

BMSC Animal Care Committee

Terms of Reference

INTRODUCTION

1. The Bamfield Marine Sciences Centre (BMSC) provides research and training infrastructure for the five-member Western Canadian universities as well as other Canadian and International institutes.
2. BMSC is committed to the humane and ethical care and use of animals. BMSC adheres to the principle that justifiable animal use in scientific research and teaching is only acceptable if it has the potential to contribute to the understanding of fundamental biological principles, or to the development of knowledge that can reasonably be expected to benefit humans or other animals.
3. BMSC has established an Animal Care Committee (ACC) to facilitate research and training that complies with the Canadian Council on Animal Care (CCAC) Guidelines and Policies and with the Russell-Burch tenet of, "Reduction, Replacement, and Refinement".
4. BMSC will maintain an Animal Care Committee (ACC) for so long as any research, teaching, testing, or reproduction involving animals is conducted in BMSC facilities.
5. The BMSC Animal Care Committee (ACC) works to ensure that all non-human vertebrate and cephalopod users and caregivers are informed of, and comply with, CCAC guidelines and policies, as well as any guidelines and policies promulgated by the BMSC.
6. The BMSC ACC is directly responsible to the BMSC Executive Director, the senior administrator for the organization and representative of the Pacific Marine Science Alliance (PMSA). The Executive Director will have final approval of changes to the Terms of Reference (TOR). Any changes to the TOR may be proposed by the BMSC ACC for consideration by the BMSC Executive Director.
7. The BMSC ACC is responsible for overseeing the entire institutional animal care and use program, including facility inspections, post-approval monitoring, personnel training oversight, and ensuring compliance with CCAC guidelines

The BMSC ACC operates in accordance with the following terms of reference:

MEMBERSHIP

1. The Executive Director will determine the number of members on the BMSC ACC and will be responsible for appointing members to the BMSC ACC as directed by CCAC mandate with collaboration from the BMSC ACC
2. The BMSC ACC *must* include the following members:
 - a. **Community Representative:** One local community representative without an affiliation to BMSC, and who does not use animals for scientific purposes
 - b. **Veterinarian:** A licenced veterinarian with experience in animal care and preferably aquatic

health

- c. **Chair:** Preferably Co-Chairs from the member universities
- d. **Head of Animal Care:** Manager of BMSC Animal Care Program and staff
- e. **Animal Care Coordinator:** The BMSC Animal Care Coordinator, or in the absence of an Animal Care Coordinator, the Head of Animal Care will perform the duties of the Coordinator
- f. **Scientific Representative:** One research scientist experienced in animal care for scientific purposes, preferably familiar with marine stations
 - i. *The BMSC ACC may invite scientific representatives from the member universities who have expertise in wildlife or fish*
- g. **Student Representative:** preferably a current graduate student enrolled at a member institution
- h. **Institutional Representative:** A BMSC employee whose normal activities do not depend on, or involve animal use for research, teaching, or testing.

The BMSC ACC *may* also include any of the following members:

- i. **Technical Staff Representative:** An BMSC operational team member or representative that includes animal care facilities
 - j. **Institutional Department Representative(s):** Guests from Programs and Operations may be invited as needed
 - k. **Animal Care Representatives:** Members of Animal Care teams, Veterinarians, and/or Post-Approval Monitoring programs of an animal-user's Home institution may attend as guests to gain understand the scope of a researcher's animal use at BMSC as the Host institution
 - l. Any other person the **Executive Director** may deem appropriate, including a rotation of guest members from the member universities, a rotation of veterinarians, coordinators, facility managers, and researchers as needed
3. The Executive Director of the Institution will ensure continued support and sustainability of the Animal Care Program, including the BMSC ACC at BMSC.
 4. The Executive Director will appoint all members of the BMSC ACC to a term of two years, with some positions continuing on a permanent basis (e.g. The Head of Animal Care and Veterinarian). These positions are renewable at the discretion of the Executive Director, or as delegated by the Executive Director. BMSC ACC members should not serve more than four consecutive years, and no more than eight years total.
 5. The Executive Director will appoint a Chair and potentially a Co-Chair, in consultation with the BMSC Veterinarian and Head of Animal Care, for a two-year term, which may be renewed. A member who is a BMSC Veterinarian, is directly involved in the management of a BMSC animal care facility, or who has a conflict of interest with the BMSC ACC may not act as BMSC ACC Chair. An Interim Chair may be appointed by the Executive Director as needed.
 6. The role of the Chair and Co-Chair in carrying out the business of the BMSC ACC:

