Animal Use Protocol (AUP)
Observational Research in the Field

At the Bamfield Marine Sciences Centre (BMSC), the use of animals for research is a privilege. It is the responsibility of the researcher to show that the use of animals is justified, that the project has merit, and that the procedure to which the animals will be subjected will be carried out humanely and in accordance with the Canadian Council on Animal Care (CCAC) standards. https://www.ccac.ca/en/standards/

Typically, observational research falls within the CCAC's Category A or B level of invasiveness. Please refer to the CCAC guidelines on: The Care and Use of Wildlife, Guideline 9: Observational Projects, and Appendix D: CCAC Categories of Invasiveness for wildlife studies https://www.ccac.ca/Documents/Standards/Guidelines/Wildlife.pdf. If animals are to be collected to conduct observational studies in the laboratory, this form cannot be used.

Contents:

BMCS Animal Care Contacts	Email	Instructions
Coordinator of Animal Care (CAC)	cac@bamfieldmsc.com	Primary contact for all BMSC animal care and ethics needs. • Send initial complete AUP application to the CAC email. • It is required that you schedule a Research and Animal Care Orientation meeting (RACO) with the CAC prior to collecting and using animals at BMSC.
Animal Care Technician (ACT)	actech@bamfieldmsc.com	Secondary contact for BMSC animal care – onsite Animal Care.
Animal Care Committee Coordinator	acc.coord@bamfieldmsc.com	AUP processing, CCAC and ACC business. • For all further communication with the ACC, including forwarding and processing of all documentation required for AUP approval (approved permits, approved home AUPs, responses to the ACC and amendment requests.)
Bamfield Animal Care Committee (ACC)		Volunteer Committee responsible for ensuring that all animal users and caregivers are informed of and comply with BMSC animal care and use policies. • All communication with the ACC must go through the Animal Care Committee Coordinator.

CHECKLIST FOR RESEARCHERS OR COURSE INSTRUCTORS – *Before You Arrive*:

Animal Use Protocol (AUP)
Observational Research in the Field

- Email the **complete BMSC AUP for Cat A: Observational Research in the Field application** to cac@bamfieldmsc.com before your research is to commence. **Allow 60 days for AUP review and approval. AUP submission deadlines are 60 days prior to planned start date at BMSC.**
- Approval of Home Institution *and* BMSC AUPs are required before any animal use (including collection) begins as per CCAC guidelines.

Check	The **complete BMSC AUP for Cat A: Observational Research in the Field** must have the following documents, where applicable, included with it:
☐	1. BMSC AUP for Observational Research in the Field form - available on BMSC Website at: http://www.bamfieldmsc.com/resource/animal-care
☐	2. Land access permits must be obtained from the Huu-ay-aht First Nations (HFN), Ministry of Forests, Lands and Natural Resource Operations and Rural Development (MFLNRO), Parks Canada and others *(If applicable, approved or in-progress application)* a. Consult: http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/07043_36#appB-1-2 b. MFLNRO: http://www.frontcounterbc.gov.bc.ca/ c. Parks Canada: https://www.pc.gc.ca/apps/rps/page1_e.asp d. HFN: https://huuayaht.org/services/lands-permits/
☐	3. Any and all Standard Operating Procedures (SOPs) that will be followed as a part of the research. (BMSC, home institution or other sources)
☐	4. Any other permits *(If applicable, approved or in-progress application)*
☐	5. Once in-progress applications and permits are approved, these documents must be forwarded to acc.coord@bamfieldmsc.com as they are available. Approved permits and home AUPS are a requirement for BMSC AUP Approval.

Notes for Your Application

1. Forms should be typed. Every section should be completed.
2. Researchers are welcome to seek advice from the Associate Director of Research or the Coordinator of Animal Care (CAC) concerning their AUPs before submission to Animal Care. As well, resources are available from the CCAC. https://www.ccac.ca/en/standards/guidelines/general-guidelines.html
3. Researchers are required to sign off on their approved AUPs prior to or upon arrival at BMSC.

