



Illinois Department of Natural Resources

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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 regulations adopted to implement the Act (17 Ill. Adm. Code 1080), authorization is hereby granted to the Chicago Department of Transportation (hereinafter referred to as CDOT) for the incidental take of the State-threatened banded killifish (*Fundulus diaphanus*). The Illinois Department of Natural Resources (hereinafter referred to as Department) has determined that the taking is incidental to activities associated with the construction and operation of a large-diameter stormwater diversion tunnel to be constructed in Chicago's Albany Park neighborhood in Cook County, Illinois.¹

Procedural History

The Department received a Conservation Plan prepared by MWH Americas, Inc., for CDOT on April 18, 2016, as a request for authorization for the incidental take of banded killifish. The Department requested additional information to make the conservation plan complete as prescribed by Ill. Adm. Code 1080.10. That additional information was received by the Department on June 16, and September 23, 2016. 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 the Albany Park Stormwater Diversion Tunnel in Cook County, Illinois, to alleviate overbank flooding along the North Branch of the Chicago River in the Albany Park neighborhood. The project will include construction of the shaft and tunnel from upland areas, construction of inlet and outlet structures,

¹The inlet site of the tunnel is located on Chicago Park District property north of Foster Avenue near the intersection with Springfield Avenue. The tunnel runs generally underneath Foster Avenue, and the outlet site is located in River Park on Chicago Park District and Metropolitan Water Reclamation District property. The outlet site is located south of Foster Avenue, east of the North Shore Channel, and within River Park.

and the installation of trash racks and sluice gates. In total, the tunnel will be 5,800 feet long with an 18-foot diameter and run generally under Foster Avenue. The tunnel will only be in operation during flooding events, when the North Branch of the Chicago River flows reach 600 cubic feet per second (cfs) and exceed the fixed weir height. The tunnel will act as an inverted siphon, passing up to approximately 2,300 cfs of water to the outlet site in the North Shore Channel during a flood event, preventing the water from flooding the Albany Park neighborhood. Take of banded killifish may occur only during tunnel operation, as a result of entrainment in the inlet structure of the tunnel when the system is operating during a flood event, or entrainment at the outlet site during a backflow event. Fish mortality may occur during entrainment due to a steep drop during initial filling, rapid changes of hydrostatic pressure during tunnel operation, passage through pumps during dewatering, or survival during tunnel passage but predation due to disorientation when discharged into the North Shore Channel. Construction of the tunnel will include limited instream work and is not expected to directly or indirectly impact the banded killifish or its habitat. The take of banded killifish that could result from this project is not the purpose of CDOT'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 measures were included in CDOT's conservation plan.

To meet the "maximum extent practicable" standard, additional minimization and/or mitigation measures may be required beyond those proposed by CDOT, based on the life history needs of the banded killifish. **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:

CDOT states that it has funding available to support and implement the mitigation activities described in the conservation plan.

It is the Department's opinion that CDOT'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 is a part, or the habitat essential to the species' existence in Illinois:

The **banded killifish** is an Illinois State-threatened freshwater fish. It is a small fish (up to 9 cm long) that is known to inhabit the calm and shallow areas of lakes, ponds, rivers, and estuaries with sandy gravel or muddy bottoms and with abundant aquatic vegetation. Banded killifish are a euryhaline fish, meaning they are able to tolerate a wide range of salinity levels. The species is characterized as non-migratory except for movement to and from preferred habitats of shallow, vegetated areas to deeper pools.

Banded killifish spawn occurs in late spring and throughout the summer. Eggs are fertilized externally and are equipped with adhesive threads that adhere to aquatic vegetation. Females may lay 50-100 eggs in one clutch, and may lay several clutches of eggs during one summer. Eggs hatch in 10-12 days. Banded killifish are a schooling fish, with adults traveling in schools of 3-6 individuals and juveniles traveling in schools of 8-12.

In Illinois, banded killifish have been found in the Mississippi, Rock, Illinois, Chicago, Kankakee, and Fox River drainages, Lake Michigan, and several other smaller lakes and streams in northern Illinois. Banded killifish have been found in 14 of 102 Illinois counties. There are currently 34 extant Element Occurrence Records (EOR) of banded killifish in the Illinois Natural Heritage Database. Each EOR can contain multiple individual data points for a species. The Department has three (3) previously issued or pending Incidental Take Authorizations for banded killifish. Previous projects include lake shoreline rehabilitation, aquatic invasive plant control, and other lake management activities. Previous applicants have been asked to complete work outside of the banded killifish spawning season and to contribute to the monitoring of killifish populations in the area of their Incidental Take Authorization. This is the second Incidental Take Authorization for banded killifish in Cook County.

Between 2010 and 2014, the Asian Carp Monitoring and Rapid Response Workgroup conducted fish surveys in the North Branch of the Chicago River using electrofishing and fixed minnow fyke netting. They collected a total of 1,106 banded killifish upstream of the Electric Dispersal Barrier from 2010 to 2014. Of that number, 16 banded killifish were collected in the vicinity of the Albany Park Stormwater Diversion Tunnel Project.

The CDOT Conservation Plan also addresses the potential future removal of the North Branch Dam, which would allow banded killifish to move upstream from areas now currently below the dam. This could result in an increased number of individuals entering the diversion tunnel at the project inlet.

Based on the amount of habitat impacted by this project, the number of known occurrences of banded killifish in Illinois, an assessment of the potential effect of this project on individuals in the project footprint, and the conservation measures included in this authorization for incidental take; the Department has concluded that the taking proposed herein will not reduce the likelihood of survival or recovery of the banded killifish 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:

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 CDOT 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 CDOT's request for authorization of incidental take was published in the *Breeze Courier* (official state newspaper) on September 23, 2016, and in the *Chicago Sun-Times* on September 23, 30, and October 7, 2016. A copy of the conservation plan was deposited at the Albany Park Chicago Public Library, where it was available for public review. The deadline for public comment was November 6, 2016. No comments were received from the public.

