



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

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 Northern Illinois Hydropower, LLC (hereinafter referred to as NIH) for the incidental take of the State-endangered Blacknose Shiner (*Notropis heterolepis*), Greater Redhorse (*Moxostoma valenciennesi*), and Pallid Shiner (*Hybopsis amnis*), and the State-threatened Purple Wartyback (*Cyclonaias tuberculata*) and River Redhorse (*Moxostoma carinatum*). The Illinois Department of Natural Resources (hereinafter referred to as the Department) has determined that the taking is incidental to activities associated with the construction and operation of the Dresden Island Hydroelectric Project, located at Illinois River Mile 271.5 and adjacent to the existing Dresden Island Lock and Dam in Morris, Grundy County, Illinois.

Procedural History

A Conservation Plan, prepared by Kleinschmidt Associates for NIH, was initially received by the Department on February 22, 2011. A revised Conservation Plan, also prepared by Kleinschmidt Associates for NIH, was received by the Department on December 20, 2013. That plan was submitted as NIH's application for authorization of incidental take of River Redhorse, Greater Redhorse and Pallid Shiner in the Illinois River at the Dresden Island Lock and Dam. NIH prepared a draft public notice of their application for incidental take. The Department received the draft public notice on January 29, 2014, and on February 7, 2014, the Department approved publication of the notice.

A draft ITA was prepared in July 2014 but was not executed. On November 27, 2019, the Office of Realty & Capitol Planning issued a written review of the project to NIH, as NIH requested a new environmental review in accordance with 17 Ill. Admin Code 1075.

A new Conservation Plan prepared by Kleinschmidt Associates for NIH, was received by the Department on April 21, 2020. That plan was submitted as NIH's application for authorization of incidental take of Blacknose Shiner, Greater Redhorse, Pallid Shiner, Purple Wartyback, and River Redhorse Shiner in the Illinois River at the Dresden Island Lock and Dam. The Department requested additional information on May 29, September 4, November 5, 2020 to make the Conservation Plan complete as prescribed by Ill. Admin Code 1080.10. Revised conservation plans were submitted on August 3, November 23, 2020, December 15, 2020, and April 9, 2021. The final Conservation Plan was accepted as complete by the Department on December 18, 2020, with the April 4, 2021 Conservation Plan providing a more detailed

description of the mitigation project. The Department received the draft public notice on January 25, 2021, and on January 29, 2021, the Department approved publication of the notice. 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 the construction and operation of hydropower facilities at the existing U.S. Army Corps of Engineers (hereinafter referred to as USACE) Dresden Island Lock and Dam on the Illinois River. Sheet pile cofferdam cells and an earthen cofferdam section will be constructed downstream of the existing dam to dewater the work site for dredging, excavation, and construction. Approximately 1.49 acres upstream of the existing dam and 0.37 acres downstream of the existing dam will be dredged. A reinforced concrete forebay and powerhouse with foundation dimensions of approximately 121.67 feet wide by 121 feet in length will be constructed in the 0.37 acres immediately downstream of the existing head gate section 9 through 18. Riverbed excavation for the powerhouse foundation will average nineteen (19) feet in depth. The completed powerhouse will be operated on a run-of-river mode in which outflow will not exceed inflow.

Generator leads located in the conduit will be supported by the USACE project bridge deck. These leads will run along the downstream face of the bridge deck and supporting piers, along the north side of the lock wall, and will be directionally drilled under the downstream entrance to the lock, where the underground portion of the main leads will day light in the switch.

Temporary impacts to the listed species during construction include increased turbidity and habitat alteration. Specific impacts to Purple Wartyback mussels may include crushing, burial, and desiccation during dewatering operations. Long-term impacts from the operation include the potential for increased impingement/entrainment of fish species from project structures, including effects on glochidia that may be attached to fish. Other long-term effects include potential changes to water quality parameters such as dissolved oxygen (DO) below the dam, and the potential for limited habitat alteration.

