

STANDARD OPERATING PROCEDURES

BUACC-SOP-02 Avian Bird Banding

The present SOP has been developed for mist netting and ground trapping procedure for most small passerine species present in sampling areas such as *Contopus virens*. It aims to provide students with a hand on demonstration of avian banding and handling methods.

1. Responsibility

1. The procedure will be carried out by the Principal Investigator / class instructor and/or the Biology Lab Technician

2. Minimum Qualifications/ Training

1. The PI or Biology Lab Technician must have a Master or Sub-banding permit
2. Students must have received classroom lesson on the proper techniques prior to the field trip

3. Materials

1. Banding clothes (dedicated field clothes)
2. Examination gloves
3. 10% Bleach solution
4. Alcohol based hand sanitizer
5. Pliers
6. Weighing dish
7. Bands (sufficient variety in numbers and sizes to accommodate all bird species that will be encountered)
8. Pesola scale
9. Cloth drawstring sacks
10. Callipers
11. Mist nets (terrestrial banding), black nylon size appropriate to target species
 - a. 24mm –kinglets, wood warblers
 - b. 30mm Wood warblers
 - c. 36mm general purpose for small birds
 - d. 61mm Doves etc
 - e. 121mm grouse, shorebirds, ducks, hawks
12. Poles
13. Identification guides
14. Data forms
15. Bait (corn or grains)
16. Acoustic lure (owl call/ passerine call)
17. Cage traps (water bird sampling) (1/4 inch steel page wire with 1/8inch black nylon top)
18. Stakes (water bird sampling)
19. Zip ties
20. Waders (water bird sampling)
21. Life jackets (water bird sampling)
22. Nail clippers

4. Procedure

A. Mist Netting

1. Investigators will ensure hands are clean and free of chemicals before handling of birds;
2. Investigators will ensure that they are wearing dedicated field clothing;
3. Any avian fluids will be bleached if they land on a porous surface;
4. Mist nets will be set in a previously decided area where targeted species are likely to frequent;
5. Poles will be set before first outing to ensure set strength and proper placement;
6. Nets will be set at official sunrise or 0400 to be determined by the principal investigator;
7. Nets will remain open for a maximum of six hours;
8. Acoustic lures will be shut off a half hour before nets are to be closed and may only be used where appropriate permission has been obtained;
9. Nets will never be set during a period in which the weather or expected temperature will exceed or be less than is acceptable for the target species. It should be noted that very windy weather is inappropriate for mist netting.
10. Nets shall be checked by a qualified person every half hour to ensure no birds are present;
11. Any birds caught within the nets will be removed immediately by a qualified individual and placed carefully in a secure cloth sack for processing;
12. No more than one bird will be placed in each sack;
13. Birds will be brought to banding station as soon as possible to reduce time spent in cloth sack.

B. Waterfowl sampling

1. Investigators will ensure hands are clean and free of chemicals before handling of birds;
2. Investigators will ensure that they are wearing dedicated field clothing;
3. Nets must be placed in areas with shallow bottom that are not prone to flooding;
4. Nets must be constructed and proofed before use, including checking for sharp spots and openings;
5. When not in use/closed nets must be removed from the water or checked every hour to ensure that no species has been accidentally caught;
6. When baiting traps appropriate bait must be used for target species (Ex. Whole corn and cracked corn for dabbling ducks);
7. Nets will never be set during a period in which the weather or expected temperature will exceed or be less than is acceptable for the target species;
8. No nets shall be set if minimum temperature falls below 5 degrees Celsius;
9. When in use traps shall be set and checked using a spotting scope every hour for a maximum of six hours before being closed;
10. If a trap contains a bird struggling to escape the bird shall be removed immediately;
11. If a trap does not have sufficient food or water, weather has become unfavourable or has been identified by a predator it shall be closed and removed immediately;
12. Birds in a trap shall be removed by experienced personnel using dip nets to prevent bird stress;
13. Over stressed or hypothermic birds shall be removed from traps and warmed in a dry dark place until PI has judged them fit to recover;
14. Birds shall be placed in darkened cloth bags to be processed by bander or processed as needed if bird numbers are low.

C. Banding station

1. Researchers will identify species and sex of birds;
2. They will then band the birds and record number;
3. Researcher will record required information for the species/study which may include:
 - a. Weight
 - b. Fat estimate
 - c. Tarsal length
 - d. Crown length
 - e. Wing length
 - f. Flight Muscle Estimate
 - g. Claw sample (if permitted to do so)
 - h. Feather sample (if permitted to do so)
4. Throughout banding process researcher must keep bird as calm as possible, retaining the bird in a dark dry place wherever possible;
5. Proper species specific handling of the bird must be maintained throughout the banding process to reduce bird stress and ensure bander safety;
6. If a bird becomes excessively agitated/stressed banding/recording must stop and the bird calmed, if bird does not calm it must be released to prevent further stress/agitation;
7. If a bird is severely injured or stressed beyond recovery as, determined by the principal investigator, it shall be euthanized according to Bishop's University Avian Euthanasia Standard Operating Procedure (BUACBC-SOP-03);
8. After handling investigators will ensure that after handling of birds hands will be cleaned.

5. Safety

A person who is or may be pregnant or who may have a compromised immune system should contact Human Resources **prior** to handling animals, cleaning habitat/aquaria, and/or participating in field studies where they may come into direct contact with animals. A person who is or may be pregnant or who may be immuno compromised will **not** be required to handle animals or come into contact with untreated animal waste/habitat bedding.

6. SOP Revision History

These Standard Operating Procedures were last revised and approved by Bishop's University's Animal Care Committee on January 14, 2019.

References

Banding/Trapping :

Canadian Council on Animal Care. CCAC species-specific recommendations on: Birds.
http://www.ccac.ca/Documents/Standards/Guidelines/Add_PDFs/Wildlife_Birds.pdf

Mist Netting:

Monitoring Avian Productivity and Survivorship (MAPS) program (2013). Mist netting Effort:
<http://www.birdpop.org/downloaddocuments/manual/2013/MAPSMANUAL13Part2.pdf>

APPENDIX A: BANDER'S CODE OF ETHICS (Government of Canada)**The Bander's Code of Ethics**

1. Banders are primarily responsible for the safety and welfare of the birds they study so that stress and risks of injury or death are minimized. Here are some basic rules:
 - handle each bird carefully, gently, quietly, with respect, and in minimum time
 - capture and process only as many birds as you can safely handle
 - close traps or nets when predators are in the area
 - do not band in inclement weather
 - frequently assess the condition of traps and nets and repair them quickly
 - properly train and supervise students
 - check nets as frequently as conditions dictate
 - check traps as often as recommended for each trap type
 - properly close all traps and nets at the end of banding
 - do not leave traps or nets set and untended
 - use the correct band size and banding pliers for each bird
 - treat any bird injuries humanely
2. Continually assess your own work to ensure that it is beyond reproach:
 - reassess methods if an injury or mortality occurs
 - ask for and accept constructive criticism from other banders
3. Offer honest and constructive assessment of the work of others to help maintain the highest standards possible:
 - publish innovations in banding, capture, and handling techniques
 - educate prospective banders and trainers
 - report any mishandling of birds to the bander
 - if no improvement occurs, file a report with the Banding Office
4. Ensure that your data are accurate and complete, are submitted in a timely fashion to the responsible agency or organization, and are appropriately used to advance valid scientific purposes.
5. Obtain prior permission to band on private property and on public lands where authorization is required.

Source: <https://www.canada.ca/en/environment-climate-change/services/bird-banding/resources-banders-researchers/permit-holders-instructions.html#toc0>