The principal role of the Co-Chairs is to work with all BMSC ACC members to reach consensus on informed decisions during BMSC ACC meetings, ensuring each member's voice is heard. Co-Chairs must be in as neutral a position as possible, and endeavour to ensure that members provide their perspective on the issues discussed in all circumstances. The Co-Chairs will meet with the Animal Care Coordinator and Head of Animal Care at least two weeks prior to a BMSC ACC meeting to review meeting agendas and to ensure the Co-Chairs have all the required background information on the items to be discussed.

The Veterinarian will review all submitted AUPs prior to meetings of the BMSC ACC, and may consult directly with the PI/Instructor to recommend revisions prior to review of the AUP by the BMSC ACC.

The Co-Chairs will assign two primary reviewers for each AUP. The primary reviewers will provide a short, written summary of comments and questions about the AUP to the Animal Care Coordinator at least 48 hours prior to the meeting, or by a set date chosen by the Coordinator. This summary document will be sent out to the BMSC ACC at least 24 hours prior to the meeting.

The Co-Chairs will preside and guide the BMSC ACC through the review of each submitted application on the agenda, asking the primary reviewers to give a brief summary of the protocol. The Co-Chairs will moderate the discussion, and when a consensus is reached will summarize the Committee's decisions for the Animal Care Coordinator. The Co-Chairs will establish, based on the Committee's consensus opinion, the outcome of the BMSC ACC review.

The BMSC ACC may recommend the creation of a subcommittee to the Executive Director to conduct any part of its business, provided that the decisions and actions of a subcommittee are subject to ratification by the BMSC ACC at a BMSC ACC meeting. The quorum for a subcommittee will be as considered appropriate by the BMSC ACC in each case, but it should include the Co-Chair(s) and a Veterinarian, and if the subcommittee involves another review of an AUP, the community member and the Head of Animal Care must also be included.

MEETINGS

1. The BMSC ACC will be responsible for setting procedures for the review and approval of BMSC AUPs.
2. The BMSC ACC will meet no fewer than four times each calendar year with two of the meetings as in-person meetings.
3. BMSC ACC meetings and activities must be held at times that are convenient for the community representative.
4. Meeting agendas will be distributed at least two weeks prior to the scheduled meeting.
5. Standardized minutes of each meeting will be recorded and distributed to all members of the BMSC ACC and the BMSC Executive Director.
6. The quorum in BMSC ACC meetings is a majority of the members (>50%) and must include the BMSC Veterinarian, and the Community Representative.
7. The consensus in BMSC ACC meetings is a simple majority of the BMSC ACC members who are present and must include the Veterinarian and Community representative to reach quorum. The Co-Chairs will moderate the discussion, and when a consensus is reached, summarize the BMSC ACC decisions. As the Co-Chairs are to remain neutral, they cannot contribute to consensus. Consensus will have been reached when there is general agreement amongst the quorum present without sustained objection.

