



# Illinois Department of Natural Resources

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Pat Quinn, Governor  
Marc Miller, 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 Illinois Department of Transportation (hereinafter referred to as IDOT) for the incidental take of the Indiana crayfish (*Orconectes indianensis*). The Illinois Department of Natural Resources (hereinafter referred to as the Department) has determined that this taking is incidental to activities associated with structure removal and replacement of IL Route 34 over Spring Valley Creek east of Mitchellsville in Saline County, Illinois.

### Procedural History

The Department received a conservation plan from IDOT on February 13, 2014. On March 14, 2014, the Department requested additional information from IDOT to make the conservation plan complete as prescribed by 17 Ill. Adm. Code 1080.10. That additional information was received by the Department on March 24, 2014. 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 which must be satisfied 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 be only incidental to, the carrying out of an otherwise lawful activity:

The stated and apparent purpose of this proposed action is to remove and replace the existing Route 34 bridge over Spring Valley Creek east of Mitchellsville in Saline County, Illinois. 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, 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 the construction of wingwalls. The area of impacted instream habitat is approximately 0.05 acre (2250 sq. ft.). Indiana crayfish may be crushed and habitat may be lost due to construction activities and siltation. IDOT estimates 10-15 individuals may be taken. The Department concurs that the take of Indiana crayfish that may result from

this project is not the purpose of IDOT'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:

The conservation plan prepared by IDOT describes measures that will be taken to avoid and minimize the potential adverse effects of the project on Indiana crayfish. The area of proposed construction has been minimized by reducing slope cuts and limiting riprap placement to the area of existing scour only.

In order to minimize harm to female crayfish carrying eggs or young crayfish recently released by adult female crayfish, there will be no in-stream work during 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. At such time, the Illinois Natural History Survey (INHS) will be tasked to move by hand some of the rocks within the stream which should encourage some crayfish to move to habitats outside of the construction zone. Immediately before construction begins, INHS representatives should relocate any Indiana crayfish found within the existing right of way to suitable habitat elsewhere in Spring Valley Creek.

Negative impacts from siltation and erosion will be prevented through the use of silt filter fabric, rip rap, seeding, mulch, erosion control blankets, and perimeter erosion barriers.

Post-construction monitoring will be performed by the INHS two and four years following completion of the project.

It is the opinion of the Department that these measures, along with any additional terms and conditions listed in the Authorization section of this document will, to the maximum extent practicable, minimize and mitigate the impact caused by the potential taking.

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

IDOT's estimated budget includes line items for implementation of BMP's, including seeding of all disturbed areas draining to the stream. Maintenance and repair of erosion and siltation control 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.

The Department accepts this provision as assurance that adequate funding will be available to carry out the terms of the agreement.

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 is a part, or the habitat essential to the species' existence in Illinois.

The Indiana crayfish is listed as an endangered species by the State of Illinois. It is listed due to its very limited range in the lower Wabash and Ohio River drainages in southeastern Illinois and southwestern Indiana. In Illinois, the species is found in limited parts of the Saline River system and in Honey and Rock Creeks, small tributaries to the Ohio River. The species was formerly found in the North and Middle Forks of the Saline River, but has apparently been extirpated from those streams. Indiana crayfish live in rocky riffles and pools in shallow (less than 50 cm deep) areas of small to medium-sized flowing streams and are usually found under rocks and woody debris. The species can occur at densities as high as 15 individuals per square meter of cobble habitat. The greatest threat to the species is loss of habitat due to decreased water quality, siltation, damming of flowing waters, and the removal of rocky substrate and woody debris. Introduction of non-native crayfish species is also a concern.

Indiana crayfish is a small crayfish with a carapace length of less than 40 mm. It is dark brown with a yellow-brown thorax, and red tips and black bands on the fingers of the chelae. There is very limited life history data on Indiana crayfish. Fertilization most likely occurs in early spring and fall, since reproductive males have been found in March, August, September, October, and November. Females carry fertilized eggs on the underside of their abdomen in the spring and likely release juveniles in April and May. They carry only one clutch of eggs per year. The species may have a two year life span.

