Animal Care and Use Committee **For Administration Use Only**

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| Protocol No. | Date Received: | Committee Meeting Date: |

**RESEARCH PROTOCOL
New Application Form**

**(Field Studies)**

The use of animals for research is a privilege. Before a protocol to use animals in a research project is approved, the researcher must show that the use of animals is justified, that the project has scientific merit, and that the procedures to which the animals will be subjected will be carried out humanely and in accordance with CCAC standards.

Approved protocols will be valid for a period of 1 year and may be renewed (with minor revisions if required) in years 2, 3 and 4 with re-application in year 5.

Please submit a **signed** **electronic version** of this application to acuc@unbc.ca.

**1. GENERAL INFORMATION**

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| Project Title:  |
| Has this protocol been approved before? [ ]  Yes [ ]  No If yes, please provide previous protocol number:  |
| Is this a collaborative project with another CCAC-certified institution? [ ]  Yes [ ]  No If yes, please attach copies of the application and approval letter from the collaborating institution. |
| Principal Investigator: |  | UNBC Department: |  |
| Position/Rank: |  | Application Date: |  |
| Phone: |  | Email: |  |
| Start Date and Final End Date (i.e., the date it will be completed) of Proposed Project:  |
| Location where study will take place:  |
| CCAC Category of Invasiveness:[ ]  A [ ]  B [ ]  C [ ]  D [ ]  E(see *Definitions* in Section 15 of this document for details) | CCAC Purpose of Animal Use (PAU’s):[ ]  0 [ ]  1 [ ]  2 [ ]  3 [ ]  4 [ ]  5(see *Definitions* in Section 15 of this document for details) |

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| Declaration: I, the undersigned, will ensure that all animals used in this project will be treated and cared for in accordance with the policies and guidelines of the Canadian Council on Animal Care and the requirements of the relevant international, federal, provincial and municipal legislation. I accept responsibility for keeping the information in this application current and accurate and for notifying the Animal Care and Use Committee of any deviations from this proposal. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Principal Investigator Signature Date |

**2. FUNDING AND PEER REVIEW**

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| Funding: [ ]  Internal [ ]  External Agency Name:  |
| Complete Grant Title:  |
| Status: [ ]  Awarded [ ]  Pending Form of Funding: [ ]  Grant [ ]  Contract [ ]  Other (Specify):  |
| Has this proposal for funding received peer review? [ ]  Yes [ ]  No |
| If “No” (above), contact acuc@unbc.ca to request peer review prior to submission. |
| If “Yes” (above), which agency reviewed this proposal?  |
| If available, please provide Fund / Org and ROMEO numbers:  |

**3. KEY WORD DESCRIPTION – PLEASE CHECK ALL THAT APPLY**

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| General | Procedures | Agents | Surgical |
| [ ]  Acute[ ]  Behavioural Study[ ]  Breeding[ ]  Cell Cultures[ ]  Chronic[ ]  Environmental Protection[ ]  Pilot Study\*[ ]  Reinforcement/Motivation[ ]  Scales/Fin/Feathers/Hair[ ]  Collection of Feces[ ]  Tissue/organ Collection [ ]  Transgenic Animal[ ]  Observational[ ]  Wild Animals[ ]  Other (please specify):  | [ ]  Blood Sampling[ ]  Euthanasia[ ]  Food Deprivation[ ]  Gavaging[ ]  Identification/Marking[ ]  Injections  [ ] IP [ ] IV [ ] IM [ ] SQ [ ]  Physical Restraint[ ]  Special Diet[ ]  Trapping/Netting[ ]  Water Restriction[ ]  Other (Please specify):  | [ ]  Anaesthetics[ ]  Bio-Hazardous[ ]  Carcinogens[ ]  Chemical[ ]  Infectious[ ]  Immunogenic[ ]  Inflammatory[ ]  Other (Please specify):  | [ ] Cannulation[ ]  Major[ ]  Minor[ ]  Multiple[ ]  Survival[ ]  Terminal[ ]  Other (Please specify):  |

**\*Note that Pilot Studies are approved for one year only and are not renewable.**

**4. Description of Proposed Research (Lay Summary)**

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| *In lay terms provide a brief description of the research objectives and the procedures to be used.* ***USE LANGUAGE THAT A NON-SCIENTIST CAN UNDERSTAND. MAXIMUM 250 WORDS*.**  |

**5. Participants directly involved in the care and use of animals in this project**

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| --- | --- | --- | --- | --- |
| Name | Position | Responsibilities | Contact  | Mandatory *Animal Training* Course Completed? |
|  |  |  |  | [ ]  Yes[ ]  No[ ]  N/A, please explain:  |
|  |  |  |  | [ ]  Yes[ ]  No[ ]  N/A, please explain:  |
|  |  |  |  | [ ]  Yes[ ]  No[ ]  N/A, please explain:  |
|  |  |  |  | [ ]  Yes[ ]  No[ ]  N/A, please explain:  |
| *Describe the qualifications of each participant, including additional training that each participant has received or will receive (e.g., UNBC “Surgery and Anesthesia” course, etc.). Indicate the source of this training.* |

