



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 Friends of Catherine and Channel Lakes (hereinafter referred to as FCCL), for the incidental take of the State-threatened Blackchin Shiner (*Notropis heterodon*), Iowa Darter (*Etheostoma exile*), and Starhead Topminnow (*Fundulus dispar*). The Illinois Department of Natural Resources (hereinafter referred to as Department) has determined that this taking is incidental to aquatic vegetation management practices developed to target control of, primarily, the highly invasive Eurasian water milfoil (*Myriophyllum spicatum*) (EWM) [listed as an Injurious Species in Illinois per 17 Ill. Adm. Code 805.20] in spring, and native invasive Coontail (*Ceratophyllum demersum*) in summer, specifically at Lake Catherine and Channel Lake, a part of the Fox River/Chain O'Lakes system, in Lake County, Illinois. A portion of the project area is also located within the Channel Lake Illinois Natural Areas Inventory Site (INAI #0673). The site is included on the Natural Areas Inventory due to its recognition as an outstanding example of glacial lakes in Illinois and due to the presence of specific suitable habitat for endangered and/or threatened species.

Procedural History

A Conservation Plan prepared by FCCL was submitted to the Department on March 28, 2019, as a request for authorization for the incidental take of Blackchin Shiner, Iowa Darter, and Starhead Topminnow. The Department requested additional information on July 22 and November 1, 2019, to make the Conservation Plan complete as prescribed by Ill. Adm. Code 1080.10. Additional information was received by the Department on September 12, November 1, and 6, 2019. The final Conservation Plan was accepted as complete by the Department on November 6, 2019. The public notice period and public comments will be detailed under #6 of the Compliance section below.

Compliance with the Illinois Endangered Species Protection Act

The Act includes six criteria which 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 be only incidental to, the carrying out of an otherwise lawful activity:

The stated and apparent purpose of this proposed action is to manage EWM and Coontail populations in Lake Catherine and Channel Lake by mechanically harvesting the species and disposing of materials to reduce nutrient inputs into the lakes in Antioch Township, Lake County. Annual observations determining the densest growths of the non-native invasive EWM and the aggressive Coontail will be documented on a map and used to prioritize harvest areas. Harvesting shall be performed mechanically by a qualified, licensed contractor or by FCCL if at some time during this agreement FCCL has the requisite license(s), equipment, and liability insurance. Harvesting shall occur in spring and summer seasons based on the peak growth of EWM and Coontail to achieve maximum effectiveness in reducing the densest cover during lake usage season. The harvester will be launched in and out of the lake at any number of boat launches located nearest the targeted harvesting areas. The machine will be removed and stored out of the water between workdays or securely moored in a commercial boat slip at one of the marinas on Lake Catherine or Channel Lake. Harvested materials will be sufficiently dewatered and hauled offsite by trucks to be disposed of in upland farm fields with owner permission; disposed of at an appropriate composting, waste disposal, or landfill facility; or may be sold for use as a natural fertilizer and a means to fund the proposed aquatic vegetation management practices. The weights of harvested materials and the areas covered by the harvester shall be recorded in a database to ensure no more than 70 acres in the spring season and 70 acres in the summer season shall be harvested in any given year. FCCL will work with the Department's Fisheries Biologist and local lake residents to prevent aquatic herbicides or other chemicals from being applied to areas scheduled for harvesting. No herbicide application will occur from May 1 through July 31 of each year to maintain vegetation for fish spawning and refugia. Proposed aquatic vegetation removal activities may result in the crushing of mature, juvenile, fry, and/or eggs of; and/or noise and vibration disturbance to the Blackchin Shiner, Iowa Darter, and Starhead Topminnow.

Total estimated area of invasive aquatic vegetation growth and potential impact due to mechanical harvesting within species habitat is 200 acres, **aquatic vegetation removal shall not exceed 70 acres in the spring season and 70 acres in the summer season, annually.** The Department concurs that the take of Blackchin Shiner, Iowa Darter, and Starhead Topminnow that could result from the proposed project is not the purpose of FCCL'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 avoidance, minimization and mitigation were included in FCCL's Conservation Plan.

