

## **WHITE RIVER MUSSEL SAMPLING REQUIREMENTS FOR SAND MINING PROPOSALS BETWEEN BATESVILLE AND NEWPORT, ARKANSAS**

There is limited mussel data available for the White River upstream of the Black River confluence (NM 260) and the data that does exist is dated (1992 – 1995 or historical [pre-1990]). The federally endangered pink mucket (*Lampsilis abrupta*) occurs in this reach of the White River. The federally endangered scaleshell (*Leptodea leptodon*), fat pocketbook (*Potamilus capax*) and federal candidate rabbitsfoot (*Quadrula cylindrica cylindrica*) also may occur in this reach.

In October, 2010, the U.S. Fish and Wildlife Service (FWS) and Arkansas Game and Fish Commission (AGFC) malacologists agreed upon the following mussel survey requirements for proposed sand mining operations in the White River between Batesville and Newport, Arkansas. The FWS and AGFC have determined that the following mussel survey effort is necessary to help us fully assess the direct, indirect, and cumulative effects from the proposed action.

1. Due to potential indirect and cumulative effects, the mussel survey must include the White River from NM 251 to 293.2. Additional surveys may be required based on other studies (geomorphological, etc) that will be required of project proponents.
2. A comprehensive review of all mussel literature from the White River (NM 251 – 293.2) and the AGFC Mussel Database for this segment of the river must be submitted with proposed sampling methods.
3. A mussel survey sampling protocol based on our requirements below must be submitted to the FWS and AGFC for prior approval before commencing surveys.
4. Both qualitative and quantitative surveys are required and should at minimum include the following:
  - a. Qualitative survey effort sufficient to identify all suitable mussel habitat within this reach of the White River.
  - b. Qualitative survey effort sufficient to delineate all mussel aggregations (areas that can be delineated due to the spatial distribution and density [defined as areas that average 1-9 mussels per square meter]) and beds (areas that can be delineated due to the spatial distribution and density [10 or more mussels per square meter]).
  - c. Additional qualitative survey effort sufficient to locate rare mussels in delineated aggregations (95% confidence interval).
  - d. Quantitative sampling of all delineated mussel beds within this reach of the White River at an intensity sufficient to locate rare species and determine population

estimates for all mussel species thus providing community estimates for each delineated bed (95% confidence interval).

- e. Depth and substrate will be recorded and included in the report for all qualitative searches and delineated mussel aggregations and beds.
- f. Maps will be provided to the FWS and AGFC illustrating qualitative survey areas, delineated mussel aggregations and beds, and probable sand mining locations (if available).
- g. Final reports must be submitted to FWS - AR Ecological Services Office (2 copies), Arkansas Game and Fish Commission, and USCOE District responsible for permitting the proposed action.
- h. FWS and AGFC concurrence is required for final reports. We recommend submitting a final draft for our review prior to submitting final reports.

Consultants should clearly identify to perspective clients that if proposed, threatened, or endangered species are located during the surveys that formal consultation pursuant to section 7(a)(2) of the ESA will be required with the U.S. Army Corps of Engineers before any permits can be issued for removal of fill material. Additional conservation measures, yet to be determined, will be required of the project proponent and U.S. Army Corps of Engineers as a result of formal consultation. Formal consultation once initiated may take up to 135 days to complete.

This guidance does not represent concurrence from either agency for specific mussel sampling methods. You must request that directly from each agency prior to initiating mussel surveys.

March, 2011