Appendix D

Biological Assessment

PIASA AND EAGLE'S NEST ISLANDS HABITAT REHABILITATION AND ENHANCEMENT PROJECT

MADISON & JERSEY COUNTIES, ILLINOIS

BIOLOGICAL ASSESSMENT

Contents

1. Introduction

The purpose of this Biological Assessment (BA) is to review the proposed Piasa and Eagle's Nest Islands Habitat Rehabilitation and Enhancement Project (HREP) in sufficient detail to evaluate whether the proposed actions may affect any federally threatened, endangered, proposed, or candidate species identified by the U.S. Fish and Wildlife Service (USFWS). This BA is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (15 U.S.C. 1536 (c)) and applicable guidance documents. The BA includes the description of the project area, proposed actions, species accounts and status, effects of the proposed actions, and effects determinations.

1.1 Study Setting

The U.S. Army Corps of Engineers, St. Louis District, is preparing to implement a habitat rehabilitation and enhancement project at Piasa and Eagle's Nest Islands, located on the left descending bank of the Mississippi River in Madison and Jersey counties, Illinois. The project is in Pool 26 between river miles 207.5 and 211.5, upstream of Alton, Illinois. The study area is approximately 1,381 acres of island, side channel, and backwater habitat (Figure 1).

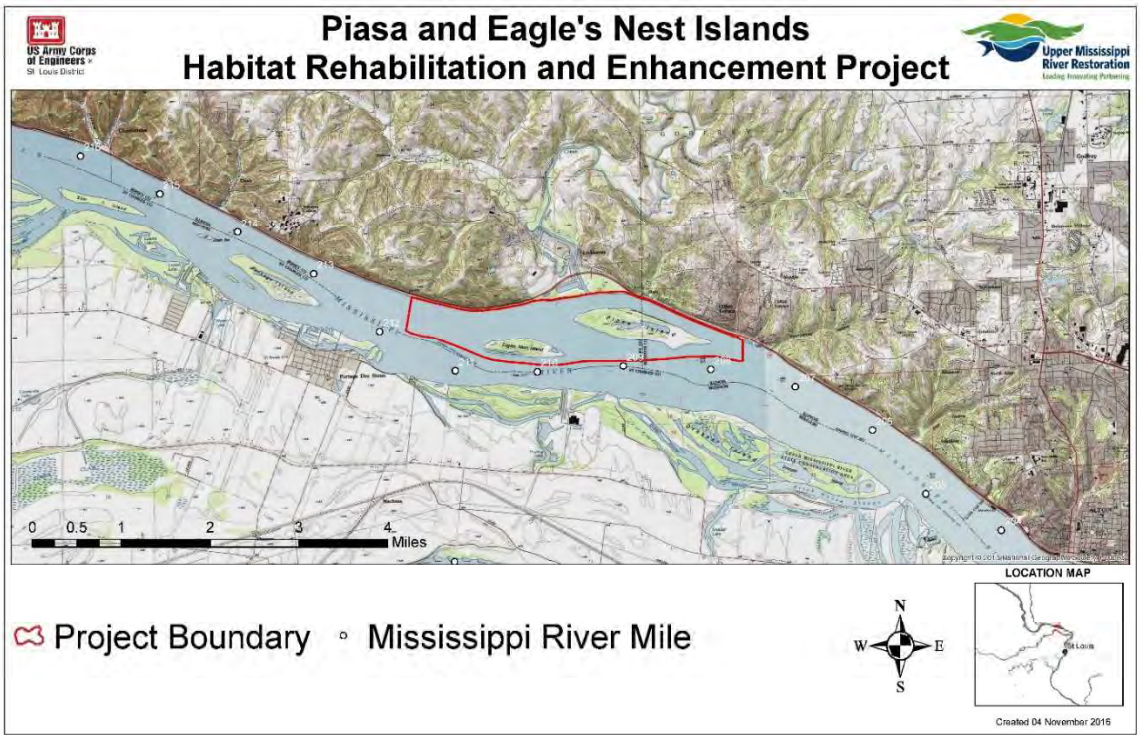

Figure 1. Piasa and Eagle's Nest Islands HREP project location and vicinity

The proposed alternative plan involves dredging material from Piasa Chute and constructing a river training structure to restore approximately 486 acres of side channel habitat, and dredging material from Piasa Island Backwater to restore approximately 49 acres of connected backwater and overwintering fish habitat. The material captured from the dredging along with stone rip-rap would be used to restore approximately 76 acres of island habitat (Figure 2).