- a. If resolution cannot be reached by consensus, a formal vote may occur. During a formal vote, the Co-Chairs can vote if there is a tie.
 - b. If a BMSC ACC member strongly disagrees with the consensus, they can submit a request to the Executive Director for an independent re-review of the AUP.
8. The Co-Chairs will establish the outcome of the BMSC ACC review. These are defined as follows:
 - a. Approved – The Certificate of Approval is released and no further information is required from the applicant.
 - b. Conditional Approval – The Certificate of Conditional Approval is released with a covering memo consisting of: requests for minor changes, comments, or suggestions from the BMSC ACC, none of which involve concerns to the animal welfare (i.e. waiting for permit approval, IAUT certificates, etc.). The PI may proceed with animal work while the full approval is pending.
 - c. Revisions – The Certificate of Approval is withheld until the applicant has responded to the items listed in the formal review document. The BMSC ACC subcommittee will evaluate the response and approve. If more questions are required, or the BMSC ACC subcommittee cannot come to consensus, the review will be sent back to the full BMSC ACC for further discussion. No animal work may proceed until the protocol is approved or conditionally approved.
 - d. Deferral – Insufficient information was provided in the AUP to allow the BMSC ACC to perform an assessment. Details are provided to the applicant and they are invited to revise and resubmit the application for a full BMSC ACC review at a future date.
 - e. Rejection – The work is not acceptable to be carried out at BMSC.
9. The BMSC ACC Co-Chairs, Head of Animal Care, and the Animal Care Coordinator will ensure that any new CCAC related facility business, AUPs, and other outstanding BMSC ACC issues will be discussed at each meeting.

BMSC ACC AUTHORITY

1. The BMSC ACC has the authority to:
 - a. Immediately stop any procedure causing unforeseen pain or distress to animals.
 - b. Immediately stop or pause any use of animals which deviates from the approved AUP.
 - c. Require the immediate humane euthanasia of any animal if considered necessary.
2. The BMSC ACC delegates authority to the BMSC Veterinarian to treat, remove from a study, or euthanize an animal according to the BMSC Veterinarian's professional judgment. The BMSC Veterinarian must attempt to contact the animal user before beginning any treatment that has not previously been agreed upon and must attempt to contact the Head of Animal Care and BMSC ACC Chair. The BMSC Veterinarian has the authority to proceed with any necessary and reasonable emergency measures, whether or not the animal user and BMSC ACC Chair are available. The BMSC Veterinarian will send a written report to the animal user, the Executive Director, and to the BMSC ACC following any such event. The BMSC Veterinarian and Head of Animal Care may also choose to delegate responsibilities to other BMSC ACC members who are considered qualified to euthanize animals.
3. The BMSC ACC Chair, the Head of Animal Care, and the BMSC Veterinarian have unrestricted access to areas where animals may be held or used.

4. Failure by the animal user to comply to BMSC ACC approved protocols and procedures may result in probationary measures put in place by the BMSC ACC. The BMSC ACC is responsible for reviewing and revising a non-compliance standard operating procedure every three years.

RESPONSIBILITIES OF THE BMSC ANIMAL CARE COMMITTEE

Protocols

1. No use of animals in research, training, testing, or breeding (reproduction) will be conducted at BMSC without an approved BMSC Animal Use Protocol (AUP). The BMSC ACC is responsible for ensuring the review and approval of all protocols.
2. When reviewing AUPs, the BMSC ACC will follow current Canadian Council for Animal Care (CCAC) policies and guidelines for AUP Review.
3. All proposed work on animals at BMSC must have proven scientific merit by peer review via granting agency or organized through the Home Institution. The BMSC ACC will adhere to approved BMSC standard operating procedures (SOPs) and policies.
4. The CCAC Guidelines on “Protocols involving Two or More Institutions” may be followed, but in most cases BMSC will be considered the Host Institution with the appropriate SOP clearly communicated to the Home Institution prior to submission.
5. For all AUP submissions, the Animal Care Coordinator will ensure that there is a corresponding AUP at the Home Institution prior to review.
6. The Home Institution should review the scientific protocols within the AUP and give conditional approval prior to submission to the BMSC, with the conditional pending on BMSC’s approval of the capture, transport, and holding conditions for the animals.
7. Occasionally, in the case where a researcher has missed an Home Institution submission deadline, or if the applicant is from an international institution, BMSC can take the role of the Home Institution in the review of the full protocol.
8. The BMSC ACC will ensure that all animal use in research or post-secondary education is undertaken only after an AUP has received approval from both the BMSC ACC and Home Institution.
9. The BMSC ACC will only consider applications submitted using the current approved BMSC AUP form.
10. The Head of Programs, on behalf of BMSC, will ensure a Holdingf AUP to procure and hold animals has been approved by the BMSC ACC prior to the arrival of visiting researchers, or to hold animals between researchers. Animals may be held under the responsibility of the BMSC and cared for by the Head of Animal Care, under the condition that research/teaching does not begin before the respective BMSC AUP has received final approval. The BMSC Animal Care team will perform the CCAC mandated twice daily health and welfare monitoring, as well as any required husbandry. Any concerns will be immediately reported to the Veterinarian, and a report will be presented at the next BMSC ACC meeting.

