Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (520 ILCS 10/5.5), on behalf of the University of Illinois at Urbana-Champaign (UIUC), authorization for the incidental take of the State listed eastern massasauga rattlesnake (*Sistrurus c. catenatus*), mudpuppy (*Necturus maculosus*), and Kirtland's snake (*Clonophis kirtlandii*) in Piatt County, Illinois [associated with the Allerton Park Bridge Replacement and Road Improvements Project in Monticello, Illinois; as described/shown in the final conservation plan received by the Department on March 18, 2011] 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 reconstruction of the Allerton Park Bridge and road improvements project in Piatt County, Illinois.

Procedural History

UIUC prepared a conservation plan for the reconstruction of the Allerton Park Bridge and road improvements project in Piatt County, Illinois, as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and UIUC's request for authorization for incidental take of the eastern massasauga rattlesnake (*Sistrurus c. catenatus*) and Kirtland's snake (*Clonophis kirtlandii*) in Piatt County, Illinois were received by the Illinois Department of Natural Resources (Department) on March 18, 2011. Public notice of UIUC's request for authorization of incidental take of these State listed species was published in the Piatt County Journal-Republican (Piatt County) on April 13, 2011, April 20, 2011, and April 27, 2011, and the Breeze Courier (Official State Newspaper) on April 13, 2011. Public comments on UIUC's conservation plan were accepted by the Department until May 26, 2011. One (1) favorable comment was received by the public during the period of April 13, 2011 through May 26, 2011. This comment is on file with both the Department and UIUC and was duly noted as part of the official Incidental Take process.

Target Species

Eastern Massasauga (*Sistrurus c. catenatus*) - (Illinois) State Endangered
Kirtland's Snake (*Clonophis kirtlandii*) – (Illinois) State Threatened
Mudpuppy (*Necturus maculosus*) – (Illinois) State Threatened [*See Authorization Section for Details]

*Prior to Allerton field investigation(s), data sources were consulted to identify areas of potential habitat for each species included in the Conservation Plan.

PROJECT DESCRIPTION: Sec 21 of R5E, T18N Cerro Gordo and Weldon East; Source: 7.5 USGS topographic maps in Piatt County, Illinois.

The subject project is the demolition and reconstruction of a bridge and resurfacing of approximately 1.2 miles of road between Old Timber Road and South Allerton Road in Robert Allerton Park which is owned and operated by the University of Illinois at Urbana-Champaign (UIUC).

The purpose of this proposed project is to: (1) reconstruct the condemned bridge allowing Park visitors to enter the facility via the historic main entrance, (2) enable park visitors to experience the floodplain forest upon entering the park, (3) significantly reduce Allerton staff travel time and resource consumption when traveling to the southern portion of the facility to perform routine tasks, (4) provide for safer and more efficient traffic control during large volume events such as weddings and concerts held annually at Allerton Park & Retreat Center, and (5) allow faster and more direct access for Piatt County Emergency Response vehicles/personnel.

The construction zone is in proximity to known locations of the eastern massasauga rattlesnake (massasauga) and the Kirtland's water snake (Kirtland's). The massasauga is known to occur within the prairie restoration parcel at Allerton Park & Retreat Center (Allerton), which is approximately 0.6 miles southwest of the bridge location. The Kirtland's has been observed at several locations within the Upper Sangamon River Land and Water Reserve, which is adjacent to the project location and is owned and managed by the Illinois Department of Natural Resources.

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 criterion 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 construction zone is in proximity to known locations of the eastern massasauga rattlesnake (massasauga) and the Kirtland's water snake (Kirtland's). The massasauga is known to occur within the prairie restoration parcel at Allerton Park & Retreat Center (Allerton), which is approximately 0.6 miles southwest of the bridge location. The Kirtland's has been observed at several locations within the Upper Sangamon River Land and Water Reserve, which is adjacent to the project location and is owned and managed by the Illinois Department of Natural Resources.

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

The land and habitats of the area of immediate impact are owned and managed by the University of Illinois. Historically, the University has demonstrated an interest in protecting and enhancing the habitat for these two (2) species. In 2006, approximately one (1) mile of prairie habitat was restored along old Route 47, totaling approximately seven (7) acres, to directly benefit the massasauga. Allerton is much like a state park with over 100,000 visitors a year. The impacted area in the immediate construction zone will be re-vegetated with local native plant species appropriate to the community-type and environmental conditions as part of the contracted work project.

