



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 McHenry County Division of Transportation (hereinafter referred to as MCDOT) for the incidental take of the State-threatened American brook lamprey (*Lethenteron appendix*). The Illinois Department of Natural Resources (hereinafter referred to as Department) has determined that the taking is incidental to activities associated with bridge replacement on Deerpass Road over the Kishwaukee River and overflow channel. This stabilization shall occur within a 450 square-foot section of the Kishwaukee River in McHenry County, Illinois. The project is located within the Kishwaukee River Natural Areas Inventory Site (INAI #0720). The site is included on the Illinois Natural Areas Inventory due to unusual concentrations of fauna and specific suitable habitat for listed species.

Procedural History

The Department received a conservation plan prepared by MCDOT on July 24, 2017, as a request for authorization for the incidental take of American brook lamprey. Additional information was requested by the Department on August 24, 2017, to make the conservation plan complete as prescribed by Ill. Adm. Code 1080.10. Additional information was received by the Department on September 18, and October 16, 2017. The final conservation plan was approved by the Department on October 25, 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 to replace two existing bridges with a new single 445-foot-long, five-span bridge over the Kishwaukee River and an associated overflow channel in McHenry County, Illinois. MCDOT proposes to remove two existing instream piers (total area of 14.5 square feet). These will then be replaced with one pier (total area of 116 square feet). During instream work, cofferdams will be constructed, occupying an area of 320 square

feet. The removal of the existing bridges and installation of the new bridge will occur from the existing roadway or the grass between the two bridges. Finally, MCDOT will remove the cofferdams. Total estimated area of impact for species habitat is 450 square feet or 0.01 acres.

Take of American brook lamprey could occur as a result of increased noise, increased siltation and sedimentation, and being crushed or smothered by construction activities. The take of American brook lamprey that could result from this project is not the purpose of MCDOT'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 MCDOT's conservation plan.

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

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:

MCDOT and the Illinois Department of Transportation (IDOT) are responsible for funding of the project. Estimated costs include funding to implement erosion and sediment control measures. Funding to implement the conservation plan will be solely provided by MCDOT.

It is the Department's opinion that MCDOT'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:

The American brook lamprey is an eel-like, jawless, cartilaginous fish with no scales that grows to be 5-7 inches long. Adult American brook lampreys inhabit clear brooks with fast-flowing water and either sand or gravel bottoms. Juveniles can be found buried in soft substrates (such as silt next to sand) of medium to

large streams with slow-moving water but enough flow to carry food by. Unlike some other lamprey species, the American brook lamprey is non-parasitic to other fish, and instead feeds on organic matter and microscopic organisms while in its larval form. Adult American brook lampreys do not feed.

The American brook lamprey spawns from April to mid-May in shallow pits excavated near the upper ends of gravel riffles. Several individuals communally construct one spawning pit, and the females each deposit over one thousand eggs into the pit. The eggs hatch after 20-22 days, and the larvae, called ammocoetes, float downstream to larger, slower-moving streams and burrow in the substrate. After five or more years, ammocoetes transform into adults in the late summer or fall. Once transformed, the adults migrate to smaller, faster-moving streams. The adults spawn the following spring and die shortly after.

In Illinois, the American brook lamprey has been found in the Kankakee, Mackinaw, Kishwaukee, Embarras, Rock, and Little Vermilion Rivers, along with several smaller tributaries throughout the northeastern quarter of the state. American brook lamprey populations have declined in Illinois due to increased sedimentation of creeks and rivers, declining water quality, and pollution. There are currently 14 extant Element Occurrence Records for American brook lamprey in the Illinois Natural Heritage Database in 6 of 102 Illinois counties, including Boone, Bureau, Kankakee, Lee, McHenry, and Winnebago. The species was listed in 2015. This is the first incidental take authorization granted by the Department for potential take of American brook lamprey in McHenry County and the third granted in Illinois.

Based on the amount of habitat impacted by this project, the number of known occurrences of the threatened species 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 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 American brook lamprey 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:

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 MCDOT 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 MCDOT's request for authorization of incidental take was published in the *Breeze Courier* (official state newspaper) on November 1, 2017, and in the *Northwest Herald* on November 1, 9, and 17, 2017. A copy of the conservation plan was deposited at the Woodstock Public Library, where it was available for public review. The deadline for public comment was December 17, 2017. No comments were received from the public.

Authorization

It is the determination of the Department that the measures that will be implemented by MCDOT will adequately minimize and mitigate the anticipated taking of American brook lamprey incidental to activities associated with the bridge replacement over the Kishwaukee River in McHenry County, Illinois. Further, the Department has concluded that the take authorized herein will not reduce the likelihood of survival or recovery of the American brook lamprey 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 species may inhabit the Kishwaukee River, **this agreement does not authorize take of any species except the American brook lamprey.**

All terms and conditions included in the aforementioned conservation plan submitted by MCDOT 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 MCDOT 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 MCDOT has failed to comply with any of these terms and conditions or has been responsible for the taking of the American brook lamprey beyond that which is incidental to activities associated with the bridge replacement over the Kishwaukee River in McHenry County, Illinois.

