

Name: Fish and Amphibian Euthanasia **Created:** 8/28/17
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Category: Euthanasia **Author(s):** T. Schoenfeld

1.0 Purpose

This SOP describes the basic procedures for the humane euthanasia of fish and amphibians.

2.0 Policy

- 2.1 The practice of euthanasia at FSU will be performed in a manner consistent with the most recent guidelines of the American Veterinary Medical Association (AVMA; see reference 5.1).
- 2.2 All personnel must be trained in accordance with the following procedures prior to performing euthanasia on fish or amphibians, and additionally formally authorized by the PI to perform euthanasia on animals covered by his/her IACUC protocol.

3.0 Materials

- 3.1 Tricaine methanesulfonate (MS-222), buffered to pH 7.0-7.5
- 3.2 Tank (plastic or glass)
- 3.3 Metal pin probe
- 3.4 Sharpened scissors
- 3.5 Clear plastic freezer bags for storing carcasses

4.0 Procedure

- 4.1 Euthanasia of fish
 - 4.1.1 Use buffered tricaine methanesulfonate (MS-222) as a chemical euthanasia agent.
 - 4.1.1.1 Prepare 500 mg/L solution, buffered to pH 7.0-7.5 (or a pH matching that of the home environment) with sodium bicarbonate added to saturation.
 - 4.1.1.2 Transfer fish from home tank to euthanasia tank containing buffered MS-222.
 - 4.1.1.3 Confirm death by the absence of opercular movement for at least 3 min.
 - 4.1.2 Collect euthanized carcasses in a clear plastic bag and freeze until disposal by a disposal service.
- 4.2 Euthanasia of amphibians (e.g., frogs)
 - 4.2.1 Use buffered tricaine methanesulfonate (MS-222) as a chemical euthanasia agent.
 - 4.2.1.1 Prepare 0.5-5.0 g/L solution, buffered to pH 7.0-7.5 with sodium bicarbonate added to saturation.
 - 4.2.1.2 Transfer animals from home tank to euthanasia tank containing a 2-3-cm depth of buffered MS-222 in a 10-gal

tank that is sufficiently shallow to enable them to keep their heads above water.

- 4.2.1.3 Confirm death by the cessation of gular/buccal respiratory movements, closure of eyelids, and loss of righting and withdrawal reflexes for at least 10 min.
- 4.2.2 Follow with a secondary, physical method of euthanasia, e.g., decapitation with a sharpened scissors or double pithing of brain and spinal cord with a metal pin probe, to ensure death.
- 4.2.3 Collect euthanized carcasses in a clear plastic bag and freeze until disposal by a disposal service.

5.0 References

- 5.1 AVMA Guidelines for the Euthanasia of Animals: 2013 Edition.
<https://www.avma.org/KB/Policies/Documents/euthanasia.pdf>
- 5.2 Fish and amphibian euthanasia (McGill University)
http://www.mcgill.ca/research/files/research/303-fish_and_amphibian_euthanasia.pdf

SOP REVISION HISTORY

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610.01	12/20/17	Authored by T. Schoenfeld