



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 Iroquois County Highway Department (hereinafter referred to as ICHD) for the incidental take of the State-endangered Spike (*Eurynia dilatata*). 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 the bridge structure carrying County Highway 4 (E 2850 North Road) over Pike Creek in Iroquois County, Illinois. The project area is also located within the Pike Creek Martinton Reach Illinois Natural Areas Inventory Site (INAI #1907). 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 freshwater mussels.

Procedural History

The ICHD submitted the Conservation Plan to the Department on September 22, 2020, as a request for authorization for the incidental take of Spike. The Department requested additional information on October 19, 2020, to make the Conservation Plan complete as prescribed by Ill. Adm. Code 1080.10. Additional information was received by the Department on November 24, 2020. The final Conservation Plan was accepted as complete by the Department on December 7, 2020. 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 bridge structure that carries Iroquois County Highway 4 over Pike Creek in Iroquois County. The replacement structure will have wider travel lanes, and will have a higher weight limit, allowing agricultural vehicles to cross at this location.

The initial construction activities will include removal of the existing bridge deck, supporting piers, and abutments. The existing bridge deck is composed of individual pre-cast concrete deck beams that will be removed individually with a crane. Removal of the deck beams from the center span will be over the channel of Pike Creek and may include minor debris falling into the creek. The existing soils and material around the individual pier columns and the abutments will be excavated such that the pier columns and abutments may be cut off below the finished ground level and removed. Heavy equipment will be used to excavate this material and remove the pier columns and abutments.

Construction of the new bridge may begin with placement of a temporary crossing, which generally requires the placement of aggregate materials over temporary metal culvert pipes. The temporary crossing may be necessary to move heavy equipment, materials, and personnel from one side of the creek to the other throughout construction. The construction of a temporary creek crossing has the potential to bury and crush mussel species within the footprint of the temporary crossing.

Two cofferdams will be constructed with metal sheet piling driven in a rectangular shape around the pier locations. The soils will be excavated from within the cofferdam and it will be de-watered. The steel piling will be driven in the proper locations and a concrete encasement will be placed around the piling to form a foundation for the pier stem. Once the foundation and concrete pier stem are in place, the metal sheet piling will be removed around the cofferdam. Heavy equipment including a crane, tracked excavators, concrete delivery trucks, and light duty trucks may utilize a temporary crossing as part of the cofferdam and pier stem construction. The removal of soil materials around the existing piers in order to remove the piers, plus the removal of soil materials within the cofferdams to construct the new piers has the potential to excavate mussel species from the channel bottom.

The construction of the bridge abutments and bridge deck should not have any impact on the channel of Pike Creek; however, once the abutments are complete, and prior to placing the bridge deck, the channel banks will be lined with stone riprap directly under the proposed bridge. The width of this riprap placement will be 40 feet along the length of the creek banks. No stone riprap will be placed in the stream channel of Pike Creek. The stone riprap will be used to prevent erosion and scour around the new bridge piers and under the new bridge along the channel banks. The placement of stone riprap under the proposed structure along the channel banks has the potential to bury and crush mussel species within the footprint of the proposed right of way for this project.

Total estimated area of impact within species habitat for the proposed actions is **0.0872 acres**. The Department concurs that the take of Spike that could result from the proposed project is not the purpose of ICHD'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 ICHD's Conservation Plan.

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

ICHD states that funding will be completed as part of the construction project. ICHD commits 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.

Spike (*Eurynia dilatata*) is an Illinois state-endangered 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, Flathead Catfish, White Crappie, Black Crappie, and Yellow Perch.

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 17 of 102 counties. There are currently 34 extant Element Occurrence Records for spike in the Illinois Natural Heritage Database.

Incidental Take Authorizations: There have been seventeen (17) previously issued or currently pending Incidental Take Authorizations for Spike in Illinois. This is the first ITA issued for a project in Iroquois County. Previous projects

include bridge replacements, pipeline installation, water treatment outfall, and diffuser installation.

Based on the amount of habitat impacted by this project, the number of known occurrences of Spike 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 ICHD indicating 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 ICHD's request for authorization of incidental take was published in the *Breeze Courier* (official state newspaper) on December 16, 2020, and in *The Daily Journal* on December 16, December 23, December 30, 2020, and January 6, 2021. A copy of the Conservation Plan was deposited at the Watseka Public Library, where it was available for public review. The deadline for public comment was February 6, 2021. No comments were received from the public.