Animal Care Committee

Animal Use Protocol (AUP) Observational Research in the Field

For administration use only

BMSC AUP #	Date AUP Received	Date AUP Approved

1. Project Overview

Project or Course Title			
Research Start Date		Has this protocol been approved before?	☐
Research Finishing Date		If yes, provide previous protocol number.	

2. Principal Investigator (PI) or Course Instructor (CI) & Student

PI or CI Full Name		Student Name	
Email		Student Email	
Permit #s (If Applicable):			
MFLNRO / Parks Canada		Huu-ay-aht First Nations	

3. Research Information

**The CCAC requires that each experimental protocol be assigned a category of invasiveness.* *https://www.ccac.ca/Documents/Standards/Policies/Categories_of_invasiveness.pdf or* https://www.ccac.ca/Documents/Standards/Guidelines/Wildlife.pdf. *If in doubt about the appropriate category, or if the project involves different categories, list the highest applicable category. See Appendix 1 of this document for details.*

Species	Estimated Total # to be Observed/yr	Field Location(s)	Category of Invasiveness*

If you are unable to get the species that you require, what other species you could observe instead for your research? Note that your collection permit must specify the alternate species as well.	

4. Purpose of Animal Use

	Purpose of Animal Use – Check the item below that best describes the purpose of animal use (determined by ACC and PI); From: Appendix A – CCAC AUDF Instructions https://www.ccac.ca/Documents/Assessment/AUDF_Instructions.pdf
☐	1: Studies of a fundamental nature in sciences related to essential structure or function (e.g. biology, psychology, biochemistry, pharmacology, physiology etc.)
☐	5: Education and training of individuals in post-secondary institutions or facilities.
☐	Other: Other purpose

5. Project Description

Provide a description of your project, carefully describing in detail all proposed field activities. Include your protocols with regards to minimizing impact on animals. Forms submitted without enough detail will be returned.

6. Justification of Animal Use

1. Why must this/these species be used (are there any alternative species that could be used)? Even observational studies can sometimes cause disturbance to animal behaviour. Please describe why and how you might potentially disturb these animals. Outline mitigation actions if disturbances occur.	
2. Justify the number of animals requested based upon a statistical rationale, citations from the literature or previous research.	
3. Justify the number of sites you must visit.	

7. Declaration

1. Animals used in this research or teaching project will be cared for and observed in accordance with the principles contained in CCAC standards and guidelines including the guidelines on the Care and Use of Wildlife: https://www.ccac.ca/en/standards/ ;
2. You have considered alternative procedures that do not involve the use of living animals;
3. You will use the minimum number of animals consistent with the objectives of the described research or teaching program;
4. You have carefully selected the species that you propose to use to be appropriate to the project;
5. You are aware of and will consult, as needed, the guidelines posted on the BMSC website regarding methods for animal care, handling, anesthesia and euthanasia: http://www.bamfieldmsc.com/resource/animal-care ;
6. You will notify the BMSC Animal Care Committee (ACC) of any revisions to this experimental protocol;
7. You will keep copies of all approved protocols, revisions and amendments in an accessible file;
8. You will acknowledge that repeated examples of irresponsible animal care will jeopardize your opportunity to do future research or teach at BMSC;

Approval by the ACC is valid for a period of one year. Protocols must be renewed annually even if no revisions are made. Protocols may be renewed up to 3 additional years if a multiple-year project.

_____ _____

Student Name and Signature Date

_____ _____

Animal Care Committee Chair (ACC Chair) Name and Signature Date

Appendix 1: Category of Invasiveness for Wildlife Studies

ACUTE: Any study involving euthanasia of an animal upon receipt or shortly after a brief period of housing (NO manipulations or experiments to be performed on conscious animals). E.g. Animals euthanized for tissues, or anaesthetized and not allowed to recover from anaesthesia.

