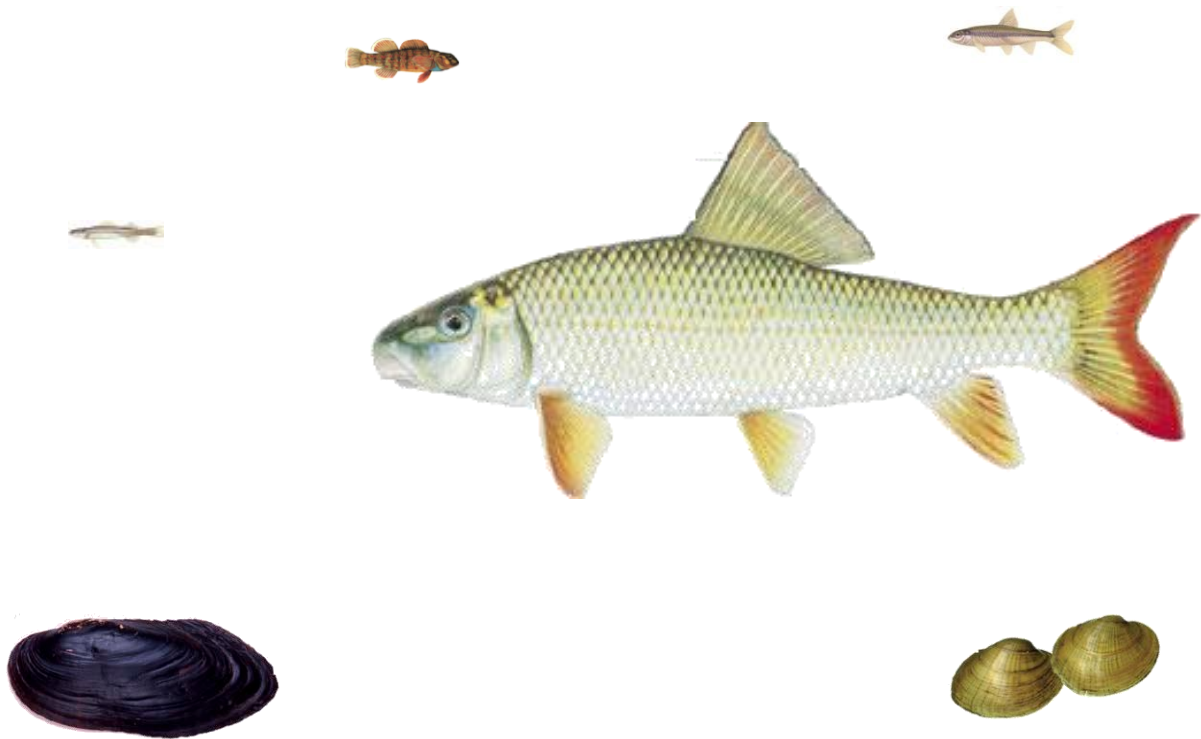


# Conservation Plan for Ellsworth Park Dam Removal

## City of Danville



February 2014

Prepared by: The Illinois Department of Natural Resources, Office of Water Resources

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Bluebreast Darter (*Ethostoma camurm*)

Eastern Sand Darters (*Ammocrypta pellucidum*)

Bigeye Chub (*Hybopsis amblops*)

River Redhorse (*Moxostoma carinatum*)

Wavy-rayed Lampmuseel (*Lampsilis fasciola*)

Black Sandshell (*Ligumia recta*)

*Images are ~ 1/5 actual size*

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## 1) DESCRIPTION OF IMPACTS

### A) Legal Description

The Ellsworth Park Dam is in the City of Danville in the Ellsworth Park on the North Fork of the Vermilion River approximately 0.53 miles upstream of the confluence of the Vermilion River. The location of the dam is Section 8 of Township 19 North, Range 11 West of the 2<sup>nd</sup> Principal Meridian or -40.123888, -87.638788 Decimal Degrees, as shown in Figure 1. The affected property, Ellsworth Park, is owned by the City of Danville.

### B) Biological Description of Affected Species



#### BLUEBREAST DARTER

The Bluebreast Darter (*Etheostoma camurum*) is listed as endangered in Illinois (Illinois Endangered Species Protection Board, February 22, 2011). The Bluebreast Darter is a small colorful fish that is rarely greater than 3.5 inches in length and usually in the 2-3 inch range. They have a blunt nose, a dark blue to blue-green coloring with 8 to 12 faint dark vertical bars. Their fins have a dark outer edge outline with a white line inside of that. The males have a blue throat and breast, small red spots along their sides and an orange area on their lower sides. While in breeding season, the male will be tinged with an orange-red coloring. Female darters do not have the blue breast and throat, red spots or orange area. They have a much duller coloring with a few dark spots on their side.

The Bluebreast Darter mostly eat aquatic insect larvae, crustaceans and other aquatic invertebrates. They live in clear, fast moving, medium to large streams. They are typically in 4 to 12 inches of water and the adults typically are found near boulders. The know locations of the Bluebreast Darter is in New York, Pennsylvania, Virginia, West Virginia, Ohio, Kentucky, Indiana, Tennessee, Alabama and Illinois. Within Illinois, there are 17 recorded occurrences yielding 120 individual Bluebreast Darters. The Illinois Natural History Survey (INHS) estimates the total population based on sampling density and habitat to be approximately 23,000, all in Vermilion County in the tributaries of the Wabash River watershed. Two Bluebreast Darters were the only collected threatened and endangered species that were found in the North Fork in the project area as shown in Figure 2. Near I-74, south of Danville, two more individuals were sampled totaling a population of 3 in the project area of the 120 statewide sampled.

