



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 State-threatened Black Sandshell (*Ligumia recta*), Spike (*Elliptio dilatata*), and Gravel Chub (*Erimystax x-punctatus*). The Illinois Department of Natural Resources (hereinafter referred to as Department) has determined that this taking is incidental to activities associated with the replacement of twin bridge structures carrying IL 2 over the Rock River in Rockton, Winnebago County, Illinois. The project area is also located within the Rock River Rockton Segment Illinois Natural Areas Inventory Site (INAI #1673). 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 and an unusual concentration of mussels.

Procedural History

The IDOT, on behalf of the Federal Highway Administration (FHWA), submitted a Conservation Plan to the Department on February 25, 2019, as a request for authorization for the incidental take of Black Sandshell, Spike, and Gravel Chub. The Department requested additional information on April 5 and 30, 2019, to make the Conservation Plan complete as prescribed by Ill. Adm. Code 1080.10. Additional information was received by the Department on April 24 and May 14, 2019. The final Conservation Plan was accepted as complete by the Department on May 14, 2019. 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 to remove and replace the twin bridge structures that carry IL 2 over the Rock River. The first phase of this project is to drill eight 4-inch streambed borings to a depth of 8-10 feet to determine the depth of bedrock. This work will be performed from a 50-foot by 30-foot barge, anchored with two 12x12 inch square steel spuds. The data

obtained will be used to design the piers and bridges. Final bridge plans, practices, equipment, and timeline will be provided to the Department at that time. For the purpose of proposed project analysis for this authorization, which is necessary to perform the borings, a worst-case scenario has been presented. The second phase is the construction of the bridges. Existing bridges will be demolished and dropped into the water one at a time, while traffic is shifted to the other bridge. Causeways and/or barges may be required for bridge construction. Cofferdams will be used to dewater areas for the construction of each pier. Upon completion of the new bridge the causeways and cofferdams will be removed. The worst-case action area assumes 200 feet upstream and downstream of the outer edge of each existing twin bridge structure (maximum 500 feet in total length) and the entire width of the river in the project location or approximately 480 feet wide. Proposed activities may result in direct burial, crushing, or desiccation of; and/or noise and vibration disturbance to the Black Sandshell, Spike, and Gravel Chub.

Total estimated area of impact within species habitat for the proposed actions is **5.5 acres**. The Department concurs that the take of Black Sandshell, Spike, and Gravel Chub that could result from the proposed 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, Spike, and Gravel Chub. **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 funding will be completed as part of the construction project. IDOT and FHWA commit to funding the project and the mitigation.

The Department accepts this provision as assurance that adequate funding will be available to carry out the terms of the Conservation Plan.

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 is an Illinois state-threatened mussel species.

Habitat: The species is found in medium to large rivers in areas with strong currents. They favor 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 96 extant Element Occurrence Records for Black Sandshell in the Illinois Natural Heritage Database. They have been observed in 29 of 102 Illinois counties.

Incidental Take Authorizations: The Department has thirty-two (32) pending or issued Incidental Take Authorizations for Black Sandshell. Types of projects include 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. There are five other Incidental Take Authorizations for projects located within 25 miles of this project. The closest project was a bridge improvement project over the Rock River approximately 20 miles southeast and downstream of the proposed project. This is the fifth authorization for the taking of Black Sandshell in Winnebago County.

Spike (*Elliptio dilatata*)

Spike is an Illinois state-threatened mussel species.

Habitat: The species is found in small to large rivers with sand and gravel substrates. They are occasionally found in reservoirs and lakes, usually associated with outlet habitats dominated by swift currents.

Reproduction: Spike are short-term brooders. Females brood their young in their gills from May through August before releasing glochidia. Glochidia are released and temporarily parasitize a host fish. Spike glochidial host fish include Gizzard

Shad (*Dorosoma cepedianum*), Flathead Catfish (*Pylodictis olivaris*), White Crappie (*Pomoxis annularis*), Black Crappie (*Pomoxis nigromaculatus*), and Yellow Perch (*Perca flavescens*).

Population: Spike populations are declining due to widespread degradation of habitat throughout its range. Dams, channelization and dredging can also impact glochidial host fish.

Range in Illinois: In Illinois, Spike have been found in the Mississippi, Illinois, Kaskaskia, Kankakee, Fox, Sangamon, Wabash, and Little Wabash River basins in 19 of 102 counties. There are currently 42 extant Element Occurrence Records for spike in the Illinois Natural Heritage Database.