There are 13 element occurrence records considered extant in Illinois across six counties of southeastern Illinois. Records are from streams with riffles and quiet pools with substrate of rock, riprap, large cobble, rocky sandstone, firm clay and woody debris; there is little to no siltation with clear water, limited algal growth, and intact riparian forest. Five records occur in Saline County with between 4 and 23 individuals observed. In Saline County, Indiana crayfish have been found in the Little Saline River, Battle Ford Creek, Spring Valley Creek, and Eagle Creek.

On October 16, 2013, at the request of IDOT, INHS sampled crayfish at the project site. Four individuals were captured from 5 yards upstream to 10 yards downstream of the bridge. The riprap and large cobble in the immediate area of the bridge were found to be suitable habitat and likely support a large reproducing population.

The Department has issued three previous incidental take authorizations for Indiana crayfish. Two were for bridge repair/replacement projects on streams (Hardin and Williamson Counties) and the third was for a dam/reservoir project (Johnson/Williamson Counties). The bridge projects minimized their anticipated effects on Indiana crayfish by implementing measures such as control of erosion and sedimentation, avoiding in-stream work during the spring breeding season and relocating rocks in the stream bed that might attract crayfish to the construction area. Post-construction monitoring has not yet been

performed. The reservoir project was cancelled after the authorization for incidental take was issued.

Based on the short-term duration of the project disturbance; the number of occurrence records; the minimization and mitigation measures described under #2 above and in the Authorization section below; 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 the project will not reduce the likelihood of survival or recovery of the endangered or threatened species 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.

5. Any measures required under Section 5.5(b)(6) of the Act will be performed.

Additional measures are listed below under "Authorization." This authorization is, by definition, subject to those terms and conditions and official IDOT signatures on this authorization indicate its 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 the availability of IDOT's conservation plan for review and comment was published in the Breeze-Courier on April 9, 2014 and in the Southern Illinoisian on April 9, April 16, and April 23, 2014. Copies of the conservation plan were deposited at the Carrier Mills Public Library and at the IDOT District 9 office in Carbondale. The deadline for public comment was April 23, 2014. No comments were received from the public.

#### Authorization

It is the determination of the Department that the measures that will be implemented by IDOT will adequately minimize and mitigate the anticipated taking of Indiana crayfish incidental to IL 34 bridge replacement over Spring Valley Creek east of Mitchellsville in Saline County, Illinois. Further the Department has concluded that the taking authorized herein will not reduce the likelihood of survival or recovery of Indiana 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.

All terms and conditions included in the aforementioned conservation plan submitted by IDOT 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 Rule 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 the applicant under #2 in the Compliance section above:

1. This authorization is effective upon the signature of the Department and shall remain in effect for a period of six (6) 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 IDOT has failed to comply with any of these terms and conditions or has been responsible for the taking of Indiana crayfish beyond that which is incidental due to the IL 34 bridge replacement over Spring Valley Creek in Saline County, Illinois.

2. The effective period of this authorization may be altered by mutual written agreement between IDOT and the Department. In this event, the Department shall notify the Illinois Endangered Species Protection Board of 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 impacted, 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. Incidental Take Authorizations are non-transferrable.
4. IDOT shall notify the Department upon commencement of the project.
5. IDOT shall clearly delineate the construction area for this project and ensure that all IDOT employees and contractors are aware of the construction area limits. All personnel working in the vicinity of the project shall receive educational materials regarding the sensitive ecological context of the project. Materials will include identification information on the potentially impacted State-listed species, protected status of the species, protocol for when the species is encountered, live or dead, and explanation of environmental restrictions. A copy of the educational materials shall be provided to the Department. The Department shall be informed of any sighting of State-listed species and provided location information within 48 hours.
6. IDOT shall install and maintain erosion and sediment control features at the construction site and use best management practices to minimize siltation impacts as the species is highly sensitive to this type of disturbance. Silt fences will be installed around the perimeter of the project area. Silt filter fabric, rip rap, seeding, mulch, and erosion control blankets shall be utilized. These features shall be inspected daily during construction to ensure effectiveness and any malfunctions shall be immediately remedied. All cover vegetation and restoration shall utilize species native to Illinois.