In the summer of 2007, the INHS conducted a survey of the Bluebreast Darter at thirty sites. Seventeen sites produced a total of 79 Bluebreast Darters. All except two were collected in areas of swift moving water where cobble and boulders were present in the stream. They were often found in depths of 3-18 inches. The Middle Fork and Salt Fork contained the highest densities of the species while the main

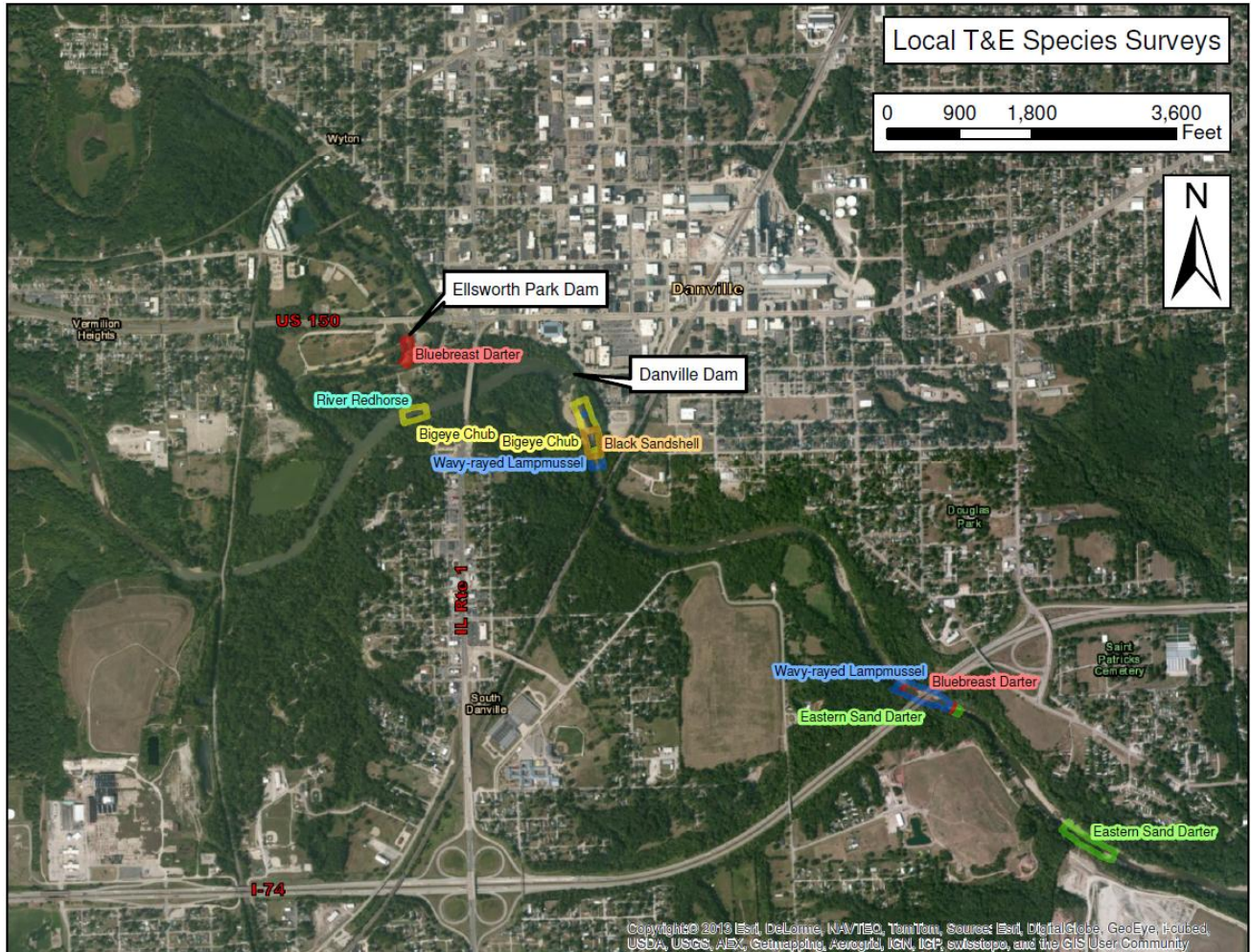


**Danville & Ellsworth Park Removal**  
 Vermilion River & North Fork  
 of Vermilion River  
 Danville, IL  
 Vermilion County

Exhibit 1

**Figure 1: Location Map**

stem had infrequent collections and only a single Bluebreast Darter was found on the North Fork. Spawning was observed during this survey on 22 June 2007 when water temperatures was 24°C. The Bluebreast Darter usually spawn from May to July where the female can lay about 100 eggs. The incubation period is seven to ten days.