Incidental Take Authorizations: There have been eleven (11) previously issued or currently pending Incidental Take Authorizations for Spike in Illinois. Previous projects include bridge replacements, pipeline installation, water treatment outfall, and diffuser installation. One (1) of the previous authorizations was in the Rock River basin approximately 75 miles southwest of the proposed project. This is the first authorization for the taking of Spike in Winnebago County.

Gravel Chub (*Erimystax x-punctatus*)

Gravel Chub is an Illinois state-threatened fish species.

Habitat: Gravel Chub is a small fish found in clear to moderately turbid creeks and rivers. They prefer areas with moderate flow with gravel or rocky substrate.

Distribution: Gravel Chub occur in spotty distributions from southern Ontario to Arkansas. They can be found as far east as New York and as far west as Kansas.

Reproduction: Spawning occurs in April and May.

Population: Gravel Chub population decline has occurred because of stream siltation.

Range in Illinois: In Illinois, Gravel Chub are found in the Wabash, Vermilion, Rock, Mississippi, and Des Plaines River basins. Gravel Chub are found in 3 of 102 Illinois counties, including DeKalb, Stephenson, and Winnebago. There are currently 6 extant Element Occurrence Records of Gravel Chub in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has two (2) previously issued or pending Incidental Take Authorizations for Gravel Chub. These are for a bridge project and a transmission line. Neither project is located in the Rock River. This is the first authorization for the taking of Gravel Chub in Winnebago County.

Based on the amount of habitat impacted by this project, the number of known occurrences of Black Sandshell, Spike, and Gravel Chub in Illinois, an assessment of the potential effect of this project on individual species in the project footprint, the conservation methods included in this authorization for 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 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 May 16, 2019, and in the *Rockford Register Star* on May 16, May 23, and June 1, 2019. A copy of the Conservation Plan was deposited at the Talcott Free Library, where it was available for public review. The deadline for public comment was July 1, 2019. 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, Spike, and Gravel Chub associated with the twin bridge structure removal and replacement in Winnebago County, Illinois. Further the Department has concluded that the taking authorized herein will not reduce the likelihood of survival or recovery of Black Sandshell, Spike, and Gravel Chub 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.

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 **seven (7) 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, Spike, and Gravel Chub beyond that which is incidental to the twin bridge structure removal and replacement in Winnebago 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 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 Black Sandshell, Spike, and Gravel Chub; regulations protecting the species; where the species might be found; avoidance areas; travel restrictions for equipment; how to report sightings or incidents that may involve take; the importance of avoiding take of the species; and response protocol if the species are found, including the chain of response personnel. **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 potential habitat and species management practices.
6. Biological consultants employed by 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. 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. Final bridge plans, practices, equipment, and timeline shall be provided to the Department as soon as practicable for file documentation.
9. IDOT shall **notify the Department's Endangered Species Program by email correspondence of construction commencement and completion** of the project. A **project status report** shall be submitted to the Department within **90 days** following completion (defined as bridge in use) summarizing the implementation of

minimization, mitigation, and restoration measures and evaluating the effectiveness or status of those measures and shall include a project photo log. The report shall also include a map of the project location, as well as the relocation recipient location; identification of species and number of listed and non-listed species relocated from the project footprint; description of any injuries or mortalities; and the disposition of any individuals that were injured or killed.

10. Notification of any Black Sandshell, Spike, and/or Gravel Chub present during performance of the project shall be reported electronically to the Department within 48 hours of discovery accompanied by location information (photograph, map, and GPS coordinates). 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.
11. IDOT shall conduct, or cause to be conducted, the following pre-construction or construction efforts:
 - a. Mussel survey and relocation utilizing Department-approved methods and relocation area shall occur prior to construction commencement.
 - b. All mussels and fish shall be relocated from any cofferdams after dewatering. Mussels shall be deposited at the relocation site and fish shall be released downstream. A record of relocated fauna shall be provided to the Department (see #9 above).
 - c. The installation of a causeway and/or cofferdams shall avoid Gravel Chub spawning period (April-May).
 - d. Barges and equipment used in the water shall be inspected for the presence of Zebra Mussels, and any found shall be removed, prior to being placed into the Rock River. Barges and equipment shall have been completely out of water for the previous 10 days.
 - e. Measures shall be implemented to limit debris from falling in the river. Any debris deposits shall be removed as soon as practicable during the same work day.
12. IDOT shall conduct, or cause to be conducted, a thorough pre-construction relocation effort for freshwater mussels within the project area prior to construction commencement:
 - a. 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 to suitable habitat pre-approved by the Department. Zebra mussels shall be removed from native freshwater mussel shells to the extent practicable and disposed of on dry land or in trash receptacles to desiccate. It is unlawful to release this injurious species back to aquatic habitat in Illinois per 17 Ill. Adm. Code 805.30(b). Equipment decontamination measures shall be deployed prior to entering the waterway, if applicable, and upon project completion to prevent translocation of zebra mussels into new waterbodies.

