



Illinois Department of Natural Resources

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JB Pritzker, Governor
Colleen Callahan, Director

Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (Act) (520 ILCS 10/5.5) and the regulations adopted to implement the Act (17 Ill. Adm. Code 1080), authorization is hereby granted to the Illinois Department of Transportation (hereinafter referred to as IDOT) for the incidental take of the Federally- and State-endangered Higgins Eye (*Lampsyllis higginsii*), State-threatened Butterfly (*Ellipsaria lineolata*) and Monkeyface (*Quadrula metanevra*). The Illinois Department of Natural Resources (hereinafter referred to as the Department) has determined that the taking is incidental to the geotechnical borings to aid planning for a replacement of the existing Interstate 80 (hereinafter referred to as I-80) bridge over the Mississippi River near Rapid City in Rock Island County, IL.

Procedural History

The Department received a conservation plan prepared by IDOT on February 28, 2022, as a request for authorization for the incidental take of Higgins Eye, Butterfly, and Monkeyface. Additional information was requested by the Department on March 9, April 11, and May 4, 2022, to make the conservation plan complete as prescribed by Ill. Adm. Code 1080.10. Additional information was received by the Department on March 11, and May 3, 2022. The final conservation plan was approved by the Department on May 13, 2022. The public notice period will be detailed under #6 of the Compliance section below.

Compliance with the Illinois Endangered Species Protection Act

The Act includes six criteria that must be satisfied for the authorization of incidental take of an endangered or threatened species. These criteria and the Department's determination for each are listed below.

1. The taking will not be the purpose of, but will only be incidental to, the carrying out of an otherwise lawful activity:

The stated and apparent purpose of this proposed action is to take 36 bored samples of the materials that make up the riverbed at the preferred alignment of a replacement bridge for the I-80 crossing the Mississippi River in Rock Island County, Illinois.

The work will require mounting drill rigs on a barge or elevating boat in port. On the River, drill crews will work closely with surveyors to pinpoint drilling locations, typically with GPS technology to position the barge over the correct section of river.

Barges are equipped with extendable spuds, or legs, that can be used to anchor the vessel to the bottom of the river and provide a stable working platform. In deeper water, a system of upstream and downstream anchors may be used to hold position of the drill. Both of these solutions require that the drilling rig is positioned in an area of the channel bottom that is free of obstacles.

A typical length of drill pipe extending from a barge to the river bottom can bend unless protected by additional pipe casing. Drilling usually begins by placing a sturdy 8-inch casing down to the mudline, and then dropping a smaller casing through it to help strengthen the outer casing. This casing also allows pushing in and out of the same borehole and return drilling fluid to the surface.

Each geotechnical river boring location will include four piles/barge spuds pushed/lightly driven into the riverbed from an 80-foot by 40-foot rectangular work barge. The spuds would disturb the river bottom substrate in an area of approximately two feet by two feet at each spud location. After the barge is stabilized by the barge spuds the boring activity will begin. The boring activity will be performed by punching a four-inch auger fifty feet down at each boring location for a one foot by one foot disturbance area.

The maximum area of river bottom substrate disturbance from all piles/barge spuds is 576 square feet. The maximum area of river bottom substrate disturbance from all borings is 36 square feet. The total combined disturbance of river bottom substrate is 612 square feet. This disturbance will take place over approximately 10 to 15 days in the Fall of 2022 and approximately 25 to 30 days in the spring of 2023.

Take of Higgins Eye, Butterfly, and Monkeyface could occur as a result of the geotechnical borings. Individuals may be crushed or buried. Indirect take could occur as a result of increased noise, vibration and turbidity in the water column that would adversely affect all life stages.

The take of Higgins Eye, Butterfly, and Monkeyface that could result from this project is not the purpose of IDOT's activities but is incidental to the carrying out of an otherwise lawful activity.

2. The parties to the conservation plan will, to the maximum extent practicable, minimize and mitigate the impact caused by the taking:

Proposed minimization and mitigation measures were included in IDOT's conservation plan.