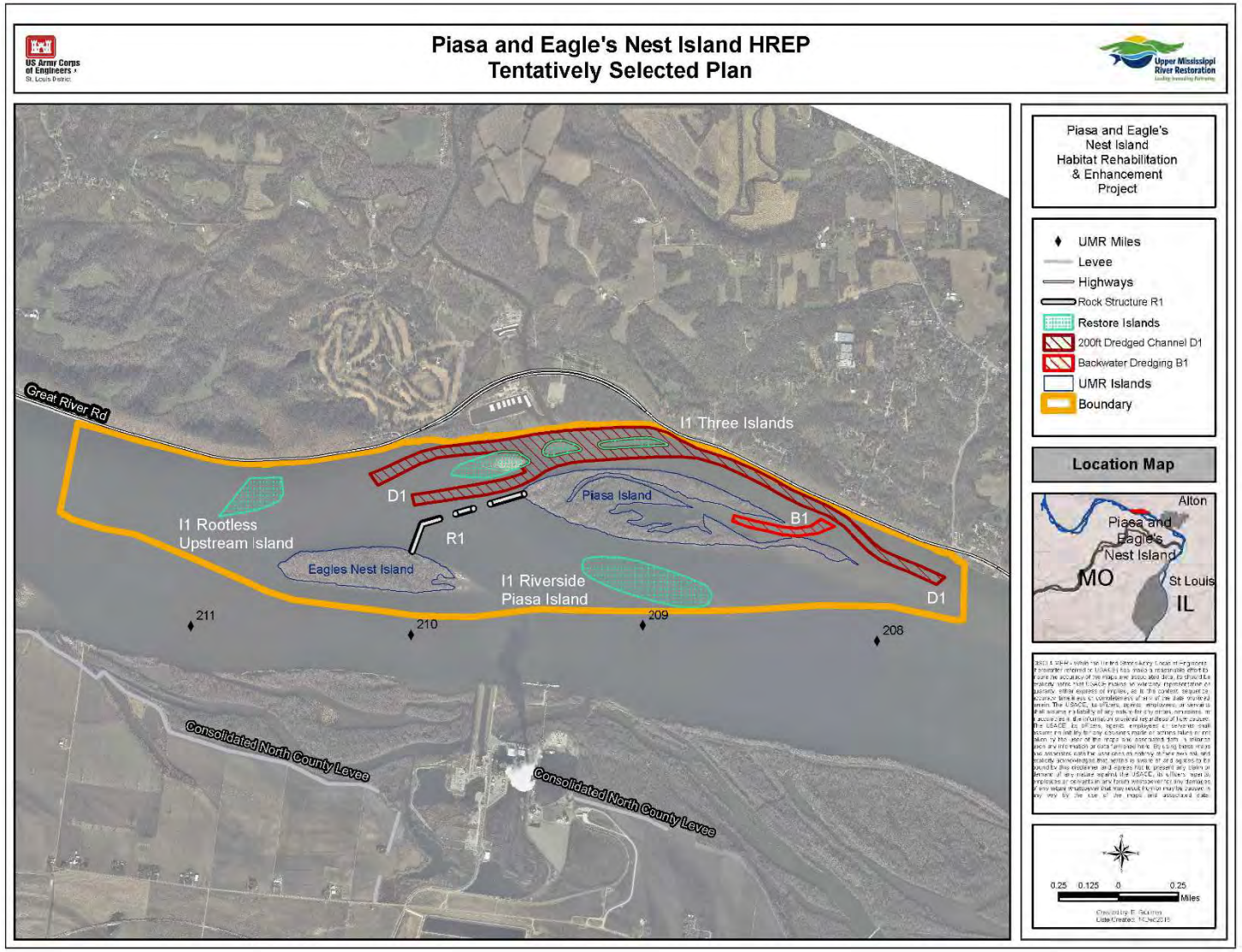

Figure 2. Proposed Plan at Piasa and Eagle's Nest Islands HREP

1.2 Biological Survey Data

In 2012, a summer mist net and acoustic surveys were conducted on Piasa Island (USACE 2012a). A total of 11 bats of 5 species were captured over 2 nights during the mist net survey. The five species included eastern red bat (*Lasiurus borealis*), little brown myotis (*Myotis lucifugus*), Indiana bat (*Myotis sodalis*), evening bat (*Nycticeius humeralis*), and tri-colored bat (*Perimyotis subflavius*).

Four locations of acoustic surveys were conducted on Piasa Island. Seven species were definitely recorded during the acoustic inventory. These species included big brown bat (*Eptesicus fuscus*), eastern red bat, hoary bat (*Lasiurus cinereus*), gray bat, little brown bat, evening bat, and tri-colored bat, and one species (northern long-eared bat) was recorded as "probable".

In 2014, field sampling was conducted to identify and characterize the mussel communities within the Project Area (ESI 2014). Habitat was somewhat variable throughout the Project Area, but was generally characterized by relatively shallow water and soft substrate. Scattered mussels were present in several locations within the study area. A low-density mussel bed (1.92 individuals/m^2) was identified at the head of Piasa Island, and a moderate-density bed (5.56 individuals/m^2) was identified at the toe of Piasa Island. Both beds were dominated by a few common species and recruitment was low. Mussel abundance within Piasa Chute was low. No evidence of federally listed species was observed, and suitable habitat for federally listed species was not identified within the study area.

The Upper Mississippi River Restoration (UMRR) Program integrates habitat restoration with long term resource monitoring (LTRM). The Piasa and Eagle's Nest Islands HREP is located within UMRR-LTRM Great Rivers study reach, which is a 50-mile reach of the Mississippi River and the mouth of the Illinois River. Staff from the Illinois Natural History Survey conduct monitoring of water quality, fish, aquatic vegetation, land cover and land use. These data have been collected since 1986. The UMRR-LTRM data were utilized to describe existing conditions, habitat evaluation and quantification, and species occurrence within the study area.

1.2 Species Covered in this Consultation

The Corps requested the official species via the ECOS-IPaC website (http://ecos.fws.gov/ipac/). U.S. Fish and Wildlife Service provided a list of 8 federally threatened and endangered species that could potentially be found in the area (Madison and Jersey counties, Illinois) via an original letter dated 14 October 2016, and updated on 25 January 2017 and 16 January 2018 (Section 5 below). The letter from 25 January 2017 is included since that was the letter sent to USFWS along with the original biological assessment. No changes in species occurred when updating the species list in 2018. The 8 species, federal protection status, and habitat can be found in Table 1. No critical habitat is located in the study area.

