Illinois
Department of
Natural Resources
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Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (520 ILCS 10/5.5), the Illinois Department of Transportation's (IDOT) authorization for the incidental take of the State endangered Kentucky crayfish *(Orconectes kentuckiensis)* in Hardin County, Illinois associated with the replacement of the IL. Route 146 bridge over Peters Creek, Hardin County, Illinois is hereby granted, subject to the additional terms and conditions described in this Authorization and Implementing Agreement. The Illinois Department of Natural Resources has determined that this authorized take is incidental to the replacement of the IL. Route 146 bridge over Peters Creek, Hardin County, Illinois.

Procedural History

IDOT prepared a conservation plan as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and IDOT's request for authorization for incidental take of Kentucky crayfish (*Orconectes kentuckiensis)* were received by the Illinois Department of Natural Resources (Department) on 9 July 2012. Public notice of IDOT's request for authorization of incidental take of Kentucky crayfish was published in the Breeze Courier (Official State newspaper) on 12 July 2012 and in the Hardin County Independent (local paper) on 12 July, 19 July, and 26 July 2012. Public comments on IDOT's conservation plan were accepted by the Department until 26 August 2012. No comments were received from the public during the period of 12 July 2012 and 26 August 2012.

Compliance with the Endangered Species Protection Act

The Illinois Endangered Species Protection Act includes six (6) criteria which must be met for the authorization of incidental take of an endangered or threatened species. These criteria and the Department's determination for each criterion 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 Kentucky crayfish (*Orconectes kentuckiensis*) has a limited range in the lower Ohio River Valley, where it occurs in southeastern Illinois and western Kentucky. It is found in shallow regions with gravel or cobble substrates in small to large creeks and small rivers. Threats to the species' continued existence include habitat alterations such as gravel and/or cobble removal and the damming of flowing waters, and the introduction of non-native crayfish species.

The Illinois Natural History Survey (INHS) found this species near the IDOT project area. Thirty one (31) individuals were collected from a 285 sq. m area of Peters Creek bisected by the Illinois Route 146 / IDOT FAP 885 bridge. No other crayfish species were collected or observed. Given the collection of the species, the abundant presence of suitable habitat both up and downstream of the bridge, and the long history of collection of the Kentucky Crayfish in Peters Creek, it is believed that a large, reproducing population occurs in the immediate vicinity of the Illinois Route 146 / IDOT FAP 885 bridge. Like many stream dwelling crayfishes, the Kentucky Crayfish uses interstitial spaces under cobble for refuge from predation by fishes.

The proposed improvement will consist of bridge removal and reconstruction. 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 within the existing state right-of-way.

2. The parties to the conservation plan will, to the maximum extent practicable, minimize and mitigate the impact caused by the taking.

Primary threats to the Kentucky 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 effects consist mainly of excavation and placing of riprap around the bridge piers. 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.

The area of the work zone has been limited to the existing right-of-way. Total impacted area within the stream is approximately 2,000 square feet. The existing right-of-way line is 90' from roadway centerline . Riprap will be placed in the area of disturbed habitat and around the bridge piers for erosion and scour prevention. The rock used for riprap will be in the size range of 5"x5"x5" or smaller.

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 scour prevention afforded by the new bridge will protect habitat downstream of the site.

A Storm Water Pollution Prevention Plan (SWPPP) will be devised and implemented for the site. The SWPPP shall be coordinated with the Bureau of Design and Environment. The resident engineer will monitor the activities of the contractor for compliance with special provisions regarding mitigation and the use of best management practices (BMP's) to minimize erosion and siltation. Regular inspections will be made to ensure proper repair and maintenance of BMP's by the resident engineer, including weekly and immediately following significant rainfall events.

In order to avoid impacts to the Kentucky Crayfish, in stream work shall be prohibited from March 1 through May 15. In-stream rock will be removed immediately prior to construction in the immediate vicinity of where in-stream construction activities will take place.

Four (4) weeks prior to the start of in-stream work, the Resident Engineer will notify the Bureau of Design and Environment (BDE) of the date that in-stream work will begin. Within one (1) week of receipt of notification, the BDE will task the Illinois Natural History Survey (INHS) to move by hand the rocks within the stream to a location just outside and upstream of the limits of construction. The Resident Engineer will notify the BDE when the project reaches 100% completion. BDE will then task the INHS to perform monitoring surveys.

It should be noted that post construction monitoring will be performed by INHS in years 2 and 4 following completion of the project. A report on the species, numbers, and general condition of crayfish found shall be provided to the Department within 60 days of the completion of this survey [this report will also be submitted internally to the Illinois Natural Heritage Database and the Illinois Endangered Species Protection Board]. This report shall also include a qualitative evaluation of the habitat for crayfish being provided by the construction right-of-way area and the manner in which that habitat has changed since the initial bridge construction project.

Lastly, the biggest threat to the Kentucky crayfish is sediment entering the water in Peters Creek during construction of the proposed improvement. The project sponsor will implement the Stormwater Pollution Prevention Plan. The IDOT will monitor the construction site for proper placement and function of the selected best management practices.

3. The parties to the conservation plan will ensure that adequate funding for the conservation plan will be provided:

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.

Funding for the monitoring activities will be provided through the Intergovernmental Agreement for the Illinois Transportation Biological Survey Program between IDOT and the University of Illinois. This program is administered by the Bureau of Design and Environment in cooperation with the Illinois Natural History Survey at the University of Illinois.

