



Illinois Department of Natural Resources

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www.dnr.illinois.gov

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 DeKalb County Highway Department (hereinafter referred to as DCHD) for the incidental take of the State-threatened slippershell mussel (*Alasmidonta viridis*). The Illinois Department of Natural Resources (hereinafter referred to as Department) has determined that the taking is incidental to activities associated with the replacement of the Somonauk Road Bridge over Somonauk Creek in DeKalb County, Illinois.

Procedural History

The Department received a conservation plan prepared by Hey and Associates, Inc., on behalf of DCHD on December 22, 2016, as a request for authorization for the incidental take of slippershell mussel. The Department requested additional information on January 18, 2017, to make the conservation plan complete as prescribed by Ill. Adm. Code 1080.10. That additional information was received by the Department on January 24, 2017. A conservation plan was approved by the Department on January 26, 2017. 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 the replacement of the Somonauk Road Bridge over Somonauk Creek in DeKalb County, Illinois. Bridge replacement activities include removal of the existing two span precast concrete deck beam structure bridge and replacing it with a new single span concrete deck steel beam bridge on integral abutments. The existing center pier and its steel H-pile supports will be removed if possible, or cut off at or below the stream bed. The existing abutments will also be removed and replaced with the integral abutments. Exact means and methods of instream pier removal and installation will be determined by the individual contractor, and may include the use of cofferdams. Total area of impact is estimated to be **0.18 acre**.

Take of the slippershell mussel could occur as a result of being crushed or smothered by construction equipment and debris during pier removal and installation, being caught in dewatered cofferdams if used, sedimentation within and downstream from the project site, and temporary turbidity increases during construction. Disturbance from noise and vibration within the river may have an adverse effect on certain life history stage of the mussel or its associated host fishes. The take of slippershell mussel that could result from this project is not the purpose of DCHD'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 DCHD's conservation plan.

To meet the "maximum extent practicable" standard, additional minimization and/or mitigation measures may be required beyond those proposed by DCHD, based on the life history needs of the slippershell. **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:

DCHD states that full local project funding was approved by the DeKalb County Board, a public agency, in November 2015. The estimated costs include funding for all activities associated with the implementation of the conservation plan, including mussel relocation, mitigation, and follow-up surveys. DCHD understands that if any additional activities are planned at the facility that may affect slippershell mussels or other endangered or threatened species, coordination with the Department will be required.

It is the Department's opinion that DCHD'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:

The **slippershell** mussel is an Illinois State-threatened mussel species. It is predominantly found in small to medium-sized creeks and headwaters of rivers in areas with flowing water, but has also been found in larger rivers and lakes. It is known to prefer sand, mud, or fine gravel substrates.

Slippershell mussels are believed to be long-term brooders, and gravid females have been observed from September to late April. Slippershell mussel glochidial host fish include banded sculpin (*Cottus carolinae*), mottled sculpin (*Cottus bairdii*), and johnny darter (*Etheostoma nigrum*).

Slippershell mussel populations have declined due to habitat degradation, poor water quality, increased siltation, and pollution. In Illinois, slippershell mussels have been found in the Sangamon, Embarras, Vermilion, Mackinaw, Fox, and Kishwaukee River basins, primarily in creeks and tributaries within the rivers' drainages. They are found in 19 of 102 Illinois counties. There are currently 69 extant Element Occurrence Records for slippershell mussels in the Illinois Natural Heritage Database. The Department currently has 18 previously issued or pending Incidental Take Authorizations for slippershell mussel. Types of projects included bridge removal and construction/replacement, pipeline construction, and creek remeandering. This is the second incidental take authorization granted for slippershell mussel in DeKalb County.

In July 2016, personnel from the Illinois Natural History Survey performed a survey for freshwater mussels in the project area. The survey results included 37 individual mussels of 12 species. Although the survey results did not include any live slippershell mussels, a fresh dead and a relict slippershell mussel were found. DCHD estimates that one (1) slippershell mussel will be taken as a result of this project.