Table 1. Federally listed threatened and endangered species potentially occurring in the work area

Species	Status	Habitat
Least tern (interior population) (*Sterna antillarum*)	Endangered	Large rivers - nest on bare alluvial and dredge spoil islands

Indiana bat (*Myotis sodalis)*	Endangered	Hibernates in caves and mines; maternity & foraging habitat: small stream corridors with well-developed riparian woods; upland & bottomland forests
Northern long-eared bat (*Myotis septentrionalis*	Threatened	Hibernates in caves and mines; swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during spring and summer.
Decurrent false aster (*Boltonia decurrens*)	Threatened	Disturbed alluvial soils
Eastern prairie fringed orchid (*Platanthera leucophaea*)	Threatened	Moist, sandy floodplains and prairie wetlands along the Illinois River
Pallid sturgeon (*Scaphirhynchus albus*)	Endangered	Mississippi and Missouri Rivers
Eastern massasauga (*Sistrurus catenatus*)	Threatened	Open to forested wetlands and adjacent upland areas
Spectaclecase (*Cumberlandia monodonta*)	Endangered	Large rivers

2. Description of the Proposed Actions

2.1 Purpose and Need

The U.S. Army Corps of Engineers, St. Louis District is preparing a Feasibility Report with Integrated Environmental Assessment for implementation of the Piasa and Eagle's Nest Islands HREP. The purpose of the feasibility study is to restore ecosystem structure and function by constructing project measures to improve side channel, island, and backwater habitats. The purpose of the draft Feasibility Report with Integrated Environmental Assessment, including the draft unsigned Finding of No Significant Impact (FONSI) is to present a detailed account of the planning, engineering, and construction details of the proposed plan to allow final design and construction to proceed subsequent to approval of the document.

The need to restore side channel, island, and backwater habitats is based on the following factors:

- Through the *Upper Mississippi River System Habitat Needs Assessment* (Theiling, et al., 2000) restoring side channel habitat has been identified as a habitat need for Pool 26. Pool 26 has approximately 3% of the total aquatic and floodplain habitat classified as side channel habitat (Theiling, et al., 2000). Thus, existing side channel habitat is limiting within Pool 26 and the study area. In general existing side channels have shallow depth (e.g., < 5 feet) and limited structural diversity (e.g., cover, depth, and flow) due to sedimentation. Without action, side channel habitat would remain a limiting resource and would continue to decline impacting the survival and recruitment of various aquatic species, including riverine fishes and mussels. The sedimentation rate of 0.14 ft/year has been calculated for Piasa Chute. At this rate, without action, the average depth of Piasa Chute would decrease from 8.6 to 1.6 feet over 50 years (decrease of 83%), resulting in a loss of side channel habitat and quality of habitat.

- Through the *Upper Mississippi River System Habitat Needs Assessment* (Theiling, et al., 2000) restoring contiguous backwater habitat has been identified as a habitat need for Pool 26, and are important habitats required for functional year-round habitat. Existing backwater habitat on Piasa Island is generally shallow, turbid, and has limited connectivity with the main channel due to sedimentation. Without action, the existing backwater habitat would continue to decline impacting the survival and recruitment of riverine fish species. Utilizing the UMRR-LTRM data from 1993 to 2013, the average depth of the Piasa Island Backwater is 1.25 to 3.5 feet. The St. Louis District has modeled a slough outside the study area (Simons, Simons, Ghaboosi, & Chen, 1988) but in close proximity (Brickhouse Slough, which separates Dresser Island at RM 206-209 from the Missouri shore) to Piasa and Eagle's Nest Islands. These estimates indicated the sediment deposition rate to be 0.5 inches per year. Using this rate for Piasa Island Backwater would suggest that the backwater would fill in completely in approximately 60 years; however, based on aerial imagery analysis comparing 1971 to present day, the backwater has persisted in similar surface area (but it has gotten shallower). The team assumed that areas <2 feet in depth currently would convert to land by year 50 which equates to a 37% loss of the existing backwater. However, it is known that sediment loads increase at higher pool elevations so if a series of more severe flood events were to occur, the life expectancy could be much less than that projected. The result of this sedimentation is a rapid conversion of water cover to land cover. This conversion translates to a quantitative loss of habitat for migratory and resident wildlife. In a similar manner, riverine fish are impacted by a loss of backwater spawning and rearing habitat.

- Through the *Upper Mississippi River System Habitat Needs Assessment* (Theiling, et al., 2000) restoring island habitat has been identified as a habitat need for Pool 26. Existing island habitat is approximately 5% of the existing aquatic and floodplain habitat in Pool 26 (Theiling, et al., 2000). Within the study area, island habitat has been degraded primarily as a result of direct inundation resulting from lock and dam construction. Without action, it is anticipated that historic islands would continue to be submerged reducing the availability of this habitat for aquatic and wildlife species.

2.2 Proposed Plan and Action Area

The proposed plan and action area for the Piasa and Eagle's Nest Island HREP includes increasing aquatic diversity in Piasa Chute, improving connectivity and overwintering habitat in Piasa Island Backwater, and restoring island habitat. The details of the plan are further described below.

2.2.1. Piasa Chute Aquatic Diversity

This measure involves hydraulically dredging a braided dredge cut 200 foot wide to 10 feet below minimum pool (415.12 feet NAVD88), which would achieve an additional 5-6 feet of depth and increased flow within Piasa Chute. The braided configuration takes into account the effects of Piasa Creek and provides opportunities to restore islands within the study area. Approximately 885,000 cubic yards of material would be removed and transported within the study area to restore islands.

2.2.2. Piasa Island Backwater Dredging

This measure consists of dredging the entrance of Piasa Island Backwater to improve connectivity of the

backwater to the Mississippi River, increase depth (10 feet below minimum pool), and minimize impacts to existing emergent vegetation. Enhancing the entrance to this backwater would provide immediate access to spawning and rearing habitat, and ingress and egress of fish by way of the main channel. Approximately 156,000 cubic yards of material would be removed and transported within the study area to restore islands.

