



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 Douglas County Highway Department (hereinafter referred to as Douglas County) for the incidental take of the State-endangered Purple Lilliput (*Toxolasma lividum*). The Illinois Department of Natural Resources (hereinafter referred to as the Department) has determined that the taking is incidental to activities associated with the replacement of the bridge carrying TR 218 (760N) over the Brushy Fork 4 miles southwest of Newman in Douglas County, IL. The bridge has been closed to vehicular traffic due to its structural condition.

Procedural History

The Department received a conservation plan prepared by Illinois Department of Transportation (hereinafter referred to as IDOT) for Douglas County on March 2, 2021, as a request for authorization for the incidental take of Purple Lilliput. Additional information was requested by the Department on March 19 and July 30, 2021, to make the conservation plan complete as prescribed by Ill. Adm. Code 1080.10. Additional information was received by the Department on July 13 and December 6, 2021. The final conservation plan was approved by the Department on December 9, 2021. 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 demolish and replace the existing bridge across Brushy Fork in Douglas County, Illinois. The existing structure is a six-span bridge with a superstructure consisting of a timber deck on steel stringers. The substructure consists of timber pile bents and two masonry stone abutments. Each timber bent pile consists of three timber piles

driven into the streambed. The existing structure is currently closed to traffic and portions of the structure have fallen into the stream with debris collecting on the remaining timber pile bents. The contractor will cut off all timbers and remove the debris from the streambed to allow the construction of the new piers. The original timber piles will be cut off to one foot below grade. The means and methods of removal and equipment required will be determined by the Contractor once the project is awarded. Machinery may be required in the stream temporarily during existing structure removal operations. The masonry abutments will be removed as necessary to allow the grading of the new spill-thru abutments and placement of riprap.

The two (2) new solid wall encased pile bent piers will be located in the water, 51' apart, centered about the middle of the new bridge. Temporary cofferdams will be required in the stream (approximately dimensioned 11'x37' sheet piling at each pier) to construct the new bridge piers. If the contractor requires a temporary work pad, access road, or other temporary fill, then all affected areas shall be removed in their entirety and returned to pre-construction elevations. Temporary fills shall be constructed of clean coarse aggregate, and the areas affected by these fills shall be restored as soon after construction as possible. Details regarding these items will be determined by the contractor at the time of construction. A temporary work pad or causeway at the piers may be required for this project.

Stone riprap will be placed on the abutment slopes to protect the proposed spill-thru abutments from scour. Stone riprap (RR4, 9" median size) will be placed in front of the bridge abutments down to the streambed at the channel. The limits of the riprap will be minimized and avoid filling in the wetlands upstream and downstream from the bridge. The areas between the ROW lines and outside of the stream and riprap will be seeded with seed mix Seeding Class 2. The bed material for the placement area will be graded so that the finished surface of the riprap will conform to the existing channel slopes and transition to match the existing channel at the right-of-way line. A small amount of channel excavation behind the masonry abutments is required. The stone riprap will be placed by mechanical means to its full course thickness in one operation. Temporary stockpiling of riprap or excavated material in the channel will not be allowed.

Take of the Purple Lilliput could occur as a result of the construction. Individuals may be crushed, buried, or subject to desiccation by construction activities. Indirect take could occur as a result of increased noise, vibration and turbidity in the water column that would adversely affect juvenile and adult mussels. Impacts to riparian areas from vegetation clearing, construction, or staging may adversely affect water quality. Any sediment and pollutant runoff from the staging area would adversely affect water quality for the mussels.

The take of Purple Lilliput that could result from this project is not the purpose of Douglas County'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 Douglas County's conservation plan.

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

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:

Douglas County states that the project funded with a combination of 90% federal funds and 10% local funding. The project construction, including implementation of all measures of the Conservation Plan, will be funded for this improvement out of the County's allotment.

It is the Department's opinion that Douglas County'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:

Purple Lilliput (*Toxolasma lividum*) is an Illinois state-endangered mussel species.

Habitat: The species is predominantly found in creeks and medium sized rivers. The species prefers fine-particle substrates, but has been collected in sand, mud, gravel, and also in cobbles and boulders in riffles.

Reproduction: Purple Lilliput is generally considered a long-term brooder. In Michigan, some populations are short-term brooders and may produce multiple broods a year. The glochidia are stored in ectobranchous marsupia. Green sunfish and long-ear sunfish are glochidial host fish.

Population: Purple Lilliput populations are impacted by pollution, siltation from agriculture, channel alteration and inundation. Cattle wading in streams has destroyed former habitat of this species.

Distribution: Purple Lilliput mussels are found in the lower Ohio River drainage covering southwestern Ohio, Indiana, and Illinois. In the Mississippi River in

southern Missouri, Arkansas, and potentially as far as Oklahoma and Kansas. Additionally, the range of Purple Lilliput includes parts of Michigan, Tennessee, Kentucky, and Mississippi. The populations in North Carolina, Virginia, and Georgia have likely been extirpated.