Total estimated area of impact within suitable species habitat during construction is **1.86 acres**, 1.49 acres of temporary impact upstream of the existing dam and 0.37 acres downstream of the existing dam. The Department concurs that the take of Blacknose Shiner, Greater Redhorse, Pallid Shiner, Purple Wartyback, and

River Redhorse that could result from this project is not the purpose of NIH's actions, 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 avoidance, minimization and mitigation were included in NIH's Conservation Plan.

To meet the "maximum extent practicable" standard, additional minimization and/or mitigation measures may be required beyond those proposed by NIH, based on the life history needs of the Blacknose Shiner, Greater Redhorse, Pallid Shiner, Purple Wartyback, and River Redhorse. **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.

In order to receive approval for construction, NIH must provide proof of financial responsibility to the Federal Energy Regulatory Commission and the USACE. Approval by those agencies will require that construction and operation of the facility will be as specified by all jurisdictional agencies, including the Department.

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

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 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.

Blacknose Shiner (*Noptropis heterolepis*) is an Illinois state-endangered fish species.

Habitat: Blacknose Shiner is a small fish found in cool weedy creeks, small rivers, and lakes with a sandy substrate. The preference is for slow-moving waters, such as bays and marsh areas. When water turbidity increases or substrate is silted over with clay, populations decline, or will be eliminated.

Reproduction: Blacknose Shiner spawn in April through July, and scatter eggs over vegetation. Eggs hatch after a few days and no further parental care is given.

Population: Blacknose Shiners are sensitive to human impacts, and they are thought to be declining due to increased turbidity, siltation of stream bottoms, and disappearance of aquatic vegetation.

Range in Illinois: In Illinois, Blacknose Shiners have been found in the Illinois, Kankakee, and Kishwaukee Rivers, as well as several other smaller creeks and

tributaries. They have been found in 7 of 102 Illinois counties: Carrol, Grundy, Kankakee, LaSalle, Lake, McHenry, and Will Counties. There are currently 19 extant Element Occurrence Records for Blacknose Shiner in the Illinois Natural Heritage Database.

Incidental Take Authorizations: There have been four (4) previously issued or pending Incidental Take Authorizations for blacknose shiner in Illinois. Previous projects have included bridge replacement, dredging for lake management, and pipeline maintenance. This is the first authorization granted for the take of Blacknose Shiner in Grundy County.

Greater Redhorse (*Moxostoma valenciennesi*) is an Illinois state-endangered fish species.

Habitat: Greater Redhorse are a large, bottom-feeding fish that is typically found in fast-flowing, medium to large rivers, and are occasionally found in river reservoirs and large lakes. They prefer clear water with substrates of clean sand, gravel, or boulders. They have little tolerance of siltation and pollution, but can withstand some levels of pollution if sufficient current exists to keep spawning areas free of silt deposition.

Reproduction: Spawning occurs between May and June in shallow runs with sand and gravel substrates. During this time, male Greater Redhorses hold territories and are periodically visited by females ready to breed. Females enter spawning sites from downstream and will hold a position on or just above the substrate for 3-5 seconds. If not joined by a male, she will drift further downstream to try a different spot. After spawning occurs, eggs are buried in the substrate with their tails and no further parental care is given.

Population: Greater Redhorse population decline has occurred because of poor water quality and habitat fragmentation.

Range in Illinois: In Illinois, Greater Redhorse has been found in the Vermilion, Kankakee, Illinois, Wabash, and Fox Rivers, including several smaller creeks and tributaries. Greater Redhorse are found in 3 of 102 Illinois counties: Kane, Kendall, and Livingston. There are currently 5 extant Element Occurrence Records of Greater Redhorse in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has 7 previously issued or pending Incidental Take Authorizations for Greater Redhorse. Previous projects included a bridge replacement, and pipeline installation. This is the first authorization for the taking of Greater Redhorse in Grundy County.

Pallid Shiner (*Hybopsis amnis*) is an Illinois State-endangered freshwater fish species.

Habitat: It inhabits medium to large rivers and prefers quiet waters over sand and silt substrates, often at the downstream ends of sand and gravel bars. It appears to avoid heavily silted habitats.