The amount of habitat affected is approximately 0.3 acres. Actions to be implemented to minimize impact(s) include:

1. Borrow pits will not be located in the floodplain or at the southern entry in the vacant field.
2. Fill will be placed on the far north end of park.
3. Exclusionary silt fencing will be placed around the work site and inspected daily by Allerton Park Natural Areas Manager to determine if snakes are on-site.
4. On-site personnel will be educated by Allerton's biological staff about the snakes before construction begins.
5. If any snakes are encountered during construction, the contractor is to immediately contact the following in this order:
    a) John Griesbaum: 217-649-2648 (on site contact)
    b) Eric Smith, IDNR: 217-784-4730 ext. 225
    c) Chris Phillips, INHS: 217-369-3494
    d) Joe Kath, IDNR: 217-785-8764

Mitigation for the loss of 0.3 acres of wetland habitat will be carried out by creating 1.3 acres of habitat for massasaugas and Kirtland's in the following ways:

1. Remove all agricultural drain tiles in the Allerton restored prairie to enhance habitat for both snake species and provide an expected 0.3 acres of critical hibernacula habitat for the massasauga.
2. Establish one (1) acre of suitable wetland habitat along Old Route 47 prairie. This will create a much needed, wider habitat corridor for both snake species. Furthermore, it will provide critical hibernacula habitat for the massasauga.

John Griesbaum, Allerton's Natural Areas Manager, has extensive experience working with the massasauga and Kirtland's and will be on site to assist and advise construction personnel regarding maintenance of exclusionary fencing/traps and provide additional expertise with capturing, handling, and moving individual snakes during construction if needed.

Allerton will implement a mandatory education program for all construction personnel. The program will include an identification program, legal responsibility tutorial, and the establishment of a telephone point of contact list. This strategy has worked well with previous construction activities involving the massasauga throughout the state.

The silt fence surrounding the work site will be monitored and inspected daily by Allerton's natural areas manager and/or his designated representative to ensure that it is in good working order. Appropriate traps will be placed along the fencing at regular intervals to prevent snakes from entering the worksite and hold individuals until they can be collected and moved a safe distance from construction activities by the natural areas manager. If any snakes are discovered inside the silt fence, or in harm's way, any activities that threaten the snakes will be halted until the snake(s) are removed.

*See Also: Authorization Section of this document for more details.

Habitat Requirements/Species Status:

Eastern Massasauga (*Sistrurus c. catenatus*) - (Illinois) State Endangered

Habitat Requirements

Sistrurus c. catenatus ranges from central New York and southern Ontario southwestwardly to south-central Illinois (Ernst and Ernst, 2003). Throughout this range, *S. c. catenatus* inhabits a variety of habitats including coniferous forests, floodplain forests, peatlands, wetlands, fens, and mesic prairie grasslands (Ernst and Ernst, 2003). Specific requisites are necessary for populations to persist, which, in Illinois, include overwintering refugium (typically terrestrial crayfish burrows), prey (typically rodents), and gestation sites (typically areas with sparse canopy cover). Female *S. c. catenatus* use rodent burrows during gestation, and it is thought that mammal burrows provide an ideal microhabitat for thermoregulation (Nallueau, 1979), function as a retreat from predators (Keenlyne, 1972; Klauber, 1972; Brown, 1982), and may provide neonates suitable overwintering refugia (Jellen and Kowalski-in press).

Species Status in the Action Area

At the time of European settlement, the massasauga was distributed throughout the northern two-thirds of Illinois. Early inhabitants of the state reported seeing up to 20 or more massasaugas in one season (Hay, 1893). The draining of prairie marshes and the mechanized farming that followed settlement contributed to the destruction of massasauga habitat. As early as 1866, the massasauga was noted as declining (Atkinson and Netting, 1927). In short, habitat degradation and human persecution have extirpated populations of *S. c.catenatus* throughout much of its range, leaving only small, isolated populations (Greene and Campbell, 1992; Reinert and Bushar, 1992; Szymanski, 1998). In 1994, the massasauga was listed as an endangered species in Illinois (Herkert, 1994). The widespread and acute loss of massasauga habitat has resulted in the extirpation of all but a few widely scattered populations. For that reason it is now a candidate species for federal protection under the United States Endangered Species Act of 1973 (USFWS, 1999). As of 2007 there were only three (3) known populations remaining in Illinois and three (3) historic sites of potential *S. c. catenatus* occurrences (Dreslik-personal communication).

