



Illinois Department of Natural Resources

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

JB Pritzker, Governor
Colleen Callahan, Director

AMENDMENT TO INCIDENTAL TAKE AUTHORIZATION ISSUED TO LAFARGE ON NOVEMBER 26, 2018 (IDNR ITA FILE #158)

Background:

The Illinois Department of Natural Resources (hereinafter referred to as Department) received a Biological Opinion approved by U.S. Fish and Wildlife Service (hereinafter, USFWS) on January 5, 2016, in lieu of a Conservation Plan from Lafarge Cave-In-Rock Quarry (hereinafter, Lafarge) on August 3, 2016, as a request for authorization for the incidental take of Fat Pocketbook (*Potamilus capax*) mussels during activities associated with regular maintenance dredging at their truck load-out facility and a conveyor-to-barge loading facility at Ohio River Mile 879.0 in Hardin County, Illinois. The final Conservation Plan was accepted as complete by the Department on June 11, 2018. After public notice and review as required by the Illinois Endangered Species Protection Act, authorization for the incidental take of the Fat Pocketbook was approved by the Department on November 11, 2018 (hereinafter referred to as the original authorization) (Appendix A). That original authorization remains in effect until April 4, 2026.

During the performance of the required mussel relocation within the proposed dredge area between October 7 and 11, 2019, additional State-listed species were found, including the State-endangered Ebonyshell (*Fusconaia ebena*) and the State-threatened Black Sandshell (*Ligumia recta*). Black Sandshell was removed from the Illinois List of Endangered and Threatened Species on May 28, 2020; therefore, take of this species will not be contemplated in this agreement. An amendment to the Conservation Plan was received by the Department on March 12, 2020, to request authorization for take of the additional State-listed species found during the relocation, plus any other species that had been found in the vicinity. Historical and recent records indicate that the following State-threatened species may also be found in the proposed dredge area: Butterfly (*Ellipsaria lineolata*), Elephantear (*Elliptio crassidens*), Ohio Pigtoe (*Pleurobema cordatum*), Purple Wartyback (*Cyclonaias tuberculata*), and Spike (*Elliptio dilatata*). Additional information was requested by the Department on April 23, 2020, to make the amended Conservation Plan complete, per the requirements of Ill. Adm. Code 1080.10. That additional information was received by the Department on May 13, 2020.

Public notice of Lafarge's request for an amendment to the original authorization of incidental take adding Ebonyshell, Butterfly, Elephantear, Ohio Pigtoe, Purple Wartyback, and Spike was published in the *Breeze Courier* (official State newspaper) on May 20, 2020, and in *The Southern Illinoisan* on May 20, May 27, June 5, 2020. A copy of the Conservation Plan was made available at the Rosiclare Memorial Library. One public comment was received by the Department on June 26, 2020. The comment was supportive and, therefore, did not require

applicant analysis. No changes to the amended Conservation Plan were performed based on public comment.

The Compliance section of the original authorization, except the scientific information under item #4, remains relevant to this amendment and shall apply to the added species. Biological information on the six (6) additional potentially affected species follows:

Ebonyshell is an Illinois State-endangered mussel species.

Habitat: The species is known to inhabit large rivers in areas of swift current. They favor areas with stable sand or gravel substrates.

Reproduction: Ebonyshell are short-term brooders. Reproduction occurs from May to early fall, after which glochidia are released. Ebonyshell host fish include Skipjack Herring, Largemouth Bass, White Crappie, and Black Crappie.

Population: Ebonyshell were historically the most abundant mussel species in the Upper Mississippi River, but populations have declined dramatically over the past century. One cause for the decline of Ebonyshell was their pearly-white interior shell that was highly prized by button-makers, leading to overharvest.

Range in Illinois: Ebonyshell have been found in the Mississippi, Illinois, Ohio, Wabash, and Little Wabash Rivers. There are currently 14 extant Element Occurrence Records for Ebonyshell in the Illinois Natural Heritage Database. The species has been observed in 12 of 102 Illinois counties.

Incidental Take Authorizations: The Department has four (4) pending or issued Incidental Take Authorizations for Ebonyshell. Types of projects include a bridge replacement and a dredge. One (1) authorization was executed for work on the Ohio River. All the other authorizations were located in the Mississippi River. This is the second authorization for the taking of Ebonyshell in Hardin County, and the nearest project is 56 miles downstream.

