



Illinois Department of Natural Resources

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

Bruce Rauner, Governor
Wayne A. Rosenthal, Director

Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (Act) (520 ILCS 10/5.5) and the regulation adopted to implement the Act (17 Ill. Adm. Code 1080), authorization is hereby granted to the Fox Metro Water Reclamation District (hereinafter referred to as FMWRD) for the incidental take of the greater redhorse (*Moxostoma valenciennesi*) and the river redhorse (*Moxostoma carinatum*). The Illinois Department of Natural Resources (hereinafter referred to as the Department) has determined the taking is incidental to activities associated with the construction of the Fox River crossing for the Waubonsie Interceptor, a 36-inch diameter pipeline that will carry wastewater to FMWRD's South Plant. The project site is in unincorporated Kendall County, Illinois.¹

Procedural History

The Department received a conservation plan from Deuchler Environmental, Inc. on behalf of FMWRD on December 16, 2014, as a request for authorization for the incidental take of greater redhorse and river redhorse. The Department requested additional information to make the conservation plan complete as prescribed by 17 Ill. Adm. Code 1080.10. All required information was received by the Department on May 14, 2015. 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 of the Fox River crossing for the Waubonsie Interceptor, a 36-inch diameter pipeline that will carry wastewater to FMWRD's South Plant. The interceptor is part of a larger project that will

¹ The project site is further described as being in Section 5, Township 37 North, Range 8 East, of the Third Principal Meridian in Oswego Township, Kendall County, Illinois. The right-of-way within which the interceptor river crossing will be constructed is owned by Commonwealth Edison and is being used by FMWRD under an easement agreement with Commonwealth Edison.

construct various wastewater treatment structures for the improvement of FMWRD's existing wastewater treatment plant. Construction within the Fox River will include installation and inflation of coffer dams, dewatering the area within the coffer dam, excavation for the pipe, placement of the pipe in the trench, placement of concrete over the trench, and restoration of the river bed. Only one half of the river will be dammed and under construction at a time. **The area of river bed affected will be approximately 29,880 square feet (0.69 acre) on the right descending (west) bank and 28,650 square feet (0.66 acre) on the left descending (east) bank.** Construction activity in the Fox River is expected to be completed in approximately two to four months. Take could occur through direct impact from heavy equipment, injury from pumps used to dewater the construction area, displacement, injury during placement of coffer dams, and/or alteration of habitat. Potential impacts to aquatic species may also occur due to noise and vibration from construction. The take of greater redhorse and river redhorse that could result from this project is not the purpose of FMWRD'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:

A conservation plan prepared by Deuchler Environmental, Inc. describes measures that will be implemented to minimize the potential adverse effects of the project on greater redhorse and river redhorse. Those measures include:

The width of the permanent construction easement will be limited to seven feet. The length of the permanent construction easement is estimated to be 420 feet, with a total of approximately 2100 square feet of permanently altered river bottom.

Coffer dams will be constructed across approximately one-half of the river's width and pipeline construction within that coffer dam will be completed and the coffer dam removed before a coffer dam is placed across the other half of the river's width. This will allow fish to move upstream or downstream throughout the construction period.

No instream construction will occur between March 15 and June 15 of any year. This will avoid disturbance of greater redhorse, river redhorse, and other fish species during the primary spawning season.

Staff from Deuchler Environmental, Inc. will be present during the dewatering of the areas within cofferdams. Any fish and/or mussels that may become stranded within the dewatered area will be captured and moved to areas outside of the coffer dam. Any fish that appear to be struggling for oxygen will be held in an oxygenated tank and allowed to recover before being released into the river. Project specifications require that the construction contractor give 48 hours of notice before the placement of coffer dams to allow coordination with Deuchler Environmental, Inc. Filtering of water pumped from within the coffer dams before discharge into the Fox River is also required.

It is the opinion of the Department that the minimization and mitigation measures proposed by FMWRD, along with any additional terms and conditions listed in the Authorization section below, will, to the maximum extent practicable, minimize and mitigate the impact caused by the taking.

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

FMWRD intends to finance the construction of this project, including any costs to carry out the provisions of this authorization, with a low-interest loan through the Illinois Environmental Protection Agency's Water Pollution Control Loan Program. That loan will be repaid through user charge fees. Costs of post-project monitoring will also be paid through user charge fees. Increasing numbers of users and planned incremental increases in user rates are expected to provide adequate funds for these purposes.

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:

The greater redhorse is listed as an endangered species in Illinois because of its limited abundance and distribution in the state. The species has no formal federal conservation status. The species was thought to be extirpated from Illinois, but was rediscovered in 1985. Since then, it has been found in several locations, primarily in the Vermilion River and AuxSable Creek (Illinois River drainage), Fox River, and tributaries within these two drainage basins. There is also one record from the Wabash River in Clark County.

