



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Bruce Rauner, Governor

Wayne A. Rosenthal, Director

Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (Act) (520 ILCS 10/5.5) and the regulations adopted to implement the Act (17 Ill. Adm. Code 1080), authorization is hereby granted to BP US Pipelines & Logistics (hereinafter referred to as BP) for the incidental take of the federally and State-endangered sheepsnose mussel (*Plethobasus cyphus*), along with the following State-listed species: the State-threatened purple wartyback (*Cyclonaias tuberculata*), black sandshell (*Ligumia recta*), spike mussel (*Elliptio dilatata*), river redhorse (*Moxostoma carinatum*), American brook lamprey (*Lethenteron appendix*), starhead topminnow (*Fundulus dispar*), banded killifish (*Fundulus diaphanus*), and American eel (*Anguilla rostrata*); and the State-endangered Northern brook lamprey (*Ichthyomyzon fossor*), pallid shiner (*Hybopsis amnis*), weed shiner (*Notropis texanus*), blacknose shiner (*Notropis heterolepis*), greater redhorse (*Moxostoma valenciennesi*), and western sand darter (*Ammocrypta clarum*). The Illinois Department of Natural Resources (hereinafter referred to as Department) has determined that the taking is incidental to activities associated with the inspection and repair of the East Fort Madison – Manhattan Pipeline crossing the Kankakee River in Will County, Illinois. The project is located within the Kankakee River Illinois Natural Areas Inventory Site (INAI #0980). Incidental Take Authorization #8 was executed on July 29, 2002, to BP Pipelines-NA, for the taking of sheepsnose, purple wartyback, black sandshell, and spike mussel incidental to the removal of two inactive petroleum pipelines in the Kankakee River in the vicinity of the East Fort Madison – Manhattan Pipeline. Post-construction surveys have confirmed the continued presence of purple wartyback and black sandshell in the project area and the continued presence of sheepsnose in the relocation area. Spike was not found during post-construction sampling.

Procedural History

The Department received a conservation plan prepared by EnviroScience Inc., on behalf of BP on October 7, 2016, as a request for authorization for the incidental take of sheepsnose, purple wartyback, black sandshell, spike, river redhorse, greater redhorse, American brook lamprey, northern brook lamprey, starhead topminnow, banded killifish, pallid shiner, weed shiner, blacknose shiner, western sand darter, and American eel. The Department requested additional information on November 4, 2016, to make the conservation plan complete as prescribed by Ill. Adm. Code 1080.10. That additional information was received by the Department on February 8, 2017. The Department again requested additional information on March 3, 2017. A conservation plan was approved by the Department on March 15, 2017. The public notice period will be detailed under #6 of the Compliance section below.

Due to the presence of the federally-endangered sheepsnose mussel in the project footprint, the Department has coordinated the take permitting process with the US Fish and Wildlife Service (USFWS) Region 3, Chicago Ecological Services Field Office. On June 5, 2017, a Biological

Opinion was issued by the USFWS permitting take of the sheepsnose mussel at the BP East Fort Madison – Manhattan Pipeline Inspection Project.

Compliance with the Illinois Endangered Species Protection Act

The Act includes six criteria that must be satisfied for the authorization of incidental take of an endangered or threatened species. These criteria and the Department’s determination for each are listed below.

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

The stated and apparent purpose of this proposed action is the inspection and repair, if necessary, of the East Fort Madison – Manhattan Pipeline crossing the Kankakee River in Will County, Illinois. Pipeline inspection activities include the installation of a portable dam, the dewatering of the work area, the pumping of groundwater seepage into work area through a geotextile sediment bag in an upland area, the removal of existing grout bags from over the pipeline, excavation to approximately 0.6 meters below the pipeline, and the performance of inspections and repairs as necessary. After the inspections and repairs are complete, the excavated areas will be backfilled, new grout bags will be installed over the pipeline, and the portable dam will be removed. The work will occur in two locations, one where the pipeline meets the east bank and the other where it meets the west bank. Total area of temporary direct impact is estimated to be **0.47 acre**. BP also calculates an area of indirect impact of **10.9 acres**.

Take of the sheepsnose, purple wartyback, black sandshell, spike, river redhorse, greater redhorse, American brook lamprey, northern brook lamprey, starhead topminnow, banded killifish, pallid shiner, weed shiner, blacknose shiner, western sand darter, and American eel could occur as a result of being crushed or smothered during installation of the portable dam or during excavation, from being caught in dewatered cofferdams, sedimentation within and downstream from the project site, and temporary turbidity increases during construction. Disturbance from noise and vibration within the river could have an adverse effect on some life history stage of the mussels, their associated host fishes, and other aquatic species. The take of sheepsnose, purple wartyback, black sandshell, spike, river redhorse, greater redhorse, American brook lamprey, northern brook lamprey, starhead topminnow, banded killifish, pallid shiner, weed shiner, blacknose shiner, western sand darter, and American eel that could result from this project is not the purpose of BP’s activities, but is incidental to the carrying out of an otherwise lawful activity.

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

Proposed minimization and mitigation measures were included in BP’s conservation plan.

To meet the “maximum extent practicable” standard, additional minimization and/or mitigation measures may be required beyond those proposed by BP, based on the life history needs of the sheepsnose, purple wartyback, black sandshell, spike, river redhorse, greater redhorse, American brook lamprey, northern brook lamprey, starhead topminnow, banded killifish, pallid shiner, weed shiner, blacknose shiner, western sand darter, and American eel. **All required minimization and mitigation measures are presented under the Authorization section below.**

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

BP states that they will fully commit the financial resources to support all minimization and mitigation activities described in the conservation plan. The estimated costs include funding for all activities associated with the implementation of the conservation plan, including mussel relocation, mitigation, and follow-up surveys. BP understands that if any additional activities are planned at the work location that may affect the sheepsnose, purple wartyback, black sandshell, spike, river redhorse, greater redhorse, American brook lamprey, northern brook lamprey, starhead topminnow, banded killifish, pallid shiner, weed shiner, blacknose shiner, western sand darter, or American eel, or other endangered or threatened species, coordination with the Department will be required.

It is the Department’s opinion that BP’s stated commitment to funding their proposed minimization and mitigation measures is sufficient to satisfy this criterion.

