

**CONSERVATION PLAN
FOR INCIDENTAL TAKING OF
ENDANGERED SPECIES**

Township Road 603 over Brushy Creek

Section 10-01233-00-BR

Structure 100-3179

WILLIAMSON COUNTY

Prepared By:

Scott W. Barger

Design Engineer

Williamson County Highway Department

Conservation Plan for the Illinois Endangered Indiana Crayfish (*Orconectes indianensis*) at Township Road 603 over Brushy Creek, in Williamson County, Illinois.

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

A. Legal Description of the Project Area.

Located near the center of the Northeast Quarter of Section 30, Township 10 South, Range 4 East of the Third Principal Meridian. The project is located within the road right-of-way of Township Road 603 in the southeast portion of Williamson County.

The coordinates of the bridge are N37°37.53', W88°48.29'

B. Biological Data on the Affected Species.

Indiana Crayfish (*Orconectes Indianensis*)

The Indiana Crayfish has a limited range in the lower Wabash River Valley and Ohio River Valley, where it occurs in southeastern Illinois and southwestern Indiana. It is found in shallow regions with gravel or cobble substrates in small to large creeks and small rivers. It lives in rocky riffles and pools of first, second and third order streams, frequently found under rocks, in woody debris and in shallow burrows within these streams. (1)

C. Description of Incidental Taking.

The proposed improvements consist of removing a concrete box culvert and replacement with a single span precast concrete deck beam bridge on H-pile supported abutments. Construction will require the removal of the existing concrete box culvert and placement of the new abutments. 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 right-of-way. The bridge, roadway and right-of-way are under the jurisdiction of Williamson County. Funding will be a combination of IL Township Bridge funds and local funds.

D. Anticipated Adverse Effects on the Listed Species.

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. (1)

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 the work zone has been limited to the existing right-of-way. Total impacted area within the stream is approximately 2000 Square Feet. The distance from back to back of the abutments is 51.5', and the existing right-of-way is 40' wide. Riprap will be placed from abutment to abutment for the full width of the right-of-way for erosion and scour prevention.

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. Based on the above description of the habitat, the areas upstream and downstream of the site are more suitable than at the bridge itself. (1) 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.

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.

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 for review and comment at 50% and 100% completion. The resident engineer acting as Williamson County's agent, 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 Indiana Crayfish, in stream work shall be prohibited during the months of March, April and May.

Post construction monitoring will be performed by INHS in years 2 and 4.

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. Analysis of Project Alternatives.

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 box culvert as is. This would result in a functionally deficient structure being left in place. The existing box culvert is inadequate both in roadway width and hydraulic adequacy. The inadequate size of the culvert opening is causing channel erosion immediately downstream of the structure. This alternative is neither prudent nor feasible, due to the unacceptable safety hazard it poses to traffic and the damage it is causing to the channel downstream.

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 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 existing structure is a concrete box culvert with clear span of 12.0 Ft. and road width of 16.0 Ft. Because the clear span is less than 20 Ft., it is not currently on NBIS Inventory. Due to the culvert opening being insufficient for the creek flow, the water backs up then spills over the road causing downstream creek erosion. This problem cannot be solved by extending the existing culvert to accommodate current policy for roadway width. 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 structure will provide both the needed bridge opening and the desired 24 Ft. clear roadway width. 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 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 occurs in several locations in southeastern Illinois and southwestern Indiana, including other sites in Williamson County. Suitable habitat exists both upstream and downstream of the bridge site. (1) 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 Brushy Creek.

5. Implementing Agreement.

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

Greg Smothers
County Engineer
Williamson County

Dennis W. Hillebrenner
Local Roads & Streets Engineer
Illinois Department of Transportation, District 9

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.

Williamson County is 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.

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.

The plan is authorized by the Illinois Department of Transportation, which oversees the use of state-distributed funding among local agencies.

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 and Williamson County exclusively abide 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.

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.

6. Attachments

A. Location Map

B. Plan & Profile of Proposed Action.

- (1) All information regarding the Indiana Crayfish was taken from "Conservation Assessment for the Indiana Crayfish (*Orconectes Indianensis*)" published by USDA Forest Service, Eastern Region, January 3, 2003, and prepared by:

Christopher A. Taylor
Center for Biodiversity
Illinois Natural History Survey
607 Peabody Drive
Champaign, IL 61820
ctaylor@mail.inhs.uiuc.edu