The greater redhorse is a sucker with large scales and a stout body. The species spawns in May or June throughout most of its range. It takes males between five and six years to reach maturity. The species can live nearly two decades. The greater redhorse prefers fast-flowing, medium-sized to large rivers with clear water and substrates of clean sand, gravel, and boulders. Threats to the species include siltation and chemical pollutants, habitat fragmentation, loss of suitable feeding spawning areas, and blockage of spawning migration routes by dam construction. The greater redhorse feeds on insect larvae and other crustaceans.

The Illinois Natural Heritage Database includes 16 element occurrence records for the greater redhorse that are classified as extant populations. Those occurrences are in small to medium rivers, as described above. Though the number of locations at which the greater redhorse is found has increased in recent years, the species is seldom found in large numbers at these locations.

The Department has issued two previous authorizations for incidental take of the greater redhorse. One was for the installation of hydropower facilities in an existing dam on the Illinois River and the other for a bridge replacement project in Kane County. For the

hydropower project, minimization/mitigation measures included design features intended to reduce the risk of impingement or entrainment of greater redhorse and the avoidance of instream construction during the spawning season of the species. At the bridge replacement site, effects on the greater redhorse were minimized by doing no instream work during the spawning season.

FMWRD has supported sampling of fish in the Fox River annually from 2010 through 2014. At locations near the proposed pipeline crossing, greater redhorse were collected in 2010, 2011, and 2013. Over the entire length of the Fox River sampled, greater redhorse were collected in every sampling year.

FMWRD does not anticipate lethal take of any greater redhorse in the course of construction of the pipeline crossing. As defined in the Act, take of a species also includes any harm to a species such as harassment, and the relocation of any individuals is included in the definition of take because the animal is captured and handled.

The river redhorse is listed as a threatened species in Illinois because of its limited range and threats to its habitat such as siltation and pollution. The species has no formal federal conservation status. Historically, it was found in the Wabash, Rock and Illinois River drainages.

The river redhorse can reach one to three feet in length. It prefers clearer large to medium-sized rivers and is considered inflexible in its habitat requirements. The species eats mainly mussels, snails, and crustaceans. Habitat degradation and alteration are the main threats to the river redhorse and its prey. The species' food resources require clean gravel-sand stream bottoms and are sensitive to siltation and turbidity. Reductions in mussels may equate to reductions in river redhorse populations. Maximum longevity is understood to be 16 years.

The Illinois Natural Heritage Database includes 31 occurrences of the river redhorse that are classified as extant. The species is most often found in deep, gravelly riffles of small and medium-sized rivers. Recent records of the species are from the Illinois River and its tributaries (Kankakee, Fox, Vermilion), Wabash River and its tributaries, and Mississippi River.

The Department has issued six previous authorizations for incidental take of the river redhorse. These were for bridge replacement projects in Kane and Vermilion Counties, installation of hydropower facilities in an existing Illinois River dam in LaSalle County, a cooling water discharge in Will County, and two dam removal projects in Vermilion County. Avoiding instream work during the spawning season of river redhorse and control of erosion and siltation have been the most common measures for minimizing adverse effects on the species.

FMWRD has supported sampling of fish in the Fox River annually from 2010 through 2014. No river redhorse were collected near the pipeline crossing location during those

sampling efforts. Surveys by others, however, have found river redhorse in the Fox River in recent years.

FMWRD does not anticipate lethal take of any river redhorse in the course of construction of the pipeline crossing. As defined in the Act, take of a species also includes any harm to a species such as harassment, and the relocation of any individuals is included in the definition of take because the animal is captured and handled.

The Department has concluded that the taking proposed herein will not reduce the likelihood of survival or recovery of the greater redhorse or river redhorse 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. This conclusion is based on the following considerations:

The area that will be affected by the project is small relative to the total amount of similar river habitat in the area. Approximately 1.35 acres will be enclosed within coffer dams at some stage of the project, but only approximately 0.05 acre of river bottom will be permanently affected by placement of the pipeline and overlying concrete. The remainder of the project area (1.30 acres) will regain its present character after the coffer dams are removed. Restoration to be carried out by FMWRD and natural movement of sediments should provide a cover over the pipeline that will closely resemble the surrounding river bed and provide habitat for aquatic invertebrates, the base of the aquatic community of which both redhorse species are a part.

By avoiding work in the river during the presumed spring spawning season of the greater redhorse and river redhorse, FMWRD will minimize the risk of sedimentation caused by construction activities having a negative effect on eggs or newly-hatched fish of either species.

The estimated levels of take predicted by FMWRD appear to be reasonable. It is unlikely that any greater redhorse or river redhorse will be killed or injured by placement of the coffer dams. Project plans call for the use of water-inflatable bags as coffer dams. This avoids the need for other methods of coffer dam construction that would cause sediment displacement and/or pressure waves that could adversely affect fish in the area. The presence of fisheries biologists during dewatering of areas within the coffer dams will assure that any stranded fish are handled with minimum stress and released back to the river with minimal harm.

It is not anticipated that construction of the pipeline river crossing will have a long-term negative effect on the habitats provided by the river or the aquatic life that depends on those habitats. Ongoing pipeline operation will not cause habitat modification or other changes to the Fox River.