- b. The relocation site has been approved by the Department. A nearby relocation site was chosen due to similar habitat parameters, the presence of similar species assemblage, and near proximity to the confluence of the Pecatonica River with the Rock River.
 - c. A survey of the relocation site shall occur prior to placement of relocated mussels to establish baseline conditions.
 - d. The search shall be conducted using a moving transect search technique and during biologically suitable mussel relocation periods. The mussel relocation shall occur within 60 days prior to the onset of construction.
 - e. Mussels shall not be relocated when air temperatures are at or below 32 degrees Fahrenheit or at or above 95 degrees Fahrenheit, nor when water temperatures are at or below 59 degrees Fahrenheit. All mussels will be held in mesh bags suspended in the river or in containers of water changed every hour (every half-hour when air temperatures are at or above 87 degrees Fahrenheit). 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.
 - f. All listed mussels shall receive a unique marking to aid in identification of these individuals during monitoring. In addition, the non-listed mussels relocated shall be etched or glitter-glued, such that they can be used to estimate survivorship of relocated mussels in later surveys.
 - g. **A report including, but not limited to, the survey methodology utilized (for relocation site and project action area), water temperature, habitat characteristics, the species and abundance of mussels relocated, length, sex (if discernable), the number of growth rings (i.e. an approximation of age), transect of origin, and the unique identification marker of each mussel individual relocated, and a map of the species locations and areas surveyed shall be provided to the Department within 90 days of completion of the mussel relocation.**
13. IDOT shall conduct, or cause to be conducted, thorough surveys for Black Sandshell and Spike within the project area and the relocation site in **Years 1 and 3** following project completion:
- a. A thorough survey for freshwater mussels, comprised of a combination of semi-quantitative and qualitative searches, within the project area and the relocation site. A 25-meter buffer around the relocation site shall also be surveyed to detect dispersal from the relocation site.
 - b. **A report including, but not limited to, the survey methodology utilized, water temperature, habitat characteristics, the species and abundance of mussels located (noting any marked individuals at the relocation site and/or buffer), length, sex (if discernable), the number of growth rings (i.e. an approximation of age), transect or qualitative reach of origin, the unique identification marker (if applicable), an analysis of mussel 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 the survey.**

14. IDOT shall conduct, or cause to be conducted, a thorough survey for Gravel Chub within the project area in **Years 1 and 3** following project completion:
- a. The fish assemblage survey shall utilize methodologies approved by the Department. The survey shall be conducted during summer low flow conditions.
 - b. The survey shall be conducted outside the spawning season of April and May.
 - c. A report including, but not limited to, the survey methodology utilized, a map of the surveyed reach, an estimate of mean depth and surface area of the survey reach, time effort expended, and a qualitative description of survey reach characteristics (e.g., flow, substrate, habitat composition), recorded abundance of each species encountered, length and weight of any State-listed species. Photos (which include distinguishing characteristics) of State-listed species shall be included with the report.
 - d. **A survey report in readable pdf format with complete metadata shall be provided to the Department within 90 days of completion.**

15. 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 **\$33,484** to the Illinois Wildlife Preservation Fund, to be earmarked to bring conservation benefit to the mussel species (Black Sandshell and Spike).
- b. IDOT shall provide funding in the amount of **\$15,600** to fund an Illinois Natural History Survey research project to study the distribution, status, and habitat associations of the Gravel Chub.
- c. 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.

16. 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

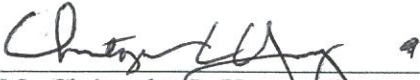
(217)557-8243
DNR.ITAcordinator@illinois.gov

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.

17. 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.
18. 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:

For Illinois Department of Transportation:



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



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

9/24/17
Date

09-20-2019
Date