2. The effective period of this authorization may be altered by mutual written agreement between MCDOT 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, and the importance of avoiding take of the species. **MCDOT 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 MCDOT 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. MCDOT shall notify the Department's Endangered Species Program by email correspondence of construction commencement and completion of the bridge replacement over the Kishwaukee. A **project status report** shall be submitted to the Department within **90 days** of project completion (defined as bridge open to the public) 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. MCDOT shall conduct, or cause to be conducted, the following pre-construction or construction efforts:
 - a. In-stream work shall be conducted during seasonal low flow conditions and outside the lamprey spawning season of April 1 through May 15.

- b. Erosion and sediment control measures shall be implemented in all areas. 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.
- c. Erosion and sediment control measures shall be monitored daily to ensure effectiveness.
- d. Erosion and sediment control measures shall be inspected prior to continuation of construction, after events of heavy rain.
- e. No equipment shall be placed in the water during the course of construction.
- f. No construction debris shall be deposited into the stream channel. Excavated materials shall be removed from the channel and disposed in an upland location.
- g. Cofferdams shall be used to facilitate construction. Work shall take place during periods of low flow to avoid failure of cofferdams.
- h. All fish and other aquatic species shall be removed from the coffered areas during dewatering and relocated to suitable habitat (fish downstream – except ammocoetes, mussels upstream) by a permitted biologist.

11. MCDOT shall conduct, or cause to be conducted, a relocation of American brook lamprey ammocoetes within the cofferdam footprints if suitable sand and gravel substrate is present utilizing slow multiple pass backpack electroshocking and netting both in front and behind. Relocate individuals prior to or during construction to suitable habitat upstream of the project area to avoid exposure to potential project sedimentation. Ammocoetes shall not be relocated if the current is swift or water levels are high. Project instream work shall be delayed until relocation can occur when water levels and current conditions are low, if suitable substrate is present. **A report including, but not limited to, the relocation methodology utilized, water temperature, estimated number of ammocoetes relocated, range of size differences observed, and a map of the species locations and area of reach covered by the survey, as well as an area estimate of suitable ammocoete habitat, shall be provided to the Department within 90 days of completion of the relocation effort.** If suitable substrate was not present in the cofferdam footprints, please note this within the project status report required under condition 7.

12. MCDOT shall conduct, or cause to be conducted, the following post-construction monitoring measures for **adult** American brook lamprey at each impacted channel during Year 2 and Year 5 when water levels, visibility, and temperatures are suitable:

- a. A thorough survey for adult lamprey shall be conducted in the project area, plus 50 meters upstream and 100 meters downstream.
- b. Visual surveys shall be conducted during spawning season (April 1 to May 15), when water temperatures are between 46-59 degrees Fahrenheit (performed at the leading edge of any riffles above, within, and below the project area) every other week until spawn is observed.
- c. **A report including, but not limited to, the effectiveness of the survey methodology utilized, water temperature, number of American brook lampreys located, range of size differences observed, and a map of the species locations and area of reach covered by the survey, as well as any suitable**

adult habitat, shall be provided to the Department within 90 days of completion of the surveys. Please note number and size of any other fish species incidentally observed.

13. MCDOT shall conduct, or cause to be conducted, the following post-construction monitoring measures for juvenile American brook lamprey at each impacted channel during Year 2 and Year 5 when water levels, visibility, and temperatures are suitable:
- a. A thorough survey for ammocoetes shall be conducted in the project area, plus 50 meters upstream and 100 meters downstream.
 - b. Surveys for juvenile lamprey shall be conducted outside of spawning season and shall utilize methodology designed for their detection (performed by slow multiple pass backpack electro-shocking gear within small areas of suitable soft substrates, such as silt next to sand, above, within, and below the project area). These surveys shall use low voltage power relative to standard methods and at less than 10 pulses per second to draw larval lamprey from the substrate. Ammocoetes can take seconds to respond to the current and emerge from the substrate, often coming up at the "tail end" of the shocking unit and behind the gear, therefore netters in front and behind are advised for an effective survey.
 - c. A report including, but not limited to, the survey methodology utilized, water temperature, estimated number of ammocoetes located, range of size differences observed, and a map of the species locations, area of reach covered by the survey, and area estimate of suitable ammocoete habitat, shall be provided to the Department within 90 days of completion of the surveys. Please note number and size of any other fish species incidentally sampled or observed.

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

- a. MCDOT shall provide funding in the amount of \$10,356 to the Illinois Natural History Survey (INHS) to support the study entitled "Assessing Lamprey Distributions in Illinois: Developing a Framework via Rapid Environmental DNA Assay for American brook lamprey".
- b. The donation shall be provided to the recipient facility **within 90 days of execution of this agreement**. Mitigation payments are nonrefundable, including events of revocation or termination. Proof of donation must be provided to the Department.

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.

15. 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

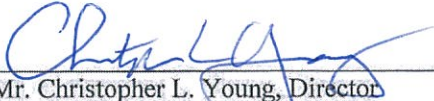
(217)557-8243
DNR.ITAcoordinator@illinois.gov

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.

16. The MCDOT official identified below is authorized to execute this agreement. Execution by MCDOT indicates acceptance of all terms and conditions described in this authorization.
17. The execution of this agreement does not waive or excuse the responsibilities of MCDOT 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 McHenry County Division of Transportation:



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



Mr. Ernest Yarga, Project Manager

3/6/18

Date

3/6/18

Date