Butterfly is an Illinois State-threatened mussel species.

Habitat: They are found in large rivers in areas with moderate to swift currents. They favor substrates of coarse sand and gravel.

Reproduction: Butterfly mussels are long-term brooders. Females retain developing glochidia in their gills from August until the following July. Glochidia are released and temporarily parasitize a host fish. Butterfly glochidial host fish include Freshwater Drum, Green Sunfish, and Sauger.

Population: Butterfly mussel populations are shrinking due to a decline in habitat conditions associated with river/water management, impacts from the invasive zebra mussel, and from overharvest caused by the button and pearl industries.

Range in Illinois: Butterfly mussels have been found in the Mississippi and Ohio Rivers, in 12 of 102 counties. There are currently 29 extant Element Occurrence Records for Butterfly mussels in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has 16 previously issued or pending Incidental Take Authorizations for Butterfly mussels. Types of projects included dredging, construction of offshore structures, bridge removal and replacement, riprap installation, and boat dock installation. The nearest pending

Incidental Take Authorization is 56 river miles downstream in Massac County. This is the second authorization for potential take of Butterfly in the Ohio River.

Elephantear is an Illinois State-threatened mussel species.

Habitat: Elephantear mussels are found in large streams and rivers., The substrate for these mussels may be mud, sand, gravel, and rocks in moderate to swift currents.

Reproduction: Elephantear are short-term brooders. However, reproduction, therefore recruitment, is low in most of the rivers where populations are found. It is unknown which fish species serve as a larval host.

Population: Elephantear mussels are known from the Mississippi and Ohio Rivers, and more widely in the Eastern United States, excluding New England. Unlike other species, the shell is not white, so it was not commercially harvested for pearl buttons. Environmental pressures that have decreased the species range include habitat destruction through impoundments, channelization, and dredging, siltation, and chemical pollution.

Range in Illinois: Elephantear mussels are found occasionally in the Wabash and Ohio Rivers, in 6 of 102 counties: Lawrence, Massac, Peoria, Pulaski, Tazewell, and Wabash. There are currently 11 extant Element Occurrence Records for Elephantear mussels in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has two (2) pending Incidental Take Authorizations for Elephantear. The nearest pending Incidental Take Authorization is located 56 river miles downstream in Massac County for a project involving the installation of spud piles.

Ohio Pigtoe is an Illinois State-threatened mussel species.

Habitat: Ohio Pigtoe has a preferred habitat in large rivers, with tolerance for some reservoir environments. In rivers, populations of Ohio Pigtoe can be found above riffles in heterogenous gravel, cobble, and boulder substrates, and in deeper flowing waters in mud, sand, or gravel. When found in a reservoir, the habitat is dam tailwaters or overbanks.

Reproduction: Ohio Pigtoe are short-term brooders. Reproduction occurs from April to August, after which glochidia are released. Host fish for Ohio Pigtoe include Rosefin Shiner, Creek Chub, Guppy, and Brook Stickleback.

Population: Ohio Pigtoe have become rare in occurrence and density. The species was previously known from the upper Mississippi, and St. Lawrence River. However, it is localized in the Ohio, Muskingum, Green, Tennessee, and Cumberland Rivers, and extirpated from the Wabash River, and other tributaries of the Ohio River. The decline has been attributed to pollution, alteration to river channels including impoundment and siltation, and commercial harvest of shells.

Range in Illinois: Ohio Pigtoe mussels are found occasionally in the Wabash and Ohio Rivers, in four (4) of 102 counties: Hancock, Hardin, Massac, and Pulaski. There are currently 3 extant Element Occurrence Records for Ohio Pigtoe mussels in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has one other pending Incidental Take Authorization for Ohio Pigtoe. The nearest pending Incidental Take Authorization is 56 river miles downstream in Massac County for a project involving the installation of spud piles.

Purple Wartyback is an Illinois State-threatened mussel species.

Habitat: The species is predominantly found in small to medium-sized streams and the main headwaters of large rivers. The species prefers gravel or mud substrates.

