

**LaSalle Environmental Audit  
Response to Request for Additional Information**

**Index #:** 013      **RAI #:** AQ-03      **Category:** Aquatic Ecology

**Statement of Question:**

Section 3.7.1.7 of the ER describes some State-listed species that could occur at or near LSCS.

- a. Discuss whether aquatic State-listed species have ever been observed on LSCS or within 6 miles of the river screen house or could potentially occur on LSCS or within 6 miles of the river screen house. Further, describe whether LSCS's operation has ever been known to impinge or entrain a State-listed species. Please consider all aquatic species that IDNR lists as potentially occurring within La Salle County, which include the following:
  1. *Alasmodonta viridis*, slippershell
  2. *Elliptio dilatata*, spike
  3. *Fundulus diaphanous*, banded killifish
  4. *Moxostoma carinatum*, river redhorse
  5. *Moxostoma valenciennesi*, greater redhorse
  6. *Notropis heterolepis*, blacknose shiner
  7. *Notropis texanus*, weed shiner
- b. If State-listed species have been affected by operation of LSCS, provide a summary or documentation of any applicable coordination with IDNR.

**Response:**

- a. The LaSalle County Station river screen house is located at Illinois River Mile (RM) 249.5. No state-listed aquatic species were collected during the Commonwealth Edison/Exelon sponsored 1974-78 preoperational studies (usually five locations/four sampling events for five years/electrofishing and seining) or operational studies in 1999 (three locations/five sampling events/ electrofishing) and in 2013 (three locations/one sampling event/ electrofishing and seining). The river sampling locations for these sponsored studies were all in the same area, approximately RM 249.0 to 249.5.

The Long-term Illinois River Fish Population Monitoring Program conducted by the Illinois Natural History Survey (INHS) has sampling locations in all the pools of the Illinois River. In the Starved Rock Pool sampling locations are at RM 240.8 and 241.5 and in the Marseilles Pool at RMs 248, 249.6, and 260.8. The Marseilles Pool is impounded by the Marseilles Dam at RM 247.0 and the Marseilles Lock, which is at the end of a navigation channel at approximately RM 244.5. The area below the Marseilles Dam is marked as rapids on the Illinois River navigation maps. The INHS 2007 electrofishing fish survey (McClelland and Sass, 2008) in the Starved Rock and Marseilles Pools did not collect any aquatic state-listed species. Also, INHS electrofishing data in the Marseilles Pool for the years 1993 through 2012 show no collection of state-listed aquatic species (Fritts 2013).

Freshwater mussel surveys were conducted in 1994, 1995, and 1999 in the Illinois River from RM 232.0 to 271.2, which includes the Starved Rock and Marseilles Pools. None of the 18 species collected were state-listed species (Sietman et al, 2001). In April 2013 after an incident when seven barges broke free from a tow and damaged the Marseilles Dam, the rapids behind the Dam were dewatered to allow repairs. In early May, during a

two day period a mussel survey and relocation was conducted. The effort yielded 14,850 live mussels of 23 species (Kanter, 2013). Neither of the two state-listed mussels for LaSalle County were collected. During an ongoing (late 2013 to early 2015) impingement study at the LSCS river screen house, 41 fish taxa, 3 crayfish taxa and 1 mussel taxa have been collected none of which were state-listed.

During 2014, an entrainment/ichthyoplankton study was conducted in parallel with the impingement study at the LSCS river screen house. Seventeen (17) taxa were collected including *Moxostoma* (redhorse sp). The genus *Moxostoma* in Illinois is represented by six redhorse species; shorthead, golden, silver, black, river and greater. The state-listed species, river and greater redhorse, have not been collected in any of the impingement or electrofishing studies in the Illinois River mentioned above, whereas shorthead, golden, silver, and black redhorse, which are not listed, have been. Accordingly, it is unlikely that the *Moxostoma* specimens collected during 2014 in the entrainment/ichthyoplankton sample at LSCS are state-listed species.

One juvenile specimen of the state-listed banded killifish was collected in the net during the 2014 LSCS entrainment/ichthyoplankton study. With the exception of this single specimen, no other state-listed aquatic species has been collected during reported historical or current studies near the LSCS river screen house.

