

Policy: SC-35-200
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ILAR
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Title: Husbandry Care for Salamanders

I. Purpose:

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

II. Policy:

All units providing animal care for salamanders 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 such as signs of illness, injury, or abnormal behavior (*Guide* pg. 112).
- Ensure adequate potable water is available (*Guide* pg. 65-68, 85).
- Record sick and dead animals, and report the findings to Campus Veterinary Services (CVS) or designated clinical veterinarian per standard operating procedure..
- Record minimum and maximum temperatures and humidity.
 - Temperature range for salamanders is species-dependent.
 - Humidity range for salamanders is species-dependent.
- Change any excessively soiled tanks (*Guide* pg. 70, 85-86).
- Clean and organize room, anterooms, and surrounding premises (*Guide* pg. 72, 86-87).
- Record daily completion of each task, initial each task, and date the log.
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Weekly:

- Provide clean tanks (*Guide* pg. 70, 85-86).
 - The use of certain disinfectants may be contraindicated for some aquatic and semi-aquatic species, as residues may be highly deleterious (*Guide* pg. 71, 86).

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- For aquatic species, check that water quality parameters are appropriate for the species (*Guide* pg. 78-79).

Monthly (not to exceed every 30 days):

- Disinfect nets, shelves, racks, tank cleaning utensils, scrub brushes, and enrichment devices (*Guide* pg. 84).
 - The use of certain disinfectants may be contraindicated for some aquatic and semi-aquatic species, as residues may be highly deleterious (*Guide* pg. 71, 86).

As needed:

- Feed animals as often as necessary based on species and life-stage (*Guide* pg. 65-68, 84-85).
- Disinfect the animal room including walls, floors, and ceilings (if possible) (*Guide* pg. 72, 86).
 - Cleaning agents should be chosen and used with care to ensure there is no secondary contamination of the aquatic and semi-aquatic systems (*Guide* pg. 86).
- Remove and replace worn or damaged equipment from primary enclosures and surrounding facility (*Guide* pg. 72, 86).
- 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 ([SC-30-102](#)).
- Enrichment should elicit species appropriate behaviors and be evaluated for safety and utility. Examples of enrichment for salamanders include visual barriers, hides, and shading (*Guide* pg. 83).
- Devices must be checked regularly for wear and discarded when safety hazards are observed.

Facilities:

- Temperature alarms must be installed in all rooms housing salamanders (*Guide* pg. 143).
- Facilities housing certain salamander species (ex: *Necturus* spp) 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 (*Guide* pg. 46).
- Direct exposure of animals to air moving at high velocity (drafts) should be avoided as the speed of air to which animals are exposed affects the rate at which heat and moisture are removed from an animal, which can be particularly problematic for semi-aquatic amphibians that can desiccate (*Guide* pg. 46).
- For aquatic species, room air exchange rates are governed by thermal and moisture loads (i.e. to minimize condensation that can affect visibility for daily health checks) (*Guide* pg. 80-81, 150-151)
- Floors shall be moisture-resistant, non-absorbent, impact-resistant, and relatively smooth (*Guide* pg. 137, 150). Refer to Physical Plant SOC [50-102](#).
- All outlets should be rated GFCI (ground faulted conductance interrupted). (*Guide* p.150)
- Electrical components should be placed away from water and wet surfaces.

Housing:

- Whenever possible, salamanders should be socially housed in compatible groups (*Guide* pg. 51, 83).
- Housing density is species-dependent.