Reproduction: Purple Wartyback is a short-term brooder, with females retaining glochidia in their gills from May to late August. Glochidia are released and temporarily parasitize a host fish. Purple Wartyback glochidial host fish include Black Bullhead, Yellow Bullhead, Channel Catfish, and Flathead Catfish.

Population: Purple Wartyback populations are jeopardized by habitat degradation and pollution. They are also being impacted by infestations of the non-native zebra mussel.

Range in Illinois: Purple Wartyback are found in the Kankakee, Vermilion, Ohio, Fox, and Rock River basins. They have been found in nine (9) of 102 Illinois counties, including Champaign, Grundy, Iroquois, Kankakee, Massac, Pulaski, Rock Island, Vermilion, and Will. There are currently 40 extant Element Occurrence Records for Purple Wartyback mussels in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has 16 previously issued or pending Incidental Take Authorizations for Purple Wartyback. Types of projects included bridge repair or installation, pipeline maintenance, water withdrawal, and high-speed railway construction. Thirteen of the past authorizations occurred in the Fox, Kankakee, and Vermilion River basins. This the first authorization for the Ohio River. This is the first authorization for the taking of Purple Wartyback in Hardin County. The nearest pending Incidental Take Authorization is 56 river miles downstream in Massac County.

Spike is an Illinois State-threatened mussel species.

Habitat: The species is found in small to large rivers with sand and gravel substrates. They are occasionally found in reservoirs and lakes, usually associated with outlet habitats dominated by swift currents.

Reproduction: Spike are short-term brooders. Females brood their young in their gills from May through August before releasing glochidia. Glochidia are released and temporarily parasitize a host fish. Spike glochidial host fish include Gizzard Shad, Flathead Catfish, White Crappie, Black Crappie, and Yellow Perch.

Population: Spike populations are declining due to widespread degradation of habitat throughout its range. Dams, channelization and dredging can also impact glochidial host fish. They are also prone to impacts caused by the invasive zebra mussel.

Range in Illinois: Spike have been found in the Mississippi, Illinois, Kaskaskia, Kankakee, Fox, Sangamon, Wabash, and Little Wabash River basins in 18 of 102

counties. There are currently 42 extant Element Occurrence Records for spike in the Illinois Natural Heritage Database.

Incidental Take Authorizations: There have been 13 previously issued or currently pending Incidental Take Authorizations for Spike in Illinois. Previous projects include bridge replacements, pipeline installation, water treatment outfall, and diffuser installation. This is the first authorization for potential take of Spike in the Ohio River. The nearest pending Incidental Take Authorization is 56 river miles away in Massac County.

Based on the amount of habitat impacted by this project, the number of known occurrences of Ebonyshell, Butterfly, Elephantear, Ohio Pigtoe, Purple Wartyback, and Spike mussels in Illinois, an assessment of the potential effect of this project on individual mussels in the project footprint, the conservation measures included in this authorization for incidental take, and the understanding that the 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.

Amendment Terms and Conditions:

All terms and conditions of the original authorization and the Conservation Plan not modified by this amendment remain in full force and effect.

1. This amendment modifies certain terms and conditions of the original authorization issued to Lafarge on November 26, 2018, [IDNR ITA File #158]. This amendment is effective upon the signature of the Department. This amendment and the original authorization may be revoked if the Department finds that Lafarge has failed to comply with any of these terms and conditions or have been responsible for the taking of Ebonyshell, Butterfly, Elephantear, Ohio Pigtoe, Purple Wartyback, and Spike mussels beyond that which is incidental to activities associated with dredge at their Ohio River facility at River Mile 879.0, Hardin County, Illinois.
2. Upon approval of this amendment by the Department, the terms and conditions of this amendment shall coincide with the original authorization and shall remain in effect through April 4, 2026. All Lafarge surveying and reporting obligations at the project location shall remain in effect until completed. The Department has determined that minimization, monitoring, and mitigation in the original authorization will bring conservation benefit to the Ebonyshell, Butterfly, Elephantear, Ohio Pigtoe, Purple Wartyback, and Spike mussels, therefore, no additional assurances are required in this amendment.
3. The effective period of this amendment and the original authorization may be altered by mutual written agreement between Lafarge and the Department. The Illinois Endangered Species Protection Board shall be notified of any such alteration. Any substantive

changes, including but not limited to additional actions besides dredging that may impact the species at the project site, a change in the project footprint, or a change in the Illinois endangered or threatened 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.