Habitat requirements of the seven state-listed species potentially occurring in LaSalle County also indicate that likelihood of impact to such species by LSCS operations is low. This is further discussed below for each species.

The Slippershell is a mussel found in small to medium size streams and headwaters of large rivers where it is usually buried in sandy substrates in shallow water. Region-wide increased siltation and channelization has most likely been the cause of reduction in Slippershell numbers (Herkert 1992), which is unrelated to LSCS operation.

The Spike mussel exists in a wide range of habitat from small to large streams with low gradients in mud or gravel and can be associated with riffles (Nyboer, et al. 2006). Increased region-wide siltation and pollution not related to LSCS operation has impacted this species. The upper part of the Illinois River from the confluence to Hennepin, Illinois, which includes the Marseilles Pool, has a relatively high gradient.

In Illinois, the banded killifish occurs in clear glacial lakes, usually over sand or mud, often near vegetation. It is usually found in small schools near the surface of weedy lakes. Reasons for the decline of this species are not well understood but are probably related to destruction and general deterioration of natural lakes and streams in northern Illinois (Herkert 1992), which are unrelated to LSCS operation.

The river redhorse inhabits deep, swift, gravelly riffles of small and medium sized rivers. The greater redhorse occurs in sandy to rocky pools and runs of medium to large rivers and lakes. Both the river and greater redhorse have a limited distribution within Illinois and are threatened throughout the region by siltation, increased turbidity and pollution (Herkert 1992) that is unrelated to LSCS operation.

The blacknose shiner occurs in clear vegetated lakes, and pools and runs of clear streams. It usually occurs over sand and mud substrates. Increased turbidity of lake and pool waters and the disappearance of aquatic vegetation in the region, which are

unrelated to LSCS operation, have probably been the major factors causing its decline (Herkert 1992).

In Illinois, the weed shiner occupies clear sand-bottom creeks with some submerged vegetation. In other parts of its range it also occupies sloughs and large rivers. Reason for Status: The weed shiner occurs in very few locations in Illinois and its habitat is threatened due to region-wide pollution and siltation (Herkert 1992), which is unrelated to LSCS operation.

#### REFERENCES:

(Fritts 2013) Fritts, M. W. 2013. RE. Request: Illinois River Reports. Illinois River Biological Station and Illinois Natural History Survey. Havana, Illinois. June 24, 2013.

(Herkert 1992) Herkert, J.R., editor. 1992. Endangered and Threatened Species of Illinois: Status and Distribution, Volume 2-Animals. Illinois Endangered Species Protection Board, Springfield, Illinois 142 pp.

(Kanter 2013) Kanter R.; Environmental Almanac: Rare mussel found in Illinois River. News Gazette. Sunday 07/07/2013.

(McClelland and Sass 2008) McClelland, M.A., and G.G. Sass,. 2008. The Long-Term Illinois River Fish Population Monitoring Program. Annual Report. Project F-101-R-19. Illinois Natural History Survey. Illinois River Biological Station. Havana, IL. March 2008

(Nyboer, et al. 2006) Nyboer, R.W., J.R. Herkert, and J.E. Ebinger editors. 2006. Endangered and Threatened Species of Illinois: Status and Distribution, Volume 2-Animals. Illinois Endangered Species Protection Board, Springfield, Illinois 181 pp.

(Sietman et al, 2001) Sietman B.E., S. D Whitney., D. E Kelner., D.K Blodgett.; and H.L Dunn. Post-Extirpation Recovery of the Freshwater Mussel (Bivalve: Unionidea) Fauna in the Upper Illinois River. Journal of Freshwater Ecology, 16(2):273-281

- b. As indicated in the response to item a, above, the only collection of a state-listed species reported during historical or current studies near the LSCS river screen house consisted of one juvenile specimen of the state-listed banded killifish, which was collected in the net during the 2014 entrainment/ichthyoplankton study conducted at LSCS. This collection will be reported by EA Engineering to IDNR in August 2015 in a scientific collector's permit report covering collections of this type that occurred during 2014.

#### List of Attachments:

None.