11. In the event of a surplus of applications to conduct research at the BMSC, the Head of Animal Care will consult with the PMSA Academic and Research Committee who will prioritize applications.
12. In the case where a BMSC ACC member has an AUP presented to the BMSC ACC, they will excuse themselves during discussions of that protocol. In the case where a BMSC ACC Co-Chair presents a protocol, the Head of Animal Care shall act as temporary Chair in their absence.
13. Non-Canadian applicants submitting a BMSC AUP to work on non-human vertebrates and cephalopods are subject to:
 - a. Proof of scientific merit by peer review
 - b. Approval of the proposed work by a Home Institution Animal Care Committee or parallel body
 - c. Confirmation of recognized animal care accreditation.
 - d. A Memorandum of Understanding (MOU) may be struck with the international institution as confirmation by both institutions that CCAC guidelines will be followed.
14. Temporary interim AUP approvals will be used rarely and only under special circumstances where approval must be expedited. In these cases, the deliberations can be done by email and involve the BMSC ACC subcommittee. The AUP will be reviewed at the next BMSC ACC meeting for full committee approval.
15. All post-secondary teaching and training using non-human vertebrates and/or cephalopods, and conducted at the BMSC must undergo pedagogical merit review prior to submission of a BMSC AUP.
 - a. For BMSC courses, the Executive Director will assign an external and arms-length Administrator of Pedagogic Merit, who will disseminate the AUP to a minimum of two independent reviewers. AUPs and the Pedagogical review forms will be sent to the Administrator by the Animal Care Coordinator. Pedagogical merit is only required for COI level B or greater.
16. The BMSC AUP applications for non-human vertebrate and cephalopod research will contain all of the requirements listed in section 3c) i-xviii of the CCAC Terms of Reference for Animal Care Committees (2006).
 - a. Protocols submitted for research on cephalopods must explicitly state the current anaesthetic and analgesic standards, as well as humane endpoints as they pertain to invertebrate neurobiology.
 - b. For Wildlife and Observational Field Activities, CCAC guidelines must be adhered to. Protocols must include the number, duration, and timing of visits, with an aim to minimize the potential impact of the observers. The protocol must also detail mitigation strategies associated with capture stress and/or any environmental impact of the observers in the field.
17. The BMSC ACC AUP submission process will encourage reference to current BMSC and other relevant SOPs in submitted AUPs. Animal Care SOPs will be revised and reviewed by the BMSC ACC every 3 years.
18. The BMSC ACC will ensure that all research and education teams will attend an on-site Research and Animal Care Orientation (RACO) meeting before commencement of any animal-use activity. The Head of Animal Care or their designate, will lead the RACO with the Research Operations Manager, or their designate, and ensure the researcher/instructor is presented with all information necessary to remain in

compliance with BMSC and CCAC standards and guidelines.

- a. The BMSC ACC will outline all necessary information to be presented to the researcher/instructor

19. Approval of a BMSC AUP is valid for a maximum of one year. If the work described is included in a Home Institution AUP that is valid for a longer duration, the BMSC ACC will require the researcher to submit a BMSC renewal application. During annual renewals, only the BMSC ACC subcommittee are required to review the renewal application. The BMSC ACC will not grant more than three consecutive renewal applications (for a total of four years). After three consecutive renewals of an AUP, a researcher must apply for approval with a new BMSC AUP.