**Figure 2: Local T&E Species Surveyed**



**EASTERN SAND DARTER**

The Eastern Sand Darter (*Ammocrypta pellucidum*) is listed as threatened in Illinois (Illinois Endangered Species Protection Board, February 22, 2011). The Eastern Sand Darter is a long and narrow fish that is rarely greater than 3.5 inches in length and usually in the 2-3 inch range. They have a translucent body appearance with white or silver bottom and sides with a yellow or tan color on their back. Their sides have a 9 – 14 olive spot with a pair of 12-16 olive spots on each side of the dorsal fin. The fins are

mostly transparent with a yellowish tint. Males and females have the similar colorings while the young are more silvery and less yellow. The males have a greater yellow coloration and develop breeding tubercles on pelvic fin rays during breeding.

The Eastern Sand Darter mostly consumes midge larvae. The Eastern Sand Darter is mostly found in medium to large streams with sand or sand-gravel bed material. Although they are commonly found in moderate currents some studies show they have a tolerance for greater water depth and velocities as long as sand beds are present, but are highly intolerant of silt or mud covering up clean sand. They are typically located on a depositional bank immediately downstream of a bend. The known locations of the Eastern Sand Darter are in Illinois, Kentucky, Indiana, Michigan, Ohio, West Virginia, Pennsylvania, Vermont and New York. Within Illinois, there are 36 recorded occurrences yielding 500 individual Eastern Sand Darters. The location of this species is primarily in the Embarrass River and its tributaries with a limited amount in the Vermilion River. One fish was sampled near the I-74 Bridge south of Danville in 2003 and two were collected below the Danville Dam in 2011.

Spawning activities of the Eastern Sand Darter are typically between May and September and have only been observed in laboratories. Studies have shown that spawning occurs in water temperatures between 14.4 and 24.4°C and in areas with low silt levels. The male initiates the process by chasing the female. The female then moves to the sandy bed material where the male mounts her and they vibrate to bury their tails in the sand. Other males will often move beside the mating pair and begin vibrating. The eggs are deposited in the sand individually over an area. The female lays an average of 71 eggs.

The average egg size is 1.4mm and are translucent, spherical and adhesive. After spawning there is no parental support. The young hatch at a length of 5.5mm. The males and females mature by the end of the first year while some female may not mature until their second year. The typical life span is 2-3 years with a maximum of 4 years.



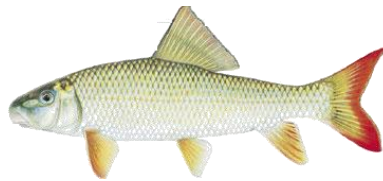
### BIGEYE CHUB

The Bigeye Chub (*Hybopsis amblops*) is listed as endangered in Illinois (Illinois Endangered Species Protection Board, February 22, 2011). The Bigeye Chub is a long and narrow fish with a blunt nose that is rarely greater than 4 inches in length and usually in the 2.5-3.5 inch range. They have a large eye in which they are named and a coloring that is primarily silver with a dark strip that extends from their nose to their tail. The fins are transparent without any markings.

The Bigeye Chub mostly consumes midge larvae, and are mostly found in small to medium size streams with sandy, gravelly or rocky bed material in pools with little to no current near riffles. The Bigeye Chub are highly intolerant of silt or mud covering up clean sand. The known locations of Bigeye Chub are in Missouri, Oklahoma, Arkansas, Illinois, Kentucky, Tennessee, Alabama, Georgia, Indiana, Michigan, Ohio, West Virginia, Virginia, North Carolina, Pennsylvania, Rhode Island and New York.

Within Vermilion River system, there were 11 locations that yield 288 individual Bigeye Chubs in 2011. The location of this species is primarily on the Vermilion River, the Little Wabash and other small tributaries to the Wabash River. Thirteen fish were collected near the Danville Dam in 2004.

Spawning activities of the Bigeye Chub occur in late spring and early summer, but there is little known about where and how spawning occurs.



### RIVER RED HORSE

The River Redhorse (*Moxostoma carinatum*) is listed as threatened in Illinois (Illinois Endangered Species Protection Board, February 22, 2011). This robust, cylindrical sucker may be separated from other suckers by its red tail fin. The dorsal and other fins may also be red or reddish. The dorsal fin has a straight or slightly concave margin and the tail fin has a pointed upper lobe which usually is slightly longer than the rounded lower lobe. Crescent-shaped dark spots may be visible on the scales of the back and sides. Overall body color is olive to brownish across the back, with silvery or bronze sides and a white underside.

Normally inhabitants of medium to large size rivers; they may also enter tributary streams and have been observed in reservoirs. They prefer clean rivers with sand, gravel or cobblestone bottoms and swift currents. Within Illinois, there are 41 recorded occurrences yielding 98 individual River Redhorse. The location of this species is in Will, Kendall, Livingston, LaSalle, Kankakee, Kane, Grundy, Iroquois and Vermilion Counties. One fish was collected above the Danville Dam in 2013 and 7 were collected below the Danville Dam in 2011.

River Redhorse feed primarily on mollusks such as mussels and snails, and their enlarged, molar-shaped, internal throat teeth are specially adapted for crushing the hard shells. With a vacuum cleaner-like mouth, handily placed at the bottom of its head, the River Redhorse uses its fleshy lips, highly charged with nerve endings, to feel for food. It makes a living picking from the river bottoms, perusing over rubble and slow-water areas of mud and leaf litter, searching for primarily mayflies, caddisflies, and aquatic beetles.

