

Conservation Plan for the Little Spectaclecase (*Villosa Lienosa*) and the Slippershell (*Alasmidonta Viridis*) at Bean Creek

1. Description of the impact likely to result from the proposed taking

A. Legal description of the project area

Specific locality information for this project site has been taken from the Potomac, Illinois (7.5' series, 1984 edition; NAD 1927) U.S. Geological Survey topographic quadrangle map (all coordinates to north edge of bridge). UTM = Universal Transverse Mercator System.

Illinois, Vermilion County, Bean Creek, 2.1 km ESE Potomac (PO), at the FAP 711 (U.S. Route 136) bridge, 2nd Principal Meridian: Township 21 North, Range: 13 West, SE/4, SE/4, SE/4, Section 2. UTM: Zone 16, 0433964m East, 44611200m North. Latitude: 40.3006° North, Longitude: 087.777° West.

B. Biological Data

Little Spectaclecase Biological Data

Although historically widespread in the lower Midwest and south, few extant populations of Little Spectaclecases are known in the northern part of its range. Almost no information is available on the life-history of this animal. Age and growth data are unknown. It probably lives about 10 year maximum. The larvae (*glochidia*) of freshwater mussels are obligate parasites on fishes. The fish host of the little spectaclecase is unknown.

Slippershell Biological Data

The historical range of this small species is from southern Ontario south to Alabama and from South Dakota east to New York, including the Great Lakes Basin and the Mississippi, Ohio, and Tennessee River Systems. Their usual habitat is substrate of sand, mud, or fine gravel. Currently, the Slippershell is rarely found in its range and is now restricted to a limited number of clean, clear creeks and headwaters of rivers. The life span of this species is not known. Slippershell larvae (*Glochidia*) are known to primarily parasitize two species of fish: Johnny Darters (*Etheostoma nigrum*) and Mottled Sculpin (*Cottus bairdi*).

C. Habitat description of activities that will result in take.

Bean Creek at the U.S. 136 bridge number 092-0063 was approximately 2 m. in width with depths ranging from 0.1 – 0.4 m. The little spectaclecase and Slippershell are typically found in small to medium-sized streams in sand or gravel. The construction associated with the replacement of the bridge over Bean Creek at U.S. 136 will likely result in the take of Little Spectaclecase and Slippershell in the area of the structure construction.

- D. Explanation of the anticipated adverse effects on the listed species.**
If not relocated, mussels would likely be buried or otherwise crushed or killed by construction activities. It will be impossible to relocate all mussels in the area so some take will likely occur.

2. Measures the applicant will take to minimize and mitigate that impact

- A. Plans to minimize the area affected by the proposed action, the number of individuals of an endangered or threatened species that will be taken, and the amount of habitat affected.**

Before construction begins, INHS representatives should relocate any Little Spectaclecase mussels and Slippershell mussels located in the immediate vicinity of the structure (existing right-of-way) to a suitable habitat elsewhere in Bean Creek. Construction activity will be limited to the existing right-of-way.

- B. Plans for management of the area affected by the proposed action that will allow continued use of the area by the species.**

If measures are taken to minimize substrate disturbance in the area around the bridge, mussels should move back into the area over time.

- C. Description of all measures to be implemented to minimize or mitigate the effects of the proposed action on the endangered or threatened species.**

The Little Spectaclecase mussels and Slippershell mussels will be moved from their locations within existing right-of-way to a suitable habitat within Bean Creek. This will prevent the mussels from being affected by construction activity involved in the structure replacement.

- D. Plans for monitoring the effects of the measures implemented.**

It is the recommendation of the Illinois Department of Natural Resources (Department), that IDOT conduct, or cause to be conducted, a thorough survey of the construction area (within existing right-of-way) for freshwater mussels in the second and fifth year following completion of bridge construction. "Completion" shall be defined as the date the bridge is officially open for public use. Freshwater mussels located within the construction right-of-way shall be identified to species and enumerated and the length of each mussel shall be measured to the nearest millimeter. Handling of mussels shall be in compliance with any and all conditions and/or protocols included in the State and/or Federal authorizations for this work. A report on the species, numbers, and sizes of mussels found shall be provided to the Department within 60 days of the completion of each survey. Each report shall also include a qualitative evaluation of the habitat for freshwater mussels being provided by the construction right-of-way area and the manner in which that habitat has changed since the previous survey.

