Ohio Wesleyan University

Institutional Animal Care and Use Committee (IACUC)

Animal Care and Use Application

**Instructions:**

1. Please complete this form using only the provided text and check boxes, save it as a Word Document, and submit by email to iacuc@owu.edu
2. Any research or teaching involving live vertebrate animals cannot be initiated before you receive an approval letter from the IACUC chair.

**Section 1 – Does my research or teaching require approval from the IACUC?**

|  |  |  |
| --- | --- | --- |
| 1. Does your project involve any direct or indirect (i.e., observational) interactions with LIVE vertebrate animals?
 | [ ]  YES | [ ]  NO |
| 1. Does your project involve DEAD vertebrates that are actively harvested by you or someone else for the sole purpose of your research or teaching?

NOTE: If you are using museum specimens, deceased animals that are collected opportunistically (i.e., roadkill, window strikes, etc.), or specimens purchased from biological suppliers, please check “NO” for this question.  | [ ]  YES | [ ]  NO |

**If you checked “NO” for both of the above questions, your project does not require IACUC approval. There is no need to submit this application. If you have any questions or are uncertain about your answer to the above questions, please contact the IACUC.**

**If you checked “YES” for question 1, and your project involves studying HUMAN subjects, you may need to submit a protocol to the Institutional Review Board (IRB). The IRB is a separate regulatory committee tasked with the oversight of human research. More information can be found here:** [**https://www.owu.edu/about/offices-services-directory/office-of-the-provost/research/human-subjects-research-irb/**](https://www.owu.edu/about/offices-services-directory/office-of-the-provost/research/human-subjects-research-irb/)

**If you checked “YES” to either question, and your project involves non-human, vertebrate animals please proceed with the rest of this form.**

**Section 2 – Basic Information**

1. Principal Investigator:
	1. Campus Phone:
	2. Email:
2. Protocol Submission Date:
3. Project Title:
4. Class Number and Name (if applicable):
5. Names of Co-investigators (any individuals participating in the project including those not affiliated with OWU. If this protocol is for teaching, individual student names are not required. Instead, please report “students enrolled in XX100: XXX”):
6. Anticipated Start Date:
7. Is this submission to RENEW an existing protocol (expired or expiring soon)?

 [ ]  YES [ ]  NO

* 1. If yes, what is the previous protocol number (found in your approval letter)?
1. Is this submission to AMEND an existing protocol that has not yet expired?

 [ ]  YES [ ]  NO

* 1. If yes, what is the previous protocol number (found in your approval letter)?
	2. In the space below, please briefly describe the amendment that you are proposing (100 words or less). Then use “Track Changes” as you edit the remainder of the document.

**Section 3 – Study Species, Location, Permits and Funding**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of Study Species** | **Source** **(Vendor Name or Wild)** | **Number requested per year** | **Total requested over 3 years** |
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1. Will this project be conducted entirely on OWU properties? [ ]  YES [ ]  NO
	1. If NO, will this project involve other institutions with IACUC committees? [ ]  YES [ ] NO
		1. If YES, you also need to acquire IACUC approval from those institutions. Please describe the status of those approvals and if possible, include an approval number(s).
2. Will your project require permits from local, state, or federal entities (e.g. scientific collecting permits)? [ ]  YES [ ]  NO
	1. If YES, please describe the status of those permits as pending or approved and include relevant permit numbers if available. The committee acknowledges that certain permits may require IACUC approval first before the permit will be granted.
3. Do you have or expect to have extramural (non-OWU) funding for your project?

 [ ]  YES [ ]  NO

* 1. If YES, is this funding either directly or indirectly provided by the United States Federal Government? [ ]  YES [ ]  NO [ ]  I’M NOT SURE
		1. Federal grants come with the stipulation that the grantee’s institution maintains an Animal Welfare Assurance from the Office of Laboratory Animal Welfare. The Assurance will only be granted or maintained during periods of Federal funding, which is sporadic at OWU. If your project receives or has received Federal funding, the IACUC will work with the Administration to acquire and maintain the Assurance.

**Section 4 – Purpose and Goals of the Proposed Project**

1. Describe the purpose of this project in terms a non-scientist would understand. Be sure to address why this project is important to both the public and scientific communities.

1. List the goals of the project. What specifically are you hoping to learn and/or teach?

**Section 5 – Experience and Training Plan**

1. What is the previous experience of the PI working with the study species and conducting the proposed techniques?

1. If applicable, what is the previous experience of the co-investigators working with the study species and conducting the proposed techniques?