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

The **sheepsnose** mussel is a Federally-endangered and Illinois State-endangered mussel species. It is known to inhabit medium to large rivers in shallow areas of moderate to swift current. It typically inhabits gravel or gravel mixed with sand, although it has also been found in areas of mud, cobble, and boulders.

Sheepsnose mussels are short-term brooders, with reproduction occurring between May and July. Glochidia are released in conglutinates that mimic food organisms of fish, so that they are eaten and glochidia gain access to host fish. Sauger (*Sander canadensis*) are a confirmed host fish of sheepsnose glochidia, but lab experiments have been successful with freshwater drum (*Aplodinotus grunniens*),

fathead minnow (*Pimephales promelas*), central stoneroller (*Campostoma anomalum*), and brook stickleback (*Culaea inconstans*), among other fish species.

Sheepnose mussels are declining in today's rivers due to their management as navigation canals. Dams, channelization, and dredging increase siltation, physically alter habitat conditions, and block the movement of fish hosts. In Illinois, sheepnose mussels have been found in the Mississippi, Rock, Ohio, Wabash, Kaskaskia, and Kankakee River basins. The species is found in 5 of 102 Illinois counties, including Kankakee, Pulaski, Rock Island, Whiteside, and Will. There are currently 9 extant Element Occurrence Records for sheepnose mussels in the Illinois Natural Heritage Database. The Department has 7 pending or previously issued Incidental Take Authorizations for sheepnose mussels. Types of projects included an oil pipeline, diffuser installation, rail road construction, and a dredge/pier removal. Previous applicants conducted mussel relocations prior to starting construction, monitored mussel populations in the project and relocation areas for several years following construction, used silt/turbidity curtains to minimize sedimentation, removed zebra mussels (*Dreissena polymorpha*) from relocated mussels and minimized further zebra mussel introduction, funded mussel research and habitat mapping studies, and provided support for mussel propagation and educational programs. This is the third authorization to be granted for the take of sheepnose mussel in Will County.

In August 2016, personnel from EnviroScience, Inc., performed a survey for freshwater mussels in the project area. One live sheepnose and six fresh dead specimens were found as a result of the survey. BP estimates the potential take of 58 sheepnose mussels as a result of this project.

The **purple wartyback** is an Illinois State-threatened mussel species. It is known to inhabit larger rivers in areas with moderate current and gravel substrates. Purple wartybacks are reported to live up to 20 years, and reach sexual maturity around age 6.

Purple wartybacks are tachytictic, or short-term brooders. Females retain glochidia in their gills from May through August. Glochidial host fish for purple wartybacks include channel catfish (*Ictalurus punctatus*), yellow bullhead (*Ameiurus natalis*), flathead catfish (*Pylodictis olivaris*), and black bullhead (*Ameiurus melas*).

Purple wartyback populations have declined due to habitat loss and degradation. Dams, channelization, and dredging cause increased siltation, physically alter habitat conditions, and block the movement of fish hosts. Purple wartybacks are also susceptible to infestations of invasive zebra mussels, which causes the death of native mussels by attaching to their shells in large numbers and suffocating them.

In Illinois, purple wartybacks have been found in the Kankakee, Vermilion, Fox, and Rock Rivers. They have been found in 11 of 102 Illinois counties. There are currently 39 Element Occurrence Records for purple wartyback in the Illinois Natural Heritage Database. The Department has 10 pending or previously issued Incidental Take Authorizations for purple wartyback in Illinois. Types of projects included dredging, bridge removal and construction/replacement, railroad construction, oil pipeline construction, and diffuser installation. Previous applicants have been required to relocate mussels to suitable habitat prior to the start of construction, minimize instream work, conduct instream work outside of mussel breeding seasons, and enact siltation control measures. This is the third incidental take authorization granted for purple wartyback in Will County.

In August 2016, personnel from EnviroScience, Inc., performed a survey for freshwater mussels in the project area. There were 104 purple wartybacks found as a result of the survey. BP estimates the potential take of 359 purple wartybacks as a result of this project.

The **black sandshell** mussel is an Illinois State-threatened mussel species. It is found in medium to large rivers in areas with strong currents. The species is known to prefer substrates of coarse sand, gravel, cobble, or silt.

Black sandshell mussels are long-term brooders, with females retaining developing glochidia in their gills from August until the following July, after which glochidia are released. Gravid female black sandshells are known to display their marginal papillae, moving them in a way that attracts fish hosts before releasing the parasitic glochidia. Black sandshell host fish include walleye (*Sander vitreus*), bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), sauger, white crappie (*Pomoxis annularis*), and many others that have been suggested as possible hosts.

Black sandshell populations have declined due to habitat degradation. In Illinois, black sandshells have been found in the Mississippi, Kaskaskia, Vermilion, Ohio, Kankakee, Rock, Iroquois, and Little Wabash Rivers, as well as several smaller creeks and tributaries. There are currently 104 extant Element Occurrence Records for black sandshell mussels in the Illinois Natural Heritage Database in 31 of 102 Illinois counties. The Department has 26 pending or previously issued Incidental Take Authorizations for black sandshell in Illinois. Types of projects included dredging, bridge removal and construction/replacement, boat dock construction, railroad construction, pier removal, dam removal, piling installation, riprap installation, oil pipeline construction, and diffuser installation. Previous applicants conducted mussel relocations prior to starting construction, monitored mussel populations in the project and relocation areas for several years following construction, used silt/turbidity curtains to minimize sedimentation, removed zebra mussels from relocated mussels and minimized further zebra mussel introduction, funded mussel research and habitat mapping studies, and provided

support for mussel propagation and educational programs. This is the third authorization to be granted for the take of black sandshell in Will County.

In August 2016, personnel from EnviroScience, Inc., performed a survey for freshwater mussels in the project area. There were 17 black sandshells found as a result of the survey. BP estimates the potential take of 186 black sandshells as a result of this project.

The **spike** mussel is an Illinois State-threatened mussel species. It is typically found in small to large rivers, usually occupying sand and gravel substrates. Spike mussels are also occasionally found in reservoirs and lakes, usually associated with outlet habitats dominated by swift currents.

Spike mussels are tachytictic, or short-term brooders. Females brood their young in their gills from May through August before releasing glochidia. Glochidial host fish for the spike mussel include gizzard shad (*Dorosoma cepedianum*), flathead catfish, white crappie, black crappie (*Pomoxis nigromaculatus*), and yellow perch (*Perca flavescens*).

