



# Illinois Department of Natural Resources

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Bruce Rauner, Governor  
Wayne A. Rosenthal, 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 State-threatened black sandshell mussel (*Ligumia recta*) and the State-threatened butterfly mussel (*Ellipsaria lineolata*). The Illinois Department of Natural Resources (hereinafter referred to as Department) has determined that this taking is incidental to activities associated with the Scour Countermeasure Project on Pier #3 of the Centennial Bridge over the Mississippi River at River Mile 482 within Rock Island County, Illinois. The project area is also located within the Mississippi River – Moline Illinois Natural Areas Inventory Site (INAI #1295). The site is included on the Natural Areas Inventory due to the presence of specific suitable habitat occupied by endangered and/or threatened aquatic species.

### **Procedural History**

The Department received a Conservation Plan prepared by IDOT on behalf of Federal Highway Administration (hereinafter referred to as FHWA) on September 11, 2017, as a request for authorization for the incidental take of black sandshell and butterfly mussels. The Department requested additional information on October 20, 2017, to make the conservation plan complete as prescribed by Ill. Adm. Code 1080.10. Additional information was received by the Department on November 1, 6, and 9, 2017. A conservation plan was approved by the Department on November 15, 2017. The public notice period and public comments will be detailed under #6 of the Compliance section below.

### **Compliance with the Illinois Endangered Species Protection Act**

The Act includes six criteria which 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 be only incidental to, the carrying out of an otherwise lawful activity:

The stated and apparent purpose of this proposed action is a scour countermeasure project on Pier #3 of the Centennial Bridge over the Mississippi River between Rock Island, Illinois and Davenport, Iowa. The bridge carries US 67 over Pool 16 of the Mississippi River near River Mile 482. The area will be excavated 7.5 feet below the channel bottom and will be replaced by 2.5 feet thick sand-filled geotextile containers. This area will then be filled with 5 feet of rock riprap so that

the riprap is flush with the bottom of the channel. The excavated material will be discharged in an upland site protected with a silt fence until vegetated. Work will be conducted with a backhoe from a standard barge (200 feet by 35 feet, with a 9-foot draft). The barge will be anchored with spuds at each corner of and will remain within the construction limits, approximately 100 feet in each direction of Pier #3. The area of the construction limit is 225 feet by 276.5 feet. Project activities will be performed as further described in the conservation plan. The proposed activities may result in direct burial or crushing of mussels, or sedimentation disturbance to mussels, or indirect impact as a result of noise and vibration that may reduce the reproductive success of mussels. The resulting noise and vibrations may also temporarily disperse host fish necessary to the mussel's life cycle.

Total estimated area of impact within species habitat is **1.43 acres**. The Department concurs that the take of black sandshell and butterfly mussels 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 avoidance, minimization and mitigation 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 the black sandshell and butterfly mussel.

**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 they have committed funds for the proposed project construction and mitigation. IDOT states that funding for mitigation will be included in funding for the overall project. IDOT and FHWA commit to funding the project, including the mitigation. IDOT understands that if any additional activities are planned that may affect black sandshell mussel, butterfly mussel, or other endangered or threatened species, coordination with the Department will be required.

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 is a part, or the habitat essential to the species' existence in Illinois.

**Black Sandshell (*Ligumia recta*)**

Black sandshell are an Illinois state-threatened mussel species.

**Habitat:** The species is found in medium to large rivers in areas with strong currents, favoring substrates of gravel or firm sand.

**Reproduction:** Black sandshell mussels are long-term brooders. Females retain developing glochidia in their gills from August until the following July, after which glochidia are released. Gravid females are known to display their marginal papillae, moving them in a way that attracts fish hosts before releasing the parasitic glochidia. Black sandshell host fish include walleye (*Sander vitreus*), bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), sauger (*Sander canadensis*), white crappie (*Pomoxis annularis*), among many other fish species that have been suggested as possible hosts.

**Population:** The statewide population is considered stable. However, the species has not recolonized its historical range due to habitat fragmentation, habitat degradation, and pollution from various sources.

**Range in Illinois:** Black sandshell are found in the Mississippi, Kaskaskia, Vermilion, Ohio, Kankakee, Rock, Iroquois, and Little Wabash River basins. There are currently 103 extant Element Occurrence Records for black sandshell in the Illinois Natural Heritage Database. They have been observed in 31 of 102 Illinois counties.

**Incidental Take Authorizations:** The Department has 30 pending or issued Incidental Take Authorizations for black sandshell. Types of projects included dredging, bridge removal and construction/replacement, boat dock construction, railroad construction, pier removal, dam removal, piling installation, riprap installation, oil pipeline construction, and diffuser installation. This is the eighth authorization for the taking of black sandshell in Rock Island County.

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**Butterfly (*Ellipsaria lineolata*)**

Butterfly are an Illinois state-threatened mussel species.

**Habitat:** The species is found in large rivers in areas with moderate to swift currents, favoring 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 (*Aplodinotus grunniens*), green sunfish (*Lepomis cyanellus*), 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 River basins, in 12 of 102 counties. There are currently 34 extant Element Occurrence Records for butterfly mussels in the Illinois Natural Heritage Database.

