

Purdue University Laboratory Animal Program Standards of Care

Title: Husbandry Care of Amphibians

I. Purpose:

The purpose of this policy is to outline the minimum standards of care for amphibians.

II. Policy:

All units providing animal care for amphibians must meet or exceed these minimum requirements based on the ILAR Guide for the Care and Use of Laboratory Animals (*Guide*). Deviations or exceptions must be approved by the Attending Veterinarian and the IACUC.

For aquatic stages, refer to IACUC SOP # 302 - Aquatic Animal Facility Maintenance.

III. Procedure:

Daily (365 days a year without exception):

- Observe each animal and check for health concerns (*Guide* pg. 112).
- Ensure adequate feed/water is available, though depending on the species and life stage this may be done less frequently (*Guide* pg. 65-68).
- Record sick and dead animals, and report them to LAP veterinary staff or designated clinical veterinarian per standard operating procedure.
- Record minimum and maximum temperatures and humidity.
 - Temperature range varies by species, but general recommendations are 17-24°C for *X. laevis*, and 24-28°C for *X. tropicalis*.
 - Humidity range for amphibians is species-dependent.
- Change any excessively soiled tanks (*Guide* pg. 70).
- Clean and organize room, anterooms, and surrounding premises (*Guide* pg. 72).
- Record daily completion of each task, initial each task, and date the log.



Weekly (not to exceed 7 days):

- Provide clean tanks for static aquatic set-ups (*Guide* pg. 70).
 - The use of certain disinfectants may be contraindicated for some aquatic species, as residues may be highly deleterious (*Guide* pg. 71).
- Check water quality parameters (*Guide* pg. 78).
- Spot clean terrestrial tanks and sanitize food/water dishes

As needed:

- Disinfect the animal room including walls, floors, and ceilings (if possible) (*Guide* pg. 72).
- Remove and replace worn or damaged equipment from primary enclosures and surrounding facility (*Guide* pg. 72).
- Pelleted feed must be discarded after 6 months of the milling date unless manufacturer guidelines recommend a shorter or longer expiration date (*Guide* pg. 66).
- Clean and sanitize feed storage containers (*Guide* pg. 67).
- Each facility will develop their own best practices with sanitization typically occurring every 6 months or whenever there is a change in species but may vary with facility.

Environmental Enrichment:

- Refer to SOP # 305 - Social and Environmental Enrichment Program for Research and Teaching Animals
- Amphibians should be provided the opportunity to demonstrate species typical behavior. Examples of enrichment include artificial plants or hiding places (*Guide* pg. 53).
- Devices must be checked regularly for wear and discarded when safety hazards are observed.

Facilities:

- Temperature alarms must be installed in all rooms housing amphibians (*Guide* pg. 143).
- Facilities housing certain amphibian species (ex: *Xenopus*) must follow the conditions by the Department of Fish and Wildlife Permit to import, transport, and possess Restricted Species for Research. A copy of this permit must be available in the record.
- Adequate ventilation must be provided for the health and comfort of the animal at all times.
 - A minimum of 10-15 fresh room air exchanges per hour shall be provided in animal housing areas for non-aquatic species (*Guide* pg. 46).
- Floors shall be moisture-resistant, non-absorbent, impact-resistant, and relatively smooth (*Guide* pg. 137).
- All outlets should be rated GFCI (ground faulted conductance interrupted). (*Guide* p.150) All outlets should be rated GFCI (ground faulted conductance interrupted) for aquatic set-ups. (*Guide* p.150)



- Electrical components should be placed away from water and wet surfaces.
- Drains must be guarded with a fine mesh screen to prevent escape of detrimental, restricted or transgenic species. The mesh shall be fine enough to prevent release of viable gametes/embryos or untreated transgenic material.

Housing:

- Whenever possible, amphibians should be socially housed in compatible groups (*Guide* pg. 51).
- Housing density is species-dependent, recommend 2 liters of water per frog for adult *Xenopus laevis* (*Guide* pg. 83).