CHRONIC: Any study which involves recovery of an animal from anaesthesia after an experiment, and maintenance of animals in BMSC facilities for more than 2 days (not counting the normal conditioning period).

See Appendix D for Categories of Invasiveness for Wildlife at https://www.ccac.ca/Documents/Standards/Guidelines/Wildlife.pdf

Examples outlined in that document include:

CATEGORY A:	Methods used on most invertebrates or on live isolates. **Possible examples:** the use of tissue culture and tissues obtained at necropsy; the use of eggs, protozoa or other single-celled organisms; experiments involving containment, incision or other invasive procedures on metazoa; and studies in which the animals are observed without any disturbance to them.
CATEGORY B:	Methods used which cause little or no discomfort or stress. **Possible examples:** observational studies in which there is some disturbance to the animals but not to the point that the same individuals are repeatedly observed so as to habituate or otherwise modify their behavior; census or other surveys which disturb animals but which do not involve capture or marking individuals; non-invasive studies on animals that have been habituated to captivity; short periods of food and/or water deprivation equivalent to periods of abstinence in nature.
CATEGORY C:	Methods which cause minor stress or pain of short duration. **Possible examples:** capture, using methods with little or no potential to cause injury and marking of animals for immediate release; long-term observational studies on free ranging animals where the behavior of individuals may be altered by repeated contact; brief restraint for blood or tissue sampling; short periods of restraint beyond that for simple observation or examination, but consistent with minimal distress; short periods of food and/or water deprivation which exceed periods of abstinence in nature; exposure to non-lethal levels of drugs or chemicals; low velocity darting and slow-injection darts with immobilization chemicals. Such procedures should not cause significant changes in the animal's appearance, in physiological parameters (such as respiratory or cardiac rate, or fecal or urinary output), in social responses or inability to survive. Note: During or after Category C studies, animals must not show self-mutilation, anorexia, dehydration, hyperactivity, increased recumbency or dormancy, increased vocalization, aggressive-defensive behavior, or demonstrate social withdrawal and self-isolation.
CATEGORY D:	Methods which cause moderate to severe distress or discomfort. **Possible examples:** capture, using methods that have the potential to cause injury (e.g., high velocity darting and rapid-injection darts with immobilization chemicals, net gunning, etc.); maintenance of wild caught animals in captivity; translocation of wildlife to new habitats; major surgical procedures conducted under general anesthesia, with subsequent recovery; prolonged (several hours or more) periods of physical restraint; induction of behavioral stresses such as maternal deprivation, aggression, predator-prey interactions; procedures which cause severe, persistent or irreversible disruption of sensorimotor organization. Other examples in captive animals include: induction of anatomical and physiological abnormalities that will result in pain or distress; the exposure of an animal to noxious stimuli from which escape is impossible; the production of radiation sickness; exposure to drugs or chemicals at levels that impair physiological systems (N.B. Experiments described in this paragraph would be Category E if performed on wildlife immediately prior to release). Note: Procedures used in Category D studies should not cause prolonged or severe clinical distress as may be exhibited by a wide range of clinical signs, such as marked abnormalities in behavioral patterns or attitudes, the absence of grooming, dehydration, abnormal vocalization, prolonged anorexia, circulatory collapse, extreme lethargy or disinclination to move, and clinical signs of severe or advanced local or systemic infection, etc.
CATEGORY E:	Procedures which cause severe pain near, at, or above the pain tolerance threshold of unanesthetized, conscious animals. This Category of Invasiveness is not necessarily confined to surgical procedures, but may include exposure to noxious stimuli or agents whose effects are unknown; exposure to drugs or chemicals at levels that (may) markedly impair physiological systems and which cause death, severe pain, or extreme distress; behavioral studies about which the effects of the degree of distress are not known; environmental deprivation that has the potential to seriously jeopardize an animal's well-being; use of muscle relaxants or paralytic drugs without anesthetics; burn or trauma infliction on unanesthetized animals; a euthanasia method not approved by the CCAC; any procedures (e.g., the injection of noxious agents or the induction of severe stress or shock) that will result in pain which approaches the pain tolerance threshold and cannot be relieved by analgesia (e.g., removal of teeth without analgesia, or when toxicity testing and experimentally-induced infectious disease studies have death as the endpoint); capture methods with a high potential of causing severe injury that could result in severe chronic pain and/or death (e.g., leg hold traps)

