



Forest Preserve District of DuPage County

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August 2, 2006

Mr. Joseph A. Kath
Terrestrial Endangered Species Project Manager
Illinois Department of Natural Resources
Office of Resource Conservation
One Natural Resources Way
Springfield, IL 62701-1271

Re: Incidental Take Authorization – Conservation Plan Review (Slippershell mussel)
Spring Brook Creek Meandering Project, DuPage County, Illinois
Springbrook Prairie Forest Preserve – Naperville, Illinois

Per the instructions in your letter dated July 26, 2006, enclosed are two (2) signed copies of the Authorization and Implementing Agreement.

After the agreements are signed please return the fully executed copy to my attention. I have enclosed a self-addressed return envelope for your convenience.

Thank you for your assistance with this matter. If you have any questions or problems, please contact me at 630-933-7671.

Sincerely,

Leslie A. Bern
Natural Resource Management Supervisor

Enclosures

LAB/sjh

Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (520 ILCS 10/5.5) the FPDDC's authorization for the incidental take of the State threatened slippershell mussel (*Alasmidonta viridis*) in DuPage County, Illinois (as described/shown in the conservation plan received by the Department on 21 February 2006) is hereby granted, subject to the terms and conditions described in the attached Authorization and Implementing Agreement. The Illinois Department of Natural Resources has determined that this authorized take is incidental to the meandering of Spring Brook Creek in Springbrook Prairie Forest Preserve, Naperville, Illinois in DuPage County.

Procedural History

FPDDC prepared a conservation plan as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and FPDDC's request for authorization for incidental take of slippershell mussels were received by the Illinois Department of Natural Resources (Department) on 21 February 2006. Public notice of FPDDC's request for authorization of incidental take of slippershell mussels was published in the Edwardsville Intelligencer (Official State newspaper) and the Daily Herald (widespread Northeastern Illinois Suburban distribution) on March 31, 2006, as well as on April 7, 2006 and April 14, 2006. Public comments on FPDDC's conservation plan were accepted by the Department until May 14, 2006. No comments were received by the public during the period of March 31, 2006 through May 14, 2006.

Compliance with the Endangered Species Protection Act

The Illinois Endangered Species Protection Act includes six (6) criteria which must be met for the authorization of incidental take of an endangered or threatened species. These criteria and the Department's determination for each criteria are listed below.

1. The taking will not be the purpose of, but will only be incidental to, the carrying out of an otherwise lawful activity:

The stated and apparent purpose of this proposed action is to meander (re-meander) a 1.5 mile section of Spring Brook Creek, a tributary of the DuPage River in DuPage County, Illinois. This action is part of an ongoing restoration and habitat improvement of Springbrook Prairie Forest Preserve in Naperville, Illinois (near Plainfield-Naperville road, one-quarter mile south of 75th Street). There are no known slippershell mussels in the specific portion of the creek that will be meandered, but a small population has been found downstream of the project site. Therefore, this portion of Spring Brook Creek potentially contains habitat for freshwater mussels, including State listed species. In the course of these construction/meandering activities, FPDDC, will relocate all observed mussels (listed or non-listed species) disturbed by construction, hence a technical "taking" of these species. Such taking is not the purpose of the activities proposed by FPDDC, but is incidental to the carrying out of a lawful activity.

The meandering of Spring Brook Creek will assist greatly in the development of a pool/riffle structure in the currently channelized portion of Spring Brook Creek. This will provide greatly improved habitat and water quality for all mussels, including the slippershell, as well as their host fish, thereby increasing the possibility of establishing a viable, reproducing population within this portion of the DuPage River watershed and beyond.

2. The parties to the conservation plan will, to the maximum extent practicable, minimize and mitigate the impact caused by the taking.

