

## Illinois Department of Natural Resources

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JB Pritzker, Governor  
Colleen Callahan, 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 the Grundy County Highway Department (hereinafter referred to as Grundy County) for the incidental take of the State-endangered Rainbow (*Villosa iris*). The Illinois Department of Natural Resources (hereinafter referred to as the Department) has determined that the taking is incidental to activities associated with the superstructure replacement of the bridge carrying Grundy County Highway V27 (Brisbin Road) over Collins Run Creek in Grundy County, IL. This bridge is located approximately 0.3 miles north of Exit 116 on I-80, and 2 miles west of Channahon.

#### **Procedural History**

The Department received a conservation plan prepared by Hutchison Engineering, Inc., for Grundy County on September 24, 2021, as a request for authorization for the incidental take of Rainbow. Additional information was requested by the Department on October 1, 2021, January 18, and February 24, and April 20, 2022, to make the conservation plan complete as prescribed by Ill. Adm. Code 1080.10. Additional information was received by the Department on January 6, February 17, and April 20, 2022. The final conservation plan was approved by the Department on April 22, 2022. 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 that must be satisfied for the authorization of incidental take of an endangered or threatened species. These criteria and the Department's determination for each 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 stated and apparent purpose of this proposed action is to replace the superstructure of the existing bridge carrying Brisbin Road (Grundy County Highway V27) across Collins Run Creek.

The existing superstructure on Grundy County Highway V27 over Collins Run Creek will be rehabilitated and widened with new precast prestressed concrete deck beams. The initial construction activities will include removal of the existing bridge deck, supporting pier caps, and supporting abutment caps. The existing substructure including pier foundations and stems and abutment foundations will remain in place. The existing bridge deck is composed of individual precast concrete deck beams that will be removed individually with a crane. Removal of the deck beams from the center span will be over the channel of Collins Run Creek and may include minor debris falling into the creek.

Construction of the new bridge will begin with placement of a temporary crossing for Collins Run Creek. The temporary crossing will be necessary to move heavy equipment, materials, and personnel from one side of the creek to the other throughout construction. These temporary crossings are generally constructed with aggregate materials over temporary metal culvert pipes or concrete beams from existing or other structures supported by aggregate materials. For the construction of this project, the Contractor shall construct the temporary crossing west of Brisbin Road on the upstream side of the structure and utilize a two-span temporary crossing with multiple concrete beams, which will be removed from the existing structure, on piles of aggregate material. This method will not require pipe culverts to be placed in the stream and will allow for less disturbance of the stream.

Take of the Rainbow could occur as a result of the construction. Individuals may be crushed or buried by construction activities. Indirect take could occur as a result of increased noise, vibration and turbidity in the water column that would adversely affect juvenile and adult mussels. Impacts to riparian areas from construction, or staging may adversely affect water quality. Any sediment and pollutant runoff from the staging area would adversely affect water quality for the mussels.

The take of Rainbow that could result from this project is not the purpose of Grundy County'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:

Proposed minimization and mitigation measures were included in Grundy County's conservation plan.

To meet the "maximum extent practicable" standard, additional minimization and/or mitigation measures may be required beyond those proposed by Grundy County, based on the life history needs of the Rainbow.

All required minimization and mitigation measures are presented under the Authorization section below.

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

Grundy County states that the project is funded with federal aid from the Illinois Department of Transportation for the construction of this project.

It is the Department's opinion that Grundy County's stated commitment to funding their proposed minimization and mitigation measures is sufficient to satisfy this criterion.

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 are a part, or the habitat essential to the species' existence in Illinois:

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**Rainbow (*Villosa iris*)** an Illinois state-endangered mussel species.

**Habitat:** The species is found in small to medium rivers, in riffles along the edges of emerging vegetation. They favor areas with moderate to strong currents with gravel and sand substrates.

**Distribution:** Rainbow mussels are found in the Eastern United States throughout the Tennessee, Cumberland, and Ohio River basins, the Upper Mississippi River, and between Lake Huron to Lake Ontario.

**Reproduction:** Rainbow mussels are short-term brooders. Females retain glochidia in their gills from May to August. Glochidia are released and temporarily parasitize a host fish. Rainbow glochidial host fish include Rainbow Darter, Bluebreast Darter, Green Sunfish, Smallmouth Bass, Largemouth Bass, and Yellow Perch.

**Population:** Rainbow mussel populations are shrinking due to heavy sediment loadings associated with river/water management and impacts from the invasive Zebra Mussel.

**Range in Illinois:** In Illinois, Rainbow mussels have been found in the Vermilion River and Fox River basins. Rainbow mussels have been found in 4 of 102 counties: Champaign, Grundy, Kendall, and Vermilion. Additionally, Rainbow mussels have been found in two watersheds: Vermilion and Upper Illinois. There are currently twelve (12) extant Element Occurrence Records for Rainbow mussels in the Illinois Natural Heritage Database.