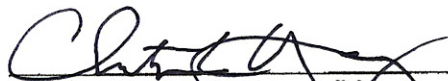
4. The original authorization and this amendment are non-transferable.
5. All reports and other documentation required by the original authorization and this amendment shall be submitted to:

Illinois Department of Natural Resources
Endangered Species Program – Incidental Take Authorization Coordinator
One Natural Resources Way
Springfield, IL 62702-1271
(217)557-8243
DNR.ITAcordinator@illinois.gov

The Department's Endangered Species Program shall provide copies of all reports required under the original authorization and this amendment to the Illinois Endangered Species Protection Board, and to the Department's Natural Heritage Database.

6. The Lafarge official identified below is authorized to execute this agreement. Execution by Lafarge indicates acceptance of all terms and conditions in the original authorization and this amendment.
7. The execution of this agreement does not waive or excuse the responsibilities of Lafarge to comply with other Federal, State, or local regulations, including but not limited to obtaining any required permits for the execution of this project.

For the Illinois Department of Natural Resources:

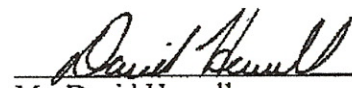


Mr. Christopher L. Young, Director
Office of Resource Conservation

9/14/2020

Date

For Lafarge Cave-in-Rock Quarry:



Mr. David Hearell
Quarry Manager

9-2-20

Date



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 Lafarge Cave-In-Rock Quarry (hereinafter referred to as Lafarge) for the incidental take of the Federally-endangered and State-endangered Fat Pocketbook (*Potamilus capax*). The Illinois Department of Natural Resources (hereinafter referred to as Department) has determined that the taking is incidental to activities associated with operating and performing annual maintenance dredging at a truck load-out facility and a conveyor-to-barge loading facility. The dredging areas are approximately 300 feet by 100 feet each (0.69 acres), totaling **1.38 acres** at Ohio River Mile 879.0 within Hardin County, Illinois.

Procedural History

The Department received a Biological Opinion prepared by U.S. Fish and Wildlife Service and approved on January 5, 2016, in lieu of a conservation plan from Lafarge on August 3, 2016, as a request for authorization for the incidental take of Fat Pocketbook. Additional information was requested by the Department on August 17, 2016, to make the conservation plan complete as prescribed by Ill. Adm. Code 1080.10. Additional information was received by the Department on May 25, June 4, and 8, 2018. The final conservation plan was accepted by the Department on June 11, 2018. The public notice period will be detailed under #6 of the Compliance section below.

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 to operate and perform annual maintenance dredging at a truck load-out facility and a conveyor-to-barge loading facility at Ohio River Mile 879.0 in Hardin County, Illinois. Lafarge proposes to dredge the two areas of approximately 0.69 acre each or 1.38 acres total. Rock spillage, silt, and sand will be removed using a crane or backhoe from a work barge. The dredged material will be transferred to the adjacent shore. If the

material is not sold, it will be moved in trucks to the disposal area. Total estimated area of impact for species habitat is 1.38 acres. The most recent dredge at the truck load-out facility occurred prior to 2006 (2011 mussel survey located five fat pocketbooks within the dredge zone). The most recent dredge of the conveyor-to-barge loading facility occurred on December 15, 2017 (2011 mussel survey located no fat pocketbooks within the dredge zone).

Take of Fat Pocketbook could occur as a result of being buried, crushed, smothered, or dislodged by construction activities. Turbidity, flow alteration, sediment deposition, and decreased dissolved oxygen may affect mussel respiration, reproduction, and feeding. Noise and vibrations may temporarily disperse host fish, reducing breeding success of Fat Pocketbook. The take of Fat Pocketbook that could result from this project is not the purpose of Lafarge'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 Lafarge's conservation plan.

To meet the "maximum extent practicable" standard, additional minimization and/or mitigation measures may be required beyond those proposed by Lafarge, based on the life history needs of the Fat Pocketbook.

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:

Lafarge ensures that funding is in place for the life of the project, including the mussel surveys and relocations. Compensatory mitigation requirements were fulfilled on May 5, 2016.