The conservation plan prepared by FPDDC, and received by the Department on 21 February 2006 stated that freshwater mussel surveys, and subsequent relocations, would be conducted prior to initiation of construction/meandering activities, and most likely during the spring/summer while water temperatures are at or above 50 degrees Fahrenheit. All mussels observed (listed or non-listed species) are to be relocated in order to minimize impacts. Mussel surveys will be conducted using standard survey techniques including searching by feel to methodically cover the area to be disturbed by the project (viewing boxes, wading in shallow water, SCUBA in deeper water-if applicable, although not likely with this project). All mussels found will be identified to species. Mussels will be relocated into areas of suitable habitat, in the same stream/river, preferably (but not mandatory) upstream of the construction site. Specifically, the transplant site(s) will be close to the collection area and have similar to better water quality and substrate. FPDDC and nearby associated IDNR staff have extensive experience with Midwestern mussels. FPDDC staff will provide the Department with a report detailing the results of all mussel surveys and relocation efforts within 60 days of completing all surveys/relocations. In summary, mussel surveys and related relocations will occur only after Department authorization and prior to any construction/meandering activities.

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

In an official correspondence to the Department dated 21 February 2006, FPDDC verified that adequate funding exists to support and implement all meandering and mitigation activities described in the official Conservation Plan. This correspondence states that the Spring Brook Creek meandering project follows the mission of the FPDDC; the mission of the FPDDC is to acquire and hold lands containing forests, prairies, wetlands, and associated plant communities or lands capable of being restored to such natural conditions for the purpose of protecting and preserving the flora, fauna, and scenic beauty for the education, pleasure, and recreation of its citizens. Adequate funding exists for this stream meander project as it is a \$1.5 million restoration project. This project is authorized by DuPage County, which receives its funding from various State and Federal Governmental sources. FPDDC has committed to budget and authorize adequate funding to provide for project construction/meandering activities and implementation of all mitigation activities required and described in the official conservation plan. The entire natural resources staff of the FPDDC, which includes 6 biologists, is fully committed to the success of this meandering/restoration project.

The guiding principles of the FPDDC quote: “ensure that our actions, policies, and decisions are founded in the understanding and acceptance of the responsibilities entrusted to us by the citizens of DuPage County for the preservation and protection of natural and cultural resources”. Overall, the end result of this meandering project will provide greatly improved habitat and possibly a healthy, reproductively viable population of native mussels (including the slippershell mussel) in this portion of the State of Illinois.

4. Based on the best available scientific data, the Department has determined that the taking will not reduce the likelihood of the survival or recovery of the endangered species or threatened species in the wild in Illinois, the biotic community of which the species is a part, or the habitat essential to the species' existence in Illinois:

Meandering/re-meandering of this portion of Spring Brook Creek in DuPage County, Illinois will not reduce the likelihood of the survival of state-listed threatened or endangered mussels in Illinois. In fact, the meandering of Spring Brook Creek will assist greatly in the development of a pool/riffle structure in the currently channelized portion of Spring Brook Creek. This will provide greatly improved habitat and water quality for all mussels, including the slippershell, as well as their host fish, thereby increasing the possibility of establishing a viable, reproducing population within this portion of the DuPage River watershed and beyond.

For the purposes of biological comparison, it should be noted that the freshwater mussel fauna of the Fox River and its tributaries in Illinois and Wisconsin were surveyed by Department staff during the summers of 1997-2001. A total of 3,585 live individuals comprised of 23 species were collected from 96 sampling stations. Of this total, 31 slippershell mussels (*Alasmidonta viridis*) were collected.

In North America, the slippershell mussel (*Alasmidonta viridis*) is known from the upper Mississippi, Ohio, Cumberland, and Tennessee river drainages and lower and middle sections of the St. Lawrence. In Illinois, it is known from the Sangamon, Kankakee, Vermilion, and Little Vermilion river systems. This mussel inhabits small to medium sized streams where it is usually found buried in sandy substrates in shallow water. Unfortunately, the slippershell now has a restricted distribution in Illinois, and its numbers have been reduced most likely as a result of increased siltation and channelization in small to medium sized streams throughout the state. Any live animals that are overlooked during the relocation effort could be at risk of injury or death as a result of construction activities. The relocation of all mussels encountered will make it unlikely that a significant number of individuals will be exposed to threats related to the meandering of Spring Brook Creek in Springbrook Prairie Forest Preserve, Naperville, Illinois in DuPage County.