In May and June, when the River Redhorse turns its energies to spawning, all of it turn a brilliant, bright red (they can be at least partially red the rest of the year). The redhorse also develops pearl organs, or tubercles, on its skin around this time. These organs give the skin the coarse, raspy texture needed for spawning. The adults make runs upstream, moving mostly at night to find good breeding habitat. The males move onto the riffles and either excavates gravel with their tails in a sweeping motion or plow through it with their heads, all in an effort to free up silt so oxygen-rich waters can percolate through the gravel where the eggs will incubate.



Facing into the current, males lie in wait for females and when a female approaches, the male darts back and forth to attract the female. Females are attended in the spawning act by one, sometimes two, males. The pearl organs allow the male and female to cling together and maintain a station over the excavation while the eggs, thousands of them, are simultaneously fertilized and dropped among the clean gravels.

The parents promptly abandon the area and head back downstream, but soon swarms of newly hatched fish take temporary station in the slow-moving shallows. Here they provide food for predatory fishes, such as bass and sunfish. Those lucky enough to move into deeper waters could reach two feet long and eight pounds at the end of their 12-year lifespan.



### WAVY-RAYED LAMPMUSSEL

The Wavy-rayed Lampmussel (*Lampsilis fasciola*) is listed as endangered in Illinois (Illinois Endangered Species Protection Board, February 22, 2011). The Wavy-rayed Lampmussel is typically 3.5 inches in length with a moderately thick, round to ovate shaped shell. The shell color is yellow to yellowish-green with multiple thin green rays. Females have a rounded anterior and posterior ends while the male have a bluntly pointed posterior.

The Wavy-rayed Lampmussel, like all freshwater mussels, are filter feeders that primarily consume bacteria and algae. The Wavy-rayed Lampmussel are mostly found in clear, small to medium sized streams with sand or gravel bed material and are sensitive to non-optimal conditions. They are commonly found in shallow depths, in or near riffles. The known locations of the Wavy-rayed Lampmussel are in Illinois, Tennessee, Kentucky, Indiana, Michigan, Ohio, Virginia, West Virginia, Pennsylvania, Alabama, North Carolina, Georgia and New York. Within Illinois, there are 37 recorded occurrences yielding 84 individual Wavy-rayed Lampmussels. The location of this species is primarily in the Vermilion River and its tributaries. A single dead mussel was observed downstream of the Danville Dam in 2005.

Spawning activities of the Wavy-rayed Lampmussel are in August and the larvae are not released until the following summer. The female can produce over 100,000 eggs during the spawning season. The only documented host fish for this mussel is the Smallmouth Bass which has been sampled throughout the project area. The project would likely expand the distribution of the host fish. After they detach from the host, they live among gravel bed material where they likely move less than 400 feet in their lifetime. They have a life span of 10 to 20 years



### BLACK SANDSHELL

The Black Sandshell (*Ligumia recta*) is listed as threatened in Illinois (Illinois Endangered Species Protection Board, February 22, 2011). The Black Sandshell is up to 8 inches in length with a moderately thick, elongated shell. The smooth, shiny exterior portion of the shell is usually a greenish color or black with rays. The inside of the shell is white and fades to a pink or purplish color near posterior. Females have truncated posterior ends while the male have a pointed posterior.

The Black Sandshell are filter feeders that primarily consume bacteria and algae and are mostly found in medium to large rivers in riffle areas streams with sand or gravel bed material. The know locations of the Black Sandshell are throughout much of Canada, the Midwest and Eastern United States. Within Illinois, there are 114 recorded occurrences yielding 388 individual Black Sandshells. The location of this species is throughout the state with large populations on the Mississippi and Rock Rivers. Four individuals were observed in 2005 downstream of the Danville Dam.

Spawning activities of the Black Sandshell are in August and the larvae are not released until the following summer. The male emits sperm into the water and by chance, the female siphons it in to fertilize the eggs resting in the brood pouch. The female holds the glochidia until spring in which they are released through the female's gills and attaches to the gills or fins of the host fish by clamping onto them with their valves. The host fish for this mussel is the Rock Bass, Green Sunfish, Bluegill, Largemouth Bass and White Crappie. All but the Rock Bass have been found primary downstream of the dam with some upstream. The project would likely expand the distribution of these host fish.

The glochidia are 0.23mm long and 0.27mm in height when attaching to the host fish. After they detach from the host, they live among gravel bed material where they live as free-living mussels. They have a life span of several decades to over a century.

### **C) Description of activities**

To remove the Ellsworth Park Dam, a long reach backhoe will be equipped with a hydraulic hammer. From each bank of the dam, the operator will reach to the dam and break up the concrete dam structure. Periodically the operator will utilize a bucket to remove the remnants of the dam and place them in a truck to be hauled to a local disposal area.

### **D) Explanation of the anticipated adverse effects on the listed species**

Removal of the dam should not negatively impact these species or contribute to their extirpation. Completion of the dam removal projects will have the positive impact of mobility restoration with the dam removed beyond the full depth of the channel. The removed barrier and 14 acres of newly available habitat upstream would promote expansion of these species. The current habitat upstream of

the dam does not support these species. This project will improve the habitat and create a more hospitable environment for these species.