It is the Department's opinion that Lafarge'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:

Fat Pocketbook (*Potamilus capax*)

Fat Pocketbook is a Federally-listed endangered and State-listed endangered mussel species.

Habitat: The species is predominately found in medium to large-sized rivers. Fat Pocketbook prefer sand, mud, and fine gravel substrates in areas with slow-flowing water.

Reproduction: The Fat Pocketbook is a long-term brooder, with females retaining glochidia in their gills over winter and releasing them in the spring. Glochidia are released and temporarily parasitize a host fish. The only known host fish for Fat Pocketbook is the freshwater drum (*Aplodinotus grunniens*).

Population: Fat Pocketbook populations are declining due to maintenance dredging, dam construction activities, habitat degradation and pollution. They are also being impacted by non-native zebra mussels attaching themselves to the shell of Fat Pocketbook.

Range in Illinois: In Illinois, Fat Pocketbook was formerly present in the upper Mississippi River and is now presumed extirpated. They are presently found in the Wabash and Ohio Rivers within Illinois. They have been found in 7 (seven) of 102 Illinois counties including Gallatin, White, Hardin, Wabash, Massac, Pulaski, and Pope. There are currently 29 extant Element Occurrence Records for Fat Pocketbook in the Illinois Natural Heritage Database.

Incidental Take Authorizations: The Department has 2 (two) previously issued or pending Incidental Take Authorizations for Fat Pocketbook. Project types include bridge construction on the Wabash River and dredging. Lafarge's project is approximately 35 miles northeast of the previously authorized Incidental Take Authorization for take of Fat Pocketbook at a dredge on the Ohio River. This is the second authorization for the taking of Fat Pocketbook in Hardin County.

Based on the amount of habitat impacted by this project, the number of known occurrences of the endangered species in Illinois, an assessment of the potential effect of this project on the listed species 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 Fat Pocketbook 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 Lafarge 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 Lafarge's request for authorization of incidental take was published in the *Breeze Courier* (official state newspaper) on June 13, 2018, and in *The Southern Illinoisan* on June 13, 20, and 29, 2018. A copy of the conservation plan was deposited at the Rosiclare Memorial Library, where it was available for public review. The deadline for public comment was July 30, 2018. No comments were received from the public.

Authorization

It is the determination of the Department that the measures that will be implemented by Lafarge will adequately minimize and mitigate the anticipated taking of Fat Pocketbook incidental to activities associated with operating and performing annual maintenance dredging at a truck load-out facility and a conveyor-to-barge loading facility in Hardin County, Illinois. Further, the Department has concluded that the take authorized herein will not reduce the likelihood of survival or recovery of the Fat Pocketbook 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. Additional listed species may inhabit the project area, **this agreement does not authorize take of any species except the Fat Pocketbook.**

All terms and conditions included in the aforementioned conservation plan submitted by Lafarge 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 Lafarge in the conservation plan:

1. This authorization is effective upon the signature of the Department and shall remain in effect until **April 4, 2026**, unless terminated by written agreement of both parties. The term of this authorization is synchronized with the US Army Corps of Engineers (USACOE) Permit #LRL-1961-14-C-jmb.

This authorization may be revoked pursuant to the Act and Ill. Adm. Code 1080.80(b) if the Department finds that Lafarge has failed to comply with any of these terms and conditions or has been responsible for the taking of Fat Pocketbook beyond that which is incidental to activities associated with operating and performing maintenance dredging at a truck load-out facility and a conveyor-to-barge loading facility in Hardin County, Illinois.

2. The effective period of this authorization may be altered by mutual written agreement between Lafarge 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 may only be transferred upon approval and written authorization by the Department.
4. Notification to all on-site personnel shall be provided on the sensitive biological resources in the area, the identification of the 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. **Lafarge 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 Lafarge shall be qualified in working with the species and hold the necessary permits for work with non-listed and listed species; these include an Illinois Department of Natural Resources (IDNR) Scientific Collection Permit as authorized under 17 Illinois Administrative Code 520, and an IDNR Endangered Species Permit as authorized under 17 Illinois Administrative Code 1070.
7. The salvage of non-listed aquatic life is hereby authorized by the Department with signature of this agreement per the Illinois Fish and Aquatic Life Code (515 ILCS 5/1-150).
8. Lafarge shall submit a **project status report** to the Department within **90 days** of each dredging completion summarizing the implementation or status of minimization (relocation) and an evaluation of the effectiveness of that measure (if performed) 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, composition of the substrate that was dredged, an inventory of all species observed, description of any injuries or mortalities, and the disposition of any individuals that were injured or killed.
9. Copies of any reports, updates, modifications or other project documentation required by the US Fish and Wildlife Service (USFWS) Biological Opinion issued on January 5, 2015, and/or the USACOE Permit issued June 1, 2016, shall be provided concurrently to the Department. Likewise, all reports under this authorization shall be provided to the USFWS and the USACOE.