As stated in the April 1996 Technical Report (working draft) titled - “Measures to minimize harm to *Lampsilis higginsii* [federally endangered Higgins Eye mussel] caused by passage of commercial navigation vessels in the upper Mississippi River” [prepared by the U.S. Army Corps of Engineers-Waterways Experiment Station]: Relocation is one of several methods that can be used to protect freshwater mussels.

Relocation can be used to recolonize areas where previous populations were extirpated, to remove mussels from proposed construction sites, to boost numbers of endangered species, or to protect against high densities of the zebra mussel (*Dreissena polymorpha*). The survival of relocated mussels is closely linked to habitat quality.

Relocation sites should have the same conditions of substratum type and stability, and water velocity as the original habitat. Research from the federally endangered Higgins Eye mussel (*Lampsilis higginsii*) recovery team, under the guidance of the United States Fish and Wildlife Service, has determined that minimal mortality (<12%) and high recovery rate (>88%) were shown when aerial exposure of mussels was less than four (4) hours and when relocations were conducted in spring or autumn when air (12-18 C) and water temperature (15-23 C) were moderate.

This specific habitat improvement project may (minimally) negatively affect freshwater mussels in Spring Brook Creek during the actual restoration work. However, to reduce negative impact of this project on native mussels, any freshwater mussels in the project area will be relocated downstream from the restoration site in a suitable substrate for the duration of the project. Relocation downstream is the best option for this project. It is anticipated that much of the construction of the new channel will take place before connecting with the old channel and therefore occur in dry conditions. All erosion control measures approved by the proper permitting agencies will be adhered to. District (FPDDC) staff/associates will be on site for continual surveillance of construction progress. FPDDC staff biologists will be responsible for native mussel relocations whenever construction activities may adversely impact mussel populations and before the old channel is abandoned. Siltation of the downstream relocation site will be minimized because the majority of the construction of the meanders will not affect the existing channelized portion until the very end of the project. Channel cross-sections, meander patterns, and substrate of the new channel design is based on observations and data analysis of the downstream reaches where studies have shown mussel diversity and abundance to be much greater. Long term, the development of a pool/riffle meandering stream in the channelized portion of Spring Brook Creek will provide greatly improved habitat and water quality for all mussels including the slippershell as well as their host fish, thereby increasing the possibility of establishing a viable reproductive population.

5. Any measures required under Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)], will be performed:

Additional measures are listed below under "Authorization." This authorization is, by definition, subject to those terms and conditions and official FPDDC's signature(s) on this authorization 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:

FPDDC prepared a conservation plan as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and FPDDC's request for authorization for incidental take of slippershell mussels were received by the Illinois Department of Natural Resources (Department) on 21 February 2006. Public notice of FPDDC's request for authorization of incidental take of slippershell mussels was published in the Edwardsville Intelligencer (Official State newspaper) and the Daily Herald (widespread Northeastern Illinois Suburban distribution) on March 31, 2006, as well as on April 7, 2006 and April 14, 2006. Public comments on FPDDC's conservation plan were accepted by the Department until May 14, 2006. No comments were received by the public during the period of March 31, 2006 through May 14, 2006.

Authorization

It is the determination of the Department that the measures to be implemented by FPDDC will adequately minimize and mitigate for the possible taking (relocation) of a small number of slippershell mussels due to the meandering of Spring Brook Creek in Springbrook Prairie Forest Preserve, Naperville, Illinois in DuPage County. Further, it is our opinion that the take (relocation) authorized herein would not diminish the likelihood of the survival of the slippershell mussel 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. In fact, the meandering/re-meandering of Spring Brook Creek will assist greatly in the development of a pool/riffle structure in the currently channelized portion of Spring Brook Creek. This will provide greatly improved habitat and water quality for all mussels, including the slippershell, as well as their host fish, thereby increasing the possibility of establishing a viable, reproducing population within this portion of the DuPage River watershed and beyond.

