LLC | Darin M. Adrian |
| TriCity Port | Dennis Wilmsmeyer |
| Washington University | Elizabeth Hubertz |
| Prairie Rivers Network | Kim Knowles |

| | |
|---|---|
| Consolidated Grain & Barge | Larry Jamison |
| Upper River Services | Lee Nelson |
| Magnolia Marine Transport Company | Lester Cruse |
| Office of Congressman Ann Wagner | n/a |
| Office of Congressman Sam Graves | n/a |
| Reitz & Jens | Paul Reitz |
| Ecosystems Insurance Associates | Robert Spoth |
| American Commercial Barge Lines | Ron Noval |
| Environmental Science Consulting | Scott George |
| SCI | Scott Harding |
| Swallow Tail Environmental | Shane Staten |
| Great Lakes Dredge & Dock Company | Steve Auerhamer |
| NOAA | Steve Buan |
| Port of St. Louis | Susan Taylor |
| First Capitol Advisors | Thomas Dempsey |
| York Bridge Company | Titus Edwards |
| U.S. Salt | Tom Johnson |
| USACE | Rob Gramke |
| USACE | Jaynie Doerr |
| USACE | Tyson Zobrist |
| USACE | Chris Hopfinger |
| USACE | Dawn Lamm |
| USACE | Shane Simmons |
| USACE | Lance Engel |
| USACE | Brian Johnson |
| USACE | Matt Jones |
| USACE | Brooke Magary |
| USACE | Romanda Walker |
| USACE | Ryan Swearingin |