To meet the "maximum extent practicable" standard, additional minimization and/or mitigation measures may be required beyond those proposed by FCCL,

based on the life history needs of the Blackchin Shiner, Iowa Darter, and Starhead Topminnow. **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.

FCCL states a portion of their annual budget, which is largely funded by donations, shall be dedicated toward implementation of the Conservation Plan, mitigation, and lake management work to continuously improve and maintain the lakes' ecosystem to enhance the overall quality of lake life for both residents and aquatic flora and fauna.

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 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.

Blackchin Shiner (*Notropis heterodon*)

Blackchin Shiner is an Illinois state-threatened fish species.

Habitat: Blackchin Shiner is a small fish found in clear, vegetated lakes, and in pools and slow runs of creeks and small rivers, usually over sand.

Distribution: Blackchin Shiner range is centered in the Great Lakes region and upper Mississippi River basin, but occurs also in a few Atlantic drainages, upper Ohio River basin, and Hudson Bay basin from Minnesota and Iowa to New York, Vermont, southeastern Ontario, and southern Quebec.

Reproduction: Spawning occurs between July and September. Sexually mature at one year, spawns annually. However, the species normally does not survive beyond two years.

Population: Blackchin Shiner population decline is attributed to pollution, including turbidity and siltation, and the introduction of sport fishes. Dams present a barrier to dispersal.

Range in Illinois: In Illinois, Blackchin Shiner are found in the Fox and Des Plaines River basins. Blackchin Shiner are found in 4 of 102 Illinois counties, including Cook, DuPage, Lake, and Will Counties. There are currently 21 extant Element Occurrence Records of Blackchin Shiner in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has one previously issued Incidental Take Authorization for Blackchin Shiner at Loon Lakes approximately 2.5 miles southeast of the FCCL project. This is the second authorization for the taking of Blackchin Shiner in Lake County.

Iowa Darter (*Etheostoma exile*)

Iowa Darter is an Illinois state-threatened fish species

Habitat: Iowa Darter is a small fish found in clear, sluggish creek and small to medium rivers. They are also found in weedy portions of glacial lakes and ponds over sand, peat, or organic debris.

Distribution: Iowa Darters occur in the St. Lawrence-Great Lakes, Hudson Bay, and Mississippi River basins from Quebec to Alberta and south to Ohio and Colorado.

Reproduction: Spawning occurs between April and June. Female may spawn with one or more males. Eggs hatch in 18-26 days.

Population: Iowa Darter population decline has occurred because of drainage of wetlands, pollution, and non-native species introductions.

Range in Illinois: In Illinois, Iowa Darter are found in the Wabash, Vermilion, Mississippi, Fox and Des Plaines River basins. Iowa Darter are found in 9 of 102 Illinois counties, including Will, Kendall, Cook, DuPage, Lake, Kane, McHenry, Boone, and Winnebago Counties. There are currently 59 extant Element Occurrence Records of Iowa Darter in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has seven previously issued or pending Incidental Take Authorizations for Iowa Darter. This is the fourth authorization for the taking of Iowa Darter in Lake County, all lie within 5 miles of the current project.

Starhead Topminnow (*Fundulus dispar*)

Starhead topminnow is an Illinois state-threatened fish species.

Habitat: Starhead topminnow is a small fish found in clear, well-vegetated floodplain lakes, swamps, and marshes. They prefer quiet areas in shallow backwater with submerged vegetation.

Reproduction: Spawning occurs between May and June in dense beds of aquatic vegetation. Eggs hatch in 9-11 days. Female starhead topminnow are known to produce multiple clutches of eggs within a single breeding season. They reach sexual maturity after one year.

Population: Starhead topminnow populations have declined due to the draining of wetlands and other forms of habitat loss and degradation.

Range in Illinois: In Illinois, starhead topminnows are found in the Illinois, Kankakee, and Fox Rivers, along with several lakes and smaller creeks and tributaries. They have been found in 11 of 102 Illinois counties, including Fulton, Iroquois, Kankakee, Lake, Mason, McHenry, Piatt, Pope, Putnam, Union, and Winnebago Counties. There are currently 20 extant Element Occurrence Records in the Illinois Natural Heritage Database.