For more information, visit https://www.ccac.ca/en/standards/fundamental-principles.html

Appendix 2: Purpose of Animal Use

Purpose of Animal Use – Check the item below that best describes the purpose of animal use (determined by ACC and PI); From: Appendix A – CCAC AUDF Instructions https://www.ccac.ca/Documents/Assessment/AUDF_Instructions.pdf	
0. Breeding Colony/Stock: Animals held in breeding colonies (e.g. fish, rodents) that have not been assigned to a particular research, teaching or testing protocol.	Animals held in breeding colonies (e.g. fish, rodents, farm animals) that have not been assigned to a particular research, teaching or testing protocol.
1. Studies of a fundamental nature in sciences related to essential structure or function (e.g. biology, psychology, biochemistry, pharmacology, physiology etc.)	Basic science studies, including biology, psychology, biochemistry, pharmacology, physiology). Examples: studies designed to understand the cellular and/or molecular basis of inflammatory reactions or other basic physiological or biochemical reactions; studies designed to understand one or some of the various facets of the role played by a hormone or other compound produced by mammals; studies designed to better understand the behavior of various species; studies designed to better understand the population dynamics of various species
2. Studies for medical purposes, including veterinary medicine, that relate to human or animal disease or disorders.	Studies carried out to better understand a specific disease or disorder and to help find therapies for it. Examples: development of a mouse model for a specific type of cancer or other disease; studies to determine which antibodies are the most likely to contribute positively to the therapy of a specific type of cancer; studies to determine which molecule within a particular class of compounds is the most likely to contribute to maintaining stable blood glucose levels in an animal model of diabetes
3. Studies for regulatory testing of products for the protection of humans, animals, or the environment.	Studies required by government authorities. Examples: safety testing, regulatory toxicology, vaccine efficacy trials, and testing of new therapeutic compounds (if it is to generate data that is going to be used in a submission for an investigational new drug application (IND) or for a new drug application (NDA)); shellfish toxin testing
4. Studies of the development of products or appliances for human or veterinary medicine.	Studies carried out to investigate potential therapies (as determined following studies of PAU 2) for humans or animals, before regulatory testing (PAU 3) is carried out on the most promising therapies. Examples: studies undertaken in animals to investigate the role and effects of a specific drug or immunotherapy candidate for cancer; studies undertaken to develop physical devices to assist heart function; studies undertaken to develop artificial organs
5. Education and training of individuals in post-secondary institutions or facilities.	Teaching or training programs where animals are used to introduce students to scientific work and teach manual skills and techniques.

Appendix 3: Acronyms

ACT	Animal Care Technician
AUP	Animal Use Protocol
ACC	Bamfield Animal Care Committee
BMSC	Bamfield Marine Sciences Centre
CAC	Coordinator of Animal Care
CALAM	Canadian Association for Laboratory Animal Medicine
CCAC	Canadian Council on Animal Care
CI	Course Instructor
DFO	Fisheries and Oceans Canada

HFN	Huu-ay-aht First Nations
HI	Home Institution
ITC	Introductions and Transfers Committee
MFLNRO	Ministry of Forests, Lands and Natural Resource Operations and Rural Development (a.k.a Ministry of Environment)
PAU	Purpose of Animal Use
PI	Principal Investigator
RACO	Research and Animal Care Orientation
SOP	Standard Operating Procedure