Authorization

It is the determination of the Department that the measures to be implemented by ICHD will adequately minimize and mitigate the anticipated taking of Spike associated with the bridge structure removal and replacement in Iroquois County, Illinois. Further the Department has concluded that the taking authorized herein will not reduce the likelihood of survival or recovery of Spike 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 ICHD 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 ICHD 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 ICHD has failed to comply with any of these terms and conditions or has been responsible for the taking of Spike beyond that which is incidental to the bridge structure removal and replacement in Iroquois County, Illinois.

2. The effective period of this authorization may be altered by mutual written agreement between ICHD 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 Spike; 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. **ICHD 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 ICHD 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 relocation 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. ICHD 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.
9. Notification of any Spike 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.
10. ICHD shall conduct, or cause to be conducted, the following pre-construction or construction efforts:
 - a. Mussel relocation utilizing Department-approved methods outlined in item #11 below.
 - 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. Measures shall be implemented to limit debris from falling in the creek. Any debris deposited shall be removed as soon as practicable during the same workday.
 - d. Installation of a turbidity curtain or floating silt fence during installation and removal of the causeway and cofferdam.
 - e. Cofferdams and the temporary stream crossing to keep equipment out of stream shall cause a minimal disruption to the flow of Pike Creek. Normal downstream flow shall be maintained with the use of culverts in the causeway.
 - f. Heavy equipment shall not enter the water during placement of clean rip rap; except that arms and buckets will have limited entry.
 - g. After completion of work, the temporary stream crossing shall be removed, and the streambed returned to its natural state.
 - h. Riprap at the bridge shall be minimized to the abutments and around piers. ICHD has agreed to not line the entire creek bed under the bridge with riprap.
11. ICHD shall conduct, or cause to be conducted, a thorough pre-construction relocation effort for freshwater mussels within the project area prior to construction commencement in addition to the July 23-24, 2020 effort:

- a. ICHD shall conduct or cause to be conducted a thorough relocation of mussels within a buffer area that begins 20 meters downstream of the bridge midpoint and extends 30 meters downstream (i.e., 20 meters to 50 meters downstream of the bridge midpoint).
- b. A multi-pass moving transect search method shall be used to collect mussels from within the buffer area. Transects shall be 1-meter wide, perpendicular to stream flow, and extend the entirety of the wetted stream width. Transects shall be resampled until subsequent passes no longer yield 10% or more of the total individuals collected from a transect.
- c. 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.
- d. The mussel relocation shall occur within 2 years prior to the onset of construction. The initial relocation effort conducted within the right-of-way was completed on July 24, 2020 and is valid through July 24, 2022.
- e. Mussels should be held in mesh bags within the stream, except during processing. Each mussel should be identified to species, and length and count of external growth rings shall be recorded for all threatened and endangered species and the first 100 individuals of each remaining species.
- f. Relocation should occur when water temperatures are between 15°C and 30°C to minimize stress and mortality. Mussels shall be relocated to a previously identified recipient area approximately 275 meters upstream of the bridge.
- g. All individuals of threatened and endangered species and a minimum of 50 individuals total from the remaining species shall be marked uniquely to each individual.
- h. **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 and pass of origin, and the unique identification marker of each tagged 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.**

12. ICHD shall conduct, or cause to be conducted, thorough surveys for Spike within the project area and the relocation site in **Years 1 and 5** following project completion:

- a. A combination of semi-quantitative and qualitative search methods shall be used; a minimum of 260 meters of transects shall be searched in both the project area with buffer, and the relocation area with a 20-meter upstream and downstream buffer. Transect searches shall be followed by 2 person-hour qualitative surveys which cease when no new species are detected.
- 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 and pass 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.

13. Mitigation to the maximum extent practicable is required by the Act. Mitigation requirements for this authorization are as follows:
- a. ICHD shall provide funding in the amount of **\$5,600.00** to the Illinois Wildlife Preservation Fund, to be earmarked to bring conservation benefit to the mussel species (Spike).
 - b. The funds 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.

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.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.

15. The ICHD official identified below is authorized to execute this agreement. Execution by ICHD 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 ICHD 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:

Christopher Young

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

April 30, 2021

Date

For the Iroquois County Highway Department

John Shure

Mr. John Shure
Iroquois County Board Chairman

April 27, 2021

Date