To meet the “maximum extent practicable” standard, additional minimization and/or mitigation measures may be required beyond those proposed by IDOT, based on the life history needs of Higgins Eye, Butterfly, and Monkeyface.

All required minimization and mitigation measures are presented under the Authorization section below.

3. The parties to the conservation plan will ensure that adequate funding for the conservation plan will be provided:

IDOT states that all funding for the mitigation will be included in funding for the overall project, and by extension funding of the mitigation.

It is the Department’s opinion that IDOT’s stated commitment to funding their proposed minimization and mitigation measures is sufficient to satisfy this criterion.

4. Based on the best available scientific data, the Department has determined that the taking will not reduce the likelihood of survival or recovery of the endangered species or threatened species in the wild within the State of Illinois, the biotic community of which the species are a part, or the habitat essential to the species’ existence in Illinois:

Higgins Eye (*Lampsilis higginsii*) are a Federally endangered and Illinois state-endangered mussel species.

Habitat: Higgins eye is a medium-sized mussel known to inhabit large rivers. Its preferred habitat consists of plant-free, stable areas of mixed sand and gravel. It is unlikely to be found in areas of shifting sands or silt.

Reproduction: Higgins eye are long-term brooders. Females will retain developing glochidia in their gills over winter and release them in June to July. Glochidia will parasitize sauger, largemouth bass, smallmouth bass, walleye, yellow perch, black crappie, and green sunfish.

Population: The species is rare or extirpated from much of their historical range. Decline is due to poor habitat conditions resulting from human river management, non-point and point-source water and sediment pollution, and the infestation of invasive zebra mussels. Higgins eye was the first freshwater mussel species to gain federal protection in the United States.

Range in Illinois: Higgins eye have been found in the Mississippi River. They have been observed in 6 of 102 Illinois counties: Carrol, Henderson, Jo Daviess, Mercer, Rock Island, and Whiteside. There are currently 15 extant Element Occurrence Records for Higgins eye in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has nine (9) pending or issued Incidental Take Authorizations for Higgins eye. Types of projects include bridge installations, dredging, dolphin installations, and pipeline maintenance. This is the fifth (5) ITA for Higgins eye in Rock Island County. All of the ITAs for Higgins eye have been in the Mississippi River.

Butterfly (*Ellipsaria lineolata*) are an Illinois state-threatened mussel species.

Habitat: They are found in large rivers in areas with moderate to swift currents. They favor substrates of coarse sand and gravel.

Reproduction: Butterfly mussels are long-term brooders. Females retain developing glochidia in their gills from August until the following July. Glochidia are released and temporarily parasitize a host fish. Butterfly glochidial host fish include freshwater drum, green sunfish, and sauger.

Population: Butterfly mussel populations are shrinking due to a decline in habitat conditions associated with river/water management, impacts from the invasive zebra mussel, and from overharvest caused by the button and pearl industries.

Range in Illinois: In Illinois, butterfly mussels have been found in the Mississippi and Ohio Rivers, in 13 of 102 counties. There are currently 32 extant Element Occurrence Records for butterfly mussels in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has seventeen (17) previously issued or pending Incidental Take Authorizations for butterfly mussels. Types of projects included dredging, construction of offshore structures, bridge removal and replacement, riprap installation, and boat dock installation.

Monkeyface (*Quadrula metanevra*) are an Illinois State-Threatened mussel species.

Habitat: Monkeyface are predominately found in medium to large rivers that have gravel or mixed sand and gravel substrates.

Distribution: This species is widespread in the United States. Populations can be found from Kansas, Nebraska, and Oklahoma east to West Virginia and Georgia, and range from Minnesota south to the Gulf of Mexico in Louisiana, Mississippi, and Alabama.

Reproduction: Monkeyface is a short-term brooder, with females retaining glochidia in their gills from late March to July. Glochidia host fish include spotfin shiner, bluntnose minnow, Eastern blacknose dace, and creek chub.