Incidental Take Authorizations: There have been four previously issued or pending Incidental Take Authorizations for starhead topminnow in Illinois. This is the second authorization to be granted for the take of starhead topminnow in Lake County, the other is Loon Lakes noted above under Blackchin Shiner.

5. Any measures required under Section 5.5(b)(6) of the Act will be performed.

Additional measures are listed below under “Authorization”. This authorization is, by definition, subject to those terms and conditions and the signature of a representative from FCCL 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 FCCL’s request for authorization of incidental take was published in the *Breeze Courier* (official state newspaper) on November 18, 2019, and the *Northwest Herald* on November 18, and 25, and December 3, 2019. A copy of the Conservation Plan was deposited at the Antioch Public Library District allowing for public review. The deadline for public comment was January 3, 2020. No comments were received from the public.

Authorization

It is the determination of the Department that the measures to be implemented by FCCL will adequately minimize and mitigate the anticipated taking of Blackchin Shiner, Iowa Darter, and Starhead Topminnow associated with the aquatic vegetation management in Lake Catherine and Channel Lake in Lake County, Illinois. Further, the Department has concluded that the taking authorized herein will not reduce the likelihood of survival or recovery of Blackchin Shiner, Iowa Darter, and Starhead Topminnow 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 Conservation Plan submitted by FCCL 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 FCCL in the Conservation Plan:

1. This authorization is effective upon the signature of the Department and shall remain in effect for a period of **twenty (20) years** from the date of the Department signature, 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 Blackchin Shiner, Iowa Darter, or Starhead Topminnow has become more imperiled than when the species and impact analyses were initially conducted, the Department may request an amendment to this Authorization or additional mitigation by FCCL. If the Department and FCCL cannot reach an agreement, this Authorization will be terminated. Termination of this Authorization under this provision does not prevent FCCL 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 FCCL has failed to comply with any of these terms and conditions or has been responsible for the taking of Blackchin Shiner, Iowa Darter, or Starhead Topminnow beyond that which is incidental to the management of aquatic vegetation in Lake Catherine and Channel Lake in Lake County, Illinois.

2. The effective period of this authorization may be altered by mutual written agreement between FCCL 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 performing activities to effectuate the proposed aquatic vegetation management program and this Incidental Take Authorization shall be provided on the sensitive biological resources in the area; the identification of the Blackchin Shiner, Iowa Darter, or Starhead Topminnow; 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. **FCCL 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 potential habitat and species management practices.
6. Biological consultants employed by FCCL shall hold the necessary permits for work with non-listed and listed species; these include, but may not be limited to, 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. FCCL, in coordination with licensed commercial applicators, shall determine or defer to the Department's District Fisheries Biologist on any formulations, application rates and scheduling of any aquatic herbicide use in Lake Catherine and Channel Lake to be determined based on needs identified annually. Application of aquatic herbicides shall proceed only after approval in writing by the Department's Division of Fisheries through issuance of a Letter of Permission, as authorized under 17 Ill. Adm Code 895.
8. FCCL shall notify the Department's Endangered Species Program by email correspondence of annual commencement and completion of the aquatic vegetation management project. A **project status report** shall be submitted to the Department within **90 days** following completion of the annual (spring and summer season) aquatic vegetation control effort summarizing the implementation, minimization efforts, mitigation progress, 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 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.
9. FCCL shall provide copies of any reports on aquatic vegetation management and other lake management activities that are required by the Lake County Health Department to the Department.
10. Notification of any Blackchin Shiner, Iowa Darter, or Starhead Topminnow present during the 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). 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. Any taking of State-listed plants requires the express written permission of the landowner. FCCL shall obtain written permission from the landowner or their designee on any parcel where a listed plant species may be impacted. The Department reserves the right to request those written permissions at any time throughout the duration of this authorization. This agreement does not authorize the taking of any State-listed plant species.
12. FCCL shall conduct, or cause to be conducted, the following pre-construction, construction, and/or post-construction efforts:
 - a. Adhering to the 2017 Lake Management Plan included in the FCCL Conservation Plan, FCCL shall identify aquatic vegetation harvest priorities. Priority areas shall be identified on aerial maps and progress shall be tracked by the contractor using GPS.
 - b. No mechanical harvesting shall be conducted until May 15.

