

HOLCIM BARGE RECEIVING SYSTEM

Mississippi River (RM 481.1)

Rock Island, Illinois

CONSERVATION PLAN

For the State-Threatened

Black Sandshell Mussel (*Ligumia recta*)

Conservation Plan for the State-Threatened Black Sandshell Mussel (*Ligumia recta*) at Holcim Barge Receiving System work barge; Mississippi River, Rock Island County, Illinois

1. Description of the impact likely to result from the proposed taking.

A. Location and Description of the Project Area:

The proposed boat dock project is located on the left descending bank of the Mississippi River, in Mississippi River Pool 16 at RM 481.1 (N 41.503422°, W 90.599107°) Rock Island, Illinois (See attached Vicinity Map).

The dock facility is in the NE ¼ of Section 34, Township 18N, and Range 2E just west of Mill Street, Rock Island, IL.

B. Biological Data on Black Sandshell (*Ligumia recta*)

The Black Sandshell is typically found in medium to large rivers with relatively strong current and stable substrates of firm sand or gravel. It is usually found in association with other mussel species in mussel beds or concentrations but in depths ranging from a few inches to 20' or more. Presumably because of its substantial weight/density, individuals are often found lying flat on their sides, fully-exposed, on substrate that includes solid, smooth, rock (personal experience).

The shell is elongate, solid and moderately compressed with a rounded anterior end. The male has a pointed posterior end while the female's posterior end is saber-shaped. The dorsal margin is straight and the ventral margin straight to curved. Umbos are low and only slightly elevated above the hinge line. Beak sculpture, when visible, has two or three indistinct, double-looped bars. The shell is smooth and shiny, dark green, brown, or black, with green rays visible on some individuals. The length can be up to 10 inches.

The pseudocardinal teeth are triangular, serrated, and divergent with two in the left valve and one in the right, occasionally with a small tooth anteriorly. The lateral teeth are long, moderately thin, and straight. The beak cavity is shallow. The nacre varies from white, pink and salmon to deep purple and iridescence posteriorly (Cummings and Mayer, 1992).

Black Sandshell is widely distributed but uncommon in much of the Midwest and in Illinois where it is listed as "threatened". They occur from the Great Lakes basin south into the Mississippi River drainage to Louisiana and in some Gulf Coast drainages and with many occurrences represented by few individuals and little evidence of recruitment.

C. Description of Incidental Taking.

The proposed project involves installation of two (2) 20" diameter spud piles, and one (1) 42" diameter, submerged, secondary anchor pile. None of the piles will be filled with concrete.

The piles are located where shown on Figure 1-2. Piles will be vibration/hammer driven into sand and/or gravel base. Figure 1-2 shows details of the piling.

Figure 3 shows the three piling superimposed over the mussel survey location. Density was determined from 28 quarter-meter substrate samples (7 locations X 4 samples per location = 28 samples), and qualitative timed searches totaling 65 minutes). Sixteen live, native mussels representing 6 species were collected. Overall density was extremely low at 1.14 mussels per square meter (approximately 11 square feet) with a range of 0 to 2 mussels/square meter. The 2 spud piles will each impact approximately 2.2 square feet of river bottom and the one 42" pile approximately 10 square feet.

Since Black Sandshell only represented 6.3 % of the mussels collected, there is very little chance that any Black Sandshell will be lost. (See Table 3 from the mussel survey report - attached.)

D. Anticipated Adverse Effects of the Listed Species

If mussels are not relocated, there is some chance that Black Sandshell individuals could be lost.

2. Measures to Minimize and Mitigate Impacts

A. Plans to Minimize the Affected Area, the Number of Individuals of the Threatened Species that will be taken and the Habitat Affected.

No effort was made to minimize the Affected Area. There will be a negligible impact on both habitat and the threatened species.

B. Plans for management of the area affected by the proposed action that will allow continued use of the area by Black Sandshell.

Similar habitat is located upstream of the work area as indicated by previous survey work performed for the recent Schwiebert Riverfront Transient Boat Dock project at RM 482.4. The proposed improvements are not expected to have any impact on the Black Sandshell's continued use of the area. At this time there are no planned maintenance activities that would be expected to impact the mussel resource. Mussels will likely re-colonize any area where they have been removed from near the piles.

C. Description of measures to be implemented to minimize or mitigate the effects of the proposed action on Black Sandshell, plans for monitoring the effects of the measures implemented, and adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect the effectiveness of instituted measures.

Mussels will be removed from within the footprint of the 3 piling and a 5' diameter buffer around each pile. The mussels will be relocated to an area 150 yards upstream of the

Schwiebert Boat Dock where suitable substrate and mussel concentrations are known to exist. This relocation effort will minimize the potential for direct impacts to mussels located in “harm’s way” and consequently any Black Sandshells that might be present within the footprint. Indirect impacts from construction or from watercraft activity during operation of the facility are expected to be negligible.

