Title: Husbandry Care of Frogs

I. Purpose:

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

II. Policy:

All units providing animal care for frogs 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.

III. Procedure:

**Daily (365 days a year without exception):**

- Observe each animal and check for health concerns (Guide pg. 112).
- Ensure adequate feed 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 Campus Veterinary Services (CVS) 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 frogs 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 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).
  - Ranges vary by species, but Xenopus recommendations are 50-200mg/L Alkalinity, 6.5-8.5pH, 500-2000 μS conductivity, > 7.0 mg/L dissolved
Biweekly (not to exceed every 14 days):
- Replace at least 25% of the tank water volume using conditioned water.
- For filtration system and pumps, clean all filters per manufacturer’s instruction.

Monthly (not to exceed every 30 days):
- Disinfect nets, shelves, racks, tank cleaning utensils, scrub brushes, and enrichment devices.
  - The use of certain disinfectants may be contraindicated for some aquatic species, as residues may be highly deleterious (Guide pg. 71).

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 the Environmental Enrichment policy.
- Frogs should be provided the opportunity to demonstrate species typical behavior. Examples of enrichment for frogs 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 frogs (Guide pg. 143).
- Facilities housing certain frog species (ex: Xenopus) must follow the conditions specified in the University of California, Davis' California Department of Fish and Wildlife Permit to import, transport, and possess Restricted Species for Research. A copy of this permit must be posted on the animal room door.
- 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). Refer to Physical Plant SOC 50-102.
• All outlets should be rated GFCI (ground faulted conductance interrupted). 
  (Guide p.150) All outlets should be rated GFCI (ground faulted conductance interrupted). (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, frogs 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).