Spike populations have declined due to widespread degradation of habitat throughout its range, caused by hydrologic alteration of streams and watersheds, pollution, and increased sedimentation. Dams, channelization, and dredging can also impact glochidial host fish. Spike mussels are vulnerable to impacts caused by the invasive zebra mussel.

Spike mussels have been found throughout Illinois, including the Mississippi, Illinois, Kaskaskia, Kankakee, Fox, Sangamon, Wabash, and Little Wabash Rivers, in 19 of 102 Illinois counties. There are currently 43 extant Element Occurrence Records for spike mussel in the Illinois Natural Heritage Database. There have been 7 previously issued or currently pending Incidental Take Authorizations for spike mussel in Illinois. Previous projects include bridge replacements, pipeline installation, water treatment outfall, and diffuser installation. Previous applicants have been required to relocate mussels to suitable habitat prior to the start of construction, minimize instream work, conduct instream work outside of mussel breeding seasons, and enact siltation control measures. This is the third authorization to be granted for the take of spike mussels in Will County.

In August 2016, personnel from EnviroScience, Inc., performed a survey for freshwater mussels in the project area. No spike mussels were found as a result of the survey, but previous survey records indicate the presence of spike mussels in this area of the Kankakee River. BP estimates the potential take of 5 spike mussels as a result of this project.

The **river redhorse** is an Illinois State-threatened freshwater fish species endemic to the eastern half of the United States and southeastern Canada. The river redhorse is a large, bottom-feeding fish that is typically found in large clear creeks, rivers, and occasionally lakes. They prefer deep pools with moderate current over bedrock or gravel substrates, and are intolerant of high turbidity, siltation, and pollution. The presence of river redhorses in an aquatic system is considered an indicator of good water quality.

River redhorse spawn occurs in April and May. During this time, adult river redhorses migrate to smaller streams and spawn at night at the top and bottom ends of shallow riffles. Mating takes place when two males press a single female between them, and eggs and sperm are released from the three fish. The redhorses bury their eggs in fine gravel with their tails, and no further parental care is given.

River redhorse population decline has occurred as a result of poor water quality and habitat fragmentation. In Illinois, river redhorses have been found in the Vermilion, Kankakee, Illinois, Des Plaines, Wabash, Fox, and Mississippi Rivers, as well as several smaller creeks and tributaries. River redhorse is found in 11 of 102 Illinois counties. There are currently 25 extant Element Occurrence Records of river redhorse in the Illinois Natural History Database. The Department has 11 previously issued or currently pending Incidental Take Authorizations for river redhorse in Illinois. Previous projects included bridge replacements, a diffuser installation, hydroelectric dam construction, dam removal, railroad construction, and oil pipeline installation. Previous applicants have been required to minimize instream work, safely remove fish caught in dewatered cofferdams, conduct monitoring of fish populations, eliminate the use of underwater explosives from construction activities, use silt/turbidity curtains to minimize sedimentation, refrain from dropping construction debris into the river, and prevent blocking of river corridors during construction. This is the third authorization granted for the take of river redhorse in Will County.

EnviroScience, Inc. was unable to conduct a survey of fish species in the project area due to unfavorable river conditions, but previous survey records indicate the presence of river redhorse in the area of the Kankakee River in which the project takes place. BP estimates the potential take of 12 river redhorses as a result of this project.

The **greater redhorse**, the largest of the redhorses, is an Illinois State-endangered freshwater fish species. The greater redhorse is a large, bottom-feeding fish that is typically found in fast-flowing, medium to large rivers, and are occasionally found in river reservoirs and large lakes. The species prefers clear water with substrates of clean sand, gravel, or boulders. They have little tolerance of siltation and pollution, but seem to be able to withstand some levels of pollution as long as sufficient current exists to keep spawning areas free of silt deposition.

Greater redhorse spawn occurs in May and June, taking place in shallow runs with sand and gravel substrates. During this time, male greater redhorses hold territories and are periodically visited by females ready to breed. Females enter spawning sites from downstream and will hold a position on or just above the substrate for 3-5 seconds. If not joined by a male, she will drift further downstream to try a different spot. Eggs are buried in the substrate with their tails and no further parental care is given. Males reach sexual maturity at 5-6 years of age.

Greater redhorse population decline has occurred as a result of poor water quality and habitat fragmentation. In Illinois, greater redhorses have been found in the Vermilion, Kankakee, Illinois, Wabash, and Fox Rivers, including several smaller creeks and tributaries. Greater redhorse is found in 5 of 102 Illinois counties. There are currently 9 extant Element Occurrence Records of greater redhorse in the Illinois Natural History Database. The Department has five previously issued or pending Incidental Take Authorizations for greater redhorse. Previous projects included a bridge replacement, pipeline installation, and hydroelectric dam projects. Previous applicants have been required to minimize instream work, safely remove fish caught in dewatered cofferdams, conduct monitoring of fish populations, and prevent blocking of river corridors during construction. This is the second authorization for the taking of greater redhorse in Will County.

EnviroScience, Inc. was unable to conduct a survey of fish species in the project area due to unfavorable river conditions, but previous survey records indicate the presence of greater redhorse in the Kankakee River. BP estimates the potential take of 12 greater redhorses as a result of this project.

The **American brook lamprey** is an eel-like, jawless, cartilaginous fish with no scales that grows to be 5-7 inches long. Adult American brook lampreys inhabit clear brooks with fast-flowing water and either sand or gravel bottoms. Juveniles can be found buried in soft substrates of medium to large streams with slow-moving water. Unlike some other lamprey species, the juvenile American brook lamprey is non-parasitic to other fish, and instead feeds on organic matter and microscopic organisms while in its larval form. Adult American brook lampreys do not feed.

American brook lampreys spawn from late April to early May in shallow pits they excavate near the upper ends of gravel riffles. Several individuals communally construct one spawning pit, and the females each deposit over one thousand eggs into the pit. The eggs hatch after 20-22 days, and the larva, called ammocoetes, float downstream to larger, slower-moving streams and burrow in the substrate. After approximately seven years, ammocoetes transform into adults in the late summer or fall. Once transformed, the adults migrate to smaller, faster-moving streams. The adults spawn the following spring and die shortly after.