Authorization

It is the determination of the Department that the measures that will be implemented by CDOT will adequately minimize and mitigate the anticipated taking of banded killifish incidental to activities associated with the construction and operation of the Albany Park Stormwater Diversion Tunnel between the North Branch of the Chicago River and the North Shore Channel in Cook County, Illinois. Further, the Department has concluded that the take authorized herein will not reduce the likelihood of survival or recovery of banded killifish 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 the CDOT 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 CDOT in the conservation plan:

1. This authorization is effective upon the signature of the Department and shall remain in effect for a period of **25 years** from the date of the Department signature, unless terminated by written agreement of both parties. It is the understanding of the Department that the estimated lifespan of the tunnel structure is 100 years. The term of the permit may be reviewed and extended by the Department in accordance with

Authorization condition #2 below upon written request by CDOT no less than three months prior to expiration. Review and analysis of CDOT's Conservation Plan took into consideration this potential 100-year infrastructure lifespan and the potential future removal of the downstream North Branch Dam; mitigation was calculated accordingly. See Authorization condition #11 below for the Department's position on future review and analysis with regard to mitigation.

This authorization may be revoked pursuant to the Act and Ill. Adm. Code 1080.80(b) if the Department finds that CDOT has failed to comply with any of these terms and conditions or has been responsible for the taking of banded killifish beyond that which is incidental to activities associated the construction and operation of the Albany Park Stormwater Diversion Tunnel between the North Branch of the Chicago River and the North Shore Channel in Cook County, Illinois.

2. The effective period of this authorization may be altered by mutual written agreement between CDOT 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 is non-transferable.
4. On-site personnel shall be educated on the sensitive biological resources in the area, the identification of listed fish species, regulations protecting the species, where the species might be found, equipment avoidance areas, how to report sightings or incidents that may involve take, and the importance of avoiding take of the species. CDOT shall submit a copy of all 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.
6. Biological consultants employed by CDOT shall hold the necessary permits for work with non-listed and listed species; these include an Illinois Department of Natural Resources Scientific Collection Permit and an Illinois Department of Natural Resources Endangered Species Permit.
7. CDOT shall notify the Department's Endangered Species Program by email correspondence of construction commencement and completion of inlet and outlet phase of the Albany Park Stormwater Diversion Tunnel. A project status report shall be submitted to the Department by January 1 following 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 including any relocations, description of any injuries or mortalities, and the disposition of any individuals that were injured or killed.

8. Any discoveries of additional listed species beyond those identified in this agreement shall be reported to the Department within 48 hours accompanied by location information (photograph, map, and GPS coordinates).
9. CDOT shall conduct, or cause to be conducted, the following construction efforts:
 - a. In-stream work shall not interrupt the natural flow regime of the North Branch of the Chicago River or the North Shore Channel.
 - b. Debris shall not be allowed to collect at the bottom of the waterways. Any debris that falls into the water during installation of the inlet and outlet structures shall be removed by the contractor during the same work day as soon as is practicable.
 - c. All spoil from construction shall be transported offsite. No fill material shall be left in the waterways.
 - d. Erosion and sediment control measures shall be implemented in all areas affected by construction. Disturbance of vegetation shall be minimized to prevent erosion and sedimentation. All disturbed areas shall be seeded or otherwise stabilized upon completion of construction activities.
10. Post-construction, CDOT shall conduct, or cause to be conducted, fish surveys upstream and downstream of the project within the North Branch of the Chicago River and the North Shore Channel in the vicinity of the project. The Department understands that CDOT will submit applicable data collected by existing long-term fish monitoring efforts conducted by professional fisheries staff of the Illinois Department of Natural Resources and the Metropolitan Water Reclamation District of Greater Chicago. Reports shall be submitted by January 1 every 5 (five) years after the execution of this agreement. The Reports shall include the survey methodology utilized, the species and numbers of fish located, and maps of the sampling locations. In the event that the agencies are no longer collecting such data, CDOT is responsible for seeking a qualified consultant to conduct fish surveys.

The Reports shall also include a summary of the dates, number, and degree of the storm events requiring utilization of the diversion tunnel; photos of the system functioning; updates on the status of the North Branch Dam; and any lessons learned in the operation of the tunnel.

11. CDOT shall mitigate for the potential taking of listed species to the maximum extent practicable by bringing conservation benefit to the species potentially impacted. Compensatory mitigation in the amount of \$26,000 shall be provided to the University of Illinois – Illinois Natural History Survey within 90 days of execution of this agreement to support the publication of *An Atlas of Illinois Fishes*, a comprehensive and current account of fish species distribution throughout the State of Illinois.

At this time, the Department believes that the specified mitigation sufficiently meets the "maximum extent practicable" as defined by the Act for the term of this Authorization. Future reviewers will make a determination as to whether the mitigation standard met herein is sufficient for any potential term extensions based on the known life history information of the covered species at that time and on the accumulated understanding of the interface between the diversion tunnel and the covered species.

Mitigation valuations 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.

12. 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.

13. The CDOT official identified below is authorized to execute this agreement. Execution by CDOT indicates acceptance of all terms and conditions described in this authorization.

14. The execution of this agreement does not waive or excuse the responsibilities of CDOT 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

1/5/17
Date

Cynthia Williams for Dan Burke
For the Chicago Department of Transportation:


Mr. Dan Burke, Deputy Commissioner
Division of Engineering

1/5/2017
Date