A renewal application must include:

- a. The number of animals used in the preceding year
- b. Justification for any change in number of animals required for the coming year
- c. A brief statement describing any complications encountered relative to animal use (unpredicted outcomes, and animal pain, distress, or mortality) and any progress made with respect to replacement, reduction, and refinement of animal use
- d. A statement on the adequacy of humane and terminal endpoints for the protocol, and any complications encountered or refinements made relative to protecting animals from pain, distress, or mortality
- e. Any amendments or other changes to the original protocol, including species and an up-to-date list of personnel that will be involved in the coming year.

AUP Amendments:

20. The BMSC ACC will require any changes to an approved AUP to be submitted as an amendment. No proposed amended work under an approved AUP can occur until the amendment has been approved. In all cases a thorough scientific justification for the amendment needs to be provided. All administrative and minor amendments are reported to the full BMSC ACC at the next meeting.

- a. **Administrative Amendment:**

Administrative amendments are straightforward changes to the protocol which do not affect animal use or welfare. They are to be reviewed and approved by the Animal Care Coordinator.

Examples:

- Change in personnel, title, research dates, or contact information.
- Changes in collection locations
- Change in funding source or account information provided it does not impact scientific peer review.

- b. **Minor Amendment reviewed by the BMSC ACC Subcommittee:**

Minor amendments are changes to protocol which may affect animal use or welfare, but do not increase category of invasiveness. Minor modifications may be referred to the BMSC ACC Subcommittee for review.

Examples:

- Change in drug(s) used, where the effects on the animal are equivalent
- Change in the anesthetic agent used or in the use of analgesic agents
- Change in method of euthanasia
- Changes in the use of hazardous agents

- Increase in approved animal use numbers up to 25%.
- Changes in animal species where care or holding requirements of the added species are the same as original species requested, and procedures are as originally described. If the species are evolutionarily (cladistically) disparate, the applicant must justify why the change in species will preserve species-specific animal welfare.

c. **Major Amendment reviewed by the full BMSC ACC:**

Major amendments are changes which affect animal use or welfare, including but not limited to those that increase the original category of invasiveness. Substantial modifications may result in a request to submit a new Animal Use Protocol.

Examples:

- Addition of animal species if scientific procedures, care, or holding requirements for the added species is *different* than those of original species on the protocol.
- Changes in procedure or new procedure(s)/manipulation(s) that are judged to result in an increased potential for pain and/or distress (including changes to terminal endpoints).
- A change from non-survival to survival surgery.
- Increase in approved animal use numbers greater than 25%.

21. A new AUP is required when there is:

- An alteration to scientific merit, a significant alteration of original protocol, changes in the main objective of the study, or changes in the direction of the research (hypotheses and objectives) from those described in the grant request and/or in the existing AUP.
- Major changes to the original approved experimental protocol (i.e. the addition of novel or invasive surgeries or procedures that significantly extend the scope of animal use and/or increase the level of invasiveness).
- A significant increase in the number of animals originally approved.

22. Any researcher has the right to appeal if the final decision of the BMSC ACC is to reject an AUP. Any BMSC ACC member has the right to appeal if they disagree with the final decision of an AUP. The Executive Director will oversee an appeal process in an unbiased and independent manner. The request for appeal is to be made to the Executive Director, who will strike an Appeals Subcommittee from members of the Animal Care Committees of member institutions from which the researcher has no affiliation.

23. When a researcher is proposing new approaches to methods, the BMSC ACC Subcommittee strongly supports the use of pilot studies with a limited number of animals to confirm safety and efficacy of claim. Pilot studies may be a condition of approval.

24. The BMSC ACC will keep written records of their discussions and decisions in the committee minutes and on attachments. Written records of all discussions and decisions occurring between meetings will be kept and these can include comments/approvals received via email. All documents reviewed and matters discussed in BMSC ACC meetings will be kept strictly confidential.