In Illinois, the American brook lamprey has been found in waterways such as the Kankakee, Mackinaw, Kishwaukee, Embarras, Rock, and Little Vermilion Rivers, along with several smaller creeks and tributaries throughout the northeastern quarter of the state. American brook lamprey populations have declined in Illinois due to increased sedimentation of creeks and rivers, declining water quality, and pollution. There are currently 12 extant Element Occurrence Records for American brook lamprey in the Illinois Natural Heritage Database in 6 of 102 Illinois counties, including Boone, Bureau, Kankakee, Lee, McHenry, and Winnebago. There has been one other previous or pending incidental take authorization granted by the Department for American brook lamprey in Illinois, for a bridge improvement project. This is the first authorization to be granted for the take of American brook lamprey in Will County.

EnviroScience, Inc. was unable to conduct a survey of fish species in the project area due to unfavorable river conditions, but previous survey records indicate the presence of American brook lamprey in the area of the Kankakee River in which the project takes place. BP estimates the potential take of 12 American brook lampreys as a result of this project.

The **northern brook lamprey** is an eel-like, jawless, cartilaginous fish with no scales that grows up to 16 centimeters long. Adult northern brook lampreys inhabit swift waters, riffles, or runs over coarse substrate, sand, or gravel bottoms. Juveniles can be found buried in fine sediment or organic debris in side channels or other quiet water areas with embedded woody debris. Unlike some other lamprey species, the juvenile northern brook lamprey is non-parasitic to other fish, and instead feeds on drifting, suspended, organic detritus, algae, and bacteria while in its larval form. Adult northern brook lampreys do not feed.

Northern brook lampreys spawn from late April to early May in shallow pits they excavate by displacing stones and organic material until an oval depression is formed. Several individuals communally construct one spawning pit, and they may spawn in aggregations of 10-30 individuals. The eggs hatch after 12 days, and the larva, called ammocoetes, float downstream to larger, slower-moving streams and burrow in the substrate. After 3-6 years, ammocoetes transform into adults over 2-3 months in the late summer or fall. Once transformed, the adults migrate to smaller, faster-moving streams. The adults spawn the following spring and die shortly after spawning.

In Illinois, the northern brook lamprey has been found in waterways such as the Kankakee, Illinois, and Wabash Rivers. Northern brook lamprey populations have declined in Illinois due to increased sedimentation of creeks and rivers, declining water quality, and pollution. There is currently 1 extant Element Occurrence Records for northern brook lamprey in the Illinois Natural Heritage Database in Putnam County. This is the first incidental take authorization granted by the Department for northern brook lamprey in Illinois.

EnviroScience, Inc. was unable to conduct a survey of fish species in the project area due to unfavorable river conditions, but previous survey records indicate the presence of northern brook lamprey in the Kankakee River. BP estimates the potential take of 6 northern brook lampreys as a result of this project.

The **starhead topminnow** is a small Illinois State-threatened freshwater fish species. They are typically found in clear, well-vegetated floodplain lakes, swamps, and marshes. They prefer quiet areas in shallow backwaters with plenty of submerged vegetation. They occur singly or in pairs and are typically found just beneath the water's surface, seldom diving deeper even to avoid predators. Starhead topminnows are known for having a keen sense of direction, able to orient themselves to the sun and return to familiar waters if displaced.

Starhead topminnow spawning takes place during late spring to early summer in dense beds of aquatic vegetation. Eggs hatch in 9 to 11 days in temperatures of about 77°F. Female starhead topminnows are believed to be able to produce multiple clutches of eggs within a single breeding season. Starhead topminnows reach sexual maturity after one year, and few live beyond two years of age.

Starhead topminnow populations have declined due to the draining of wetlands and other forms of habitat loss and degradation. In Illinois, starhead topminnows are found in the Illinois, Kankakee, and Fox Rivers, along with several lakes and smaller creeks and tributaries. They have been found in 15 of 102 Illinois counties, and there are currently 28 extant Element Occurrence Records in the Illinois Natural Heritage Database. There have been two previously issued or pending Incidental Take Authorizations for starhead topminnow in Illinois. Previous projects included lake management activities and the installation of a water control structure. Previous applicants have been required to schedule project activities outside the starhead topminnow spawning season, leave large blocks of vegetation unmanaged to provide minnow habitat, conduct monitoring of fish populations, and apply herbicides to aquatic vegetation only after Department approval. This is the first authorization to be granted for the take of starhead topminnow in Will County.

EnviroScience, Inc. was unable to conduct a survey of fish species in the project area due to unfavorable river conditions, but previous survey records indicate the presence of starhead topminnows in the Kankakee River. BP estimates the potential take of 12 starhead topminnows as a result of this project.

The **banded killifish** is an Illinois State-threatened freshwater fish. It is a small fish (up to 9 cm long) that is known to inhabit the calm and shallow areas of

lakes, ponds, rivers, and estuaries with sandy gravel or muddy bottoms and with abundant aquatic vegetation. Banded killifish are euryhaline fish, meaning they are able to tolerate a wide range of salinity levels.

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

In Illinois, banded killifish have been found in the Mississippi, Rock, Illinois, Kankakee, and Fox Rivers, Lake Michigan, and several other smaller lakes and rivers in northern Illinois. Banded killifish have been found in 13 of 102 Illinois counties. There are currently 40 extant Element Occurrence Records of banded killifish in the Illinois Natural Heritage Database. The Department has four previously issued or pending Incidental Take Authorizations for banded killifish. Previous projects include lake shoreline rehabilitation, aquatic invasive plant control, other lake management activities, and the installation of a stormwater diversion tunnel. Previous applicants have been required to schedule project activities outside the banded killifish spawning season, minimize dredging activities, conduct monitoring of fish populations, refrain from allowing debris to collect at the bottom of waterways, apply herbicides to aquatic vegetation only after Department approval, and provide compensatory mitigation to support the development of *An Atlas of Illinois Fishes*. This is the first authorization to be granted for the take of banded killifish in Will County.

EnviroScience, Inc. was unable to conduct a survey of fish species in the project area due to unfavorable river conditions, but previous survey records indicate the presence of banded killifish in the area of the Kankakee River in which the project takes place. BP estimates the potential take of 12 banded killifish as a result of this project.