2.2.3 River Training Structure

This measure consists of constructing a rock structure between Piasa Island and Eagle's Nest Island that has two 400-foot wide notches. The location, size, and configuration of the structure was modeled using a numeric hydraulic model. The model shows the proposed structure increases flow into Piasa Chute, increased potential to sustain the dredge cut, and creates deep scour holes at the notches which enhances bathymetric diversity within the study area.

2.2.4 Island Restoration

This measure consists of restoring islands through placement of dredged material from Piasa Chute and Piasa Island Backwater. The restored island locations were selected due to proximity of proposed dredging areas, historic locations of islands, and existing shallower areas with low shear stress (based on the hydraulic model). The restored island would have stone protection which would tie the islands in place and also allow for scour when islands are overtopped. Average top elevation is 420.57 feet (NAVD88), which corresponds to the average top elevation to the head of Piasa Island currently. Table 2 provides a summary of the amount of dredged material required to restore the three different island locations and acres of island habitat restored.

Table 2. Island Restoration Details

	Quantity			
Item	Three Islands	Riverside Piasa Island	Upstream Rootless Island	**Unit**
Dredged Material	177,000	631,000	233,000	CY
Island Diversity	26	43	8	AC
Stone Protection	60,700	29,900	56,000	TN

3. Impact Assessment

3.1 Least tern (*Sterna antillarum*)

3.1.1 Status

The federally endangered least tern is a colonial, migratory waterbird which resides and breeds along the Mississippi River during the spring and summer. Least terns arrive on the Mississippi River from late April to mid-May. Reproduction takes place from May through August, and the birds migrate to the wintering grounds in late August or early September (USACE, 1999). Sparsely vegetated portions of sandbars and islands are typical breeding, nesting, rearing, loafing, and roosting sites for least terns along the MMR. Nests are often at higher elevations and well removed from the water's edge, a reflection of the fact that nesting starts when river stages are relatively high (USACE, 1999). In alluvial rivers, sandbars are dynamic channel bedforms. Individual sandbars typically wax and wane over time as fluvial processes and the

construction of river engineering works adjust channel geometry according to varying sediment load and discharge. There is limited data on site fidelity for Mississippi River least terns. Given the highly dynamic bed and planform of the historic river, ability to return to previously used colony sites is not likely a critical life history requirement. The availability of sandbar habitat to least terns for breeding, nesting, and rearing of chicks from 15 May to 31 August is a key variable in the population ecology of this water bird. Only portions of sandbars that are not densely covered by woody vegetation and that are exposed during the 15 May to 31 August period are potentially available to least terns (USACE, 1999). The size of nesting areas and the number of nests within a colony depend on water levels and the extent of associated sandbars (Sidle & Harrison, 1990). Sandbars have a greater possibility of colonization by least terns if river levels remain low during the breeding season. Smith and Renken (1991) found that sites were more likely to be used by interior least terns in the Mississippi River Valley adjacent to Missouri if sites were continuously exposed for at least 100 days during the breeding season.

Least terns are almost exclusively piscivorous (Anderson, 1983), preying on small fish, primarily minnows (Cyprinidae). Prey size appears to be a more important factor determining dietary composition than preference for a particular species or group of fishes (Moseley, 1976) (Whitman, 1988) (USACE, 1999). Fishing occurs close to the nesting colonies and may occur in both shallow and deep water, in main stem river habitats or backwater lakes or overflow areas. Radiotelemetry studies have shown that terns will travel up to 2.5 miles to fish (Sidle & Harrison, 1990) (USACE, 1999). Along the Mississippi River, individuals are commonly observed hovering and diving for fish over current divergences (boils) in the main channel, in areas of turbulence and eddies along natural and revetted banks, and at "run outs" from floodplain lakes where forage fish may be concentrated (USACE, 1999).

Least terns have been observed in the vicinity of the study area. Successful nesting of least tern on artificial floating habitat (near river mile 201.7) has also been documented by the U.S. Army Corps of Engineers, St. Louis District, Rivers Project Office near West Alton, Missouri. The goal of the artificial floating habitat project is to provide managed artificial sandbar habitat to Pool 26.

3.1.2 Effects Determination

One of the study objectives is to restore island habitat. The constructed islands would be built with dredged material, composed primarily from sand. Thus, the constructed islands would provide additional sandbar habitat that could be potentially used for least tern nesting habitat. To avoid and minimize impacts to the least tern during the nesting season (which are known to nest in the vicinity of the study area at RM 201.7), construction would occur in the winter months. We conclude the proposed Piasa and Eagle's Nest Island HREP ***may affect but is not likely to adversely affect least tern.***

3.2 Indiana Bat (*Myotis sodalis*)

3.2.1 Status

The Indiana bat is a federally listed, endangered mammal species (USFWS, 2016). The range of the Indiana bat includes much of the eastern half of the United States, including Illinois. Indiana bats migrate seasonally between winter hibernacula and summer roosting habitats. Winter hibernacula include caves and abandoned mines. Females emerge from hibernation in late March or early April to migrate to

summer roosts. During the summer, the Indiana bat frequents the corridors of small streams with well-developed riparian woods, as well as mature upland forests. It forages for insects along stream corridors, within the canopy of floodplain and upland forest, over clearings with early successional vegetation (old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures. Females form nursery colonies under the loose bark of trees (dead or alive) and/or cavities, where each female gives birth to a single young in June or July. A maternity colony may include from one to 100 individuals. A single colony may utilize a number of roost trees during the summer, typically a primary roost tree and several alternates. Some males remain in the area near the winter hibernacula during summer months, but others disperse throughout the range of the species and roost individually or in small numbers in the same types of trees as females.