25. Annually, after procedures within an AUP have been completed, a report will be presented to the BMSC ACC by the Animal Care Coordinator, Head of Animal Care, and/or the Veterinarian to as a summary of the protocol. This is not only to document how the AUP was carried out but to update the BMSC ACC on the care of animals in the research project.

26. If necessary, to address concerns of the BMSC ACC with the researcher, the committee can invite the researcher to appear before the BMSC ACC with their concerns.

Post-Approval Monitoring

27. The BMSC ACC is responsible for verifying that all protocols are being conducted as approved. This includes ensuring post-approval monitoring (PAM) is in place for all approved AUPs. The BMSC ACC will direct the Head of Animal Care as to which experiments and/or procedures warrant a PAM audit or additional observational monitoring.
28. The BMSC ACC will ensure that all personnel involved in animal-use are appropriately trained and competent, and that training documentation is verified prior to protocol approval. The BMSC ACC can also request personnel listed on the protocol demonstrate competency for a procedure prior to personnel being granted the authority to conduct the procedure.
29. The BMSC ACC is responsible for reviewing the animal use records to ensure compliance with the approved protocols.

Animal Facility Inspections

30. The BMSC ACC will conduct regular inspections of all animal use spaces and facilities at least once a year, and will provide written documentation of their findings, as well as corrective action guidelines to the Head of Animal Care and the Executive Director of BMSC. The results of the inspections will also be discussed at a BMSC ACC meeting and recorded in the minutes.

Conflict of Interest

31. All members of the BMSC ACC must declare any and all conflicts of interest pertaining to the review of protocols. These may relate to financial conflicts, supervisory conflicts, or engaging in close collaboration with protocol holders. In such cases where a conflict of interest is declared, the Co-chairs will determine the necessity of a recusal, and decision will be recorded in the BMSC ACC meeting minutes.

GENERAL

1. All BMSC ACC members must put animal welfare in research and teaching at the forefront of their priorities when they serve on the Animal Care Committee.
2. The BMSC ACC has final authority over the approval, modification, suspension, or termination of animal use protocols. The authority in these matters cannot be overturned by the Executive Director or any employee of BMSC.
3. The BMSC ACC will review these Terms of Reference every three years to ensure that they reflect current CCAC policies and guidelines.
4. All BMSC ACC members must understand that all information in the BMSC ACC must be kept entirely confidential, along with the BMSC ACC's discussions and decisions on animal use.

5. The Head of Animal Care will work with the Institution to develop institutional animal care and use policies and SOPs that the BMSC ACC will review annually. SOPs will be accessible to all BMSC ACC members and AUP applicants.
6. The Head of Animal Care and the BMSC ACC Chair will liaise with the CCAC Secretariat on behalf of BMSC and provide such information to the CCAC that it may require from time to time, including the annual Animal Use Data Form (AUDF).
7. The BMSC ACC will maintain a crisis management program for the facilities and for the animal care and use program, in conjunction with any general institutional crisis management plan(s) and the BMSC Joint Occupational Health and Safety Committee.
8. The BMSC ACC will periodically sponsor seminars and/or training workshops on the use of animals in science and the ethics of animal experimentation and encourage as many animal users as possible to attend. BMSC ACC members who attend the annual CCAC Workshop will present relevant information back to the committee.
9. The BMSC ACC will also be prepared to accept constructive criticism that may periodically occur and will be receptive to developing and maintaining communication with animal welfare organizations.
10. The BMSC ACC will act as a general resource to BMSC animal users and caregivers and will demonstrate its commitment to the welfare of animals in research and teaching and around BMSC by maintaining a visible profile to researchers, students, and the community of Bamfield.
11. Collegial and respectful interactions with the BMSC ACC is compulsory, in accordance with BMSC's Policies including BMSC's Code of Conduct, Workplace Violence Policy, and the PMSA Discrimination, Harassment and Workplace Bullying Policy.

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