1. If applicable, how will co-investigators be trained in new techniques? The committee is particularly interested in establishing how the PI will assess comfort and competency of the trainees with new techniques. More specifically, how will the PI determine when trainees are capable of working independently?

**Section 6 – Procedures**

1. Describe in detail the methods you will use involving live animals.
* Any methods that occur after the animal is deceased or released can be mentioned briefly (e.g. “After euthanasia, brains will be extracted and frozen for immunocytochemistry,” or “Blood samples will combined with a lysis solution and stored for later DNA extraction.”).
* This section should include citations of other studies that used similar procedures.
* If you are planning to use multiple methods, please number them to improve readability. Also please specify how the methods relate to one another. For example, will the same individuals receive multiple methods and if so, how much time will they be given to recover between methods?
* Please note that surgery, anesthesia, euthanasia, animal housing and husbandry will be addressed in detail in subsequent sections. Please mention them briefly here.

1. Final Disposition of Animals (What happens to the animals after the project ends?):

[ ]  Return to colony

[ ]  Return to wild

[ ]  Euthanasia (complete section 7C below)

[ ]  Transfer to different project entitled:

[ ]  Other (Please explain):

1. Before continuing, please answer the following questions to orient you to the remainder of the document.

[ ]  YES [ ]  NO Will surgery be performed? If yes, complete section 7A.

[ ]  YES [ ]  NO Will anesthesia be performed? If yes, complete section 7B.

[ ]  YES [ ]  NO Will euthanasia be performed? If yes, complete section 7C.

[ ]  YES [ ]  NO Will animals be housed in captivity for more than 12 hours? If yes, complete section 8A.

[ ]  YES [ ]  NO Will animals be bred in captivity? If yes, complete section 8B.

[ ]  YES [ ]  NO Does this project involve the use of radioactive materials or bio-hazardous agents? If yes, please complete section 9.

If you answered “NO” to all of these questions, your project should be minimally invasive (including totally observational studies) and not require any captive animals for periods exceeding 12 hours. If this statement is accurate, skip ahead to section 10. If this statement is not accurate, please contact the IACUC for clarification ([iacuc@owu.edu](http://iacuc@owu.edu)).

**Section 7 – Surgery, Anesthesia, and Euthanasia**

**7A. Surgery**

Complete this section only if surgery (making an incision into the animal’s body cavity) is to be performed. Please note that *injections are not considered surgery*.

In order to comply with federal regulations (Animal Welfare Act and the Public Health Service Policy), all survival surgery in vertebrate animals must be performed using aseptic procedures, including surgical gloves, masks, sterile instruments and aseptic techniques. Non-rodent mammalian survival surgery must be performed in an operating room used only for surgery.

1. The surgery proposed will be:

**[ ]  survival:** The animal will awaken from anesthesia.

[ ]  **acute/non-survival:** The animal will remain anesthetized during the entire procedure and will be euthanized without awakening.

1. Description of each surgical procedure:

For **survival** surgical procedures, include aseptic preparation of the operative site, the location and size of incisions, size and placement of catheters or devices that will be implanted, suture types used, and estimated time to complete the procedure.

For **acute** procedures, include operative site preparation, description of procedures to be performed and estimated duration of the experiment.

If multiple surgical procedures will be conducted please number them to improve readability.

1. Location (Building & Room) where the surgery will be performed:
2. For **survival** procedures, please provide the following additional information:
	1. Multiple procedures: If more than one major surgical procedure will be done on any animal, explain and justify why multiple procedures must be performed.

* 1. Post-operative care provider(s): Who will be responsible for providing post-operative care?

* 1. Description of post-operative care: Include how often animals will be observed and all drugs (except analgesics) to be administered following surgery.

* 1. Post-operative complications: What post-operative complications can be reasonably anticipated and how will they be resolved?

**7B. Anesthesia**

Complete this section only if anesthesia is to be administered.

Please include the procurement source for all drugs to be administered.

1. Pre-operative regimen: Include length of withholding of food and/or water and pre-anesthetic drugs administered (dosage and route).

1. Anesthetic regimen: Provide a listing of all induction, maintenance, and muscle relaxant drugs (including dosages and routes of administration) that will be used.

1. Analgesic drugs: Provide the drug name(s), dosage(s), route, and frequency. If analgesic drugs cannot be administered, provide scientific justification for withholding them.

1. Describe procedures that will be used to indicate that adequate depth of anesthesia is being maintained. Include the frequency of monitoring the animal, the criteria that will be used to determine that administration of additional anesthetic agent is required, and how records of the anesthetic procedures are kept.

**7C. Euthanasia**

If euthanasia will be performed, please specify the method that will be used.