**6. ANIMAL INFORMATION**

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| *Identify the total number of each species/strain of animal to be used in this project. If this is a multi-year project where numbers vary from year to year, please provide the total number for each year separately.* |
| Species | Location | Animal Total / Year | Housing (if used)  |
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**7. PERMITS**

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| *It is the responsibility of the investigator to obtain all necessary permits for work with wild animals. Please provide the name of the agency issuing all necessary permits, permit numbers, and attach copies of permits.* |

**8. SCIENTIFIC OBJECTIVES**

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| *State the specific scientific objectives and potential benefits of the proposed work.* |

**9. REPLACEMENT, REDUCTION AND REFINEMENT**

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| ***9.1****Those using animals should employ the most humane methods on the smallest number of animals to obtain valid information.**Justify the proposed numbers of animals. Use of statistical arguments if necessary.* |
| ***9.2*** *Provide rationale for the choice of species.* |
| ***9.3*** *Non-animal alternatives should be used whenever possible. Explain briefly why any available non-animal alternatives are not suitable for meeting the objectives of this study.* |

**10. CAPTURE OF WILDLIFE**

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| *Procedures involving the capture, handling and release of wild animals are of special concern because such procedures may result in elevated levels of stress in captured animals. For all the questions below, ensure that there are details included as to how the animal’s welfare will be impacted, and how stress levels will be managed.*[ ]  N/A –No animals are to be captured/restrained – Proceed to Section 11. |
| ***10.1 Capture of wildlife****Describe the method of capture in detail, including all details related to type of capture, ideal capture environment, time and frequency for checking traps, chase times, immobilization agents, etc. Provide descriptions of the physical, physiological or behavioral health indicators to determine whether an animal will be captured. Justify why this is the most appropriate capture method for the scientific objectives.*  |
| ***10.2 Handling and restraint of wildlife****Describe all details related to the restraint and handling of wild animals. Include details related to handling times, handling and restraint methods, personal hazards, monitoring methods, etc. Please provide justification for methods.* |
| ***10.3 Housing and transportation****Describe if animals will be transported from the location of capture or held/housed during the capture event. Describe all details including the use of pens and/or enclosures, duration, and nutritional supplementation provided. Please provide justification for methods.* |
| ***10.4 Release of wildlife****Describe the recovery techniques and criteria for suitability of release. Please include monitoring details, additional agent administered, expected time frames, follow-up monitoring (post release), etc.* |
| ***10.5 Morbidity, mortality, and endpoints****Describe anticipated or potential morbidity (injury) and mortality (death) associated with the above methods. Please describe mitigation techniques, reporting lines, monitoring, humane intervention points/endpoints, and treatment plans. Please quantify with anticipated numbers / percents of affected animals.* |
| ***10.6 Capture of non-target species****Do you anticipate capturing non-target species? If yes, what is the potential for morbidity/mortality? What precautions will be taken to avoid capturing vulnerable animals and what action will be taken if these animals are captured?* |
| ***10.7 Cumulative endpoints / recapture****Are there concerns with capturing the same animal more than once in the animal’s lifetime? What precautionary measures are in place to protect the animal’s health and wellbeing with multiple recapture events?* |

**11. PROCEDURES INVOLVING ANIMALS**

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| ***11.1 Procedures****Describe all experimental and observational procedures on animals in the field. Include details on sample collection, tests, and procedures related to the experimental objectives. Please describe any marking, tagging, banding, or permanent / temporary identification; include the weight of the equipment as a percentage of expected animal body weight, the impact on the animals including potential long-term effects, and if equipment is to be removed in the future. Use simple language, and do not excerpt pages from grant applications.* |
| ***11.2 Morbidity, mortality, and endpoints.****Describe any morbidity (injury) or mortality (death) that could be associated with the procedures listed above, along with mitigation techniques, reporting lines, monitoring, and humane intervention points / endpoints and actions. Please quantify anticipated numbers / percentages of potentially affected animals.* |
| ***11.3 Ecological disruption****Describe any potential ecological disruption this study may cause, and how they will be mitigated.* |
| ***11.3 Agents to be administered to animals****Indicate all agents to be administered for each species. Indicate hazardous agents with \*\* and complete Section 12.*[ ]  N/A |
| *Species* | *Agent/Drug* | *Purpose* | *Route* *(SQ, IM, etc.)* | *Dosage* *(e.g., mg/kg)* | *Amount**(e.g., mL)* | *Frequency* |
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| ***11.4 Samples to be taken from animals****Indicate all samples to be taken for each species*[ ]  N/A |
| *Species* | *Type of Sample* | *Site* | *Amount* | *Procedure* | *Frequency* |
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**12. HAZARDOUS MATERIALS**