Reproduction: Little is known about Pallid Shiner reproduction. Breeding likely occurs later in Illinois from May to September. Pallid Shiners are a short-lived minnow, rarely living longer than two years.

Population: Pallid Shiners are sensitive to human impacts, and its populations are thought to be declining due to increased siltation of habitat.

Range in Illinois: In Illinois, Pallid Shiners have been found in the Mississippi, Kankakee, and Sangamon Rivers. They have been found in 6 of 102 Illinois counties: Carroll, Grundy, Jo Daviess, Kankakee, La Salle, and Will. There are currently 13 extant Element Occurrence Records for Pallid Shiner in the Illinois Natural Heritage Database.

Incidental Take Authorizations: There have been five (5) previously issued or pending Incidental Take Authorizations in Illinois for Pallid Shiners. Previous projects have included pipeline maintenance, railroad bridge construction, and diffuser installation. This is the first authorization granted for the take of Pallid Shiner in Grundy County.

Purple Wartyback (*Cyclonaias tuberculata*) is an Illinois State-threatened mussel species.

Habitat: The species is predominantly found in small to medium-sized streams and the main headwaters of large rivers. The species prefers gravel or mud substrates.

Reproduction: Purple Wartyback is a short-term brooder, with females retaining glochidia in their gills from May to late August. Glochidia are released and temporarily parasitize a host fish. Purple Wartyback glochidial host fish include black bullhead, yellow bullhead, channel catfish, and flathead catfish.

Population: Purple Wartyback populations are jeopardized by habitat degradation and pollution. They are also being impacted by infestations of the non-native zebra mussel.

Range in Illinois: In Illinois, Purple Wartyback are found in the Kankakee, Vermillion, Ohio, Fox, and Rock River basins. They have been found in 9 of 102 Illinois counties, including Champaign, Grundy, Iroquois, Kankakee, Massac, Pulaski, Rock Island, Vermilion, and Will. There are currently 37 extant Element Occurrence Records for Purple Wartyback mussels in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has 20 previously issued or pending Incidental Take Authorizations for Purple Wartyback. Types of projects included bridge repair or installation, pipeline maintenance, high-speed railway construction, and dredging. This is the first incidental take authorization for Grundy County

River Redhorse (*Moxostoma carinatum*) is an Illinois State-threatened fish species.

Habitat: River Redhorse is a large, bottom-feeding fish found in large clear creeks, rivers, and occasionally lakes. They prefer deep pools with moderate current over bedrock or gravel substrates and are intolerant of high turbidity (murky water), siltation, and pollution.

Reproduction: Spawning occurs between June and August. During this time, adult River Redhorses migrate to shallow riffles to spawn at night. Mating takes place when two males press a single female between them, and eggs and sperm are released from the three fish. River Redhorse bury their eggs in fine gravel with their tails, and no further parental care is given.

Population: River Redhorse population decline has occurred because of poor water quality and habitat fragmentation. The presence of river redhorse in an aquatic system is considered an indicator of good water quality.

Range in Illinois: In Illinois, River Redhorses are found in the Vermilion, Kankakee, Illinois, Des Plaines, Wabash, Fox, and Mississippi Rivers, including several smaller creeks and tributaries. River Redhorses are found in nineteen (19) of 102 Illinois counties. There are currently thirty-six (36) extant Element Occurrence Records of River Redhorse in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has fifteen (15) previously issued or pending Incidental Take Authorizations for River Redhorse. Previous projects included bridge replacements, a diffuser installation, dam removal, railroad construction, and oil pipeline installation. This is the first authorization for the taking of River Redhorse in Grundy County.

Based on the biology of the species involved, the results of habitat analyses performed for NIH, 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 in the Authorization section below. This authorization is, by definition, subject to those terms and conditions and NIH signature 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 NIH's request for authorization of incidental take was published in the *Breeze-Courier* (official state newspaper) on February 9, 2020, and in the *Morris Herald-News* on February 9, February 16, and February 25, 2020. A copy of the Conservation Plan was deposited at the Morris Area Public Library, where it was available for public inspect. Public comments on the conservation plan were accepted by the Department until March 29, 2021. No comments were received.

