



Commonwealth of Massachusetts

Division of Fisheries & Wildlife

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NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM

FRESHWATER MUSSEL TRANSPLANTATION PROTOCOL

FOR STATE-LISTED SPECIES

1 May 2002 (last revised July 2004)

The Massachusetts Natural Heritage & Endangered Species Program (NHESP) of the MA Division of Fisheries & Wildlife developed the Freshwater Mussel Transplantation Protocol for use at bridge replacement and upgrade projects or dock projects that could result in the “take” of state-listed freshwater mussels pursuant to the MA Endangered Species Act (MESA)(G.L. c.131A) and its implementing regulations (321 CMR 10.00). Take in reference to animals means to “harass, harm, hunt, shoot, hound, kill, trap, capture, collect, process, disrupt the nesting, breeding, feeding, or migratory activity or attempt to engage in any such conduct, or to assist such conduct.” This protocol addresses direct impacts to state-listed freshwater mussels from construction, and does not specifically address indirect impacts from sedimentation of habitat or individual filtering mussels downstream or near construction sites.

Docks that are sited to avoid concentrations of state-listed mussels (> 5 animals per square meter) should implement the transplantation protocol to avoid “take” of mussels within the work area. Docks that cannot be sited to avoid state-listed mussel concentrations cannot be permitted under MESA. Dock sites are determined through data obtained from freshwater mussel surveys that are approved by NHESP, and conducted by qualified individuals during the months of June, July, August, and September.

Adherence to the Freshwater Mussel Transplantation Protocol satisfies the project proponent’s compliance with MESA for the state-listed species below, on bridge replacements and dock projects only. All other projects will be subject to standard MESA review procedures.

Seven (7) of the twelve freshwater mussel species (bold type) that occur in Massachusetts are state-listed as Endangered, Threatened, or Special Concern pursuant to the Massachusetts Endangered Species Act (M.G.L. c.131A). Two additional species are uncommon and three are common. They are as follows:

<u>State-listed Species</u>	<u>Status</u>
Dwarf Wedgemussel (<i>Alasmidonta heterodon</i>)	Endangered (state and federal)
Yellow Lampmussel (<i>Lampsilis cariosa</i>)	Endangered
Swollen Wedgemussel (<i>Alasmidonta varicosa</i>)	Threatened
Triangle Floater (<i>Alasmidonta undulata</i>)	Special Concern
Creeper (<i>Strophitus undulatus</i>)	Special Concern
Eastern Pondmussel (<i>Ligumia nasuta</i>)	Special Concern
Tidewater Mucket (<i>Leptodea ochracea</i>)	Special Concern
Eastern Pearlshell (<i>Margaritifera margaritifera</i>)	Uncommon
Eastern Lampmussel (<i>Lampsilis radiata</i>)	Uncommon in rivers
Eastern Elliptio (<i>Eastern Elliptio</i>)	Very Common
Eastern Floater (<i>Pyganodon cataracta</i>)	Common
Alewife Floater (<i>Anodonta imbecilis</i>)	Common

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An Agency of the Department of Fisheries, Wildlife & Environmental Law Enforcement

NHESP Transplantation Protocol

1. Transplantation should be performed by a qualified individual holding a Scientific Collecting Permit from the MA Division of Fisheries & Wildlife.
2. Surveys should systematically cover the entire river, stream or lake bottom associated with the proposed project area and 50 feet beyond the limit of work, which includes the area under the bridge or proposed dock, at abutments and cofferdams, inside cofferdams, all work areas within the water, and all dewatered areas. Twenty per cent (20%) of the work area should have subsurface exploration using 1 meter quadrats across all substrate types.
3. SCUBA is required in water over 3 feet deep, and snorkeling is preferable in water less than 3 feet deep. Mucket buckets may be used, but are not desirable. Hand surveys may be necessary when visibility is poor. Conduct transplantation less than 4 days prior to construction.
4. All mussels (state-listed and common) should be counted and identified to species, recording the length of all state-listed mussel species.
5. State-listed mussels will be collected and transferred as soon as possible after collection to nearby suitable habitat beyond the impact areas. Each state-listed mussel will be implanted posterior end up. Mussels may be temporarily held (for less than 8 hours) in coolers filled with river or lake water.
6. All transplanted state-listed mussels will be marked and monitored for survival one week and one month after transplantation.
7. NHESP will be notified in writing 1 week prior to transplantation.

NHESP Reporting Requirements:

1. Names, qualifications and contact information of those conducting surveys.
2. Map of mussel distribution within the project survey area and locations of transplantation area(s).
3. List of species, their abundance, and shell lengths of rare mussels.
4. Rare Animal Observation Forms for rare species should be completed.
5. Summary of results, including descriptions of substrate types at the project and transplant sites, water quality, fish species observed, and any problems encountered.
6. The report should be submitted within three weeks after monitoring is completed.