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| [ ] No hazardous materials will be used in this study (*Go to Section 13)* |
| ***12.1*** *Indicate which of the following will be used in animals (\*\*complete details must be listed in Section 11, marked as \*\*)*[ ]  Infectious agents (includes vectors) [ ]  Toxic chemicals [ ]  Radioisotopes [ ]  Carcinogens[ ]  Other (please specify):  |
| ***12.2*** *Has the use of hazardous materials been reviewed by the Laboratory Safety Committee?* [ ]  Yes [ ]  No |
| ***12.3*** *Describe potential health risk(s) to humans or animals. Indicate duration of the effects of the agent****.*** |
| ***12.4*** *Describe measures that will be used to reduce risk to the environment, the project and personnel.*  |

**13. ENDPOINTS AND EUTHANASIA**

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| ***13.1 Endpoints****Endpoints are clear criteria to define the point at which humane intervention must be implemented to prevent or relieve unnecessary pain and/or distress. What are the criteria to terminate the procedure/study and potentially the animal if unanticipated pain and/or distress occur?* |
| ***13.2 Euthanasia****If euthanasia is necessary upon termination of the study, or where pain and/or distress exceeds the threshold, specify the method of euthanasia.****Acceptable methods of euthanasia:*** *Please specify the method of euthanasia.*[ ]  Injection of diluted/buffered barbiturate\* [ ]  Exsanguination with anesthesia[ ]  Decapitation with anesthesia, list agent/dose/route\* [ ]  Maceration (for fish less than 2cm in length)[ ]  Cervical dislocation with anesthesia, list agent/dose/route\* [ ]  Overdose of inhalant anesthetics with C02[ ]  Immersion or injection of buffered TMS/MS222 (Fish/Frogs) [ ]  Clove oil (Fish)[ ]  Other (please specify): \*List agent/dose/route:  |
| ***Conditionally acceptable methods****: Please specify the method of euthanasia* [ ]  Decapitation *without* anesthesia [ ]  Cervical dislocation *without* anesthesia[ ]  C02 only (Rodents) [ ] Concussion (Fish)[ ]  Other (please specify):  |
| *The use of any Conditionally Acceptable Method must be justified. Please explain the reason why this method of euthanasia is required.* |
| *If an animal needs to be euthanized in the field, how will the carcass be disposed of?* |
| What is the intended fate of the animals used in the study:[ ]  Nothing, observations only [ ]  Released, at or near capture site[ ]  Released, at other location [ ]  Euthanized [ ]  Other, please specify:  |

**14. Emergency PlAN**

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| *Provide the contact information of a veterinarian(s) when consultation may be necessary.* |
| Name and Address of Contact |  | Phone Number |  |

**15. DEFINITIONS**

**Description of Purpose of Animal Use (PAUs)**

**0: Breeding Colony/Stock** – Animals held in breeding colonies (e.g., fish, rodents) that have not been assigned to a particular research or teaching protocol.

**1: Fundamental Nature Studies** – Studies of a fundamental nature in sciences relating to essential structure or function (e.g., biology. psycho-biochemistry, pharmacology, physiology, etc.). Possible examples are studies designed to understand: the cellular and/or molecular basis of inflammatory reactions or basic physiological or biochemical reactions; one of the various roles played by a hormone or other compound in mammals; the behavior of species; the population dynamics of various species.

**2: Medical Purposes -** Studies for medical purposes, including veterinary medicine, that relate to human or animal diseases. These are studies carried out to better understand a specific disease or disorder and to possibly find therapies for it. Possible 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: Regulatory Testing** - Studies for regulatory testing of products for the protection of humans, animals, or the environment. Possible examples: safety testing, regulatory toxicology, vaccine efficacy trials and testing of new therapeutic compounds.

**4: Development of Products** - Studies for the developmentofproducts or appliances for human or veterinary medicine. These are studies that 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. **Possible examples** include studies undertaken to: investigate the role and effects of a specific drug or immunotherapy candidate for cancer; develop physical devices to assist heart function; develop artificial organs.

**5: Education and training** – Education and training of individuals in post-secondary institutions or facilities. These are teaching or training programs where animals are used to introduce students to scientific work and teach manual skills and techniques.

**Category of Invasiveness\*
Category of Invasiveness\***\*(Excerpt from the  *CCAC guidelines on: the care and use of wildlife (2003)*

**A: Experiments 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.

**B: Experiments 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/water deprivation equivalent to periods of abstinence in nature.

**C Experiments 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/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 variables (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.

**D: Experiments 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 behavioural 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. Note: Experiments described in this paragraph are considered to be Category E if performed on wildlife immediately prior to release.

**E: Procedures which cause severe pain near, at, or above the pain tolerance threshold of an unanesthetized conscious animal.** 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; behavioural studies where the effects and 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 method of euthanasia 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. leghold traps).