

Algoma University Animal Care Committee	
#AU 0023 Monitoring Stress and Injury in Wild Birds	
Issue date: April 2018	Last revised: October/2024

### 1. Purpose

This Standard Operating Procedure (SOP) describes acceptable procedures for monitoring stress and/or injury in captured wild birds.

### 2. Policy

CCAC guidelines and regulations.

### 3. Responsibility

Principal investigator, their research staff, and their student investigators.

### 4. Training Required

Animal Research Ethics

Handling/training in the relevant species

Bio-methodology training in the relevant technique and species

Canadian Wildlife Banding Permit

### 5. Materials Required

Bird holding bags

Small box for holding

Blankets

Heat packs (i.e. hand warmers)

Band removal equipment

Plastic bags

Markers

Animal stress and injury checklist (Appendix A)

### 6. Procedures

1. Birds are captured following procedures in SOP#002.

- a. They are first processed (see SOP #003) then banded following SOP#004.
- b. Blood samples will be taken following SOP#001.

2. When banding wild birds, under rare circumstances, a bird may become unusually stressed, injured or may die.

- a. Additionally, birds that are already sick or injured may be captured during netting. As such, proper stress and injury monitoring are needed to make sure the most appropriate and humane course of action is taken.

3. There is the potential for the bird to experience stress or to be injured. This Standard Operating Procedure (SOP) describes the acceptable method for monitoring birds for signs of stress and injury during banding and handling activities in the field.

- a. This SOP is designed to ensure that consistent methods are used to monitor birds for injury and stress. It applies whenever a bird shows signs of stress, is injured, is found injured, or is dead.

Procedure:

1. Birds captured and handled as part of bird banding activities must be continuously monitored (using Appendix A attached) for signs of stress or injury. These include:

- a. Closed eyes – eyes remain closed for >10-20 seconds while resting in a net or while held. Reduced movement – the bird is not moving or struggling, which can indicate stress or hypothermia. Note that some species remain passive during banding (e.g. alder flycatcher)
- b. Wing drooping – wing is held in a lower than normal position, which can indicate wing strain, damage, broken wing, or dislocated shoulder
- c. Inability to fly – when released, bird drops to the ground or cannot sustain flight to a perch; may indicate signs of injury listed in #3.
- d. Abnormal leg position – leg may be broken, dislocated or sprained
- e. Imbalance or disorientation – bird is unable to properly maintain upright oriented body position
- f. High respiration rate – open mouthed breathing or noisy breathing. This can be stress induced but may also indicate disease
- g. Poor feather condition – feathers should be intact, parasite free and waterproof. Sustained feather puffing may indicate stress.
- h. Messy vent – staining or clumping of vent feathers with droppings can be caused by illness or injury. Alone not a sign of stress but combined with other symptoms should be considered
- i. Low pectoral muscle mass – indicates emaciation which indicates disease or injury
- j. Rapid or slow heartbeat – may indicate underlying disease; difficult to assess in small passerines with rapid heart rates
- k. Muscle tremors or catatonic state – stress may result in capture myopathy which can be reduced by quick handling time and ensuring adequate temperature
- l. Bleeding – could indicate injury caused by a predator (most common cause), abrasion from net or handling (rarer)
- m. Injury – puncture wounds, broken limbs, broken neck, open wounds, bleeding
- n. Death – rarely dead birds are found in or near a net. Usually this is due to a predatory event. However, a bird may die during extraction from a net, while being handled, or while being held for recovery.

2. When a bird is encountered showing any of the signs of injury, stress or death listed above, the following procedure should be followed:

- a. The PI must be notified immediately. As the bander in charge, the PI is responsible for decisions regarding health and welfare of stressed and injured birds
- b. If the bird has not been banded, it will remain unbanded; if the stress or injury is a result of an improperly applied band (e.g. pinching) then the band should be removed using band removal pliers.

- c. If the observed condition suggests the bird could recover, for example, if the origin appears to be handling stress, hypothermia, wing strain etc., then the bird should be placed in a quiet dark place for 30 minutes. This could be a bird bag or a small box. If the ambient temperature is low, a hand warmer should be placed near, but not touching, the animal. After 30 minutes, the bird should be checked to see whether alertness, body position, ability to fly has improved. If improved, the bird should be released.
- d. If the bird shows signs of partial recovery, then a recheck should occur in another 30 minutes.
- e. If the bird cannot fly away or has a limb injury but is otherwise health, contact the veterinarian for assessment to determine if rehabilitation options should be sought.
- f. If the bird is injured, is suffering and in pain and is not likely to respond to rehabilitation then the bird should be euthanized in accordance with SOP AU#0027: Bird euthanasia.
- g. When a bird is found dead or dies during handling or recovery then it should be preserved for study skin preparation. Birds should be stored in a Ziploc bag labelled with location, date, species and any other information. Birds should be stored in the Biology Department in the freezer in CC408.

3. This report will include the date, species, band number, net or location found, name of personnel involved, bird status, probable cause, action taken, outcome and any other pertinent information.

- a. The PI will notify the veterinarian to discuss the event. Following an event in which a bird is stressed, injured, or there is mortality, the banding operation should be reassessed by the PI (bander in charge) and actions that will minimize the chance of a repeat event shall be instituted.
- b. A record of all stressed, injured or dead birds will be kept as part of all bird banding activities.

## 7. References (if applicable)

REVISION HISTORY		
Revision #	Revision Date	Summary of Changes
1	April 2021	
2	July 16, 2024	Reformatted to new SOP template
3	October 30, 2024	This SOP is well written and should be referred to when working with birds and any injuries that occur during research.

## Appendix A – Stress and Injury Checklist - Wild Birds

Date:

Time:

Location:

Species:

Observers:

Bander in charge:

Indicate all parameters observed

Parameter	Time:	Time:	Time:
Closed eyes			
Reduced movement			
Wing drooping			
Inability to fly			
Abnormal leg position			
Imbalance/disorientation			
High respiration rate			
Poor feather condition/puffed feathers			
Messy vent			
Low pectoral muscle mass			
Slow/fast hear rate			
Muscle tremors/catanoic state			
Bleeding			
Injury			