10. Any discoveries of additional State-listed species beyond those identified in this agreement **halts work** and shall be reported to the Department within 48 hours accompanied by location information (photograph, map, and GPS coordinates).
11. Lafarge shall conduct, or cause to be conducted, the following pre-construction or construction efforts:
 - a. All in-stream work shall be conducted from a barge.
 - b. All tow boats shall be equipped with engines of less than 1200 horsepower to reduce wheel wash on the substrate.
 - c. All pilots moving barges in and out of the truck load-out or the conveyor-to-barge loading facility shall orient their vessels so that any wheel wash is directed toward deeper water.
12. Lafarge shall conduct, or cause to be conducted, a thorough mussel relocation survey in the truck load-out facility prior to the first dredging event. All mussels found in the action area shall be relocated to the pre-approved relocation area. A report including, but not limited to, the survey methodology utilized (for relocation site and project action area), water temperature, habitat structure, the species and numbers of mussels located, length, sex (if discernable), the number of growth rings (i.e. an approximation of age), and the unique identification marker of each mussel individual relocated to establish whether recruitment is occurring, and a map of the species locations and areas surveyed shall be provided to the Department within 90 days of completion of the mussel relocation.
13. Lafarge shall conduct, or cause to be conducted, a thorough survey for freshwater mussels in the truck load-out facility and the relocation site prior to the second annual dredge event. All mussels found in the action area shall be relocated to the pre-approved relocation area. A report including, but not limited to, the survey methodology utilized (for relocation site and project action area), water temperature, habitat structure, the species and numbers of mussels located, length, sex (if discernable), the number of growth rings (i.e. an approximation of age), the unique identification marker of each mussel individual relocated and an indication of whether recruitment is evident, and a map of the species locations and areas surveyed shall be provided to the Department within 90 days of completion of each of the mussel relocations.
14. If second annual survey is performed at the truck load-out facility and no State-listed mussels are located, further pre-dredge surveys and relocations will not be compelled for the duration of the Incidental Take Authorization. If State-listed species are present, however, a survey and relocation shall occur prior to the next annual dredge event and continue annually unless no State-listed species are located, at which time pre-dredge surveys may be discontinued. Dredge material surveys shall occur annually thereafter.
15. Due to the historical frequency of dredging and lack of evidence of the presence of State-listed mussels at the conveyor-to-barge loading facility, no further pre-dredge mussel

survey and relocation will be required for this facility. However, in conjunction with the requirement under Special Condition e. in the USACOE Permit #LRL-1961-14-C-jmb, dredge material surveys shall be performed annually.

16. Mitigation to the maximum extent practicable is required by the Act. As mitigation for the potential take of Fat Pocketbook, Lafarge provided funding on May 5, 2015, in the amount of \$17,000 to Kentucky Waterways Alliance - Kentucky Aquatic Resources Fund, for research and propagation of the Fat Pocketbook.

Mitigation values are based on the Department's best current understanding of the species life history needs and impact analysis relevant to the project 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

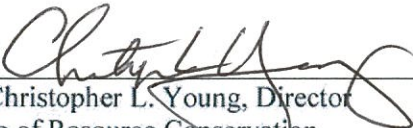
(217)557-8243

DNR.ITAcoordinator@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 Lafarge official identified below is authorized to execute this agreement. Execution by Lafarge 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 Lafarge to comply with other Federal, State, or local regulations, including but not limited to obtaining any required permits for the execution of this project.

For the Illinois Department of Natural Resources:


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

11/26/18
Date

For Lafarge Cave-In-Rock Quarry:


Mr. David Hearrell, Quarry Manager

11-13-18
Date