Kirtland's Snake (*Clonophis kirtlandii*) - (Illinois) State Threatened

Habitat Requirements

Clonophis kirtlandii is considered a prairie peninsula species (Conant, 1978). The bulk of its range occurs in the north-central Midwest and extends from central Illinois eastward through Ohio and occupies a disjunct region in western Pennsylvania (Hulse et al., 2001; Ernst and Ernst, 2003). The southern limit occurs in northern Kentucky and the northern most populations are located in southern Michigan (Wright and Wright, 1957; Conant and Collins, 1998; Hulse et al., 2001). It is considered a species of possible occurrence in Missouri (Johnson, 1987) and Wisconsin (Hoy, 1883). The Kirtland's is distributed through the middle one-third to the northeast corner of Illinois (Phillips *et al.*, 1999).

Key habitats for *C. kirtlandii* consist primarily of open, wet areas in association with crayfish burrows, including wet meadows and prairies, swamp-forest habitats, woodland clearings, and the grassy edges of waterways (Conant and Collins, 1998; Hulse et al., 2001). It is not known if these burrows are also used solely for hibernation or if short seasonal movements occur; however, the large number of individuals struck by vehicles suggest seasonal movements (Minton, 1972).

On the range periphery, it may be found in more heavily wooded habitats (Conant, 1943; Ernst and Ernst, 2003). *Clonophis kirtlandii* are encountered in damp habitat remnants and vacant lots in urban settings than in undeveloped areas (Smith, 1961; Minton, 1972; McCoy, 1982; Conant and Collins, 1998). Garman (1892) stated that tiling, ditching and cultivation of the soil have nearly destroyed its habitat.

Species Status in the Action Area

The Kirtland's, also abundant at the time of settlement, has suffered serious declines over the past century. The Kirtland's is listed as threatened in Illinois and Ohio and endangered in Indiana and Michigan. During a 1985 survey of the 70 historical localities known in Illinois, individuals were found in only 20 of these 70 sites (Wilsmann and Sellers, 1988). At the county level, Kirtland's was once found in 23 Illinois counties; *C. kirtlandii* currently is thought to occupy 11 counties (Illinois Natural Heritage Database, 2003). The most reliable method for detecting *C. kirtlandii* is the use of wood or corrugated tin cover objects placed over crayfish burrows (Dreslik-pers. com).

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

Allerton has qualified and experienced personnel on staff to conduct the site monitoring and education program. Fencing procurement and installation will be included in the construction contract. Traps will be provided by the Illinois Natural History Survey.

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:

The University of Illinois/Allerton Park have a cooperative Intergovernmental Agency Agreement (#746A, location code: 50-5441-3, Appendix A) with the IDNR, stating that the two (2) entities will share resources in the management of Allerton Park and the adjacent Upper Sangamon River Land and Water Reserve. Allerton has an established long-standing history of working with the IDNR and INHS regarding management and monitoring of both the massasaugas and Kirtland's in addition to the high quality community types that exist within park boundaries. As previously stated, all disturbed areas within the construction zone will be re-vegetated with local native plant species appropriate to the community-type and environmental conditions. As such, it is not anticipated that there will be any net loss of habitat.

Although the actual risk of a take is likely low as a result of the proposed project, the potential for an "incidental take" of the eastern massasauga rattlesnake and/or Kirtland's snake does nevertheless exist. This may occur through activities associated with the demolition, rebuilding, and widening of the embankments along the approximately 1.2 miles of road on the north and south side of the Sangamon River. There will be loss of habitat immediately adjacent to the current embankments. The new embankments will be constructed by adding fill on top of the previous embankments with heavy earth-moving equipment to match the profile of the new bridge. Massasaugas and Kirtland's may be buried under the new embankment fill material by large earthmoving machines before they can be rescued. There is a high degree of likelihood that workers may kill any snake including these two (2) listed snakes if encountered on the work site, crossing the road, or unearthed during work on the embankments.

Massasaugas and Kirtland's may be crushed by heavy construction equipment and/or vehicles. In addition, construction traffic could cause mortality of massasaugas or Kirtland's through direct strikes. Driving of construction vehicles back and forth across the road at all times of the day may crush any massasauga or Kirtland's encountered. While the risk of an "incidental take" of these species by vehicular traffic does exist, the risk resulting from the proposed project is most likely not significantly increased over the current conditions.