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 FMWRD indicates FMWRD's 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 FMWRD's request for authorization of incidental take was published in the Breeze-Courier (official state newspaper) on May 28, 2015, and in the Chicago Tribune on May 28, June 2, and June 12, 2015. A copy of the conservation plan was deposited at the Oswego Public Library, where it was available for public review. The deadline for public comment was July 12, 2015. No comments were received from the public.

Authorization

It is the determination of the Department that the measures that will be implemented by FMWRD will adequately minimize and mitigate the anticipated taking of greater redhorse and river redhorse incidental to activities associated with the construction of the Fox River Crossing for the Waubonsie Interceptor, a 36-inch diameter pipeline that will carry wastewater to FMWRD's South Plant in Kendall County. Further, the Department has concluded that the take authorized herein will not reduce the likelihood of survival or recovery of the greater redhorse or river redhorse 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 FMWRD 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 the applicant under Compliance condition #2 above:

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 FMWRD has failed to comply with any of these terms and conditions or has been responsible for the taking of greater redhorse or river redhorse beyond that which is incidental to activities associated with the construction of the Fox River Crossing for the Waubonsie Interceptor.

2. The effective period of this authorization may be altered by mutual written agreement between FMWRD 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 Illinois endangered or threatened 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 is non-transferable.
4. The Department reserves the right of entry to inspect potential habitat and species management practices.
5. FMWRD shall notify the Department's Endangered Species Program of commencement and completion of in-stream work.
6. All project personnel shall receive educational materials regarding the sensitive ecological context of the project. Materials will include identification information on the potentially affected State-listed species, response 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.
7. Fish and/or mussels that may become stranded within the dewatered area shall be relocated to areas outside of the coffer dam – fish immediately downstream, mussels upstream to suitable habitat pre-approved by the Department. The number and type of fish and mussels relocated from within the coffer dam shall be provided to the Department within 60 days of relocations.
8. Post-construction monitoring of fish populations in the vicinity of the project site shall be conducted during Years 1, 3, and 5 after completion of the Waubonsie Interceptor project. Sampling shall occur between June 15 – July 15 and after September 15 in each year avoiding spawning season (March 15 – June 15) and avoiding summer low flow conditions. Survey locations upstream and downstream of the project location shall be sampled. No tagging of greater redhorse or river redhorse shall be performed. A report containing monitoring results shall be provided to the Department by January 1, following survey completion each monitoring year.
9. Mitigation settlement funds submitted to the Department earmarked for the conservation benefit of State-listed species are non-refundable, including events of revocation or termination. As mitigation for the potential taking of greater redhorse and river redhorse, FMWRD shall either pay an approved in-lieu fee to the Department to cover such expenses or provide the equivalent value in conservation benefit to the species through habitat restoration or species research.

The Department calculates mitigation for potential impacts to listed fishes through analysis and scaling of the species status, population trend, project footprint size, habitat impacts, and the applicant's estimate of take. These factors combine to establish the units of mitigation toward an applicable project focused on providing conservation benefit to the species commensurate with the potential impact.

The Department estimates that the cost of an applicable one-year propagation project for the greater redhorse or river redhorse would total \$26,000. Based on the Department's analysis of FMWRD's proposed impacts, the applicant shall be held accountable for 20% of the propagation project costs for each fish. Therefore, if compensatory mitigation is preferred by the applicant, **the total conservation benefit value or in-lieu compensatory mitigation due to the Department for this project is \$10,400.00.** Mitigation settlement dollars paid to the Department are placed in the Illinois Wildlife Preservation Fund and earmarked for the conservation benefit of the State-listed species potentially impacted.

Mitigation valuations are based on the Department's best current understanding of the species life history needs and impact analysis relevant to the site's proposed conceptual design elements available at the time of review.

10. All project documentation required by this authorization shall be submitted to:

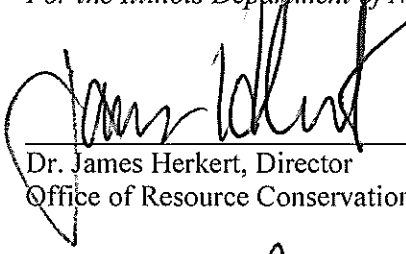
Illinois Department of Natural Resources
Office of Resource Conservation
Endangered Species Program – Incidental Take Authorization Coordinator
One Natural Resources Way
Springfield, IL 62702-1271

(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.

11. The FMWRD official identified below is authorized to execute this agreement. Execution by FMWRD indicates acceptance of all terms and conditions described in this authorization.
12. The execution of this agreement does not waive or excuse the responsibilities of FMWRD 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:



Dr. James Herkert, Director
Office of Resource Conservation

3-9-16

_____ Date

For Fox Metro Water Reclamation District:


_____ Thomas F. Muth, Manager

THOMAS F. Muth
_____ Printed Name

02/22/16
_____ Date