Disturbance and vandalism, improper cave gates and structures, natural hazards, such as flooding or freezing, microclimate changes, land use changes in maternity range, and chemical contamination are the leading causes of population decline in the Indiana bat (USFWS, 2000) (USFWS, 2004). To avoid impacting this species, tree clearing activities should not occur during the period of 1 April to 30 September.

No suitable hibernation habitat exists within the study area. Suitable summer habitat exists within the proposed study area. Three female Indiana bats (2 non-reproductive; 1 lactating) were captured during the 2012 mist net survey at Piasa Island (USACE, 2012).

3.2.2 Effects Determination

Direct detrimental effects from implementing the proposed study are not anticipated since construction would be performed using water-based equipment and tree clearing is not required. There is minimal chance for indirect effects to Indiana bats through short-term noise disturbance. At this time, tree clearing is not anticipated with the proposed action; however, if that changes during plans and specification then additional consultation with USFWS would be required. If tree clearing is needed then no clearing of trees greater than 3 inches in diameter with loose peeling bark shall be allowed between April 1 and September 30 (during Indiana Bat breeding and rearing season). We conclude the proposed Piasa and Eagle's Nest Island HREP ***may affect but is not likely to adversely affect Indiana bat.***

3.3 Northern Long-Eared Bat (*Myotis septentrionalis*)

3.3.1 Status

The northern long-eared bat is a federally listed, threatened mammal species (Federal Register 4 May 2015). The northern long-eared bat is sparsely found across much of the eastern and north central United States and spends winter hibernating in caves and mines. They typically use large caves or mines with large passages and entrances; constant temperatures; and high humidity with no air currents. Within hibernacula, they are found in small crevices or cracks (USFWS, 2016a). During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on suitability to retain bark or provide cavities or crevices. They have also been found, rarely, roosting in structures like barns and

sheds (USFWS, 2016a). Foraging occurs in floodplain and upland forests. Forest fragmentation, logging and forest conversion are major threats to the species. One of the primary threats to the northern long-eared bat is the fungal disease, whitenose syndrome, which has killed an estimated 5.5 million cave-hibernating bats in the Northeast, Southeast, Midwest and Canada.

The study area does not have suitable hibernation habitat, but many habitats suitable for foraging do exist. No northern long-eared bats were captured during the 2012 mist net surveys; however, the northern long-eared bat was recorded as "probable" during the acoustic inventory (USACE, 2012).

3.3.2 Effects Determination

Direct detrimental effects from implementing the study are not anticipated since construction would be performed using water-based equipment and tree clearing is not required. There is minimal chance for indirect effects to Northern long-eared bats through short-term noise disturbance. At this time, tree clearing is not anticipated with the proposed action; however, if that changes during plans and specification then additional consultation with USFWS would be required. If tree clearing is needed then no clearing of trees greater than 3 inches in diameter with loose peeling bark shall be allowed between April 1 and September 30 (during Northern Long-Eared Bat breeding and rearing season). We conclude the proposed Piasa and Eagle's Nest Island HREP ***may affect but is not likely to adversely affect Northern long-eared bat.***

3.4 Decurrent False Aster (*Boltonia decurrens*)

3.4.1 Status

Decurrent false aster is a federally listed, threatened floodplain perennial plant species that may be found on moist, sandy floodplains and non-forested wetlands along the Mississippi and Illinois Rivers. It requires either natural or human disturbance to create and maintain suitable habitat and remove other plants competing for the same habitat. Without disturbance, other plant species can out-compete decurrent false aster and eliminate it in 3 to 5 years from any given area. Species decline is due to several factors including excessive silting of habitat due to topsoil run-off, conversion of natural habitat to agriculture, drainage/development of wetlands, altered flooding patterns, and herbicide use. No critical habitat rules have been published for the decurrent false aster. This species has not been found within the study area, but has been found along the Mississippi River in Madison County, Illinois and St. Charles County, Missouri.

3.4.2 Effects Determination

Suitable habitat does not exist within the study area; therefore, we conclude the proposed Piasa and Eagle's Nest Islands HREP will have ***no effect on decurrent false aster*.**

3.5 Eastern prairie fringed orchid (*Platanthera leucophaea*)

3.5.1 Status

Eastern prairie fringed orchid is a federally listed, threatened perennial plant species found in mesic prairie to wetlands. The historic decline of this species was due mainly to conversion of natural habitats to cropland and pasture. More recent declines are mainly due to the loss of habitat from the drainage

and development of wetlands. This species is not known to occur within the study area.

3.5.2 Effects Determination

Suitable habitat does not exist within the study area; therefore, we conclude the proposed Piasa and Eagle's Nest Islands HREP will have ***no effect on the Eastern prairie fringed orchid*.**

3.6 Pallid Sturgeon (*Scaphirhynchus albus*)

3.6.1 Status

Pallid sturgeon is a federally listed, endangered fish species of the Missouri and Mississippi River drainages. This species has experienced a dramatic decline throughout its range since the mid to late 1960s. Nearly its entire habitat has been modified through river channelization, construction of impoundments, and related changes in water flow. The historic distribution of pallid sturgeon primarily included the Missouri River, the Mississippi River from the mouth of the Missouri River to the Gulf of Mexico and the lower reaches of the Platte, Kansas, and Yellowstone Rivers. Today, the distribution includes the Missouri River, Middle and Lower Mississippi River, the Atchafalaya River, and the lower reaches of the Yellowstone, Platte, Kansas, St. Francis and Big Sunflower Rivers (Constant, Kelso, Rutherford, & Bryan, 1997).