DESCRIPTION OF ALTERNATIVE ACTIONS CONSIDERED:
The following two (2) alternatives considered are listed below:

#1. No action alternative: The no action alternative was not chosen because: (i) Although the bridge is condemned and the road is barricaded, hikers still use the road and often climb the fence encircling the bridge and by doing so endanger themselves, and (ii) If the condemned bridge is left unresolved it will eventually collapse into the Sangamon River causing a serious environmental threat.

#2. Replace the dangerous bridge and upgrade the approximately 1.2 miles of road: Alternative 2 was chosen for the following reasons: (i) If the condemned bridge is left unresolved it will eventually collapse into the Sangamon River causing a much greater environmental issue than replacing it, (ii) Reconstructing the bridge will allow park visitors to enter the park via the historic main entrance, (iii) Enable park visitors to experience the floodplain forest when entering the park , (iv) Significantly reduce Allerton staff travel time when traveling to south side of park to perform daily tasks, (v) Provide for safer and more efficient traffic control during large volume events such as weddings and concerts held annually Allerton Park & Retreat Center, and (vi) Provide an alternate route to enter or exit the park during emergency situations.

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 UIUC 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:

UIUC prepared a conservation plan for the reconstruction of the Allerton Park bridge and road improvements in Monticello, Piatt County, Illinois, as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and UIUC's request for authorization for incidental take of the eastern massasauga rattlesnake (*Sistrurus c. catenatus*) and Kirtland's snake (*Clonophis kirtlandii*) in Piatt County, Illinois were received by the Illinois Department of Natural Resources (Department) on March 18, 2011. Public notice of UIUC's request for authorization of incidental take of these State listed species was published in the Piatt County Journal-Republican (Piatt County) on April 13, 2011, April 20, 2011 and April 27, 2011, and the Breeze Courier (Official State Newspaper) on April 13, 2011.

Public comments on UIUC's conservation plan were accepted by the Department until May 26, 2011. One (1) favorable comment was received by the public during the period of April 13, 2011 through May 26, 2011. This comment is on file with both the Department and UIUC and was duly noted as part of the official Incidental Take process.

Authorization

It is the determination of the Department that the measures to be implemented by the University of Illinois at Urbana-Champaign (UIUC) will adequately minimize and mitigate for the anticipated taking (disturbance/harassment) of a small number of the State listed eastern massasauga rattlesnake (*Sistrurus c. catenatus*), mudpuppy (*Necturus maculosus*) [See #8 Below for Details], and Kirtland's snake (*Clonophis kirtlandii*) in Piatt County, Illinois [associated with the Allerton Park Bridge Replacement and Road Improvements Project in Monticello, Illinois]. Further, it is our opinion that the take (disturbance/harassment) authorized herein would not diminish the likelihood of the survival of either of the aforementioned 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.

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, commencing on the first day of official public use of the Allerton Park bridge and the 1.2 miles of improved road as part of the Allerton Park Bridge Replacement and Road Improvements Project, 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. The following measures shall be implemented with regards to the Allerton Park Bridge Replacement and Road Improvements Project in Piatt County, Illinois.

Pre-construction:

- Robert Allerton Park shall develop a mandatory education program for all construction personnel. The program shall include an identification program, legal responsibility tutorial, and the establishment of a telephone point of contact list.

During construction:

1. Borrow pits shall not be located in the floodplain or at the southern entry in the vacant field.
2. Fill shall be placed on the far north end of park.
3. Exclusionary silt fencing shall be placed around the work site and inspected daily by Allerton Park Natural Areas Manager to determine if snakes are on-site.
4. On-site personnel shall be educated by Allerton biological staff about the snakes before construction begins.
5. John Griesbaum, Allerton's Natural Areas Manager has extensive experience working with the massasauga and Kirtland's and shall be on site to assist and advise construction personnel regarding maintenance of exclusionary fencing/traps and provide additional expertise with capturing, handling, and moving individual snakes during construction.

6. If any snakes are encountered during construction, the contractor is to immediately contact the following in this order:
    a) John Griesbaum: 217-649-2648 (on site contact)
    b) Eric Smith, IDNR: 217-784-4730 ext. 225
    c) Chris Phillips, INHS: 217-369-3494
    d) Joe Kath, IDNR: 217-785-8764

Post-construction:

7. The impacted area in the immediate construction zone of the Allerton Park Bridge Replacement and Road Improvements Project shall be re-vegetated with local native plant species appropriate to the community type and environmental conditions.
8. Agricultural drain tiles in the Allerton restored prairie shall be removed to enhance habitat for both snake species and provide an expected 0.3 acres of critical hibernacula habitat for the massasauga. This action item is to be completed by Robert Allerton Park by January 1, 2014.
9. One (1) acre of suitable wetland habitat shall be established along Old Route 47 prairie. This will create a much needed, wider habitat corridor for both species. This action item is to be completed by UIUC by January 1, 2014.