The **pallid shiner** is a small Illinois State-endangered freshwater fish species. It inhabits medium to large rivers and prefers quiet waters over sand and silt substrates, often at the downstream ends of sand and gravel bars. It appears to avoid heavily silted habitats.

Little is known about pallid shiner reproduction. It has been observed to breed in late winter to early spring in the southern part of its range, but breeding likely occurs later in Illinois. Pallid shiners are a short-lived minnow, rarely living longer than one year.

Pallid shiners are sensitive to human impacts, and they are thought to be declining due to increased siltation of their habitats. In Illinois, pallid shiners have been found in the Mississippi, Kankakee, and Sangamon Rivers. They have been

found in 6 of 102 Illinois counties, including Carroll, Champaign, Edgar, JoDaviess, Kankakee, and Will. There are currently 15 extant Element Occurrence Records for pallid shiner in the Illinois Natural Heritage Database. There have been four previously issued or pending Incidental Take Authorizations for pallid shiner in Illinois. Previous projects have included hydroelectric dams, a railroad bridge, and a diffuser installation. Previous applicants have been required to schedule project activities outside pallid shiner spawning season, safely remove fish from cofferdams during dewatering, use silt/turbidity curtains to minimize sedimentation, and conduct monitoring of fish populations and water turbidity in the project area. This is the third authorization granted for the take of pallid shiner in Will County.

EnviroScience, Inc. was unable to conduct a survey of fish species in the project area due to unfavorable river conditions, but previous survey records indicate the presence of pallid shiners in the area of the Kankakee River in which the project takes place. BP estimates the potential take of 12 pallid shiners as a result of this project.

The **weed shiner** is an Illinois State-endangered freshwater fish species. It inhabits sandy runs within clear pools of creeks and small to medium rivers, as well as in sloughs and lakes. The species is often found in areas with abundant aquatic vegetation, although not always, and are typically found in the lower third of the water column.

Weed shiners spawn from March through September. Females are believed to be able to produce multiple clutches of eggs within one breeding season. Weed shiners have been known to live over two years, and occasionally up to four.

Weed shiners are sensitive to human impacts, and they are thought to be declining due to increased siltation and pollution of their habitats. It is also believed that weed shiners may be subject to competition with introduced rough shiners (*Notropis baileyi*) in some parts of their range. In Illinois, weed shiners have been found in the Mississippi and Kankakee Rivers, as well as several other smaller creeks and tributaries. They have been found in 11 of 102 Illinois counties, and there are currently 20 extant Element Occurrence Records for weed shiner in the Illinois Natural Heritage Database. There has been one previously issued Incidental Take Authorization for weed shiner in Illinois, for a bridge replacement project. The previous applicant was required to conduct monitoring of fish populations in the project area for several years following construction completion. This is the first authorization granted for the take of weed shiner in Will County.

EnviroScience, Inc. was unable to conduct a survey of fish species in the project area due to unfavorable river conditions, but previous survey records indicate the presence of weed shiners in the area of the Kankakee River in which the project

takes place. BP estimates the potential take of 12 weed shiners as a result of this project.

The **blacknose shiner** is an Illinois State-endangered freshwater fish species. It inhabits cool weedy creeks, small rivers, and lakes. They are usually found over sandy substrates in areas with moderate amounts of aquatic vegetation. They prefer clear, slow-moving waters, and are known to disappear when waters become turbid and substrate silted over with clay.

Blacknose shiners spawn in June or July by scattering eggs over aquatic vegetation. Eggs hatch after a few days and no further parental care is given.

Blacknose shiners are sensitive to human impacts, and they are thought to be declining due to increased turbidity, siltation of stream bottoms, and disappearance of aquatic vegetation. In Illinois, blacknose shiners have been found in the Illinois, Kankakee, and Kishwaukee Rivers, as well as several other smaller creeks and tributaries. The species has been found in 9 of 102 Illinois counties, including Bureau, DuPage, Grundy, Kankakee, LaSalle, Lake, McHenry, Stark, and Will. There are currently 19 extant Element Occurrence Records for blacknose shiner in the Illinois Natural Heritage Database. There have been two previously issued or pending Incidental Take Authorizations for blacknose shiner in Illinois. Previous projects have included lake management activities and a bridge replacement project. Previous applicants have been required to schedule project activities outside the blacknose shiner spawning season, minimize dredging activities, conduct monitoring of fish populations, and apply herbicides to aquatic vegetation only after Department approval. This is the first authorization granted for the take of blacknose shiner in Will County.

EnviroScience, Inc. was unable to conduct a survey of fish species in the project area due to unfavorable river conditions, but previous survey records indicate the presence of blacknose shiners in the area of the Kankakee River in which the project takes place. BP estimates the potential take of 12 blacknose shiners as a result of this project.

The **western sand darter** is a State-endangered fish species in Illinois. It is a small fish, ranging from 2-3 inches in length. It is found in sandy areas of medium to large streams with moderate current. In the north, western sand darters are often found in the mouths of tributaries to large rivers. Western sand darters spend much of their time on the stream bottom buried in the sand with only their snout and eyes exposed waiting for food items to float by. Western sand darters are known to feed on larval aquatic insects.

Western sand darter spawn typically takes place from late June to early August. Little is known about western sand darter spawn, but it is thought that they move into areas of shallow riffles for spawning.

Western sand darter populations have declined due to habitat loss, increased siltation of sandy habitats, declining water quality, and habitat alteration due to the installation of dams and other manmade structures. In Illinois, western sand darters have been found in the Kankakee, Kaskaskia, Mississippi, and Sugar Rivers. There are currently 9 extant Element Occurrence Records for western sand darter in the Illinois Natural Heritage Database in 6 of 102 Illinois counties, including Fayette, JoDaviess, Logan, Rock Island, Shelby, and Will. There have been two previously issued or pending incidental take authorizations for the western sand darter in the State of Illinois. Previous projects included the installation of a multiport diffuser and the construction of an electrical transmission line. Previous applicants were required to schedule project activities outside the western sand darter spawning season, safely remove fish from cofferdams during dewatering, conduct annual fish population monitoring, and refrain from placing structures in waterways. This is the second authorization for western sand darter to be issued in Will County.