This species has not been observed in the vicinity of the study area, which is located upstream of the confluence with the Missouri River.

3.6.2 Effects Determination

The study area is outside of the known distribution of the pallid sturgeon. We conclude the proposed Piasa and Eagle's Nest Islands HREP will have ***no effect on the pallid sturgeon.***

3.7 Eastern massasauga (*Sistrurus catenatus*)

3.7.1. Status

Eastern massasauga is a federally listed, threatened reptile. This rattlesnake lives in shallow wetlands and adjacent uplands in portions of Illinois, Indiana, Iowa, Michigan, Minnesota, New York, Ohio, Pennsylvania, Wisconsin and Ontario. The current range of this species resembles the species' historical range, but the geographical distribution has been restricted due to eradication by people and by loss of wetland habitat. This species has not been observed within the study area.

3.7.2 Effects Determination

Suitable habitat does not exist in the study area; therefore, we conclude the proposed Piasa and Eagle's Nest Islands HREP will have ***no effect on the Eastern massasauga***.

3.8 Spectacelcase (*Cumberlandia monodonta*)

3.8.1 Status

Spectaclecase is a federally listed, endangered mussel species (USFWS, 2016b). This mussel lives in large rivers in sheltered areas (e.g., beneath rock slabs). Historically, this large mussel was found in at least 44 streams of the Mississippi, Ohio, and Missouri river basins in 14 states; however, today it is found only in 20 streams, with the populations fragmented and restricted to short stream reaches. This species is

considered "rare" in Pool 26 (Ecological Specialist Inc, 2014), and no known observations of spectaclecase have occurred within or adjacent to the study area, and suitable habitat for federally listed species is not present within the study area (Ecological Specialist Inc, 2014).

3.8.2. Effects Determination

Suitable habitat does not exist in the study area (Ecological Specialist Inc, 2014); therefore we conclude the proposed Piasa and Eagle's Nest Islands HREP will have ***no effect*** **on the spectacelcase.**

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5. Official Species List – Updated 25 Jan 2017

United States Department of the Interior

FISH AND WILDLIFE SERVICE
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MARION ILLINOIS SUB-OFFICE, 8588 ROUTE 148
MARION, IL 62959
PHONE: (618)997-3344 FAX: (618)997-8961
URL: www.fws.gov/midwest/Endangered/section7/s7process/step1.html

Consultation Code: 03E18100-2017-SLI-0036 January 25, 2017
Event Code: 03E18100-2017-E-00231
Project Name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any 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.

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 Service if they determine their project "may affect" listed species or critical habitat.

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 ECOS-IPaC website http://ecos.fws.gov/ipac/ at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website http://www.fws.gov/midwest/endangered/section7/s7process/index.html. This website contains step-by-step instructions which will help you determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process.

For all wind energy projects and projects that include installing towers that use guy wires or are over 200 feet in height, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*) and Migratory Bird Treaty Act (16 U.S.C. 703 *et seq*), 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, see our Eagle Permits website http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project

Official Species List

Provided by:

Marion Ecological Services Sub-Office
MARION ILLINOIS SUB-OFFICE
8588 ROUTE 148
MARION, IL 62959
(618) 997-3344
http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

Expect additional Species list documents from the following office(s):

Rock Island Ecological Services Field Office
ROCK ISLAND ECOLOGICAL SERVICES FIELD OFFICE
1511 47TH AVE
MOLINE, IL 61265
(309) 757-5800

Consultation Code: 03E18100-2017-SLI-0036
Event Code: 03E18100-2017-E-00231

Project Type: DREDGE / EXCAVATION

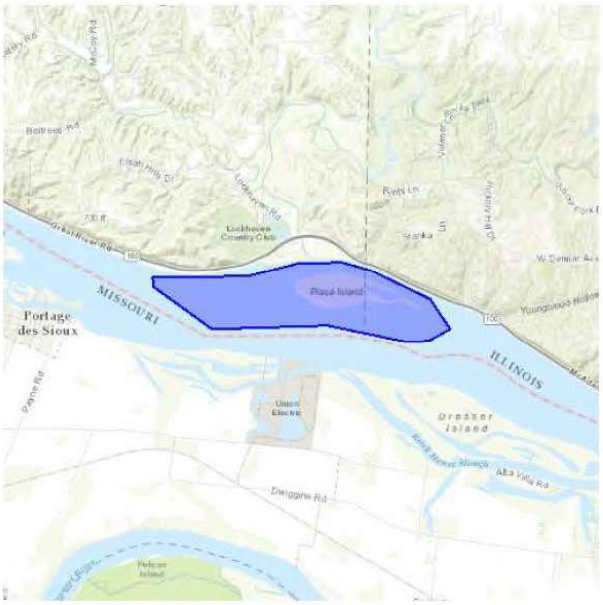
Project Name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project
Project Description: The proposed project is the feasibility study under the Upper Mississippi River Restoration program. Project objectives include restoring flow and depth of Piasa Chute, restoring connectivity of the backwater, and restoring the historic island complex that once existed. Proposed project measures include dredging Piasa Chute, dredging Piasa Island backwater, placement of a notched rock structure, and restoring islands through beneficially re-using dredged material with stone protection. Approved feasibility study expected in FY 2018.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior
Fish and Wildlife Service