Despite the best intentions, there may be practices that are specified in the SWPPP that prove to be ineffective at controlling soil erosion and sedimentation. If this is the case, the IDOT Resident Engineer shall consult the IDOT Erosion and Sediment Control Field Guide for Construction Inspection 2010 or the Illinois Urban Manual for practices that might be more effective or better suited to the site environment than the specified ones. The IDOT district Landscape Architect may be of assistance to the Resident Engineer on matters concerning corrective measures for erosion and sediment control.

4. Based on the best available scientific data, the Department has determined that the taking will not reduce the likelihood of the survival or recovery of the endangered species or threatened species in the wild in Illinois, the biotic community of which the species is a part, or the habitat essential to the species' existence in Illinois:

The Kentucky crayfish occurs in shallow regions with large rock/cobble substrates in small to large streams. Given the collection of the species, the abundant presence of suitable habitat both up and downstream of the bridge, and the long history of collection of the Kentucky crayfish in Peters Creek, it is believed that a large, reproducing population occurs in the immediate vicinity of the Illinois Route 146 / IDOT FAP 885 bridge. 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 Peters Creek.

In order to avoid impacts to the Kentucky Crayfish, in stream work shall be prohibited from March 1 through May 15. In-stream rock will be removed immediately prior to construction in the immediate vicinity of where in-stream construction activities will take place.

The biggest threat to the Kentucky crayfish is sediment entering the water in Peters Creek during construction of the proposed improvement. Therefore, the project sponsor will implement the Stormwater Pollution Prevention Plan. The IDOT will monitor the construction site for proper placement and function of the selected best management practices.

In addition, the area of the work zone has been limited to the existing right-of-way. Total impacted area within the stream is approximately 2,000 square feet. The existing right-of-way line is 90' from roadway centerline . Riprap will be placed in the area of disturbed habitat and around the bridge piers for erosion and scour prevention. The rock used for riprap will be in the size range of 5"x5"x5" or smaller.

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 scour prevention afforded by the new bridge will protect habitat downstream of the site.

Lastly, the preferred construction alternative which is complete removal and replacement of the bridge will provide the maximum benefit to area residents. No additional right-of-way will be required to construct the new structure on the present alignment. Roadway approach, excavation and embankment work will be minimized. Work within the channel will also be minimized. This is the most practical and cost effective option for this project.

5. Any measures required under Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)] will be performed:

This authorization is, by definition, subject to those terms and conditions and official IDOT/WCHD signature(s) on this authorization 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:

IDOT prepared a conservation plan as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and IDOT's request for authorization for incidental take of Kentucky crayfish (*Orconectes kentuckiensis)* were received by the Illinois Department of Natural Resources (Department) on 9 July 2012. Public notice of IDOT's request for authorization of incidental take of Kentucky crayfish was published in the Breeze Courier (Official State newspaper) on 12 July 2012 and in the Hardin County Independent (local paper) on 12 July, 19 July, and 26 July 2012. Public comments on IDOT's conservation plan were accepted by the Department until 26 August 2012.

No comments were received from the public during the period of 12 July 2012 and 26 August 2012.

Authorization

It is the determination of the Department of Natural Resources that the measures described in this Authorization and Implementing Agreement to be implemented by IDOT, will most likely adequately minimize and mitigate for the potential taking of a small number of Kentucky crayfish due to the replacement of the IL. Route 146 bridge over Peters Creek, Hardin County, Illinois. Further, it is our opinion that the take authorized herein would not diminish the likelihood of the survival of the Kentucky crayfish 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.

The Illinois Department of Natural Resources has determined that this authorized take is incidental to the replacement of the IL. Route 146 bridge over Peters Creek, Hardin County, Illinois.

Pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)], this authorization is issued **subject to the following additional terms and conditions**:

1. This authorization is effective upon signature of the Department and shall remain in effect for a period of four (4) years after the official "project completion date". "Completion" shall be defined as the date the bridge is officially open for public use. This authorization is effective unless terminated pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.80].

2. In order to avoid impacts to the Kentucky Crayfish, in stream work shall be prohibited from March 1 through May 15. In-stream rock will be removed immediately prior to construction in the immediate vicinity of where in stream construction activities will take place. Also, post construction monitoring will be performed by INHS in years 2 and 4 following completion of the project (See #1 above). A report on the species, numbers, and general condition of crayfish found shall be provided to the Department within 60 days of the completion of this survey [this report will also be submitted internally to the Illinois Natural Heritage Database and the Illinois Endangered Species Protection Board]. This report shall also include a qualitative evaluation of the habitat for crayfish being provided by the construction right-of-way area and the manner in which that habitat has changed since the initial bridge construction project.

3. The project sponsor (IDOT) will implement the Stormwater Pollution Prevention Plan. The IDOT will monitor the construction site for proper placement and function of the selected best management practices.

4. The effective period of this authorization may be altered by mutual agreement between IDOT and the Department.

5. This authorization may be revoked pursuant to Section 5.5 of the Act if the Department finds that IDOT has failed to comply with any of these terms and conditions or has been responsible for the take of any Kentucky crayfish (or any other State listed species) beyond that which is incidental to the construction and repair/replacement of the IL. Route 146 bridge over Peters Creek, Hardin County, Illinois.

6. The IDOT official identified below is authorized to execute this agreement. Execution by IDOT indicates acceptance of all terms and conditions described in this document.

For the IL Department of Natural Resources

Dr. James Herkert, Office Director
IDNR-Office of Resource Conservation

11/7/12
Date Signed

For the IL Department of Transportation

Omer Osman
Signature

Omer Osman, Deputy Director of Highways, Region 5
Please print name and official title

10/11/12
Date signed