

Fish Health and Transport Guidelines for Contractors

Mark-recapture abundance estimates are important to the SLCP because they measure the effectiveness of sea lamprey control in the Great Lakes. The techniques used to handle and transport marked lamprey influence the quality of these estimates. Specifically, quality is improved when survival of marked lamprey is not reduced by stress from handling and transport. Excess stress to marked lamprey can be avoided by holding them in tanks with appropriate oxygen and temperature levels and by minimizing time out of water. Adopting these techniques will ensure that marked lamprey released into the stream have similar chances of survival as uncaptured sea lamprey in the system.

Trap operation and marking

Sea lamprey handling operations comply with the Station Policy for the *Responsible Handling of Sea Lampreys and Aquatic Non-target Organisms in the Service Sea Lamprey Management Program*. Checking a trap and sorting its contents will follow the guidelines developed in the Adult Assessment Protocol (Appendix 2):

- Organisms should be handled as little as possible. When handling is necessary, it should be done carefully and quickly as possible.
- Sea lampreys should not be held out of the water for more than five minutes during sorting and marking.
- Use mesh bags when possible to keep lampreys in the water if large catches occur.
- Animals that are selected for marking should be kept in separate containers in fresh aerated water or mesh bags in the river.
- Marking should be done quickly and safely following the Adult Assessment Protocol and appropriate marking schedules (Appendices 2 and 3).
- Any remaining animals should be stored in holding cages, loaded for transport or euthanized on-site.
- Euthanizing animals should be done quickly and humanely. Field crews have found the most humane and practical method is to place lampreys into a plastic bag, remove as much air as possible, and seal the bag. The lampreys will quickly use up the remaining oxygen and die.
- Place dead lampreys in a garbage bag (no more than 25 lampreys per bag), seal the bag and place in the freezer or to an approved waste disposal site.

Lamprey transport

- Tanks holding sea lampreys must be kept clean. Tanks must be disinfected with chlorine solution of 20 mg/liter (1 cup chlorine (bleach) to 10 gallons of water) before leaving the release site or when moving from one watershed to another (Appendix 7).
- Transportation tanks should be filled with clean, cold river water from a source close to the trapping site, but not upstream of dam. Tank water temperature should be checked prior to transportation of lamprey. If water temperature is above 15°C, add ice to maintain temperatures between 10 –15°C.
- Turn on aerators prior to loading animals. Have extra batteries and a backup aerator with trapping gear to ensure a working aerator is available
- Do not overstock tanks. The maximum number of lamprey that should be stocked is written on the lid of the tank.

Release

- Upon arrival at the release site check the condition of marked lamprey. Any lamprey in poor condition that appear unlikely to survive should be euthanized and not released.
- Check water temperature in the tank and at the release site in the river. If the temperatures are not within 3° C replace 10% of the water in tank with river water. Recheck water temperature in the tank and, if necessary, repeat procedure until water temperatures are within 3° C of each other.
- Gently release animals into the stream from the stream bank. Do not drop the sea lampreys off a bridge or throw them into the middle of the stream.
- If avian predators are present at the site, release the sea lampreys into heavy cover or into an area where they can quickly seek cover.