There is a potential for an incidental taking during the demolition of the structure, moving of heavy equipment around the channel or placement of the bank stabilization. Sediment deposition downstream was also considered for a potential taking for mussels. The most probable adverse impact would be a major flood occurring immediately after the removal which would cause sediment accumulation to occur in an area from the dam to 800 feet below the dam. This was determined using the sediment modeling module in the HEC-RAS program.

Bluebreast Darter – Potential of 1 to 3 individuals taken and 0.9 acres of habitat affected. Only two individuals have been recently sampled in this area

Eastern Sand Darters – Potential of 1 to 3 individuals taken and 0.9 acres of habitat affected. This species has never been sampled within this affected habitat area.

Bigeye Chub – Potential of 1 to 7 individuals taken and 0.9 acres of habitat affected. This species has never been sampled within this affected habitat area.

River Redhorse – Potential of 1 to 4 individuals taken and 0.9 acres of habitat affected. This species is unlikely to be in the affected area as the river is too small of an environment and has never been sampled there.

Wavy-rayed Lampmussel – Potential of 1 to 2 individuals taken and 0.9 acres of habitat affected. This species has only been sampled in an area that has a dam between it and the affected habitat which make it very unlikely to be in the affected area.

Black Sandshell – Potential of 1 to 3 individuals taken and 0.9 acres of habitat affected. This species has only been sampled in an area that has a dam between it and the affected habitat which make it very unlikely to be in the affected area.

## **2) MEASURE TO MINIMIZE AND MITIGATE**

### **A) Plans to minimize the area affected and the number taken**

To minimize the area affected by the project, the North Fork channel will only be disturbed from the dam and upstream 50 feet. The channel banks will be protected from erosion.

Extensive sediment surveying and modeling has been conducted to estimate the impacts to the river ecology as a result of the dam modifications. The sediment upstream is nearly all cobble and gravel material. If this material deposits downstream, it would not degrade the fish and mussel habitat. Once the dam is removed the material would likely move during 2-year or larger events. The worst case

scenario, a 100-year event occurring as a first significant event, shows a maximum deposition of 1.2 feet downstream of the dam. No sediment movement is anticipated during the removal of the dam.

Construction equipment and rock placement in the channel will be limited to dry ground to the great extent possible. These areas will be inspected by mussel and fishery biologist prior to any placement of rock or equipment in the channel. Below is an estimate of the number of species taken and the habitat affected.

## **B) Plans for management of the area**

The habitat upstream of the dam is slow moving water with depths greater than 16 inches up to five feet. The bed material ranges from cobbles to sand. Downstream habitat is shallow swifter moving water. This tributary does produce zero flow during summer and dry periods. Upon completion of the project, the downstream condition will remain the same while producing a habitat more similar upstream to what is occurring downstream creating a larger habitat by removing a pool and providing a riffle that is ideal for the species of concern. The removal will allow for these species to extend their habitat upstream of this structure by removing a physical barrier impeding their upstream expansion. Permanently restored river mobility through the dam removal will provide long term benefits to all fish and mussel species and will mitigate any possible short term impacts to these species.

## **C) Measures implemented to mitigate the effects**

The project will seek to minimized the effects rather than mitigate the impacts. To minimize any possible effects of construction on these species, the following measures will be conducted by the participants of the project:

The Illinois Natural History Survey (INHS) Mussel Biologist at (217) 244-4594 shall be contacted upon approval to commence construction activities to schedule relocating mussels outside of the project area prior to any in stream work begins. The IDNR Fisheries Biologist at the Gibson City Field Office (217-784-4730 ext 230) and INHS mussel biologist shall be notified 1 week prior to the initiation of the dam removal. Fisheries & mussels biologists may meet with the contractor prior to removal activities to agree upon a removal method that minimizes any potential impacts during the removal. Within 24 hours prior to the dewatering of the pool, the contractor or biologists shall inspect and carefully remove any species within the project area and place them downstream of the project area into water at least 12 inches deep. During and upon completing the dewatering of the pool, the contractor or biologists will again inspect the upstream channel that was previous inundated to confirm no mussels or fish have been trapped in isolated pools or dry channel areas. If any are found they are to be carefully remove from the area and placed into connected water with at least 12 inches of depth.

With the exception of incidental taking authorization, this project has been reviewed and approved under the Illinois Department of Natural Resources' Comprehensive Environmental Review Process (CERP) to ensure compliance with all applicable federal and state regulations.

## **D) Plans for monitoring the measures**

The Department of Natural Resources, Office of Water Resources will have a full time resident construction engineer assigned to the project to oversee construction activities at the site and to assure compliance with the approved plans and special provisions developed for the work. The resident engineer shall contact the IDNR fisheries biologist 1-week prior to dam demolition to allow his presence at the time of the pre and post removal inspection for species.

The state of Illinois keeps a database of all documented locations and quantities of threatened or endangered species. Additionally, Eastern Illinois University and the Illinois Natural History Survey are conducting pre and post fish and mussel survey in coordination with the dam removal project. Sampling fish and mussels upstream and downstream of the dam will take place in the spring and fall from 2012 through 2016. This will document the quantities and locations of these species while showing the impacts of the construction project over time. A copy of the report will be provided to the IDNR Threatened and Endangered Species incidental take authority.