Range in Illinois: In Illinois, Purple Lilliput are found in the Little Wabash, Vermilion, Embarras, and Copperas-Duck watersheds. They have been found in four (4) of 102 Illinois counties, Douglas, Rock Island, Vermilion, and White. There are currently 11 extant Element Occurrence Records for Purple Lilliput mussels in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has one (1) previously issued or pending Incidental Take Authorization for Purple Lilliput. The previous project was for an erosion control project.

Based on the amount of habitat impacted by this project, the number of known occurrences of the Purple Lilliput 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 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 these 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 Douglas County 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 Douglas County's request for authorization of incidental take was published in the *Breeze Courier* (official state newspaper) on December 15, 2021, and in the *Tuscola Journal* on December 15, December 22, and December 29, 2021. A copy of the conservation plan was deposited at the Tuscola Public Library, where it was available for public review. The deadline for public comment was January 29, 2022. No comments were received from the public. It was found that those dates did not meet the requirements of the Act; therefore, a second public notice is described below.

Public notice of Douglas County's request for authorization of incidental take was published in the *Breeze Courier* (official state newspaper) on February 2, 2022, and in the *Tuscola Journal* on February 2, February 9, February 16, and February

23, 2021. A copy of the conservation plan was deposited at the Tuscola Public Library, where it was available for public review. The deadline for public comment was March 25, 2022. No comments were received from the public.

Authorization

It is the determination of the Department that the measures that will be implemented by Douglas County will adequately minimize and mitigate the anticipated taking of Purple Lilliput incidental to activities associated with the replacement of the bridge carrying TR 218 (760N) over the Brushy Fork. Further, the Department has concluded that the taking authorized herein 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.

All terms and conditions included in the aforementioned conservation plan submitted by Douglas County 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 Douglas County 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 Douglas County has failed to comply with any of these terms and conditions or has been responsible for the taking of the Purple Lilliput beyond that which is incidental to activities associated replacement of the bridge carrying TR 218 (760N) over the Brushy Fork in Douglas County, Illinois.

2. The effective period of this authorization may be altered by mutual written agreement between Douglas County 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. All on-site personnel shall be educated on the sensitive biological resources in the area, the identification of Purple Lilliput, 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. **Douglas County 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 Douglas County 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. Douglas County shall notify the Department's Endangered Species Program by email correspondence of construction commencement and completion of work to replace the bridge carrying TR 218 (760N) over the Brushy Fork. A **project status report** shall be submitted to the Department within **90 days** of completion 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, description of any injuries or mortalities, and the disposition of any individuals that were injured or killed.
8. 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).
9. Douglas County shall conduct, or cause to be conducted, the following pre-construction or construction efforts:
 - a. A complete mussel relocation effort as outlined in #10. This is in addition to the relocation of non-listed mussels that occurred on August 12, 2020.
 - b. The failing wooden piers shall be removed to one foot below the natural ground level of the streambed.
 - c. Sediment and erosion best management practices shall be utilized. However, mesh erosion control blankets shall be avoided.
 - d. If used, the temporary causeway/working pad shall be in place for the least amount of time practicable.
 - e. The causeway shall be built with culverts to ensure sufficient downstream flow to prevent scouring.
 - f. Cofferdams and turbidity curtains shall be installed around the piers to prevent silt from moving downstream.
 - g. Debris shall be removed from the streambed as soon as practicable.

- h. Stone and excavated material shall not be stockpiled in the stream channel.
 - i. Stone riprap will be placed at the abutments down to the stream channel but shall not be placed across the stream.
 - j. Upon project completion, the streambed shall be returned to a pre-construction profile.
 - k. The riverbank shall be stabilized and seeded with an appropriate IDOT seed mix.
10. In addition to the August 12, 2020, mussel relocation effort that remains valid through August 12, 2022, Douglas County shall conduct, or cause to be conducted, a thorough pre-construction relocation effort for freshwater mussels before construction commencement:
- a. Mussels shall be relocated from an area beginning 40 meters downstream of the bridge and extending to 10 meters upstream of the bridge.
 - b. A multi-pass moving transect search method shall be used to collect mussels from within the construction and 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.
 - 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, unless this was satisfied with the August 12, 2020, area relocation effort.
 - 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 200 feet downstream of the bridge.
 - 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 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.**
11. 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).
12. Douglas County shall conduct, or cause to be conducted, thorough surveys for Purple Lilliput 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 randomly located transects perpendicular to the flow of the stream shall be searched in both the area from which mussels were relocated, and the recipient area. 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 calculated as follows:

Douglas County shall submit mitigation to the Illinois Department of Natural Resources - Illinois Wildlife Preservation Fund in the amount of **\$16,742.20** **within 90 days of execution of this agreement**. The mitigation will be earmarked to bring conservation benefit to the Purple Lilliput.

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

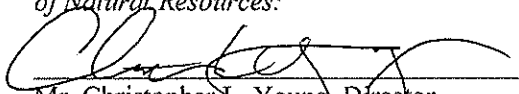
(217)557-8243
DNR.ITAcordinator@illinois.gov

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 Douglas County official identified below is authorized to execute this agreement. Execution by Douglas County 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 Douglas County 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

5/9/2022
Date

For the Douglas County Highway Department



Mr. James Crane, County Engineer

5/6/2022
Date