EnviroScience, Inc. was unable to conduct a survey of fish species in the project area due to unfavorable river conditions, but previous survey records indicate the presence of western sand darters in the area of the Kankakee River in which the project takes place. BP estimates the potential take of 24 western sand darters as a result of this project.

The **American eel** is an Illinois State-threatened fish and North America's only freshwater eel species. Due to its complex life cycle and broad geographic range, the American eel is thought to inhabit the broadest diversity of habitats of any fish species in the world. In Illinois, American eels are found in medium to large rivers over a variety of substrates.

The life of an American eel is thought to both begin and end in the Sargasso Sea, an area of warm water in the North Atlantic Ocean between the West Indies and the Azores. Although the eels have a broad geographic range in North America, all American eels make up a single breeding population when they return to the Sargasso Sea each year to spawn. Spawn takes place in late winter and early spring, and females are known to produce between 20 and 30 million eggs. Larvae are transported by currents to areas near the continental margin of North America, a journey that takes about a year. By the time they reach the North American coast, the larvae are about 2-3 inches long and have developed fins and a snake-like body and are known as glass eels. Once they reach the coast, they migrate into brackish habitats such as tidal rivers and estuaries. At this point, they are around 4 inches long, have become gray to green-brown in color, and are known as elvers. As they move further into inland freshwater habitats and continue to grow, they become yellow eels, which are yellow to olive brown in color and are the life cycle stage before the eels become sexually mature. American eels may live in freshwater habitats from 3 to 40 years before completing sexual maturation. At a length of about 8-10 inches, the eels become either male or female and are known as silver eels, with females reaching lengths

of up to 5 feet and males reaching up to 3 feet. Silver eels complete sexual maturation when the time comes for them to travel back to the Sargasso Sea to spawn. It is believed that each American eel spawns once in its life and dies after spawning.

Declines of the American eel in Illinois are due to the blockage of migration corridors by dams and other river obstructions. Localized population declines have also been attributed to hydropower plant turbines, degradation of current habitat, and overharvest. Glass eels in particular were once subject to heavy harvest due to their high price in Asian markets. In Illinois, American eels have been found in the Mississippi, Rock, Illinois, Kankakee, Kaskaskia, Ohio, Wabash, Embarras, and Vermilion Rivers. There are currently 42 extant Element Occurrence Records in the Illinois Natural Heritage Database, in 33 of 102 Illinois counties. This is the first incidental take authorization to be granted for American eel in the State of Illinois.

EnviroScience, Inc. was unable to conduct a survey of fish species in the project area due to unfavorable river conditions, but previous survey records indicate the presence of American eels in the area of the Kankakee River in which the project takes place. BP estimates the potential take of 12 American eels as a result of this project.

Based on the amount of habitat impacted by this project, the number of known occurrences of the sheepsnose, purple wartyback, black sandshell, spike, river redhorse, greater redhorse, American brook lamprey, northern brook lamprey, starhead topminnow, banded killifish, pallid shiner, weed shiner, blacknose shiner, western sand darter, and American eel in Illinois, an assessment of the potential effect of this project on individual mussels and fish in the project footprint, the conservation measures included in this authorization for incidental take, and the understanding that vulnerability and recovery information on the species remains limited; the Department has concluded that the taking proposed herein will not reduce the likelihood of survival or recovery of the species in the wild within the State of Illinois, the biotic community of which the species are a part, or the habitat essential to the species' existence in Illinois.

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

These measures are listed below under "Authorization." This authorization is, by definition, subject to those terms and conditions and the signature of a representative of BP indicates their commitment to performing those measures.

6. The public has received notice of the application and has had the opportunity to comment before the Department made any decision regarding the application:

Public notice of BP's request for authorization of incidental take was published in the *Breeze Courier* (official state newspaper) on March 20, 2017, and in the

Kankakee Daily Journal on March 20, March 27, and April 3, 2017. A copy of the conservation plan was deposited at the Wilmington Public Library, where it was available for public review. The deadline for public comment was May 3, 2017. No comments were received from the public.

Authorization

It is the determination of the Department that the measures that will be implemented by BP will adequately minimize and mitigate the anticipated taking of sheepnose, purple wartyback, black sandshell, spike, river redhorse, greater redhorse, American brook lamprey, northern brook lamprey, starhead topminnow, banded killifish, pallid shiner, weed shiner, blacknose shiner, western sand darter, and American eel incidental to activities associated with the inspection and repair of the East Fort Madison – Manhattan Pipeline crossing the Kankakee River in Will County, Illinois. Further, the Department has concluded that the take authorized herein will not reduce the likelihood of survival or recovery of the species in the wild within the State of Illinois, the biotic community of which the species are a part, or the habitat essential to the species' existence in Illinois. Additional listed mussel and fish species may inhabit the Kankakee River, **this agreement does not authorize take of any species except the sheepnose, purple wartyback, black sandshell, spike, river redhorse, greater redhorse, American brook lamprey, northern brook lamprey, starhead topminnow, banded killifish, pallid shiner, weed shiner, blacknose shiner, western sand darter, and American eel.**

All terms and conditions included in the aforementioned conservation plan submitted by BP to the Department are incorporated into this agreement by reference and are made a part thereof.

Pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5] and the Administrative Rules for the Incidental Taking of Endangered and Threatened Species [Ill. Adm. Code 1080.40(b)], this authorization is issued subject to the following terms and conditions, which may include additions or modifications to the minimization and mitigation measures proposed by BP in the conservation plan:

1. This authorization is effective upon the signature of the Department and shall remain in effect for a period of **five (5) years** from the date of the Department signature, unless terminated by written agreement of both parties.

This authorization may be revoked pursuant to the Act and Ill. Adm. Code 1080.80(b) if the Department finds that BP has failed to comply with any of these terms and conditions or has been responsible for the taking of sheepnose, purple wartyback, black sandshell, spike, river redhorse, greater redhorse, American brook lamprey, northern brook lamprey, starhead topminnow, banded killifish, pallid shiner, weed shiner, blacknose shiner, western sand darter, or American eel beyond that which is incidental to activities associated with the inspection and repair of the East Fort Madison – Manhattan Pipeline crossing the Kankakee River in Will County, Illinois.

2. The effective period of this authorization may be altered by mutual written agreement between BP and the Department. The Illinois Endangered Species Protection Board shall be notified of any such alteration.

