

## UC Davis Office of the Attending Veterinarian Standards of Care

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ILAR  
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### Title: Husbandry Care of Frogs

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I. Purpose:

The purpose of this policy is to outline the minimum standards of care for frogs (species of the order Anura).

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*), and Public Health Service Policy (*PHS*). 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 for reporting sick or dead animals.
- 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 tasks, initial, and date log sheet.

**Weekly:**

- 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

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oxygen, < 0.02 mg/L Ammonia (NH<sub>3</sub>), < 0.5 mg/L Nitrite (NO<sub>2</sub>), and < 50 mg/L Nitrate (NO<sub>3</sub>)

### **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).

### **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 faux 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 (#537) 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 (*Guide* pg. 46).
- Floors shall be moisture-resistant, non-absorbent, impact-resistant, and relatively smooth (*Guide* pg. 137). Refer to Physical Plant and Facilities Maintenance policy.
- Drains shall be guarded with mesh screens to prevent the escape or release of restricted, detrimental species or transgenic material. They shall be fine enough that viable gametes shall not pass through, if that is a concern and fine enough

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animals cannot pass through if that is a concern. See the CDFW site for most current regulations.

### **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).

**When housing this species, please also refer to the Animal Care Program's Standards of Care Policy on Pest Control, Identification and Labeling of Cages, Environmental Enrichment, Food Storage, House-Keeping in Facilities Housing Biomedical Research Animals, Physical Plant Facilities Maintenance, as well as the IACUC's Policy on Social Housing of Social Species.**