Project name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-90.2743148803711 38.93390905879307, -90.26229858398436 38.92936887749434, -90.25835037231444 38.924828405575404, -90.26264190673828 38.92282516381189, -90.26693344116211 38.92269161234988, -90.28289794921875 38.92522904714054, -90.30624389648438 38.924694857884255, -90.31791687011719 38.931238399108246, -90.3182601928711 38.932707274379595, -90.29903411865234 38.932974339342465, -90.28907775878906 38.93497729450917, -90.2801513671875 38.93511082284234, -90.2743148803711 38.93390905879307)))

Project Counties: Jersey, IL | Madison, IL

United States Department of Interior
Fish and Wildlife Service

Project name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project

Endangered Species Act Species List

There are a total of 8 threatened or endangered species on your 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. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Least tern *(Sterna antillarum)* Population: interior pop.	Endangered		
Clams			
Spectaclecase (mussel) *(Cumberlandia monodonta)* Population: Wherever found	Endangered		
Fishes			
Pallid sturgeon *(Scaphirhynchus albus)* Population: Wherever found	Endangered		
Flowering Plants			
Decurrent False aster *(Boltonia decurrens)* Population: Wherever found	Threatened		
Eastern Prairie Fringed orchid *(Platanthera leucophaea)* Population: Wherever found	Threatened		
Mammals			

United States Department of Interior
Fish and Wildlife Service

Project name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project

Indiana bat *(Myotis sodalis)* Population: Wherever found	Endangered		
Northern long-eared Bat *(Myotis septentrionalis)* Population: Wherever found	Threatened		
Reptiles			
eastern Massasauga *(Sistrurus catenatus)* Population: Wherever found	Threatened		

United States Department of Interior
Fish and Wildlife Service

Project name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project

Critical habitats that lie within your project area

There are no critical habitats within your project area.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Rock Island Ecological Services Field Office
ROCK ISLAND ECOLOGICAL SERVICES FIELD OFFICE, 1511 47TH AVE
MOLINE, IL 61265
PHONE: (309)757-5800 FAX: (309)757-5807

Consultation Code: 03E18000-2017-SLI-0054 January 25, 2017
Event Code: 03E18000-2017-E-00380
Project Name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any 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.

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 Service if they determine their project "may affect" listed species or critical habitat.

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 ECOS-IPaC website http://ecos.fws.gov/ipac/ at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - http://www.fws.gov/midwest/endangered/section7/s7process/index.html. This website contains step-by-step instructions which will help you determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process.

For all wind energy projects and projects that include installing towers that use guy wires or are over 200 feet in height, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.) and Migratory Bird Treaty Act (16 U.S.C. 703 et seq), 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, see our Eagle Permits website at http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project

Official Species List

Provided by:

Rock Island Ecological Services Field Office
ROCK ISLAND ECOLOGICAL SERVICES FIELD OFFICE
1511 47TH AVE
MOLINE, IL 61265
(309) 757-5800

Expect additional Species list documents from the following office(s):

Marion Ecological Services Sub-Office
MARION ILLINOIS SUB-OFFICE
8588 ROUTE 148
MARION, IL 62959
(618) 997-3344
http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

Consultation Code: 03E18000-2017-SLI-0054
Event Code: 03E18000-2017-E-00380

Project Type: DREDGE / EXCAVATION

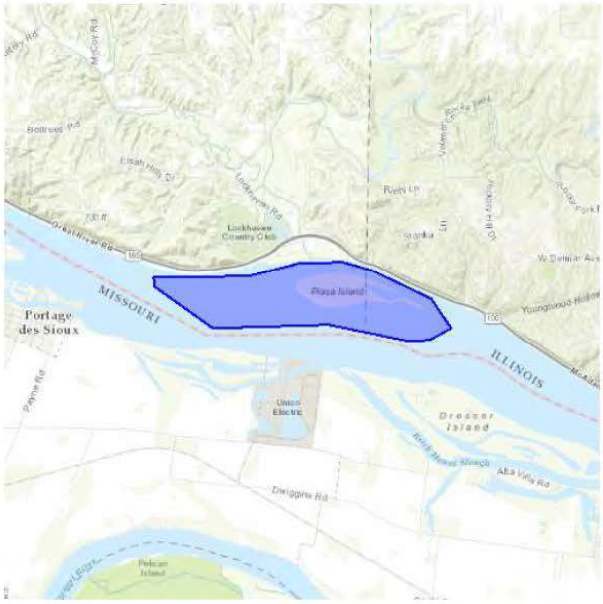
Project Name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project
Project Description: The proposed project is the feasibility study under the Upper Mississippi River Restoration program. Project objectives include restoring flow and depth of Piasa Chute, restoring connectivity of the backwater, and restoring the historic island complex that once existed. Proposed project measures include dredging Piasa Chute, dredging Piasa Island backwater, placement of a notched rock structure, and restoring islands through beneficially re-using dredged material with stone protection. Approved feasibility study expected in FY 2018.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior
Fish and Wildlife Service

Project name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-90.2743148803711 38.93390905879307, -90.26229858398436 38.92936887749434, -90.25835037231444 38.924828405575404, -90.26264190673828 38.92282516381189, -90.26693344116211 38.92269161234988, -90.28289794921875 38.92522904714054, -90.30624389648438 38.924694857884255, -90.31791687011719 38.931238399108246, -90.3182601928711 38.932707274379595, -90.29903411865234 38.932974339342465, -90.28907775878906 38.93497729450917, -90.2801513671875 38.93511082284234, -90.2743148803711 38.93390905879307)))

Project Counties: Jersey, IL | Madison, IL

United States Department of Interior
Fish and Wildlife Service

Project name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project

Endangered Species Act Species List

There are a total of 4 threatened or endangered species on your 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. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Flowering Plants	**Status**	**Has Critical Habitat**	**Condition(s)**
Decurrent False aster *(Boltonia decurrens)* Population: Wherever found	Threatened		
Eastern Prairie Fringed orchid *(Platanthera leucophaea)* Population: Wherever found	Threatened		
Mammals			
Indiana bat *(Myotis sodalis)* Population: Wherever found	Endangered		
Northern long-eared Bat *(Myotis septentrionalis)* Population: Wherever found	Threatened		

United States Department of Interior
Fish and Wildlife Service

Project name: Piasa and Eagle's Nest Habitat Rehabilitation and Enhancement Project

Critical habitats that lie within your project area

There are no critical habitats within your project area.