## **E) Adaptive practices in place to address unforeseen circumstances**

The Department of Natural Resources, Office of Water Resources will have a full time resident construction engineer assigned to the project to oversee construction activities at the site and to assure compliance with the approved plans and special provisions developed for the project. Any changes or unforeseen circumstances that affect the measures instituted to minimize the effects of the work on the listed species will be addressed by the resident construction engineer in consultation with the Illinois Department of Natural Resources' Conservation Plan Developer and the regional fisheries biologist.

## **F) Verification of funding & support for mitigation**

The Illinois Department of Natural Resources (IDNR), Office of Water Resources (OWR), is granted the funding for construction improvements in Public Act 98-0050, Article 31, Section 15. This will cover all contractor costs to implement the project plans. Current Illinois Department of Natural Resources policies mandate that sufficient project funds must be appropriated and released for construction prior to award of a construction contract for the work. Sufficient project funds are available in the IDNR/OWR appropriations to complete the work described above.

The costs for the fish monitoring and sampling conducted by Eastern Illinois University are covered by a State Wildlife Grant received from the U.S. Fish & Wildlife Service (FWS).

The conservation plan (CP) developer will take responsibility to ensure all tasks within the conservation plan are implemented. The construction resident engineer will be given guidance by IDNR fishery biologist and the CP developer for the QA/QC of incidental taking authorization. Additionally the biologist and CP developer may be available during this critical construction phase to ensure the plan is fully implemented. The contractor will be responsible for executing the mitigation plan.

## G) Cost of mitigation measures

Below is a breakdown of costs associated with the mitigation measures.

Fish and Mussel sampling:	\$30,000
Resident Engineer during mussel relocation:	\$640
Biologist & Conservation Plan Developer onsite during relocation:	\$1,940
<u>Staff to relocate mussels:</u>	<u>\$1,440</u>
Total:	\$34,020

## 3) ANALYSIS OF ALTERNATIVES

IDNR has established project requirements for any dam which is owned or being studied by IDNR. These requirements are listed below. Additionally, it is IDNR policy to evaluate dam removal as an alternative anytime dam rehabilitation or reconstruction is considered.

1. Public safety,
2. Ecological improvement to the river, and
3. Development of recreational opportunities.

### A) Alternative requirements

#### PUBLIC SAFETY

The primary purpose of the Ellsworth Park Dam Modification is to reduce or eliminate the public safety concerns related to the hydraulic roller that forms at this dam under various flow conditions. All alternatives examined, except the “Do Nothing” alternative, address this critical concern and eliminate the potential loss of life from the hydraulic roller by eliminating the condition for all flows.

#### ECOLOGICAL INTEGRITY

To improve the ecological integrity of the dam site and the river system connectivity, fish passage considerations were incorporated into each alternative. Such passages were designed to pass local fish species without inducing stress and/or discouraging migration, such as velocity barriers, turbulence barriers, and the necessity to climb, jump and/or pass through hidden orifices.

#### RECREATION

A consideration in the alternative selection was improving recreation at the site. When possible, consideration was given to providing additional recreational opportunities in the form of safer canoe/kayak passage, fishing, and improved natural areas.

## **B) Identifying alternatives**

Alternative 1 – Full Removal: The full dam removal including the entire dam structure and abutments. Grading upstream of the dam would be required to transition between the different channel shapes. Bank protection will be placed between the US 150 bridge and the dam location.

Alternative 2 – Partial Removal: The removal of a 35 foot notch on the west side of the dam. Material behind the notched location will be removed to grade the channel from the downstream elevation to the upstream elevation. Bank protection will be placed between the US 150 bridge and the dam location.

Alternative 3 – Stepped Spillway: Three concrete steps would be installed on the downstream face of the dam between the crest elevation and the downstream ground elevation. Rock would be placed in the scour hole and a Denil fish ladder would be installed to provide fish passage.

Alternative 4 – Rock Ramp: Placing a rock ramp at the downstream face of the dam from the crest down to the existing channel bottom at a 4% slope. A 1-foot notch would be placed at the center to concentrate the flow in one location to improve fish passage during lower flows.

Alternative 5 – Do Nothing: Leave the dam in its current condition.

## **C) Screening alternatives**

Alternative 2 - partial removal was not considered in lieu of alternative 1 being safer during higher flows and to remove unnecessary concrete to improve the ecological benefits.

Alternative 3 – stepped spillway was not selected because it did not full remove the safety hazard to the public nor did it improve the ecological habitat upstream of the dam. The cost was over three times higher than full removal.

Alternative 4 – rock ramp was not selected because it did not full remove the safety hazard to the public nor did it improve the ecological habitat upstream of the dam. The cost was over three times higher than full removal.

Alternative 5 – Do nothing was not selected because of the continued potential for loss of life. Additionally the dam remains as a barrier to these species and creates an unfavorable habitat.

IDNR was sufficiently satisfied with the benefits of Alternative 1 to recommend its implementation. A conceptual layout of this alternative is shown in Figure 3.

## **4) DATA TO ENSURE THAT TAKING WILL NOT JEOPARDIZE SPECIES**

Within the North Fork Vermilion River only two Bluebreast Darters were found. The downstream confluence does not yield a favorable habitat for any of the species reported in the area. The Ellsworth Park Dam removal in conjunction with the Danville Dam removal will open the area of river for

increased mobility and better habitat for all species listed. Therefore, the project is likely to enhance, and not jeopardize, the long term survival and recovery of the threatened and endangered species.