Any substantive changes, including but not limited to a change in the project footprint or a change in the State-listed species which could potentially be affected, will require that a new conservation plan be submitted to the Department to initiate the review and public notice process as required by the Act.

3. This authorization is non-transferable.
4. All on-site personnel shall be educated on the sensitive biological resources in the area, the identification of listed species, regulations protecting the species, where the species might be found, avoidance areas, travel restrictions for equipment and vehicles, how to report sightings or incidents that may involve take, and the importance of avoiding take of the species. BP shall submit a copy of the education materials to the Department.
5. The Department reserves the right of entry by its staff or representatives to inspect species, potential habitat, and species management practices.
6. Biological consultants employed by BP shall hold the necessary permits for work with non-listed and listed species; these include an Illinois Department of Natural Resources (IDNR) Scientific Collection Permit and an IDNR Endangered Species Permit.
7. BP shall notify the Department's Endangered Species Program by email correspondence of construction commencement and completion of the inspection and repair of the East Fort Madison – Manhattan Pipeline crossing the Kankakee River. A project status report shall be submitted to the Department within 90 days following completion summarizing the implementation of minimization, mitigation, and restoration measures and evaluating the effectiveness of those measures and shall include a project photo log. The report shall also include a map and GPS coordinates of any listed species found within the project footprint including any relocations, description of any injuries or mortalities, and the disposition of any individuals that were injured or killed.
8. Any discoveries of additional listed species beyond those identified in this agreement shall be reported to the Department within 48 hours accompanied by location information (photograph, map, and GPS coordinates).
9. BP shall conduct, or cause to be conducted, the following pre-construction or construction efforts:
 - a. Erosion and sediment control measures shall be implemented in all areas affected by riparian activities. Disturbance of vegetation shall be minimized to prevent erosion and sedimentation. All disturbed areas shall be seeded or otherwise stabilized upon completion of construction activities.

- b. Prior to construction, survey-grade profiles of the site will be established so the site can be restored to pre-existing profiles.
 - c. No equipment shall be placed in the water during the course of construction.
 - d. All staging of materials shall take place in an upland area. Upland areas shall be accessed via existing right-of-way through unsuitable or marginal habitat.
 - e. No construction debris shall be deposited into the stream channel. All excavated material shall be removed from the channel and disposed in an upland location. There shall be no temporary stockpiling of excavated material in the channel.
 - f. After construction completion, the excavations shall be backfilled using the existing substrate, ensuring placement of the top substrate layer back on top of the excavation.
 - g. Portable dams shall be used to facilitate construction instead of rock-fill causeways or sheet piles. Work shall take place during periods of low flow to avoid failure of dam installation.
 - h. Any fish or mussels trapped behind the dams shall be relocated to suitable habitat (fish downstream, mussels upstream) of the project footprint by a permitted biologist. Prior to completion of dam installation, nets shall be pulled through the project area to exclude any fish present. Draw down pumps shall utilize fish exclusion mesh. Any fish or mussels present in the impact area during or after draw down shall be netted and relocated to suitable habitat. Relocated fish and mussels shall be identified to species and mortalities noted prior to release.
10. BP shall conduct, or cause to be conducted, a thorough search for freshwater mussels in the project area, including any area hydrologically impacted, during biologically suitable mussel relocation periods. This search shall be conducted no more than 90 days prior to project initiation. Mussels will not be relocated when air temperatures are below 32° or above 95° Fahrenheit (F), nor when water temperatures are below 50° F. All mussels will be held in mesh bags suspended in the river or in containers of water that is changed every hour (every half-hour when air temperatures are at or above 87° F). Water in containers shall be taken from the river where the mussels were collected. No mussels shall be held for more than three (3) hours before being returned to suitable habitat in the river.
- a. All freshwater mussels shall be relocated from the Area of Direct Impact (ADI), plus the specific salvage buffers as described in the Conservation Plan and Biological Assessment. Mussels will be salvaged using a search cell method whereby a defined section is cleared, and then the search is moved to a new cell for clearing. A minimum effort of 1.0 minute/m² is required per pass. Successive passes are to be made through the area until two or fewer mussels are collected per 100m² area. Once a cell is cleared, the new cells are cleared sequentially. The process is repeated until the entire salvage area, including the ADI and buffer described above, is cleared of mussels.
 - b. All freshwater mussels found shall be identified to species and enumerated. At least 300 listed mussels including all sheepsnose shall receive Passive Integrated Transponder (PIT) tags to aid in identification of these individuals during

monitoring, and all listed mussels will be etched or glitter-glued. In addition, half of the non-listed mussels relocated, excluding mucklets, shall be etched or glitter-glued, such that they can be useful to the collection of relocation survivability data. Those conducting the search must be qualified at accurate identification of freshwater mussel species. All native freshwater mussels found during this search shall have zebra mussels removed from their shells and shall be relocated upstream to suitable habitat where landowner permission has been received. The relocation site shall be delineated with a minimum one-hour timed search. The relocation site shall be located upstream (preferred) in an area of equal or better habitat (substrate, flow, presence of mussels). **A report including, but not limited to, the survey methodology utilized, water temperature, species and numbers of mussels located (noting juveniles), age class (≤ 5 or > 5) of each marked individual sampled indicating whether recruitment is evident, an accounting of marked individuals, methodology performed for relocation site choice, and maps of the area searched and the relocation site shall be provided to the Department within 90 days of completion of the survey and relocation effort.**

- c. A subset of the relocated mussels may be temporarily held separately prior to relocation in the wild for no more than three (3) years at a Department and USFWS-approved mussel propagation facility specifically for propagation and host research. All mussels held will be tagged with a Hallprint-type alpha-numeric tag. No more than 15 sheepsnose (if co-authorized by USFWS), 50 purple wartyback, 30 black sandshell and 5 spike may be held for host fish research and propagation purposes. Once the lab work is complete, those individuals will be returned to the Kankakee River at the relocation site following quarantine procedures, unless otherwise authorized by the Department and USFWS. Any mortalities of individuals during holding must be documented and reported and the soft and hard tissues of any sheepsnose shall be preserved and curated, as well as reported to the Department and USFWS.
11. BP shall conduct, or cause to be conducted, post-construction monitoring for freshwater mussels every other year for 10 years following project completion:
- a. Non-intrusive monitoring for freshwater mussels shall take place around the project and relocation areas in Years 2, 6, and 8 following construction completion. Non-intrusive monitoring will consist of scanning for PIT-tagged individuals and recording individuals located.
 - b. During Years 4 and 10 following construction completion, full excavations of PIT-tagged mussels shall take place. Individuals located during PIT-tag scanning shall be excavated to record growth and survivorship.
 - c. **A report including, but not limited to, the survey methodology utilized, water temperature, species and numbers of mussels located (noting any marked individuals), the age class (≤ 5 or > 5) of each individual sampled indicating whether recruitment is evident, survival rates of marked individuals, and a map of the species locations shall be provided to the Department within 90 days of completion of each survey.**