**Incidental Take Authorizations:** The Department has three (3) previously issued or pending Incidental Take Authorizations for Rainbow mussels, two for bridge construction or maintenance, and one for an erosion control project in Vermilion County. This is the first authorization for the taking of Rainbow in Grundy County.

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Based on the amount of habitat impacted by this project, the number of known occurrences of the Rainbow in Illinois, an assessment of the potential effect of this project on the listed species in the project footprint, the conservation measures included in this authorization for incidental take and the conservation plan, 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 this project will not reduce the likelihood of survival or recovery of the species in the wild within the State of Illinois, the biotic community of which these species are 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:

These measures are listed below under "Authorization." This authorization is, by definition, subject to those terms and conditions and the signature of a representative of Grundy County 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:

Public notice of Grundy County's request for authorization of incidental take was published in the *Breeze Courier* (official state newspaper) on May 3, 2022, and in the *Morris Herald-News* on May 3, 10, and 19, 2022. A copy of the conservation plan was deposited at the Three Rivers Public Library District – Minooka Branch, where it was available for public review. The deadline for public comment was June 20, 2022. One comment was received from the public. A review of the comment by the applicant did not result in any changes to the Conservation Plan, and the Department concurred.

### Authorization

It is the determination of the Department that the measures that will be implemented by Grundy County will adequately minimize and mitigate the anticipated taking of Rainbow incidental to activities associated with the replacement of the bridge carrying Grundy County Highway V27 (Brisbin Road) over Collins Run Creek in Grundy County, IL. Further, the Department has concluded that the taking authorized herein will not reduce the likelihood of survival or recovery of the species in the wild within the State of Illinois, the biotic community of which the species are a part, or the habitat essential to the species' existence in Illinois.

All terms and conditions included in the aforementioned conservation plan submitted by Grundy County 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 Rules 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 Grundy County in the conservation plan:

1. This authorization is effective upon the signature of the Department and shall remain in effect for a period of seven (7) 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 Grundy County has failed to comply with any of these terms and conditions or has been responsible for the taking of the Rainbow beyond that which is incidental to activities associated with the superstructure replacement of the bridge carrying Grundy County Highway V27 (Brisbin Road) over Collins Run Creek in Grundy County, IL

2. The effective period of this authorization may be altered by mutual written agreement between Grundy County and the Department. The Illinois Endangered Species Protection Board shall be notified of any 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 affected, 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. This authorization may only be transferred upon approval and written authorization by the Department.
4. All on-site personnel shall be educated on the sensitive biological resources in the area, the identification of Rainbow, regulations protecting the species, where the species might be found, avoidance areas, travel restrictions for equipment and vehicles, how to report sightings or incidents that may involve take, and the importance of avoiding take of the species. Grundy County shall submit a copy of the education materials to the Department.
5. The Department reserves the right of entry by its staff or representatives to inspect species, potential habitat, and species management practices. Department staff must be accompanied by an employee of IDOT or Grundy County and are required to adhere to IDOT's health and safety requirements.
6. Biological consultants employed by Grundy County shall hold the necessary permits for work with non-listed and listed species; these include an Illinois Department of Natural Resources (IDNR) Scientific Collection Permit as authorized under 17 Illinois Administrative Code 520, and an IDNR Endangered Species Permit as authorized under 17 Illinois Administrative Code 1070.

7. Grundy County shall notify the Department's Endangered Species Program by email correspondence of construction commencement and completion of work to replace the superstructure of the bridge carrying Grundy County Highway V27 (Brisbin Road) over Collins Run-Creek in Grundy County, IL. A **project status report** shall be submitted to the Department within **90 days** of completion summarizing the implementation of minimization, mitigation, and restoration measures and evaluating the effectiveness of those measures and shall include a project photo log. The report shall also include a map and GPS coordinates of any listed species found within the project footprint, description of any injuries or mortalities, and the disposition of any individuals that were injured or killed.
8. Any discoveries of additional State-listed species beyond those identified in this agreement **halts work** and shall be reported to the Department within 48 hours accompanied by location information (photograph, map, and GPS coordinates).
9. Grundy County shall conduct, or cause to be conducted, the following pre-construction or construction efforts:
  - a. A complete mussel relocation effort as outlined in #10. This is in addition to the relocation of non-listed mussels that occurred on August 3-4, 2021.
  - b. Sediment and erosion best management practices shall be utilized in compliance with NPDES and SWPPP requirements.
  - c. If used, the temporary causeway/working pad shall be in place for the least amount of time practicable.
  - d. The temporary stream crossing shall be built with the current bridge deck sections to minimize stream impacts.
  - e. To the maximum extent practicable, equipment shall not enter the water, except buckets and arms may enter to a limited extent.
  - f. Debris shall be removed from the streambed as soon as practicable.
  - g. Material shall not be stockpiled in the stream channel.
  - h. Upon project completion, the streambed shall be returned to a pre-construction profile.
  - i. The stream banks shall be stabilized and seeded with an appropriate IDOT seed mix.
10. Grundy County shall conduct, or cause to be conducted, a thorough pre-construction relocation effort for freshwater mussels before construction commencement:
  - a. Mussels shall be relocated from an area beginning 20 meters downstream of the bridge and extending upstream to 15 meters upstream of the bridge.
  - b. A multi-pass moving transect search method shall be used to collect mussels from within the construction and buffer area. Transects shall be 1-meter wide, perpendicular to stream flow, and extend the entirety of the wetted stream width. Transects shall be resampled until subsequent passes no longer yield 10% or more of the total individuals collected from a transect.
  - c. Those conducting the search must be qualified at accurate identification of freshwater mussel species.