Authorization

It is the determination of the Department that the measures that will be implemented by NIH will adequately minimize and mitigate the anticipated taking Blacknose Shiner, Greater Redhorse, Pallid Shiner, Purple Wartyback, and River Redhorse incidental to activities associated with the construction and operation of the Dresden Island Hydroelectric Project, located at Illinois River Mile 271.5 and adjacent to the existing Dresden Island Lock and Dam in Grundy County, Illinois. 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 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 NIH 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 NIH in the Conservation Plan:

1. This authorization is effective upon the signature of the Department and shall remain in effect for a period of **ten (10) years** after completion and on-line startup of the Dresden Island Hydroelectric Project, unless terminated by written agreement of both parties.

Notwithstanding the above paragraph, due to the length of this Authorization, the Department reserves the right to reassess the terms of this Authorization every five years. If during reassessment the Department determines that the Blacknose Shiner, Greater Redhorse, Pallid Shiner, Purple Wartyback, and River Redhorse have become more imperiled than when the species and impact analyses were initially conducted, the Department may request an amendment to this Authorization or additional minimization or mitigation by NIH. Further, if during reassessment the Department determines that the level of minimization and mitigation no longer meets the requirement of 520 ILCS 10/5.5 for minimization and mitigation to the maximum extent practicable for the potential take, the Department may request an amendment to this Authorization or additional minimization or mitigation by NIH. Upon ITA expiration, if NIH intends to continue operation of the powerhouse, an updated

Conservation Plan shall be submitted for review.

If the Department and NIH cannot reach an agreement, this Authorization will be terminated. Termination of this Authorization under this provision does not prevent NIH from applying for a new Incidental Take Authorization for this project.

This authorization may be revoked pursuant to the Act and Ill. Adm. Code 1080.80(b) if the Department finds that NIH has failed to comply with any of these terms and conditions or has been responsible for the taking of Blacknose Shiner, Greater Redhorse, Pallid Shiner, Purple Wartyback, and River Redhorse beyond that which is incidental to activities associated with the construction and operation of the Dresden Island Hydroelectric Project.

2. The effective period of this authorization may be altered by mutual written agreement between NIH and the Department. The Illinois Endangered Species Protection Board shall be notified 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 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. Notification to all on-site personnel shall be provided on the sensitive biological resources in the area; the identification of Blacknose Shiner, Greater Redhorse, Pallid Shiner, Purple Wartyback, and River Redhorse; regulations protecting the species; where the species might be found; avoidance areas; travel restrictions for equipment; how to report sightings or incidents that may involve take; the importance of avoiding take of the species; and response protocol if the species are found, including the chain of response personnel. **NIH shall submit a copy of the educational materials to the Department.**
5. The Department reserves the right of entry by its staff or representatives to inspect potential habitat and species management practices.
6. Biological consultants employed by NIH 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. 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).

8. NIH shall notify the Department's Endangered Species Program by email correspondence of construction commencement and completion of the project. A **project status report** shall be submitted to the Department within **90 days** following completion (defined as hydroelectric dam is producing electricity that is fed in to the grid) summarizing the implementation of minimization, mitigation, and restoration measures, and evaluating the effectiveness or status of those measures and shall include a project photo log. The report shall also include a map of the project location, as well as the relocation recipient location; identification of species and number of listed and non-listed species relocated from the project footprint; description of any injuries or mortalities; and the disposition of any individuals that were injured or killed.
9. Notification of any Blacknose Shiner, Greater Redhorse, Pallid Shiner, Purple Wartyback, and River Redhorse present during performance of the project shall be reported electronically to the Department within 48 hours of discovery accompanied by location information (photograph, map, and GPS coordinates).
10. 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.
11. NIH shall conduct, or cause to be conducted, the following pre-construction, construction, or operation efforts:
 - a. NIH shall not perform any in-water work during the 4-month period of April - July in any year to avoid the spawning season of the listed fish.
 - b. Temporary cofferdams of steel and earth shall be used to create a dry work area.
 - c. During dewatering operations of the cofferdam, fish and mussels shall be removed and humanely released into the river.
 - d. NIH shall install a trash rack at the intake with 2-inch spacing to minimize fish entrainment and impingement.
 - e. The generator shall only operate when the flow rate at the Dresden Island USACE gauge exceeds 1,000 cubic feet per second plus the minimum to run the turbine-generator unit
12. NIH shall conduct, or cause to be conducted, thorough surveys for Blacknose Shiner, Grater Redhorse, Pallid Shiner, and River Redhorse within the project area in **Years 1, 3, 6, and 9** following project completion:
 - a. Monitoring shall occur in both the Dresden pool upstream of the lock and dam and in the area downstream of the dam between Dresden Island and the north shore of the Illinois River (between approximately 250 and 600 meters downstream of the Dresden dam) and consist of barge or boat electrofishing (consultant will select methods at time of survey depending on river conditions).

