

**Conservation Plan
for the State endangered Indiana crayfish (*Orconectes indianensis*)
at IL Route 34 over Spring Valley Creek in Saline County, Illinois**

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

A. Legal Description of the Project Area.

Located in the center of Section 24, Township 10 South, Range 6 East of the Third Principal Meridian. The project involves additional right-of-way to replace the structure carrying IL 34 over Spring Valley Creek east of Mitchellsville in Saline County. See Attachment 1, Location Map.

B. Biological Data.

The Indiana Crayfish has been collected from the South Fork Saline River drainage at two historical sites – Rock Branch Battle Ford Creek and the Little Saline River. Both creeks are northeastern flowing tributaries to the South Fork Saline River and occur within 7 miles to the east of Spring Valley Creek. The most recent collection of the species was from Little Saline River 4.5 miles east of Stonefort in Saline County on September 11, 2006. The Indian crayfish occurs in clean higher gradient creeks in areas with substrates of fractured bedrock and/or cobble. The species uses the areas under cobble and large rocks as refugia. Mating in the Indiana crayfish could occur from late fall until March. Females have been observed carrying eggs in Illinois from January through April.

C. Description of Incidental Taking.

The proposed improvements consist of removing and replacing the existing structure and abutments. Existing eroded riprap will be replaced with properly designed riprap in order to combat scour conditions. Proposed work within the channel includes removal of existing structure as described above, driving piles for new abutments, placement of riprap for scour protection, and incidental grading along the stream banks. Additional right-of-way will be required for this proposed work. See Attachment 2, Plan View.

D. Anticipated Adverse Effects on the Listed Species.

As described in Attachment 3, four individual state endangered Indiana crayfish were collected in the direct vicinity of the structure. Given that data, the suitable habitat for the species at Spring Valley Creek and the history of collection in the South Fork Saline River drainage, it is believed that a large, reproducing population occurs at and very near this project site.

Primary threats to the Indiana crayfish fall into two categories: habitat alteration and introduction of non-native species. Habitat alteration can consist of siltation, stream channelization, debris, debris removal or substrate removal. For the purposes of this project, potential adverse affects consist mainly of excavation and placing of riprap within the stream bed. Excavation could create minor, short term siltation in the area immediately downstream of the structure, while some crayfish could be covered or crushed during the excavation and placement of the riprap.

2. Measures to Minimize and Mitigate Impacts.

A. Plans to minimize the affected area, the amount of individuals of the endangered species that will be taken and the habitat affected.

The area of proposed construction has been minimized by reducing slope cuts and limiting riprap placement to the area of existing scour only. The area of impacted instream habitat is approximately 0.05 acre (2250 sq. ft.). INHS biologists report that they collected four individuals in the project area. Based on the survey results, the estimated number of Indiana crayfish to be taken with the construction activity is between 10-15 individuals.

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

Similar habitat is located both upstream and downstream of the structure site. The streambed and habitats will be controlled by natural processes after construction activities are completed. Crayfish should move back into the area immediately adjacent to the bridge over time. Introduction of riprap within the channel and streambed at the bridge site may actually enhance the habitat characteristics within the immediate vicinity of the structure, and the erosion and scour prevention afforded will protect habitat downstream of the site.

C. Description of measures to be implemented to minimize or mitigate the effects of the proposed action to the endangered species, plans for monitoring the effects of the measures implemented, and adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect the effectiveness of the measures instituted.

In order to minimize harm to young crayfish recently released by adult female crayfish, there will be no in-stream work March, April or May of any year.

Four weeks prior to the start of instream work, the Resident Engineer will notify the Bureau of Design and Environment of the date that instream work will begin. The Illinois Natural History Survey will be tasked to move by hand some of the rocks within the stream which should encourage the crayfish to move to habitats outside of the construction zone. Before construction begins, INHS representatives should relocate any Indiana crayfish located within the existing right of way to suitable habitat elsewhere in Spring Valley Creek.

A Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented in accordance with IDOT's National Pollution Discharge Elimination System Permit No. ILR10.

Post-construction monitoring will be performed by the INHS two and four years following completion of the project. Monitoring reports will be prepared by the INHS and submitted to the BDE for review. Monitoring reports will be coordinated with the IDNR Division of Ecosystems and Environment, Transportation Review Program.

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

The project estimated budget will include line items for implementation of BMP's included in the SWPPP, including seeding of all disturbed areas draining to the stream. Maintenance and repair of SWPPP items, and additional measures implemented during

construction will be paid for by change order or force account. By law, the erosion and sediment control measures will remain in place for the life of the project.

3. Alternative actions that would not result in the take.

There are four alternatives for the project involving this bridge, as follows:

A. Do Nothing.

The only alternative that does not result in a taking of the listed species is leaving the bridge as is. This would result in a structurally deficient bridge being left in place and channel scour to worsen. Normal maintenance measures cannot correct the deficiencies. This alternative is neither prudent nor feasible, due to the unacceptable safety hazard it poses.

B. Leave existing bridge in place and construct a new structure on an offset alignment.

This alternative is not considered feasible. It would eliminate taking of the species at the current bridge site, but would necessitate taking of the species at a location either immediately upstream or downstream of the structure at the site of new construction. This option would require the considerable acquisition of additional right-of-way, and the disturbance of additional areas adjacent to the existing right-of-way.

C. Rehabilitate the existing structure.

The superstructure and the substructure of the existing bridge were rated in critical condition with closure recommended. Temporary maintenance measures have allowed the structure to remain open. The sufficiency rating for the structure is 19.0 out of 100.0. Therefore this alternative is not considered feasible.

D. Construct a new structure on existing alignment.

This is the preferred alternative. Complete removal and replacement of the bridge will provide the maximum benefit to area residents. Minimal right-of-way will be required to construct the new structure on the present alignment. Roadway approach, excavation and embankment work will be minimal. Work within the channel will also be minimal. This is the most practical and cost effective option for this project.

4. Data and information regarding survival of the species after the proposed take is complete.

The Indiana Crayfish has been collected from the South Fork Saline River drainage at two historical sites – Rock Branch Battle Ford Creek and the Little Saline River. Both creeks are northeastern flowing tributaries to the South Fork Saline River and occur within 7 miles to the east of Spring Valley Creek. Suitable habitat exists both upstream and downstream of this bridge site. Due to the small area affected by construction of the new bridge, it is expected that the species will continue to exist in this reach of Spring Valley Creek.

5. Implementing Agreement.

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

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Deputy Director of Highways,
Region Five Engineer
Illinois Department of Transportation

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 of 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 the subsequent issuance of the Incidental Take Authorization.

The Illinois Department of Transportation is responsible for all biological clearance coordination and recommendations related to the project. IDOT is also responsible for securing authorization for the incidental take; securing all permits, Section 404 and Office of Water Resources; inspection of the work and contractor compliance with the contract documents.

The activities in the conservation plan will be implemented concurrently with the contract for the highway work. Construction is estimated to begin in September, 2016 and be completed by September 2017. Progress reports will be provided to IDNR two and four years following completion of the project.

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.

IDOT is authorized by the Illinois Highway Code to carry out its duties of providing safe and efficient highways for Illinois citizens.

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

The Illinois Department of Transportation exclusively abides by the National Environment Policy Act and all associated federal and state environmental laws in carrying out their mission of performing the most environmentally sensitive methods of transportation planning and engineering. The Indiana crayfish is listed as endangered in Illinois and is covered by the Illinois Endangered Species Act of 1971 only. Therefore, compliance under the federal Endangered Species Act of 1973 is not required.

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

Since the Indiana crayfish (*Orconectes indianensis*) is not federally threatened or endangered, this does not apply.

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 for the Indiana crayfish.

6. Attachments

1. Location Map.
2. Plan View.
3. Illinois Natural History Aquatic Survey Report dated 10 December 2013 and prepared by:
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