Based on the amount of habitat impacted by this project, the number of known occurrences of the slippershell mussel 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 incidental take, and the understanding that vulnerability and recovery information on the species remains limited; the Department has concluded that the taking proposed herein will not reduce the likelihood of survival or recovery of the slippershell mussel 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.

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 DCHD 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 DCHD's request for authorization of incidental take was published in the *Breeze Courier* (official state newspaper) on February 6, 2017, and in the *Daily Chronicle* (DeKalb) on February 6, February 13, and February 20, 2017. A copy of the conservation plan was deposited at the Hinckley Public Library, Sandwich Public Library, and the Somonauk Public Library, where it was available for public review. The deadline for public comment was March 22, 2017. No comments were received from the public.

Authorization

It is the determination of the Department that the measures that will be implemented by DCHD will adequately minimize and mitigate the anticipated taking of slippershell mussels incidental to activities associated with the replacement of the Somonauk Road Bridge over Somonauk Creek in DeKalb County, Illinois. Further, the Department has concluded that the take authorized herein will not reduce the likelihood of survival or recovery of the slippershell mussel 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 mussel and fish species may inhabit Somonauk Creek; **this agreement does not authorize take of any species except the slippershell mussel.**

All terms and conditions included in the aforementioned conservation plan submitted by DCHD 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 DCHD 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 DCHD has failed to comply with any of these terms and conditions or has been responsible for the taking of slippershell mussels beyond that which is incidental to activities associated with the replacement of the Somonauk Road Bridge over Somonauk Creek in DeKalb County, Illinois.

2. The effective period of this authorization may be altered by mutual written agreement between DCHD 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 is non-transferable.
4. All on-site personnel shall be educated on the sensitive biological resources in the area, the identification of 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, and the importance of avoiding take of the species. DCHD 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 DCHD 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 and an IDNR Endangered Species Permit.
7. DCHD shall notify the Department's Endangered Species Program by email correspondence of construction commencement and completion of the replacement of the Somonauk Road Bridge over Somonauk Creek. A project status report shall be submitted to the Department within 90 days of construction completion (open to the public) 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 including any relocations, description of any injuries or mortalities, and the disposition of any individuals that were injured or killed.
8. Any discoveries of additional listed species beyond those identified in this agreement shall be reported to the Department within 48 hours accompanied by location information (photograph, map, and GPS coordinates).
9. DCHD shall conduct, or cause to be conducted, the following pre-construction or construction efforts:
 - a. Erosion and sediment control measures shall be implemented in all areas affected by riparian activities. Disturbance of vegetation shall be minimized to prevent erosion and sedimentation. All disturbed areas shall be seeded or otherwise stabilized upon completion of construction activities.
 - b. All staging of materials shall take place in an upland area.
 - c. If cofferdams are used during construction, fish and other aquatic species shall be removed from cofferdams after dewatering and relocated to suitable habitat.
 - d. No construction debris shall be deposited into the stream channel. All excavated material shall be removed from the channel and disposed in an upland location. There shall be no temporary stockpiling of excavated material in the channel.

- e. During the fish spawning period from March 15 to July 15, the following construction measures shall be taken:
 - i. Silt/turbidity curtains shall be installed around areas of instream work to prevent suspended sediment from migrating downstream and potentially silting in spawning and foraging areas and mussel beds.
 - ii. If cofferdams are used during construction, inflatable bladders or sand bags will be considered to eliminate vibration and minimize sedimentation.
 - iii. Turbidity monitoring shall take place to ensure that cofferdams and silt curtains are functioning as intended. Turbidity monitoring shall consist of visual observations and in-situ turbidity measurements.
 - iv. Water pumped from within cofferdams, if used, should be filtered or re-suspended sediment allowed to settle out of water column prior to discharge into the creek.
10. On July 15, 2016, a mussel relocation effort occurred in association with the pre-construction mussel survey at the project location. This effort is permitted by the Department as part of a statewide mussel relocation survivability study at transportation projects being conducted by the Illinois Natural History Survey. Thirty-seven individuals of 12 species were removed from the project footprint and placed downstream in suitable habitat.
11. DCHD shall conduct, or cause to be conducted, a thorough search for freshwater mussels around the project area and relocation site(s) in Year two and Year five following completion of the project. For example, if the project is completed in 2017, this search for freshwater mussels shall be conducted in 2019 and 2022 when water levels and temperatures are suitable. **A report including, but not limited to, the survey methodology utilized, water temperature, species and numbers of mussels located (noting any marked individuals), the age class (≤ 5 or > 5) of each individual sampled indicating whether recruitment is evident, survival rates of marked individuals, and a map of the species locations shall be provided to the Department within 90 days of completion of each survey.**
12. The salvage and relocation of non-listed mussels is hereby authorized by the Department with signature of this agreement per the Illinois Fish and Aquatic Life Code (515 ILCS 5/1-150).
13. Mitigation to the maximum extent practicable is required by the Act. Mitigation requirements for this authorization are calculated as follows:

The DCHD shall conduct, or cause to be conducted, a **second relocation effort of freshwater mussels** in the project area and buffer during biologically suitable mussel relocation periods as scientific research to determine, 1.) whether the time period elapsed since the July 2016 relocation has allowed mussels to recolonize the project footprint, and 2.) whether the moving transect methodology, described below, enhances minimization through the relocation of additional individuals or species, and 3.) whether the

parameters of the moving transect protocol are appropriate and reasonable. This search shall be conducted no more than 90 days prior to project initiation. Mussels will not be relocated when air temperatures are below 32° or above 95° Fahrenheit (F), nor when water temperatures are below 50° F. All mussels will be held in mesh bags suspended in the river or in containers of water that is changed every hour (every half-hour when air temperatures are at or above 87° F). Water in containers shall be taken from the river where the mussels were collected. No mussels shall be held for more than three (3) hours before being returned to suitable habitat in the river.

- a. All freshwater mussels shall be relocated from the Area of Direct Impact (ADI), plus 10 meters (m) upstream and 10m downstream of the ADI, utilizing the moving transect method. Moving transect is a relocation method whereby a defined section is cleared, and then the line is moved to define a new area of clearing. For example, a 1m area upstream of an established transect line is searched and mussels salvaged. A minimum effort of 1.0 minute/m² is required per pass. Successive passes are to be made through the area until two or fewer mussels are collected per 100m² area. Once the area is cleared, the transect is moved upstream in 1m increments, and the new areas are cleared sequentially. The process is repeated until the entire salvage area, including the ADI and buffer described above, is cleared of mussels.
- b. All freshwater mussels found shall be identified to species and enumerated. All slippershell mussels shall be marked to aid in identification of these individuals during monitoring. In addition, half of the non-listed mussels relocated (including a sampling representative of the diversity found) shall be etched or glitter-glued, such that they can be useful to the collection of relocation survivability data. Those conducting the search must be qualified at accurate identification of freshwater mussel species. All native freshwater mussels found during this search shall be relocated upstream to suitable habitat where landowner permission has been received. The relocation site shall be delineated with a minimum one-hour timed search. The relocation site shall be located upstream (preferred) in an area of equal or better habitat (substrate, flow, presence of mussels). **A report including, but not limited to, the survey methodology utilized, water temperature, species and numbers of mussels located (noting juveniles), age class (≤5 or >5) of each marked individual sampled indicating whether recruitment is evident, an accounting of marked individuals, methodology performed for relocation site choice, and maps of the area searched and the relocation site shall be provided to the Department within 90 days of completion of the survey and relocation effort. Reporting shall also discuss the three objectives identified above regarding elapsed time between relocations and the effectiveness of the moving transect protocol.**

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

14. 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.

15. The DCHD official identified below is authorized to execute this agreement. Execution by DCHD indicates acceptance of all terms and conditions described in this authorization.

16. The execution of this agreement does not waive or excuse the responsibilities of DCHD 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:

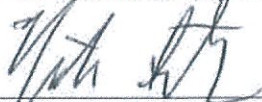


Mr. Christopher L. Young, Director
Office of Resource Conservation

5-23-17

Date

For the DeKalb County Highway Department:



Mr. Nathan F. Schwartz, County Engineer

5-23-2017

Date