- c. Harvesting will specifically target areas with dense EWM or Coontail growth within a water depth zone of 3-12 feet deep, leaving no less than one foot of vegetation on the lake bottom. These aggressive species typically support less fish and invertebrate numbers compared to native species.
- d. Harvested biomass shall be mechanically removed then hauled offsite to reduce nutrient inputs to the lake from decomposing vegetation that occurs when plants naturally expire and when chemical control is used.
- e. FCCL shall maintain a database recording the amount of material (by weight) hauled off each season, and the areas covered by the harvester. No more than 70 acres of aquatic vegetation in the spring season and 70 acres of aquatic vegetation in the summer season shall be harvested in any given year.

13. FCCL shall conduct, or cause to be conducted, the following post-construction monitoring throughout the term of this agreement:

- a. Post-construction monitoring of listed fish species will be via the biennial fish surveys conducted by the Department and augmented by FCCL working in cooperation with Department biologists to seine in shallow areas typically used by these species.
- b. The effectiveness of the aquatic plant management will be assessed by conducting an in-lake vegetation survey every three (3) years by trained volunteers or a qualified lake management firm and comparing vegetative cover and composition with previous years.
- c. FCCL will monitor shoreline landowner compliance with the overall program and the amount of complaints received concerning nuisance aquatic plant growth.

A report summarizing the results of biennial fish surveys, aquatic vegetation surveys, and the harvesting and herbicide activity for each year will be prepared by FCCL and submitted to the Department. The report shall include, but not limited to, a description of the survey methodology utilized including duration, date, time, habitat description, photographs, and a map of survey locations and the locations of Blackchin Shiner, Iowa Darter, or Starhead Topminnow shall be provided to the Department **within 90 days of completion of each survey.**

14. Mitigation to the maximum extent practicable is required by the Act. Mitigation requirements for this authorization are as follows:

- a. FCCL has selected a Mitigation Area, near the inlet channel at the northwestern end of Channel Lake, approximately 6.5 acres in size to enhance with native aquatic vegetation plantings after appropriate control and reduction of the EWM growth. If necessary, chemical treatment of invasive plants in the Mitigation Area shall be carried out by a properly licensed and permitted contractor or volunteer working for private shore owners in April and September of each year beginning 2020. The Mitigation Area shall be cordoned off to protect young native aquatic vegetation plantings, even though it is typically too shallow for power boat access. This area would be

outside of normal recreational uses and provide additional in-lake habitat. FCCL provided a list of native species to plant in the Mitigation Area in their Conservation Plan and accepts the responsibility for the costs of planting. The effort is valued at \$5,260.

- b. FCCL will also conduct an education/outreach program on invasive species and best practices at all boat launches on the two lakes. Additionally, FCCL will conduct education/outreach programs focusing on chemical use on lawns, in the lake, and on septic systems emphasizing their influence on the health of the lake. Education and outreach efforts by the FCCL will inform shoreline landowners of the aquatic vegetation control program and reduce the ad-hoc application of chemical controls. An emphasis shall be placed on improving the water and habitat quality in the lakes, while allowing other recreational uses. The FCCL will allocate \$3,000 for this education/outreach program.
- c. The mitigation shall be initiated **within 90 days of execution of this agreement**. 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'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.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.

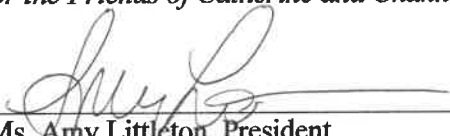
16. The FCCL official identified below is authorized to execute this agreement. Execution by FCCL indicates acceptance of all terms and conditions described in this authorization.
17. The execution of this agreement does not waive or excuse the responsibilities of FCCL to comply with other Federal, State,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

Date


For the Friends of Catherine and Channel Lakes:



Ms. Amy Littleton, President
Friends of Catherine and Channel Lakes

4/20/20
Date

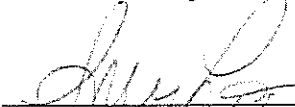
For the Illinois Department of Natural Resources:



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

April 23, 2020
Date

For the Friends of Catherine and Channel Lakes:



Ms. Amy Littleton, President
Friends of Catherine and Channel Lakes

4/30/20
Date