**Incidental Take Authorizations:** The Department has 12 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. This is the seventh authorization for the taking of butterfly in Rock Island County.

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Based on the amount of habitat impacted by this project, the number of known occurrences of the black sandshell and butterfly mussels in Illinois, an assessment of the potential effect of this project on individual mussels in the project footprint, the conservation measures included in this authorization for take and the conservation plan, and the understanding that vulnerability and recovery information on the two species remains limited; it is the conclusion of the Department that the taking anticipated as a result of the 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 the 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.

Additional measures are listed below under "Authorization". This authorization is, by definition, subject to those terms and conditions and the signature of a representative from 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 March 9, 2018, and in the *Quad-City Times* on March 9, 16, and 24, 2018. A copy of the conservation plan was deposited at the Rock Island Public Library, where it was available for public review. The deadline for public comment was April 23, 2018. No comments were received from the public.

## Authorization

It is the determination of the Department that the measures to be implemented by IDOT will adequately minimize and mitigate the anticipated taking of black sandshell and butterfly mussels associated with scour damage repair during the Centennial Bridge Scour Countermeasure Project in Rock Island County, Illinois. Further the Department has concluded that the taking authorized herein will not reduce the likelihood of survival or recovery of black sandshell and butterfly mussels in the wild within the State of Illinois, the biotic community of which the species is a part, or the habitat essential to the species existence in Illinois. Additional listed aquatic species are known to inhabit this reach of the Mississippi River, this agreement does not authorize take of any species except black sandshell and butterfly mussels.

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 black sandshell and butterfly mussels beyond that which is incidental to the Centennial Bridge Scour Countermeasure Project in Rock Island County, Illinois.

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. Notification to all on-site personnel shall be provided on the sensitive biological resources in the area, the identification of the listed species, 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, 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.
6. Biological consultants employed by IDOT shall be qualified in working with these species and 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. The salvage of non-listed aquatic life is hereby authorized by the Department with signature of this agreement per the Illinois Fish and Aquatic Life Code (515 ILCS 5/1-150).
8. IDOT shall notify the Department's Endangered Species Program by email correspondence of construction commencement and completion of scour damage repair within the permit action area. A **project status report** shall be submitted to the Department within **90 days** of project completion summarizing the implementation or status 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.
9. 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).
10. IDOT shall conduct, or cause to be conducted, the following pre-construction or construction efforts:
  - a. Mussels within the excavation footprint were relocated.
  - b. All in-stream work shall be conducted from a barge.
  - c. Barges and water craft shall be inspected for the presence of zebra mussels before placing in the river.
  - d. Barges and water craft shall be completely out of the water for 10 days to ensure proper drying and reduce infestation.
  - e. Excavated material shall be discharged to an upland waste site.
  - f. Waste site perimeter shall be protected with a silt fence until vegetated.
  - g. No dredged material shall be placed back into the river.

11. IDOT shall conduct, or cause to be conducted, the following post-construction monitoring measures for freshwater mussels within the excavation area and the relocation site during Year 1 and Year 3 following construction completion:
  - a. A thorough survey for freshwater mussels within the excavation area and the relocation site.
  - b. **A report including, but not limited to, the survey methodology utilized, water temperature, the species and numbers of mussels located (noting any marked individuals at the relocation site), length, sex (if discernable), and number of growth rings (i.e. an approximation of age) of each individual sampled indicating whether recruitment is evident, an analysis of survival rates at the relocation site, and a map of the species locations and areas surveyed shall be provided to the Department within 90 days of completion of each survey.**

12. Mitigation to the maximum extent practicable is required by the Act. Mitigation requirements for this authorization are as follows:

- a. IDOT shall provide funding in the amount of **\$16,742** to the Illinois Wildlife Preservation Fund to support mussel recovery research.
- b. The donation shall be provided **within 90 days of execution of this agreement**. Mitigation payments are nonrefundable, including events of revocation or termination.

Mitigation values are based on the Department's best current understanding of the species life history needs and impact analysis relevant to the project site's proposed conceptual design elements available at the time of review.

13. 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

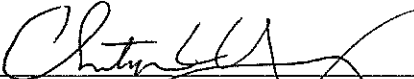
(217)557-8243  
DNR.ITAcoordinator@illinois.gov

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.

14. 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.

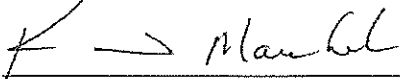
15. The execution of this agreement does not waive or excuse the responsibilities of IDOT to comply with other Federal, State, or local regulations, including but not limited to obtaining any required permits for the execution of this project.

*For the Illinois Department of Natural Resources:*

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

5/16/18  
\_\_\_\_\_  
Date

*For Illinois Department of Transportation:*

  
\_\_\_\_\_  
Mr. Kevin Marchek, P.E.  
Region Two Engineer

5-14-2018  
\_\_\_\_\_  
Date