Population: Monkeyface populations are on the decline due to siltation, habitat loss, desiccation during droughts, pollution, impoundment and channelization, species introductions including zebra mussels, and increased water temperatures.

Range in Illinois: Monkeyface mussels are found in 10 drainages, but healthy populations are only found in the Mississippi River and Kankakee River. Monkeyface have been reported in 17 of 102 Illinois counties. There are currently 39 extant Element Occurrence Records for Monkeyface mussel.

Incidental Take Authorizations: This is the seventh Incidental Take Authorization issued or pending for Monkeyface following its addition to the Illinois Threatened and Endangered Species List in May 2020. This is the first authorization for Rock Island County. Other projects have included bridge repairs, water withdrawal, and pipeline maintenance.

Based on the amount of habitat impacted by this project, the number of known occurrences of Higgins Eye, Butterfly, and Monkeyface in Illinois, an assessment of the potential effect of this project on the listed species in the project footprint, the conservation measures included in this authorization for incidental take and the conservation plan, and the understanding that vulnerability and recovery information on the species remains limited; it is the conclusion of the Department that the taking anticipated as a result of this project will not reduce the likelihood of survival or recovery of the species in the wild within the State of Illinois, the biotic community of which these species are a part, or the habitat essential to the species' existence in Illinois.

5. Any measures required under Section 5.5(b)(6) of the Act will be performed:

These measures are listed below under "Authorization." This authorization is, by definition, subject to those terms and conditions and the signature of a representative of IDOT indicates their commitment to performing those measures.

6. The public has received notice of the application and has had the opportunity to comment before the Department made any decision regarding the application:

Public notice of IDOT 's request for authorization of incidental take was published in the *Breeze Courier* (official state newspaper) on May 19, 2022, and in *The Quad-City Times* on May 19, May 26, and June 4, 2022. A copy of the conservation plan was deposited at the Public Library where it was available for public review. The deadline for public comment was July 5, 2022. No comments were received from the public.

Authorization

It is the determination of the Department that the measures that will be implemented by IDOT will adequately minimize and mitigate the anticipated taking of Higgins Eye, Butterfly, and Monkeyface incidental to activities associated with geotechnical borings to aid planning for a replacement of the existing I-80 bridge over the Mississippi River in Rock Island County, IL. Further, the Department has concluded that the taking authorized herein will not reduce the likelihood of survival or recovery of the species in the wild within the State of Illinois, the biotic community of which the species are a part, or the habitat essential to the species' existence in Illinois.

All terms and conditions included in the aforementioned conservation plan submitted by IDOT to the Department are incorporated into this agreement by reference and are made a part thereof.

Pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5] and the Administrative Rules for the Incidental Taking of Endangered and Threatened Species [Ill. Adm. Code 1080.40(b)], this authorization is issued subject to the following terms and conditions, which may include additions or modifications to the minimization and mitigation measures proposed by IDOT in the conservation plan:

1. This authorization is effective upon the signature of the Department and shall remain in effect for a period of five (5) years from the date of the Department signature, unless terminated by written agreement of both parties.

This authorization may be revoked pursuant to the Act and Ill. Adm. Code 1080.80(b) if the Department finds that IDOT has failed to comply with any of these terms and conditions or has been responsible for the taking of Higgins Eye, Butterfly, and Monkeyface beyond that which is incidental to activities associated with geotechnical borings to aid planning for a replacement of the existing I-80 bridge over the Mississippi River in Rock Island County, IL.

This authorization does not cover the construction of the replacement bridge, or the possible demolition of the existing bridge. A Conservation Plan for those two actions shall be submitted as recommended by a separate Consultation.

2. The effective period of this authorization may be altered by mutual written agreement between IDOT and the Department. The Illinois Endangered Species Protection Board shall be notified of any such alteration.

Any substantive changes, including but not limited to a change in the project footprint or a change in the State-listed species which could potentially be affected, will require that a new conservation plan be submitted to the Department to initiate the review and public notice process as required by the Act.