This project is obviously a habitat improvement project in a DuPage County Forest Preserve, rather than a development type project. No action to restore and improve habitat in this area would have a continuing detrimental effect on the current mussel population. In the event that unforeseen circumstances arise during the course of the project, the FPDDC will immediately contact/consult experts on mussel biology and relocation such as the IDNR, INHS, and/or the Shedd Aquarium in Chicago, Illinois.

Pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)], this authorization is issued subject to the following additional terms and conditions:

1. This authorization is effective upon signature of the Department and shall remain in effect for a period of five (5) years (typical time period for all environmental permit performance standards to be met [storm water and wetland permits to ensure vegetative success and establishment of appropriate wetland hydrology], unless terminated pursuant to Section 5.5. of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.80].

2. Prior to any disturbance, FPDDC staff (and/or qualified associates) shall conduct, or cause to be conducted, a thorough survey of all project/impact sites along Spring Brook Creek that will be directly affected by construction activities and shall relocate any and all (listed or non-listed species) freshwater mussels found within the area(s) that will be directly affected by the meandering project to suitable habitat preferably (but not mandatory) upstream of the project site. Relocation sites shall be previously identified and marked before relocation. The relocation site(s) shall be equivalent to substrate, velocity, and depth of found mussels. Mussel relocation efforts shall be restricted to the months of April through October to decrease stress from extreme air and water temperatures. Handling of mussels shall be in compliance with any and all conditions and/or protocols included in the state and/or federal authorizations for this work. Relocated mussels shall be identified to species and enumerated. A report on the species and numbers of mussels relocated and the location(s) at which they were released shall be provided to the Department within 60 days of completion of the relocation.

3. FPDDC shall conduct, or cause to be conducted, a thorough survey of both the construction/meandering area and the mussel relocation site(s) for freshwater mussels. All freshwater mussels located within the construction/meandering area and relocation site(s) shall be identified to species and enumerated and the length of each mussel shall be measured to the nearest millimeter. Handling of mussels shall be in compliance with any and all conditions and/or protocols included in the state and/or federal authorizations for this work. A report on the species, numbers, and sizes of mussels found shall be provided to the Department within 60 days of the completion of each survey. At a suitable time subsequent to the completion of the project, all mussels shall be relocated/returned to the newly created meandered creek in an appropriate location(s) to repopulate the improved habitat. The mussel relocation area shall be monitored each month for three (3) months, then once every three (3) months, then twice a year for a minimum of three (3) years. A report on the species, numbers, and sizes of mussels found shall be provided to the Department within 60 days of the completion of each survey.

4. All mussels encountered within the State of Illinois during this project shall be subject to the general U.S. Fish and Wildlife Service handling protocol for determining presence/absence of species as found in "Section H" of the attached Federal Fish and Wildlife document.

5. The effective period of this authorization may be altered by mutual agreement between the FPDDC and the Department.

6. This authorization may be revoked pursuant to Section 5.5 of the Act if the Department finds that FPDDC has failed to comply with any of these terms and conditions or has been responsible for the take of any slippershell mussels beyond that which is incidental to the meandering of Spring Brook Creek in Springbrook Prairie Forest Preserve, Naperville, Illinois in DuPage County.

7. The FPDDC official identified below is authorized to execute this agreement. Execution by FPDDC indicates acceptance of all terms and conditions described in this document.

For the IL. Department of Natural Resources

Mike Conlin

Mike Conlin, Acting Director
Office of Resource Conservation

8.9.06

Date Signed

For the Forest Preserve District of DuPage
County (FPDDC)

Luki AP

Signature

**Natural Resource Management
Supervisor**

Please print name and official title

8/2/06

Date Signed