The *Fox River Fish Passage Feasibility Study*, dated April 2003, by the Max McGraw Wildlife Foundation is an example of a study recommending reconnection of the river through the removal or modification of all main stem and tributary dams. Benefits of reconnecting rivers may include: elimination of barriers to canoeists and kayakers, enhanced habitat and water quality conditions and corresponding improvements to fish and macro invertebrate communities, improved access by fish to important spawning and nursery habitats in tributaries and stream-side wetlands, repopulation of areas where certain species of fish and mussels no longer exist and genetic mixing in fish and invertebrate populations isolated by dams.

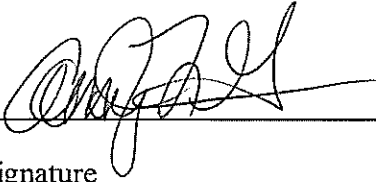
These results stated in the study have been confirmed by the removal of Hofmann Dam in Cook County and the removal of Blackberry Dam in Kendall County. The number of species and quantity of species has increased at both locations. This has been commonly reported in various other states that have completed dam removal projects.



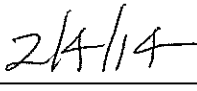
## 5) IMPLEMENTING AGREEMENT

### A) Names of participants in conservation plan

I, Amy Giesing, certify that the conservation plan will be followed as described within the document and provide the required projects updates and monitoring information.

  
\_\_\_\_\_

Signature

  
\_\_\_\_\_

Date

### B) Responsibilities of participants in conservation plan

#### RESPONSIBILITIES

The plan monitor shall observe the activities completed by the contractor as described in the conservation plan and ensure all procedures are being met. They shall confirm notification has been made with other participants and prepare and send summary report with required information as listed in the 'Estimation of Schedule' below regarding the completion of task listed in the conservation plan.

#### ESTIMATION OF SCHEDULES

All dates listed in the schedule are subject to change due to permitting approvals, river conditions or other contingencies due to approvals and site conditions. All scheduled tasks state the previous action that must be completed in parentheses before that task may begin.

June 8, 2014 – Submit fish and mussel pre-monitoring data **to the Incidental Taking Authorization Manager** (prior to commencing construction).

June 27, 2014 - Notify mussel biologist to relocate mussels in project area. Give **notice to the Incidental Taking Authorization Manager** (once Incidental Taking Authorization has been received).

August 4, 2014 – Notify mussel and fishery biologists that the removal of the dam will commence in 1 week. Give **notice to the Incidental Taking Authorization Manager** (Once contracts are completed and the construction schedule is a week from removing the structure).

August 11, 2014 – Confirm mussels and fish are outside the project area, dewater the pool and inspected dried areas and isolated pools for mussels and fish. Give **notice to the Incidental Taking Authorization Manager** including a summary of quantity per T&E species moved (when these tasks are completed).

September 5, 2014 – Complete all construction activities in the project area. Give **notice to the Incidental Taking Authorization Manager** (when the construction is complete) including a quantity of T&E species taken during the construction per species if any is determined.

### **C) Assurances of legal authority to perform these actions**

City of Danville – The city will provide a resolution approving the Intergovernmental Agreement for the dam removal. The city shall also provide dam ownership documentation.

IDNR Office of Water Resources – (20 ILCS 805/805-100) “The Department has the power to take all measures necessary for the conservation, preservation, distribution, introduction, propagation, and restoration of fish, mussels, frogs, turtles, game, wild animals, wild fowls, and birds. “

(Source: P.A. 91-239, eff. 1-1-00.)

### **D) Assurances of compliance w/ other state regulations**

OWR Permit – A permit from the IDNR, Office of Water Resources shall be obtained for construction in a floodway and the removal of a dam.