3. This authorization may only be transferred upon approval and written authorization by the Department.
4. All on-site personnel shall be educated on the sensitive biological resources in the area, the identification of Higgins Eye, Butterfly, and Monkeyface, regulations protecting the species, where the species might be found, avoidance areas, travel restrictions for equipment and vehicles, how to report sightings or incidents that may involve take, and the importance of avoiding take of the species. **IDOT shall submit a copy of the education materials to the Department.**
5. The Department reserves the right of entry by its staff or representatives to inspect species, potential habitat, and species management practices. Department staff must be accompanied of an employee of IDOT District 2 and are required to adhere to IDOT's health and safety standards. IDOT must provide appropriate staff to accompany Department staff upon the request of the Department.

6. Biological consultants employed by, or conducting work on behalf of, IDOT shall hold the necessary permits for work with non-listed and listed species; these include an Illinois Department of Natural Resources (IDNR) Scientific Collection Permit as authorized under 17 Illinois Administrative Code 520, and an IDNR Endangered Species Permit as authorized under 17 Illinois Administrative Code 1070.
7. IDOT shall notify the Department's Endangered Species Program by email correspondence of construction commencement and completion of work to geotechnical borings to aid planning for a replacement of the existing I-80 bridge over the Mississippi River in Rock Island County, IL. A **project status report** shall be submitted to the Department within **90 days** of completion summarizing the implementation of minimization, mitigation, and restoration measures and evaluating the effectiveness of those measures and shall include a project photo log. The report shall also include a map and GPS coordinates of any listed species found within the project footprint, description of any injuries or mortalities, and the disposition of any individuals that were injured or killed.
8. Any discoveries of additional State-listed species beyond those identified in this agreement **halts work** and shall be reported to the Department within 48 hours accompanied by location information (photograph, map, and GPS coordinates).
9. IDOT shall conduct, or cause to be conducted, the following pre-construction or construction efforts:
 - a. The minimum number of borings necessary to get accurate data on the conditions of the riverbed have been determined and will be used.
 - b. Barges and equipment used in the water shall be inspected for the presence of zebra mussels, and any found shall be removed and discarded in a trash receptacle prior to being placed into the Mississippi River.
 - c. The barge used for sampling shall have an adequate spill response plan and clean-up kit on board. The plan shall have emergency contact numbers (e.g., IEPA emergency response, IDNR conservation officer).
10. Due to the nature of the project, no post-construction monitoring will be required.
11. Mitigation to the maximum extent practicable is required by the Act. Mitigation requirements for this authorization are calculated as follows:

IDOT vessel shall submit a report to the Department that contains details on the density of mussels in the top 5" (five inches) of the cores. These details shall include, but are not limited to, enumeration of individuals found in cores, most precise species or genus identification by a qualified malacologist, and relict, recently dead, or fresh dead status. This report shall be combined with the project status report that must be submitted within 90 days of project completion in Spring 2023.

12. All reports, notifications, and other project documentation shall be submitted to:

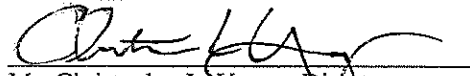
Illinois Department of Natural Resources
Office of Resource Conservation
Endangered Species Program – Incidental Take Authorization Coordinator
One Natural Resource Way
Springfield, IL 62702-1271

(217)557-8243
DNR.ITAcoordinator@illinois.gov


The Department's Endangered Species Program shall provide all reports required under this agreement to the Illinois Endangered Species Protection Board and to the Department's Natural Heritage Database.

13. The IDOT official identified below is authorized to execute this agreement. Execution by IDOT indicates acceptance of all terms and conditions described in this authorization.
14. The execution of this agreement does not waive or excuse the responsibilities of IDOT to comply with other Federal, State, or local regulations, including but not limited to obtaining any required permits for the execution of this project.

For the Illinois Department of Natural Resources:


Mr. Christopher L. Young, Director
Office of Resource Conservation

For the Illinois Department of Transportation:


Mr. Masood Ahmad, P.E.
Region 2 Engineer

Aug 12, 2022
Date

8/9/22
Date