Inspections by Holcim personnel, particularly during the period of the relocation work, will ensure that the Contractor and the divers are closely coordinating the mussel removal and relocation effort. These personnel will also closely monitor the accuracy of diver’s removal locations.

It is not considered necessary to provide follow-up monitoring because of the minimal impact to the resource anticipated.

D. Verification that funding to support mitigation activities will be available for the life of the conservation plan

Holcim (US) Inc is committed to funding the construction and operation of the work barge unloading facility including any costs associated with constraints or conditions imposed by the permitting process. Holcim (US) Inc has been anticipating the minimization and mitigation requirements addressed herein and understands if changes are made to the facility that could potentially impact the mussel resource, that they are required to contact Illinois DNR and possibly re-visit the imposed conditions.

3. Analysis of Project Alternatives

No project alternatives were investigated, primarily because the proposed project is expected to have a minor impact.

There is no work barge facility that could be replaced, expanded, or rehabilitated. The only project that meets the needs and/or desires of Holcim Inc is a new work barge. No serious consideration was given to a “Do Nothing” alternative because of the obvious result of not having a work barge at this location. There would not be any take of listed mussel species if this alternative were selected.

4. Data and information regarding survival of the species after the proposed take is completed.

The Black Sandshell is widely distributed in Illinois in medium and larger rivers. It is listed from 22 counties from rivers of medium size and larger. The listings include:

- All counties on the Mississippi River upstream of Alton
- All counties on the Rock River.
- Pulaski and Massac Counties on the Ohio River.
- Iroquois, Kankakee, and Will Counties on the Kankakee River
- Kane and McHenry Counties on the Fox River

- Moultrie County on the Kaskaskia river

Black Sandshell is believed extirpated from the Illinois River.

Black Sandshell is known to parasitize American eel, bluegill, largemouth bass, and white crappie but probably have other hosts. This project will not negatively impact any of these fish species or jeopardize the continued health of the resource, the species, the habitat or the fish hosts.

5. Implementing Agreement

A. Names of all participants in the execution of the conservation plan, including public bodies, corporations, organizations, and private individuals.

Michael J. Knott
Principal Scientist

and

Melissa Tiedemann, AICP
Senior Environmental Planner
Stanley Consultants, Inc.

Ken Zaborski
Manager, Term Projects & Development
Holcim (US) Inc.

Don Helms
Malacologist
Helms & Associates

B. The obligations and responsibilities of each of the identified participants with schedules and deadlines for completion of activities in the conservation plan and a schedule of preparation of progress report to be provided to the department.

The Illinois Department of Natural resources is responsible for the review of the conservation plan and for the subsequent issuance of the Incidental Take Authorization.

Holcim (US) Inc. is responsible for securing authorization for the incidental take as well as responsible for securing all permits including Section 408 from USACE, State Permits from Illinois DNR, inspection of the work and Contractor compliance with the Contract Documents.

Stanley Consultants, Inc. is the consulting engineer retained by Holcim (US) Inc. to assist with the preparation of the Incidental Taking Application (Illinois DNR).

Helms & Associates is responsible for the mussel survey for this project and will likely be responsible for the mussel relocation work.

Construction is scheduled to begin summer 2014 as soon as all permits have been obtained. The relocation work will be done concurrently with the contractor's work of setting piles.

C. Assurances that each participant in the execution of the conservation plan has the legal authority to carry out their respective obligations and responsibilities under the conservation plan.

Holcim (US) Inc. will construct and operate the work barge at their current facilities.

Assurances of compliance with all federal, state, and local regulations pertinent to the proposed action and to the execution of the conservation plan.

Holcim (US) Inc. has filed a Joint Permit Application with the Corps of Engineers for a Section 408 Permit; and with Illinois DNR for appropriate State Permits. Holcim will abide by all required environmental laws and conditions imposed by any of the agencies to construct and operate an environmentally sensitive facility. USACE has published the Public Notice for this project (CEMVR-OD-P-2013-233) and processed the application under the provisions of Section 10 of the River and Harbor Act of 1899 (33 U.S.C. 403). USACE has issued a Section 408 Permit because elements of the project cross the levee.

D. Copies of any federal authorizations for taking already issued to the applicant.

NA - Black Sandshell is not a federally-listed species.

E. For projects that will result in the taking of endangered or threatened species of plants, copies of expressed written permission of the landowner.

Not applicable.

6. Attachments

- A. **Figure 1-1 - Vicinity Map**
- B. **Figure 1-2 – Dock Plan w/ Detail**
- C. **Table 2 – Mussel Species and Abundance**
- D. **Figure 3 – Mussel Sampling Locations**