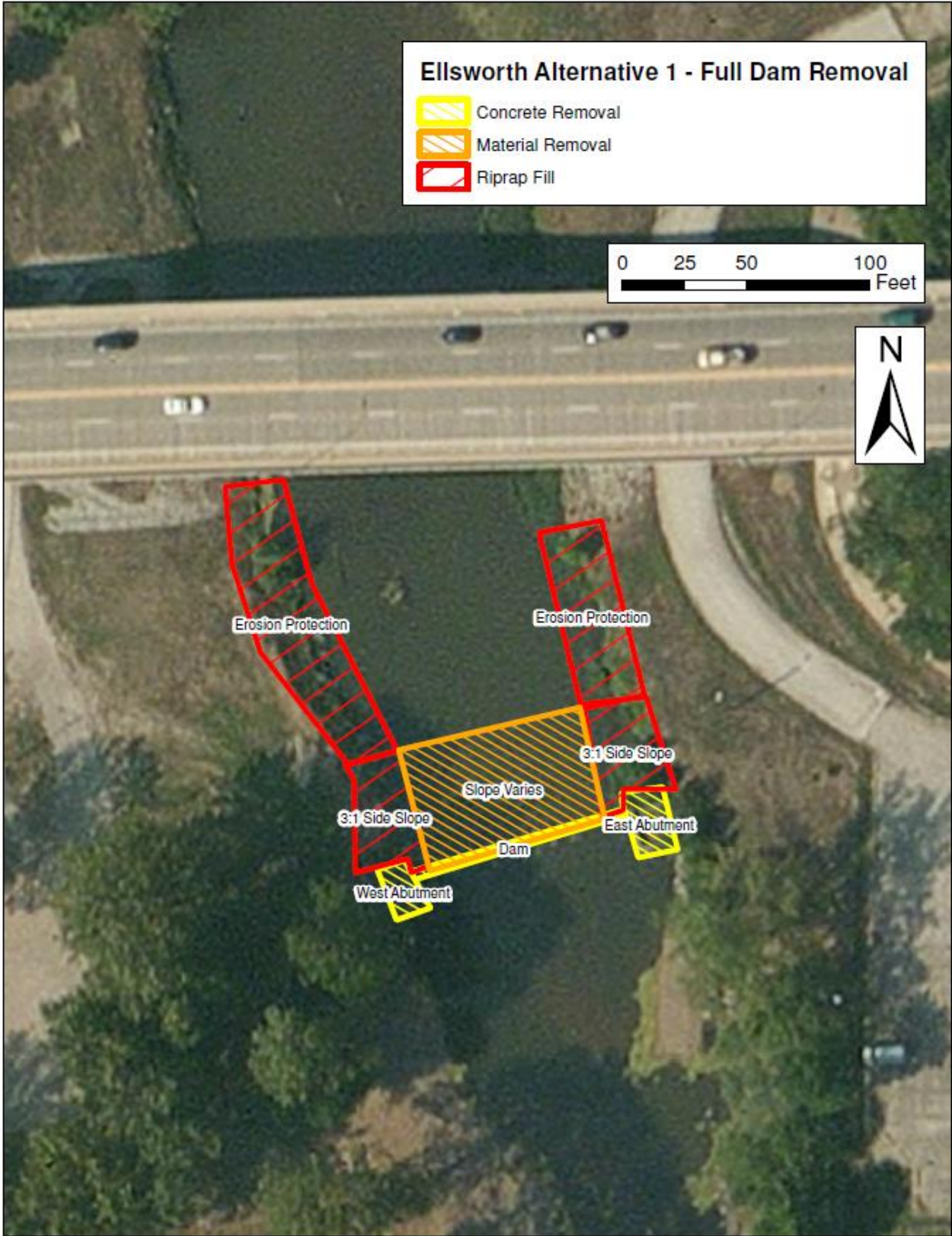
404 Permit – A permit from the U.S. Army Corps of Engineers (USACE) shall be obtained for the project ensuring Section 404 of the Clean Water Act is met.

401 Permit - A permit from the Illinois Environmental Protection Agency shall be obtained for the project ensuring Section 401 of the Clean Water Act is met. This may be issued in conjunction with a USACE nationwide permit during the 404 permit process.

NPDES Permit – An NPDES permit for storm water discharges from construction site activities is not required for the construction activities at Ellsworth Park. A minimum of 1 acres of disturbance must be exceeded to be required per Part I Section B.1 of the NPDES permit number ILR10.

### **E) Copy of federal authorization for take**

Not Applicable.



**Figure 3: Ellsworth Park Dam Removal Overview**

## **APPENDIX**

- Public Notice

## Public Notice

The Illinois Department of Natural Resources (IDNR) has applied for an incidental take authorization regarding the Bluebreast Darter (*Ethostoma camurm*), Eastern Sand Darters (*Ammocrypta pellucidum*), Bigeye Chub (*Hybopsis amblops*), River Redhorse (*Moxostoma carinatum*), Wavy-rayed Lampmussel (*Lampsilis fasciola*) and the Black Sandshell (*Ligumia recta*). The application is based upon the potential for impacts to these species from the Ellsworth Park Dam removal project located on the North Fork of the Vermilion River in the City of Danville.

1. The mailing address of the Illinois Department of Natural Resources, Office of Water Resources is One Natural Resources Way, Springfield, Illinois 62702-1271.
2. The project is at the Ellsworth Park Dam in the City of Danville, 190 ft downstream of the US Route 150 bridge. It is in Section 8 of Township 19 North, Range 11 West of the 2<sup>nd</sup> Principal Meridian.
3. Authorization is being requested for incidental take of the above mentioned species due to construction activities required to eliminate the dangerous “roller” effect immediately downstream of the dam by the construction of full removal of the Ellsworth Park Dam.
4. Measures that will be taken to minimize the effects of the potential incidental taking include construction provisions that require careful collecting and relocation of the mussel species prior to the demolition of the dam in the timely manner noted in the Conservation Plan and the careful release of these mussel back into the North Fork Vermilion River, downstream of the project construction limits, into water at least 12 inches deep.
5. A copy of the Conservation Plan is available for review on the Illinois Department of Natural Resources, Office of Water Resources website at <http://www.dnr.illinois.gov/WaterResources/Documents/EllsworthParkDamConservationPlan2014.pdf>; and the Danville Public Library, 319 N. Vermilion St. Danville, IL 61832.
6. Comments from the public may be directed to the Illinois Department of Natural Resources, Jenny Skufca, One Natural Resources Way, Springfield, IL 62702 or e-mailed to [jenny.skufca@illinois.gov](mailto:jenny.skufca@illinois.gov).
7. Any comments made by the public must be received by the Illinois Department of Natural Resources in Springfield, Illinois on or before March 30, 2014.

This notice is being published in the Commercial News in Vermilion County, Illinois and the Breeze Courier, the official State newspaper, once a week for three consecutive weeks beginning February 13, 2014.