- b. Community-based sampling shall consist of two 30-minute electrofishing runs in both monitoring areas.
- c. Additional sampling using no less than ten (10) seine pulls for Blacknose Shiner and Pallid Shiner in species appropriate habitat shall supplement electrofishing.
- d. Fish that cannot be positively identified in the field shall be transported to a laboratory for identification.
- e. Surveys shall occur during base flow conditions between August and October.

A report including, but not limited to, date, survey methodology including gear type used, GPS coordinates for sample sites, a description and map of each area surveyed, abundance of each species collected, and length of each individual of listed species shall be provided to the Department within 90 days of survey completion. Additionally, the survey report shall contain abiotic data including, but not limited to, average water depth, water quality parameters (temperature, dissolved oxygen, pH, and conductivity), predominant substrate, presence of cover, and proportion of vegetative cover in sample sites.

13. NIH shall conduct, or cause to be conducted, thorough surveys for Purple Wartyback within the area between Dresden Island and the north shore of the Illinois River (between approximately 250 and 600 meters downstream of the Dresden dam) in **Years 1, 5, and 10** following project completion:
- a. Mussel surveys shall utilize both randomly selected semi-quantitative multi-transect approach and timed qualitative searches.
 - b. Randomly selected transect approach shall utilize SCUBA divers using visual-tactile collection techniques along transects which are positioned between Dresden Island and the north shore and perpendicular to the flow of the river.
 - c. Randomly generated 1 m wide transects shall cover 10% of the downstream monitoring area, for approximately 7,000 m² each survey effort.
 - d. Following transect searches, 2-person hour qualitative searches shall be conducted and repeated until no novel species are recorded.

A report including, but not limited to, survey methodology, a description, GPS coordinates, and map of each area surveyed including transects and qualitative search areas, summary of habitat characteristics (e.g., substrate, depth), abundance of each species collected, length and growth ring count of each individual of listed species and the first 100 individuals of non-listed species, transect and pass or search hour of origin for each individual collected, and a map of the listed species locations shall be provided to the Department within 90 days of survey completion.

14. Mitigation to the maximum extent practicable is required by the Act. Mitigation requirements for this authorization are as follows:
- a. NIH shall provide payment to the Illinois Wildlife Preservation fund in the amount of **\$112,026 to support a study of River Redhorse dispersal** within the Dresden Reach of the Illinois River, and to assess the River Redhorse use of the shoal habitat downstream of the Dresden Dam.

- b. The payment shall be provided at least 60 days prior to the initiation of instream work.

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.

- 15. 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

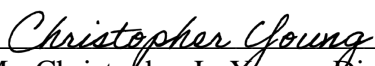
(217)557-8243
DNR.ITAcoordinator@illinois.gov

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.

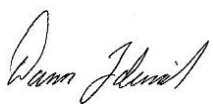
- 16. The NIH official identified below is authorized to execute this agreement. Execution by NIH indicates acceptance of all terms and conditions described in this authorization.
- 17. The execution of this agreement does not waive or excuse the responsibilities of NIH to comply with other Federal, 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

For Northern Illinois Hydropower, LLC



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



Mr. Damon Zdunich
Manager

June 10, 2021

Date

June 8, 2021

Date