7. Prior to the initiation of any construction activities, rocks providing suitable habitat shall be moved to an area upstream of the project area. At this time a qualified biologist shall make a thorough effort to capture and relocate crayfish in the construction area to an area upstream of the construction area with suitable habitat or to a restoration site (see # 9). Within 60 days of completion of the relocation, IDOT shall provide a report to the Department that includes survey methodology utilized, water temperature, the numbers of crayfish located, sex, status, and size of each individual, habitat descriptions, and a map of the locations.
8. IDOT shall conduct, or cause to be conducted, a post-project monitoring survey for crayfish around the project area, relocation site, and restoration site in year two and year four following completion of construction. Completion shall be defined as the date upon which the bridge is opened for regular traffic. A report including, but not limited to, the survey methodology utilized, water temperature, the numbers of crayfish located, sex, status, and size of each individual sampled, habitat descriptions, and a map of the locations shall be provided to the Department within 60 days of completion of the survey.
9. Based on IDOT's estimate of 0.05 acres of impacted in-stream habitat along 160 stream linear feet, 0.275 acres of instream habitat shall be restored. For State-listed species, the Department utilizes a 5.5:1 ratio for determining mitigation of suitable habitat impacted (0.05 acres of stream impacted x 5.5 = 0.275 acres). In stream habitat improvement shall include addition of suitable cobble or small riprap (no greater than 5" x 5" x 5" in size, NCRS conservation practice 395). Restored habitat shall have a riparian buffer planted in native Illinois forest species. A species list of native vegetation to be planted shall be provided to the Department. Mapping of the locations of identified habitat or proposed habitat with buffer demarcation shall be provided to the Department. Non-native, invasive species control shall occur within habitat areas for the duration of the authorization.
10. Mitigation settlement dollars to the Department earmarked for the conservation benefit of the State-listed species are non-refundable, including in events of revocation or termination. It has been determined by the Department that applicable mitigation settlement is available to IDOT based on land value and restoration and management expenses. In lieu of condition # 9 above, IDOT may pay **\$4,400** to the Department based on Saline County land value (\$3,250 per acre) and restoration expenses per NRCS conservation practice 395 – Stream Habitat Improvement (\$12,725 per acre) [(0.275 acres)(\$3,250) + (0.275 acres)(\$12,725) = \$4,393.13].
11. Documentation, including maps, shall be submitted to:

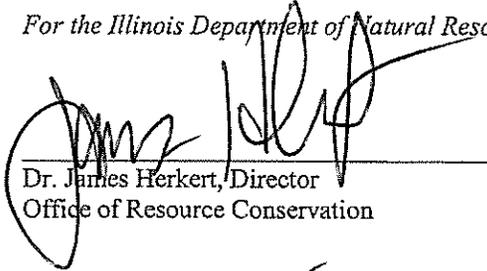
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One Natural Resources Way  
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(217)557-8243  
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The Department's Endangered Species Program shall provide all reports required under this agreement to the Illinois Endangered Species Protection Board and to the Department's Natural Heritage Database.

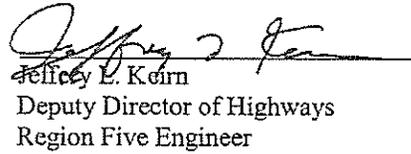
12. The Department reserves the right of entry to inspect potential habitat and species management practices.
13. The officials identified below are authorized to execute this agreement. Execution indicates acceptance of all terms and conditions described in this document.
14. The execution of this agreement does not waive or excuse, in any way, the responsibilities to comply with other Federal, State, or local regulations, including but not limited to obtaining requisite permits.

*For the Illinois Department of Natural Resources*

  
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Dr. James Herkert, Director  
Office of Resource Conservation

7-14-15  
Date Signed

*For the Illinois Department of Transportation*

  
\_\_\_\_\_  
Jeffrey L. Keirn  
Deputy Director of Highways  
Region Five Engineer

Jeffrey L. Keirn Region 5 Engineer  
Please print name and official title

7/8/15  
Date Signed