

University of Louisville
Institutional Animal Care and Use Committee
Policies and Procedures

Principal Investigator-Maintained Non-Mammalian Housing

Policy: Principal Investigators (PIs) maintaining non-mammalian (fish, amphibian, reptile) species and providing daily husbandry and animal care must follow the principles outlined in the Guide for the Care and Use of Laboratory Animals (8th Edition, 2011). Records of daily health observation, mortality, and routine practices such as feeding, water changes, and water quality assessment must be maintained for review by IACUC and Comparative Medicine Research Unit (CMRU) staff. Access to CMRU veterinary staff must be made available at all times.

Rationale: The 8th Edition of the Guide highlights a number of important aspects when maintaining aquatic and other non-vertebrate animals. Occasionally, with specific scientific justification, these species are held in laboratories that can be defined as “satellite housing areas” that are not under direct CMRU oversight. Therefore, this policy/procedure outlines the minimum IACUC expectations for daily and other routine care and outlines mechanisms for providing information required by regulatory and accrediting agencies.

Procedures, Guidelines, and Exceptions:

1. In accordance with the Guide, each laboratory housing vertebrate animals outside of CMRU-controlled space must provide the Attending Veterinarian, or his/her designate, with access to the animals.
2. Personnel performing husbandry practices (such as but not limited to cage/tank/pen changing or cleaning; health observation; feeding; watering; or maintaining aquatic water quality or life-support systems) for animals housed in a satellite housing area must be trained to care for each species for which they will provide husbandry practices. Documentation of training must be provided to the IACUC office. Health observation training must be performed under the supervision of the Attending Veterinarian or his/her designate. Online training (such as CITI program courses: “Working with Zebrafish (*Danio rerio*) in Research Settings “; “Working with Amphibians in Research Settings “; “Working with Fish in Research Settings “; “Working with Reptiles in a Research Setting “; etc.) should be completed if available for the species the personnel will be providing care to. These personnel must also be listed on the associated IACUC proposal(s).
3. Each laboratory housing vertebrate animals outside of CMRU-controlled space or providing animal husbandry must maintain a Satellite Housing Area Description (SHAD) that is available for IACUC and CMRU review. The SHAD should be updated and revised as often as necessary but at least every three years, and should contain the following information, **as applicable:**
 - a. Facility(ies) Description
 - 1) For each Satellite Housing Area, the names and contact numbers (including emergency contact numbers) for individuals responsible for animal care must be included.

Original Approval: 21 February 2013

Last Revised: 19 July 2022

Latest Approval: 21 July 2022

- 2) The building and room number for each animal housing area should be listed. Estimates for both the area (square footage) used for animal housing and the area (square footage) available for animal support and use should be included.
- 3) For each room, the SHAD should describe the finishes/materials used, including floors, walls, doors, and ceilings.
- 4) Note if emergency power is provided and if so, what electrical services and equipment are maintained in the event the primary power source fails. This section should include an emergency response plan addressing major system failure.
- 5) A description of the lighting system(s) for the animal housing rooms should include estimated light intensity, spectrum, photoperiod (light:dark), construction features (*e.g.*, water resistance), and control (*e.g.*, automatic versus manual, phasing). For systems automatically controlling photoperiod, override mechanisms should be described. Note that gradual light changes are recommended in the Guide to reduce the incidence of startle responses for aquatic species.
- 6) The SHAD should address safety features of the areas, including electrical hazard safety, physical hazards (*e.g.*, slipping), and species-specific zoonoses.
- 7) Security measures used in the areas should be described.
- 8) For aquatic species, the SHAD should include a description of the water source and standard treatment practices.
- 9) Any pest control program affecting the housing room(s) should be described.

b. Primary Enclosures

- 1) The SHAD should provide a general description of each primary enclosure used, including the number of such enclosures, species housed, composition/construction materials, dimensions (including volume for aquatic species), and maximum number of animals per enclosure (housing density). For the latter, a description of the performance criteria used to determine the appropriateness of space or volume should be provided.
- 2) The SHAD should include a justification for any individually-housed animals and a description of any elements used within the primary enclosure to enhance animal well-being (*e.g.*, environmental enrichment).

c. Husbandry and Animal Care Procedures

- 1) The SHAD should confirm and provide a description of ensuring daily observation, including weekend and holiday care, as well as procedures for contacting animal care and/or veterinary personnel in case of an emergency.
- 2) A description of methods used for individual animal or animal enclosure identification should be included. Enclosure/tank labels should contain at least the following information: species (including strain or stock as appropriate), source, and IACUC *Proposal* number. If all primary enclosures on a rack or within a room are assigned to the same IACUC *Proposal*, then rack or room labels may substitute for enclosure/tank labels.
- 3) A list of type and source of all food stuffs provided. For each species or enclosure, the frequency and quantity of feed should be described. Location and maintenance of feed storage should be included.
- 4) The SHAD should contain a description of the source, treatment, and method of providing drinking water, if applicable.
- 5) The SHAD should outline and describe the method(s) and frequency(ies) for washing/sanitizing rooms, each type or primary enclosure, and nets or other equipment used

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for animal handling. See IACUC policy: Microbiological Monitoring of PI-Maintained Animal Rooms, Support Areas, and Equipment.

- 6) Criteria used to indicate a need for CMRU veterinary assistance must be included.
- 7) The SHAD should include a description of monitoring environmental conditions, such as temperature and relative humidity. For aquatic species, the SHAD should include as attachments completed AAALAC's Aquatics Systems Summary Parts 1 and 2 forms.

3. Records

- a. Records should be maintained documenting each of the actions outlined in the SHAD. At a minimum, logs must record: daily observation, feeding, mortality, environmental monitoring, and primary enclosure cleaning/sanitation.
- b. For terrestrial species, environmental monitoring must include daily maximum and minimum air temperature.
- c. For aquatic species, logs must record water temperature, water changes/replacements, periodic results of nitrogen waste products, and other water quality monitoring results.
- d. Records of animal acquisition, breeding, transfer, and periodic census must be forwarded to the IACUC.

References:

1. National Research Council. 2011. Guide for the Care and Use of Laboratory Animals, 8th Ed.
2. Program Description template, AAALAC, International, 2012.

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Latest Approval: 21 July 2022