3. The following monitoring measures shall be implemented with regards to the Allerton Park Bridge Replacement and Road Improvements Project, in Monticello, Piatt County, Illinois.

a) The silt fence surrounding the work site shall be monitored and inspected daily by Allerton Park's natural areas manager and/or his designated representative to ensure that it is in good working order. Traps shall be placed along the fencing at regular intervals to prevent snakes from entering the worksite and hold individuals until they can be collected and moved a safe distance from construction activities by the natural areas manager. Silt fence and traps shall be monitored until their removal. The construction zone must be monitored for snakes during the active season (March-October) until January 1, 2014 or until construction activities have concluded.

b) If any snakes are encountered during construction, the contractor is to immediately contact the following in this order:

1. John Griesbaum: 217-649-2648 (on site contact)
2. Eric Smith, IDNR: 217-784-4730 ext. 225
3. Chris Phillips, INHS: 217-369-3494
4. Joe Kath, IDNR: 217-785-8764

c) If in the future, it becomes apparent that either of the target species is consistently being identified on the site, the conservation plan (and ITA as applicable) shall be re-evaluated and appropriate measures will be taken as necessary. This review action shall be directly coordinated with and approved by the Illinois Department of Natural Resources and the INHS.

4. The following Party Responsibilities shall be in effect with regards to the Allerton Park Bridge Replacement and Road Improvements Project, in Monticello, Piatt County, Illinois.

- UIUC shall be responsible for overseeing all minimization, monitoring, and mitigation efforts identified within the Conservation Plan. UIUC shall be responsible for planning, contract execution, and construction supervision for the entire project.

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

6. This authorization may be revoked pursuant to Section 5.5 of the Act if the Department finds that UIUC has failed to comply with any of these terms and conditions and/or has been responsible for the take of any State Listed Species beyond that which is incidental to the Allerton Park Bridge Replacement and Road Improvements Project in Monticello, Piatt County, Illinois.

7. The UIUC official(s) identified below is/are authorized to execute this agreement. Execution by an official from any one of these organizations indicates acceptance of all terms and conditions described in this document.

8. Official Amendment Number 1 to this Incidental Take Authorization: For the (Illinois) State Threatened Species Mudpuppy (*Necturus maculosus*)

Background: The original bridge spanning the Sangamon River at Allerton Park has been condemned and closed to vehicular and pedestrian traffic for more than a decade. Plans for bridge replacement have been underway for the previous few months. Due to the conservation status of the mudpuppy and the significant level of disturbance that will be caused during the demolition and construction of the new bridge, the Department requested that Allerton Park conduct a survey for the mudpuppy at the Allerton bridge location.

The most recent record of mudpuppy occurrence in the Allerton vicinity is April 18, 1948, collected by E. Bennett with location given as Monticello, Illinois. Local fishermen have provided more recent, unverified, anecdotal evidence of mudpuppies occurring in the Sangamon River at the Bridge Street Bridge in Monticello, which is approximately two (2) miles upstream of Allerton Park.

Trap arrays were installed along the upstream and downstream portions of the Sangamon River adjacent to the existing bridge location. Twenty (20) collapsible minnow traps were used in arrays to capture specimens. Traps were placed haphazardly in locations where bank conditions allowed access and checked each morning between 8-10am. The survey occurred between the dates of April 4-29, 2011 as river conditions allowed. River levels were low and suitable for trapping (7-9 ft. stage height) for seven (7) days during the survey period totaling 140 trap nights.

The survey resulted in the capture of one (1) mudpuppy. River levels were not favorable for most of the survey time frame and prevented trapping for the last half of April. Stage levels for the Sangamon River at Monticello ranged between 11 and 15 ft. during this time. Flood stage for the Sangamon River at Monticello is 13 ft. It is possible that additional encounters would have occurred if water levels had remained stable.

Construction activities are not expected to negatively impact this species. Individuals in the immediate bridge area will more than likely move away from the disturbance when activities are commenced.

Species biology:
The following natural history and distribution information was taken from "Field Guide to Amphibians and Reptiles of Illinois, Manual #8" by C. A. Phillips, R. A. Brandon and E. O. Moll.