E. Projected cost of each measure that will minimize or mitigate the effects of proposed action on endangered or threatened species.

The estimated cost of the preferred bridge replacement alternative is 903,000 dollars.

F. Adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect the effectiveness of measures instituted to minimize or mitigate the effects of the proposed action on endangered or threatened species.

Due to the nature of the project, IDOT does not anticipate any changed or unforeseen circumstances. The bridge replacement will be completed and no additional work will be necessary afterwards.

G. Verification that funding to support mitigation activities will be available for the life of conservation plan.

The Illinois Department of Transportation has contractual obligation with the Illinois Natural History Survey.

3. Alternative actions that would not result in the take

The only alternative that would not result in the take of listed freshwater mussels is the "do nothing" alternative, which means that the bridge would not be replaced. This alternative is unacceptable because in its current condition, this bridge endangers the traveling public and does not fulfill the purpose and need of the project.

4. Data and information to assure that the proposed taking will not reduce the likelihood of the survival of the species.

In Illinois, the little spectaclecase is narrowly restricted in distribution to the Embarras River in Coles and Douglas counties, Vermilion River drainage (North and Middle Forks), Little Vermilion River drainage, and Brouilletts Creek drainage in Edgar County. The only two sites where *V. lienosa* are known to occur in the Brouilletts Creek drainage are at Rt. 36. However, it likely occurs elsewhere in the basin, but surveys have not been conducted to substantiate this or define its limits in the basin. It has healthy populations in the North Fork Vermilion River and the Little Vermilion River. Continued survival of the species would therefore not be jeopardized by this project.

The slippershell is fairly widespread in Illinois. The reason for inclusion on the list of threatened species in Illinois is because of its severe reduction in range in the state. It still occurs in many localities in Illinois and the Fox River drainage including; Somonauk Creek, Little Rock Creek, East Branch Big Rock Creek, Blackberry Creek, Waubensee Creek, Nippersink Creek Rob Roy Creek, and an additional location in Tyler Creek at Eagle Heights Park (a population that incidentally was under a threat from an IDNR C-2000 project).

5. **An implementing agreement, which shall include, but not be limited to:**

A. Names of all participants in the execution of the conservation plan, including public bodies, corporations, organizations, and private individuals.

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B. The obligations and responsibilities of each of the identified participants with schedules and deadlines for completion of activities in the conservation plan and a schedule for preparation of progress report to be provided to the Department.

The Illinois Department of Natural Resources is responsible for the review of this Conservation Plan and for subsequent issuance of the Incidental Take Authorization.

The Illinois Natural History Survey will have duties of surveying for threatened or endangered mussels and moving the Little Spectaclecase and Slippershell away from the project location. Post construction the INHS will examine Bean Creek for colonization by Little Spectaclecase Slippershell mussels.

The Illinois Department of Transportation is responsible for all biological clearance coordination and recommendations related to the project and addresses those items listed under the Incidental Take Notice.

C. Assurances that each participant in the execution of the conservation plan has the legal authority to carry out their respective obligations and responsibilities under the conservation plan.

This project is authorized by the Illinois Department of Transportation, which receives funding from Illinois General Assembly and the Federal government in carrying out its programs.

D. Assurances of compliance with all other federal, state, and local regulations pertinent to the proposed action and to execution of the conservation plans.

The Illinois Department of Transportation exclusively abides by the National Environmental Policy Act and all associated state and federal environmental laws in carrying out its mission of performing the most environmentally sensitive methods of transportation planning and engineering.

E. Copies of any federal authorizations for taking already issues to the applicant.

Not applicable since the Little Spectaclecase mussel (*Villosa lienosa*) and Slippershell mussel (*Alasmidonta viridis*) are not federally threatened or endangered.

F. For projects that will result in the taking of endangered or threatened species of plants, copies of expressed written permission of the landowner.

Not applicable since the Little Spectaclecase mussel (*Villosa lienosa*) and Slippershell mussel (*Alasmidonta viridis*) are considered an animal under the Illinois Endangered Species Act (ILCS 10/2)

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