Conservation Plan for the Wavy-rayed Lampmussel (*Lampsilis fasciola*), and Purple Wartyback (*Cyclonaias tyberculata),* Inhabiting the North Fork of the Vermilion River Under FAP 323 (ILL 1), 2.8 miles South of Rossville, Vermilion County, Illinois

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

A. Legal description of the project area

This project is located at the 2nd Principal Meridian, Township 22 North, Range 12 West, Southwest Quarter of the Southwest Quarter of Section 25, in Vermilion County, Illinois; Latitude: 40.3311453424456 North/Longitude: -87.6612200978165 West.

B. Biological data

i. Wavy-rayed lampmussel

The wavy-rayed lampmussel inhabits clear rivers and streams with steady water flow and gravel or sand substrate often stabilized with cobble or boulders. It is most abundant in small to medium sized streams. Wavy-rayed lampmussels spawn in August, but the glochidia (larvae) are not released until the following summer. Two known fish hosts for this mussel species are the smallmouth bass (micropterus dolomieu) and largemouth bass (micropterus salmoides).

ii. Purple Wartyback

Purple wartybacks are found in gravel or mixed sand/gravel in waterways ranging in size from small streams to large rivers. The species was once widely distributed in Illinois, but is now found in only a few basins, including this one. The spawning period for the purple wartyback mussel begins in June and ends in August. The host species are the black bullhead (Ameiurus melas), yellow bullhead (Ameiurus natalis), channel catfish (Ictalurus punctatus), and flathead catfish (Pylodictis olivaris).

C. Description of activities that will result in a take

The North Fork of the Vermilion River is approximately 80 feet in width with an approximate depth of 10 feet at this location. The proposed project will repair damage to the structure caused by scour. The proposed construction activities associated with the scour mitigation will likely result in the take of wavy-rayed lampmussels and purple wartybacks in the area of the construction activities.

D. Explanation of the anticipated adverse effects on the listed species

Situations caused by the construction activities necessary to mitigate the scour damage at this structure would be the leading cause of adverse effects to the wavy-rayed lampmussel and purple wartyback. These activities include, but are not limited to, in stream work, construction of a temporary work pad, and stabilization of the stream banks. Any mussels that are not relocated will likely be crushed or buried by the work activities.

It will be impossible to relocate all mussels in the project 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 estimated number of individuals of an endangered or threatened species that will be taken, and the amount of habitat affected

Before construction begins, Illinois Natural History Survey (INHS) representatives will relocate any wavy-rayed lampmussels and purple wartybacks found in the immediate vicinity of the structure (existing right-of-way) to a suitable habitat elsewhere in the North Fork of the Vermilion River.

The footprint of the work zone has been minimized to reduce the impact to the mussel species habitats.

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

After construction activities are complete, the streambed and habitats will be "managed" or "controlled" by natural processes. The dynamic processes operating within the North Fork of the Vermilion River may or may not provide suitable habitat for the wavy-rayed lampmussel, and purple wartyback. 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 duration of the work will be minimized to limit impact.

Illinois Department of Transportation (IDOT) will ensure that the contractor performing the work will implement best management practices in order to limit impact to the named. Best management practices are described in detail in the IDOT Bureau of Design and Environment Manual Chapter 59 and IDOT's Standard Specifications for Road and Bridge Construction Section 200 and can be accessed through the IDOT website.

Any areas disturbed by the scour countermeasures will be reseeded using IDOT class 7 seed mixture and covered with erosion control blankets. If needed, any temporary access pads will be constructed in accordance with Check Sheet 8 of the IDOT Supplemental Specifications and Recurring Special Provisions, adopted January 1, 2009, and any provisions provided in the plans and contract documents. After completion of the in-stream work, any temporary access pads will be removed and the area restored to its original configuration.

D. Plans for monitoring the effects of the measures implemented to minimize or mitigate the effects of the proposed action of the endangered or threatened species

Specified erosion and sediment control practices will be implemented. Inspections to ensure proper working order and maintenance will be made weekly by IDOT staff.

It is the recommendation of the Illinois Department of Natural Resources (IDNR) that IDOT conduct, or cause to be conducted, a thorough survey of the construction area following the 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 as to species, numbered, and measured.

208-337-2436 Lee

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, number, and sizes of mussels found shall be provided to IDOT within 60 days of the completion of each survey. Each report shall also include a qualitative evaluation of the habitat for freshwater mussels in the construction right-of-way area and the manner in which that habitat has changed since the last survey.

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

The cost of the scour mitigation at this structure is part of a contract that includes scour mitigation measures at 6 structures. The estimate for this contract is $300,000.00. INHS has a contractual obligation with IDOT for evaluation and study of threatened and endangered species.

3. Alternative actions that would not result in the take

The only alternative that would not result in a take of the listed mussel species is the "do nothing" alternative, which means that the scour issues would not be addressed. This alternative is not acceptable because in its current condition this bridge is rated as scour critical. Through a scour evaluation, the bridge foundation has been deemed unstable for the assessed or calculated scour conditions. The necessary countermeasures have been designed to mitigate for the known issues at this structure.

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

The wavy-rayed lampmussel is widely distributed, but uncommon in northern tributaries of the Ohio River. It is a species of Special Concern in Indiana and a species of Special Interest in Ohio. In Illinois, the wavy-rayed lampmussel was known historically from just a few basins, including the Vermilion River basin.

The purple wartyback is widespread, but uncommon in most of the Midwest. It is endangered in Wisconsin and threatened in Iowa. It is a species of Special Concern in Michigan and a species of Special Interest in Ohio. In Illinois, the species was historically widely distributed, but now is only found in a few basins, including the Vermilion River. Catfishes in the family *Ictaluridae* are hosts for this mussel species.

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

A. Names of participants in the execution of the conservation plan

Joseph E. Crowe
Regional Engineer
Illinois Department of Transportation

Glen Kruse
Natural Heritage Chief
Illinois Department of Natural Resources

Charles Ingersoll
Bureau Chief of Design and Environment
Illinois Department of Transportation

B. The obligations and responsibilities of each of the identified participants in the conversation plan

The Illinois Department of Natural Resources shall be responsible for the review of this conservation plan and for subsequent issuance of the Incidental Take Authorization.

The Illinois Natural History Survey shall be responsible for surveying for threatened and endangered species and for moving any found mussels away from the project location. INHS shall also be responsible for post-construction surveys.

The Illinois Department of Transportation shall be responsible for all biological resource consultation and clearance, securing all permits, including NPDES and Section 404, inspection of the construction activities and contractor compliance with the contract documents. The Illinois Department of Transportation shall conduct, or cause to be conducted, a thorough survey for threatened and endangered species of mussels prior to construction, an effort to move all mussels to locations outside of the construction limits and a post-construction survey for mussels within the construction limits and vicinity.

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 the Illinois General Assembly and the Federal government.

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

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 issued to the applicant

Not applicable.

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

Not applicable.