> ***Key Characters:*** *Bushy external gills; 4 toes on hind feet; dark stripe running through eye.*
>
> ***Description:*** *Large (up to 34 cm TL), stout-bodied brownish gray, rust brown or black salamander with scattered round black spots of various sizes. Costal grooves 15-16. The belly is gray with dark spots, or plain gray. Snout blunt, head flattened and widest behind eyes. Tail short, tail fins not extending onto body. Larva and juvenile have broad dark stripes down back that are bordered on either side by yellow stripes.*
>
> ***Habitat:*** *Lakes, ponds, rivers, and large creeks. More abundant in clear waters but can withstand turbid, mud-banked streams if gravel headwaters are available for reproduction.*
>
> ***Natural History:*** *This totally harmless and attractive salamander is active year-round. Shelters by day in deeper water under rocks, piles of driftwood, overhangs, and other objects. Feeds at night on fish, crayfish, aquatic insects, and other invertebrates. Males search out females in autumn and mate in depressions under large rocks, logs, boards, or other submerged objects. Female attaches eggs to underside of rocks or logs the following spring. Larvae hatch in 1-2 months and mature in 5-6 years.*
>
> ***Status:*** *Statewide but seldom seen, except by fishermen. Probably more abundant and widespread prior to extensive stream modification.*

Description of activities that will result in take:
An incidental take could result from:

1. Activities associated with the bridge demolition, rebuilding and widening of the embankments on the north and south side of the Sangamon River. The new embankments will be constructed by adding fill on top of the previous embankments with heavy earth moving equipment to match the profile of the new bridge.
2. Concrete material falling into river during bridge demolition could crush individual mudpuppies.

Explanation of anticipated adverse effects on this species:

1. Increased turbidity downstream of construction zone could create unsuitable conditions for the mudpuppy.
2. Loss of habitat immediately below and adjacent to current bridge location.

Description of measures to be implemented to minimize/mitigate the effects of the action(s) on the listed species:

Disturbance to the river will be limited to the area immediately adjacent to, and directly below, the current bridge location

1. On-site personnel will be educated by Allerton staff about the mudpuppy before construction begins.
2. If any mudpuppies are encountered during construction the contractor is to immediately contact the following in this order:
    a) John Griesbaum: 217-649-2648 (on site contact)
    b) Eric Smith, IDNR: 217-784-4730 ext. 225
    c) Chris Phillips, INHS: 217-369-3494
    d) Joe Kath, IDNR: 217-785-8764

Subsequent monitoring:

John Griesbaum, Allerton's Natural Areas Manager has experience working with the mudpuppy and will be on site to assist and advise construction personnel and provide additional expertise with capturing, handling and moving individuals during construction. Furthermore as described above, a survey was conducted in early April 2011 with one (1) mudpuppy encounter. It was determined in the survey report that no significant impacts would occur from the bridge project.

Adaptive management practices that will be used to deal with unforeseen circumstances:

Allerton will implement a mandatory education program for all construction personnel. The program will include an identification program, legal responsibility tutorial, and the establishment of a telephone point of contact list. This strategy has worked well with previous construction activities throughout Illinois.

Authorization – Official Amendment #1 (mudpuppy):

It is the determination of the Department that the measures to be implemented by the University of Illinois at Urbana-Champaign (UIUC) will adequately minimize and mitigate for the anticipated taking (disturbance/harassment) of a small number of the State listed mudpuppy (*Necturus maculosus*) in Piatt County, Illinois [associated with the Allerton Park Bridge Replacement and Road Improvements Project in Monticello, Illinois]. Further, it is our opinion that the take (disturbance/harassment) authorized herein would not diminish the likelihood of the survival of either of the aforementioned 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. This authorization as well is effective upon signature of the Department and shall remain in effect for a period of five (5) years, commencing on the first day of official public use of the Allerton Park bridge and the 1.2 miles of improved road as part of the Allerton Park Bridge Replacement and Road Improvements Project, 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].

Illinois
Department of
Natural Resources
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For the IL Department of Natural Resources

Dr. Jim Herkert, Director
IDNR Office of Resource Conservation

8-7-11
Date Signed

For the University of Illinois at Urbana-Champaign

7/22/2011 John G. Dempsey 7/25/11
Signature

JOHN G. DEMPSEY, EXECUTIVE DIRECTOR
Please print name and official title
FACILITIES AND SERVICES

JULY 25, 2011
Date Signed