- d. All native freshwater mussels found during this search shall be relocated to suitable habitat pre-approved by the Department. The previous relocation site for the non-listed mussels may be used.
  - e. The mussel relocation shall occur within 2 years prior to the onset of construction.
  - f. Mussels should be held in mesh bags within the stream, except during processing.
  - g. Relocation should occur when water temperatures are between 15°C and 30°C to minimize stress and mortality. Mussels shall be relocated to a previously identified recipient area approximately 200 feet downstream of the bridge.
  - h. A report including, but not limited to, the survey methodology utilized (for relocation site and project action area), water temperature during relocation, and habitat characteristics of the relocation and recipient areas., Species name and transect and pass of origin shall be reported for each mussel collected. Length, sex (if discernable), the number of growth rings (i.e. an approximation of age), and the unique identification marker of each tagged individual relocated, shall be reported for all Rainbow and the first 100 individuals of all other species. A map of the species locations and areas surveyed also shall be provided. This report shall be submitted to the Department within 90 days of completion of the mussel relocation.
11. The relocation of non-listed aquatic life is hereby authorized by the Department with signature of this agreement per the Illinois Fish and Aquatic Life Code (515 ILCS 5/1-150).
12. Grundy County shall conduct, or cause to be conducted, thorough surveys for Rainbow within the project area and the relocation site in Years 1 and 5 following project completion:
- a. A combination of semi-quantitative and qualitative search methods shall be used; a minimum of 260 meters of randomly located transects perpendicular to the flow of the stream shall be searched in both the area from which mussels were relocated, and the recipient area. Transect searches shall be followed by 2 person-hour qualitative surveys which cease when no new species are detected.
  - b. A report including, but not limited to, the survey methodology utilized, water temperature, habitat characteristics of both search areas, the species and abundance of mussels located, length, sex (if discernable), number of growth rings (i.e. an approximation of age), and transect and pass or qualitative reach of origin for each individual, and the unique identification marker (if applicable). An analysis of mussel survival rates at the relocation site shall be provided. A map of the species locations and areas surveyed shall be provided. This report shall be submitted to the Department within 90 days of completion of the survey.
13. Mitigation to the maximum extent practicable is required by the Act. Mitigation requirements for this authorization are calculated as follows:

Grundy County shall submit mitigation to the Illinois Department of Natural Resources - Illinois Wildlife Preservation Fund in the amount of \$5,600.00 within 90 days of execution of this agreement. The mitigation will be earmarked to bring conservation benefit to the Rainbow mussel.

Mitigation payments are nonrefundable, including events of revocation or termination. Mitigation values are based on the Department's best current understanding of the species life history needs and impact analysis relevant to the project site's proposed conceptual design elements available at the time of review.

14. All reports, notifications, and other project documentation shall be submitted to:

Illinois Department of Natural Resources  
Office of Resource Conservation  
Endangered Species Program -- Incidental Take Authorization Coordinator  
One Natural Resource Way  
Springfield, IL 62702-1271


(217)557-8243  
DNR.ITAcordinator@illinois.gov

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.

15. The Grundy County official identified below is authorized to execute this agreement. Execution by Grundy County indicates acceptance of all terms and conditions described in this authorization.
16. The execution of this agreement does not waive or excuse the responsibilities of Grundy County to comply with other Federal, State, or local regulations, including but not limited to obtaining any required permits for the execution of this project.



*For the Illinois Department  
of Natural Resources:*

  
Mr. Christopher L. Young, Director  
Office of Resource Conservation

Aug 12, 2022  
Date

*For Grundy County:*

  
Mr. Christopher Balkema  
County Board Chairman

08/09/2022  
Date