6. Correspondence Letter from USACE to USFWS 15 December 2016

DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT CORPS OF ENGINEERS
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

REPLY TO
ATTENTION OF:

15 December 2016

Regional Planning and
Environmental Division North

Mr. Matthew Mangan
U.S. Fish and Wildlife Service
Ecological Services
Marion Illinois Sub-Office
8588 Route 148
Marion IL 62959

Dear Mr. Mangan:

The St. Louis District, U.S. Army Corps of Engineers, is submitting the enclosed biological assessment on the potential effects of the Upper Mississippi River Restoration Program Piasa and Eagle's Nest Islands Habitat Rehabilitation and Enhancement Project, Madison and Jersey counties, Illinois, on federally threatened and endangered species. The biological assessment concludes that the Project may affect but not likely to adversely affect the federally listed interior least tern, northern long-eared bat, and Indiana bat, or their critical habitats. The biological assessment concludes that the Project will have no effect on the federally listed pallid sturgeon, decurrent false aster, eastern prairie-fringed orchid, spectaclecase, eastern massasauga, or their critical habitats.

Pursuant to Section 7 of the Endangered Species Act, as amended, we are requesting your concurrence with this determination. If you have any questions concerning this submittal, please contact Dr. Kat McCain at (314) 331-8047 or email at kathryn.mccain@usace.army.mil.

Sincerely,

Brian L. Johnson
Chief, Environmental Compliance Branch
Regional Planning and Environmental Division North

2 Enclosures

7. Response Letter from USFWS to USACE

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Marion Illinois Sub-Office (ES)
8588 Route 148
Marion, Illinois 62959

FWS/MISO

January 30, 2017

Colonel Anthony P. Mitchell
U.S. Army Corps of Engineers
St. Louis District
1222 Spruce Street
St. Louis, Missouri 63103-2833

Attn: Dr. Kathryn McCain

Dear Colonel Mitchell:

Thank you for the opportunity to review and comment on the December, 2016, Biological Assessment (BA) for the proposed Piasa and Eagle's Nest Islands Habitat Rehabilitation and Enhancement Project located in Pool 26 between Upper Mississippi River miles 207.5 and 211.5, Madison and Jersey Counties, Illinois. The proposed project involves dredging material from Piasa Chute and constructing a river training structure to restore approximately 486 acres of side channel habitat, dredging material from Piasa Island Backwater to restore approximately 49 acres of connected backwater and overwintering fish habitat, and using the dredged material and stone rip-rap to restore approximately 76 acres of island habitat. These comments are prepared under the authority of and in accordance with the provisions 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 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*); and, the National Environmental Policy Act (83 Stat. 852, as amended P.L. 91-190, 42 U.S.C. 4321 et seq.).

Threatened and Endangered Species

To facilitate compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, Federal agencies are required to obtain from the Fish and Wildlife Service (Service) information concerning any species, listed or proposed to be listed, which may be present in the area of a proposed action. In the BA you provided a list of species which may be present within the proposed project area that was obtained from the Service's ECOS-IPaC website on October 14, 2016. That list includes the Indiana bat (*Myotis sodalis*), endangered least tern (*Sterna antillarum*), endangered pallid sturgeon (*Scaphirynchus albus*), endangered spectaclecase mussel (*Cumerlandia monodonta*), threatened decurrent false aster (*Boltonia decurrens*), threatened eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*), threatened eastern prairie fringed

orchid (*Platanthera leucophaea*), and threatened northern long-eared bat (*Myotis septentrionalis*). There is no designated critical habitat in the project area at this time.

Information in the BA indicates that suitable habitat does not exist within the proposed project area for the decurrent false aster, eastern massasauga, eastern prairie fringed orchid, and spectaclecase mussel. In addition, the proposed project area is outside the known distribution of the pallid sturgeon; therefore, the Corps has determined that the proposed project will have no effect on these species. This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act of 1973, as amended for these species.

Information in the BA indicates that the proposed project area does contain suitable known summer habitat; however, no tree clearing is required for the proposed project, thus the Corps has determined the proposed project is not likely to adversely affect the Indiana bat and northern long-eared bat. Based on this information, the Service concurs that the proposed project is not likely to adversely affect the Indiana bat and northern long-eared bat. Information in the BA indicates that least terns have been observed in the vicinity the project area and that the proposed island construction would potentially provide sandbar habitat for least tern nesting. In addition, the work would be conducted during the winter season to avoid construction during the least tern nesting season; thus the Corps has determined the proposed project is not likely to adversely affect the least tern. Based on this information, the Service concurs that the proposed project is not likely to adversely affect the least tern. Should this project be modified or new information indicate listed or proposed species may be affected, consultation or additional coordination with this office, as appropriate, should be initiated.

Conclusion

Thank you for the opportunity to provide comment on the BA. For additional coordination, please contact me at (618) 997-3344, ext. 345.

Sincerely,

/s/ Matthew T. Mangan

Matthew T. Mangan
Fish and Wildlife Biologist

cc: IDNR (Atwood, Grider)
MDC (Sternberg, Vitello)