It has become widely accepted that euthanasia should be considered a two-part process. The most humane primary method of euthanasia should involve a chemical that is either injected or inhaled and the secondary method should be physical. Physical methods such as rapid decapitation or cervical dislocation are no longer recommended as primary methods unless there is a compelling scientific justification against the use of chemical methods.

Please describe and justify how euthanasia will be administered as well as the method for ensuring that the animal has expired.

**Section 8 – Animal Housing and Captive Breeding**

**8A. Animal Housing**

If animals will be housed in captivity for longer than 12 hours, please complete this section.

1. Location (Building and Room) of captive animal housing:
2. For terrestrial species, how large is the room where these animals will be housed?

1. How large are the cages, enclosures, or tanks where these animals will be housed?
2. What is the maximum number of individuals per cage/enclosure/tank?

1. What is the maximum number of cages/enclosures/tanks in the entire room?

1. Describe the design and contents of each cage/enclosure/tank including how the animals will access food and water (if applicable).

1. What are the optimal environmental conditions for your study species, and how will you monitor and manage them?

1. Who will care for the animals? How frequently will they be checked? Describe the method for recordkeeping.

1. Hygiene
	1. Terrestrial animals
		1. How frequently will you clean water and food containers?
		2. How frequently will you change bedding?
		3. How frequently will you clean cages?
		4. How will all of these hygiene measures be tracked and documented?
	2. Aquatic animals
		1. How frequently will you assess water quality?
		2. How will the water be filtered and/or vacuumed to remove waste?
		3. How frequently will you change filters, clean tanks, and/or change water?
		4. How will all of these hygiene measures be tracked and documented?
2. How frequently will you conduct health checks for your animals and what warning signs will you search for? Please describe how these health checks will be tracked and documented.

* 1. If an animal is distressed or showing signs of sickness, what steps will you take to resolve the issue and protect other individuals?

* 1. How will you determine if the level of distress and/or disease warrants euthanasia rather than treatment?

**8B. Captive Breeding**

If you intend to breed animals in captivity, please complete this section.

1. Describe the reasons for developing and maintaining a breeding colony on the OWU campus. Could these animals instead be purchased from a commercial vendor?

1. Source of breeding stock:
2. Location (Building and Room) of Breeding Colony:
3. Number of breeding animals per year:
4. Number of breeding animals that will be held, but NOT subject to experimental manipulations:
	1. Male:  + Female:  =  **Total**:
5. Number of breeding animals that will be subject to experimental manipulations:
	1. Male:  + Female:  =  **Total**:
6. Offspring produced and disposition:
	1. Estimate the number of offspring *produced* that will be subject to experimental manipulations.
	2. Estimate the number of offspring *produced* that will be euthanized and will not be subject to experimental manipulations. Explain the how the number was determined and justify. Include culling for sex selection or to achieve standardized litter size.
	3. Approximate the total number of offspring produced per year(Total of 2 categories above):

The following questions must be completed by researchers breeding TERRESTRIAL animals only (e.g. rodents, birds, etc):

1. Maximum number of ACTIVE breeding pairs at any given time:
2. Mating scheme:

 [ ]  Continuous - **If continuous**, how many months or years will the females be bred?

 [ ]  Interrupted - **If interrupted**, how frequently will the females be bred:

1. Maximum number of litters/births before retiring females:
2. Disposition of retired breeders (males and females). If euthanasia, please state method.

1. Please include a brief statement describing colony management. Include methods of tracking individuals, including the numbers of births and disposition.

**Section 9 – Hazardous Waste**

Complete this section only if the project requires the use of radioactive materials or bio-hazardous agents in surviving live animals.

Check all agents that apply:

[ ]  Infectious agent [ ]  Radioisotope [ ]  Recombinant DNA

[ ]  Toxic chemical [ ]  Carcinogen [ ]  Transplantable cell line

[ ]  Other (please specify):

1. List each substance below and provide a brief description of the safety precautions and procedures used when handling animals with the substance.

1. Has the PI received training from the Environmental Health and Safety Officer covering the management and proper disposal of these substances?

[ ]  YES [ ]  NO

**Section 10 – Replacement, Reduction, and Refinement**

1. Please explain why non-vertebrate species, different organisms, *in vitro* systems or computer simulation cannot be used and why your specific study species represents a good model for answering the research question.

1. Please explain why you cannot further reduce the number of animals used. References to sample sizes from published studies with similar methods and/or statistical power analyses are encouraged.

1. Please explain how you have refined procedures to be less painful or uncomfortable. If you have previous experience with these procedures, please comment on the frequency of accidental death or injury. Please cite safety data from the primary literature if possible.

Literature Cited