12. BP shall conduct, or cause to be conducted, post-construction monitoring for freshwater fish in the project area during Years 2 and 6 following construction completion:
- a. Surveys using boat electrofishing shall be conducted at the ADI, plus 50m upstream and 100m downstream, following construction completion when water levels and temperatures are suitable. Sampling will consist of 30 minutes of active sampling on each bank and will start at the upstream extent of each site and continue downstream including all near-shore areas and representative habitat types. A backpack electrofishing unit set to standard voltage/pulses shall be used in areas that the boat cannot access due to shallow water depths.
 - b. An aerated live well shall be used to keep fish alive during processing, and fish shall be held in flow-through baskets or aerated coolers at the processing station. All fish shall be returned to their place of collection after processing is complete.
 - c. **A report including, but not limited to, the survey methodology utilized, the species and numbers of fish located, weather conditions, flow levels and visual turbidity, water temperature, pH, dissolved oxygen, conductivity, and a map of the species locations shall be provided to the Department within 90 days of completion of each survey.**
13. BP shall conduct, or cause to be conducted, post-construction monitoring for American brook lamprey and northern brook lamprey in the project area during Years 2 and 6 following construction completion:
- a. Thorough surveys for adult and juvenile lampreys shall be conducted at the ADI within suitable habitat, plus 50m upstream and 100m downstream, following construction completion when water levels and temperatures are suitable. Surveys shall be conducted for **adult** spawning lampreys between April 15 and May 15, when water temperatures are between 51.8-59° F and shall utilize methodology designed for their detection (performed at the leading edge of any riffles above, within, and below the project area).
 - b. Surveys for the detection of **juvenile** lampreys shall be conducted outside of the spawning season (performed by multiple pass backpack electro-shocking gear within small areas of suitable substrates, such as sand, above, within, and below the project area). Low voltage/low pulse backpack electrofishing surveys shall be conducted to target larval lamprey (ammocoetes). These surveys shall use low voltage power relative to standard methods and at less than 10 pulses per second to draw larval lamprey from the substrate. This method will stun other species present, thus facilitating the collection of additional fish species.
 - c. **A report including, but not limited to, the survey methodologies utilized, water temperature, number of lampreys located, range of size differences observed, and a map of the species locations, as well as any suitable ammocoete habitat, shall be provided to the Department within 90 days of completion of the survey.** Please note any other fish species incidentally sampled or observed.

14. BP shall conduct, or cause to be conducted, post-construction monitoring for American eel in the project area during Years 2 and 6 following construction completion:
 - a. A specific survey for American eel shall be conducted at the ADI, plus 50m upstream and 100m downstream, following construction completion when water levels and temperatures are suitable. Sampling shall consist of utilizing no less than three (3) baited fish traps along each bank set for two consecutive days (overnight) between May 15 to October 15 of each survey year.
 - b. **A report including, but not limited to, the survey methodologies utilized, water temperature, number of eels located, range of size differences observed, and a map of the species locations, as well as any suitable habitat, shall be provided to the Department within 90 days of completion of the survey.** Please note any other fish species incidentally sampled or observed.
15. The salvage and relocation of non-listed mussels and fish is hereby authorized by the Department with signature of this agreement per the Illinois Fish and Aquatic Life Code (515 ILCS 5/1-150).
16. Mitigation to the maximum extent practicable is required by the Act. Mitigation requirements for this authorization are calculated as follows:
 - a. In lieu of onsite mitigation, BP shall commit **\$30,000.00** to be used for mussel propagation research. The donation shall be made to an established mussel propagation facility, such as the Ohio State University/Columbus Zoo Mussel Propagation Facility or the USFWS Genoa National Fish Hatchery. The funds shall be used to reestablish listed freshwater mussel species at the project area at a rate of 5.5 times the take estimate to achieve viable adult mussels, either through funding propagation efforts or through propagation research.
 - b. Top priority for these funds will focus on the host identification, propagation, and culture of juvenile sheepsnose mussels. Additional listed mussels may be investigated for host research and propagation. Other options for using these funds may include propagation of purple wartyback and black sandshell mussels or release of host fish species inoculated with glochidia of these species. Any release of broodstock into the wild shall be approved by the Department and US Fish and Wildlife Service prior to taking place.
 - c. The donation shall be provided to the recipient facility **within 90 days of execution of this agreement.** Mitigation payments are nonrefundable, including events of revocation or termination. Proof of donation must be provided to the Department.

Mitigation values are based on the Department's best current understanding of the species life history needs, real estate values, and/or impact analysis relevant to the site's proposed conceptual design elements available at the time of review.

17. All reports, notifications, and other project documentation shall be submitted to:

Illinois Department of Natural Resources
Office of Resource Conservation
Endangered Species Program – Incidental Take Authorization Coordinator
One Natural Resource Way
Springfield, IL 62702-1271

(217)557-8243

DNR.ITAcordinator@illinois.gov

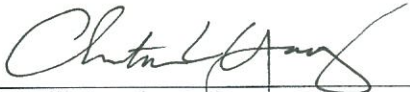
The Department's Endangered Species Program shall provide all reports required under this agreement to the Illinois Endangered Species Protection Board and to the Department's Natural Heritage Database.

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

19. The execution of this agreement does not waive or excuse the responsibilities of BP to comply with other Federal, State, or local regulations, including but not limited to obtaining any required permits for the execution of this project.

For the Illinois Department of Natural Resources:

For BP US Pipelines & Logistics:



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

6/15/17

Date



Mr. Juan Ortega
District Operations Manager

6/14/17

Date