

 <p>Policies & Procedures Manual</p>	# Pages: 4	Policy Number: AN-02-04
	Approved by: UCN Animal Care Committee	
Section: Standard Operating Procedure	Effective Date: August 27, 2021	
	Title: Euthanasia	
	Replaces: New	

1 PURPOSE

The purpose of this SOP is to outline the steps for euthanizing small wildlife and fish in distress, or which are unlikely to survive, after being captured during field studies.

When an animal is euthanized it must be performed as per the SOP and CCAC guidelines to ensure that the death is as humane, painless and stress-free as possible.

2 RELATED DOCUMENTS

SOP AN-04-05 Endpoint Selection

CCAC guidelines on: the care and use of wildlife (CCAC, 2003)

CCAC guidelines on: the care and use of fish in research, teaching and testing (CCAC, 2005)

CCAC guidelines on: euthanasia of animals used in science (CCAC, 2010)

3 RESPONSIBILITIES

3.1 Principle Investigator (PI)/Technician

The PI is responsible for training participants on the various methods of euthanasia.

3.2 Veterinarian

The designated veterinarian provides consultation on end-points (SOP AN-02-05) and methods of euthanasia.

3.3 Participants

Participants MUST have a thorough knowledge of the anatomy of species to be euthanized and trained on the various methods of euthanasia prior to performing such procedures.

4 GENERAL PRINCIPLES

The following principles for euthanasia at UCN are in-line with CCAC guidelines on euthanasia of animals used in science and should be considered when deciding on and employing euthanasia at UCN:

- a) Euthanasia of animals **must** be conducted in a humane and professional manner and should make the animal's death as distress-free and painless as possible. The method chosen should ensure rapid and complete loss of consciousness until death.
- b) Methods of euthanasia employed should be appropriate to the animal, its age and health status.
- c) To minimize fear and distress of other animals, euthanasia must be performed out of the sight, sound and smell of other animals.
- d) Appropriate training must be provided to all researchers, staff and students who will be performing euthanasia.
- e) Death will be confirmed by auscultation or palpation of the chest for the absence of a heartbeat.
- f) Methods of euthanasia must be listed in an approved animal use protocol.
- g) Assessment of condition for animals.
 - i. Small mammals
Euthanize small mammals humanely and as soon as possible IF they score of 15 or higher on the Distress Scoring System (SOP AN-02-05).
This includes animals that, in the opinion of the PI or the veterinarian, have a very poor chance of survival upon release.
 - ii. Fish
Euthanize fish as humanely and as soon as possible if a RAMP Score of – 3/5 (or 0.6) or higher (SOP AN-02-05).

5 MANAGEMENT CONSIDERATIONS FOR EUTHANASIA

5.1 Psychological implications of euthanasia

The act of taking a life, by any method, can be difficult for the person performing euthanasia. This is especially relevant when euthanasia must be performed often or if an emotional attachment to the animal has developed.

Some methods of euthanasia are particularly unpleasant to observe and perform (e.g. decapitation).

When selecting the type of euthanasia method to employ, the emotional and psychological effects on participants performing the euthanasia, and on observers needs to be taken into consideration.

A balance needs to be established between the discomfort of participants and animal welfare considerations. The PI is responsible for communicating with and accommodating participants beliefs in euthanasia.

5.2 Impact on post-mortem evaluations or other scientific objective of the research

The method of euthanasia may have an effect on postmortem evaluations or other scientific objectives of the research.

When choosing the most appropriate method of euthanasia, the potential side effects of the method employed should be taken into consideration.

6 CURRENTLY APPROVED METHODS OF EUTHANASIA:

The *CCAC guidelines on: euthanasia of animals used in science* (CCAC, 2010) outlines acceptable and conditionally acceptable methods of euthanasia. These methods can be categorised into two groups: chemical and physical methods.

Additional information on these methods can be found in the *CCAC guidelines on: the care and use of wildlife* (CCAC, 2003) and *CCAC guidelines on: the care and use of fish in research, teaching and testing* (CCAC, 2005).

The use of any other method of euthanasia other than those listed below **MUST** be justified in writing, submitted to the ACC, reviewed and approved by the ACC before being implemented.

6.1 Physical methods

Physical methods of euthanasia used in the field **MUST** be performed by a competent, trained individual. Trained individuals **MUST** have demonstrated their competency before performing these types of euthanasia.

Cervical dislocation and decapitation are acceptable methods of killing animals in the field where required.

Special justification for the use of physical euthanasia must be provided by the Principal Investigator in the animal use protocol and the method must be approved for use by the ACC before being implemented.

6.1.1 Cervical dislocation

This method is used to euthanize small mammals.

Manual cervical dislocation should only be performed on birds <3kg, rodents <200g and rabbits <1kg.

- a) Anesthetize animals prior to cervical dislocation.
- b) Once the animal is at a deep plane of anesthesia
 - i. Locate the junction of the skull at the first cervical vertebra
 - ii. Separate the head from the spine either by:

- positioning fingers at the base of the head and pinching hard, or
- putting a scalpel handle at the base of the skull, pushing down and pulling the tail firmly

c) Palpate the skull to **confirm FULL** separation from the spine.

6.1.1.1 Fish

6.1.2 BLUNT FORCE TRAUMA (BFT)

This method is used specifically to euthanize fish.

- Upon removal from gear, restrain fish in a net or by the tail.
- Deliver a forceful blow to the head with a fish bat.

The blow should be placed on the top of the head just behind the eyes. Since the fish is conscious at the time of trauma it is **essential** to place the blow correctly.

If not placed accurately, the fish may suffer and trauma may result in gill aneurysms.

c) The fish is then pithed (section 6.2.2.1) or exsanguinated (section 6.2.2.2).

6.1.2.1 PITHING

Once the animal is unconscious:

- insert a sharp probe into the brain to destroy brain material.

6.1.2.2 EXSANGUINATION

Once the animal is unconscious:

- Cut the gill arches with a scalpel, scissors or shears.

For large fish there may be a considerable amount of blood (i.e., internal hemorrhage). In this instance, suspend the fish over a bucket or stuff the gill arches with paper towel to contain the blood.

6.2 Other considerations

Other methods of euthanasia can be considered acceptable if an animal is already unconscious and insensitive to pain. If a fatally injured animal is encountered in the field, or one that has a fatal disease and is experiencing pain and distress, the most humane method of euthanasia should be chosen. The method chosen should also be quick to limit distress of the animal.

If the animal is experiencing tremendous pain, emergency euthanasia may be employed. Under these circumstances, priority should be given to methods that ensure the quickest resolution. While not ideal, methods such as the use of blunt force trauma, gunshot, potassium chloride injection may be used.