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## **Title: Husbandry Care of Seahorses**

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### **I. Purpose:**

The purpose of this policy is to outline the UC Davis minimum standards of care for seahorses.

### **II. Policy:**

All units providing animal care for seahorses 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 water temperatures.
  - Temperature range varies by species, but general recommendations are 22.2-27.8°C (72-82°F) for tropical seahorses, 20-23.9°C (68-75°F) for subtropical seahorses, and 17.8-22.2°C (64-72°F) for temperate seahorses.
  - It is recommended to record each individual tank water temperature daily, but for large subsets of tanks, including recirculating or flow-through systems, minimally 10% of the tanks must be recorded.
- Clean any excessively soiled tanks (*Guide* pg. 85).
- Clean and organize room, anterooms, and surrounding premises (*Guide* pg. 86).
- Record daily completion of each task, initial each task, and date the log.

#### **Weekly (not to exceed every 7 days):**

- **For static tanks,** Record water quality at least weekly. Suggested parameters include dissolved oxygen, ammonia/nitrite/nitrates, pH, and conductivity (*Guide* pg. 78).

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

- Ranges vary by species, but seahorse recommendations are: 6-7ppm dissolved oxygen, < 0.020 mg/L Ammonia (NH<sub>3</sub>), < 0.1mg/L Nitrite (NO<sub>2</sub>), and <15 ppm Nitrate (NO<sub>3</sub>). pH (8.0-8.4), conductivity (1.020-1.026).
- Replace 10-25% of the tank water volume using conditioned water.
- **For recirculating systems**, record water quality weekly. Suggested parameters include dissolved oxygen, ammonia/nitrite/nitrates, pH, and conductivity (*Guide* pg. 78).
  - Ranges vary by species, but seahorse recommendations are: 6-7ppm dissolved oxygen, < 0.1 mg/L Ammonia (NH<sub>3</sub>), < 0.1mg/L Nitrite (NO<sub>2</sub>), and < 20ppm Nitrate (NO<sub>3</sub>). pH (8.0-8.4), conductivity (1.020-1.026)
- **For flow-through tanks**, it is recommended that dissolved oxygen levels are measured and evaluated.

### **Biweekly (not to exceed every 14 days):**

For recirculating systems, replace 10-25% of the tank water with volume using conditioned water.

### **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).
- **For flow-through and recirculating systems:** Vacuum uppermost layer of substrate (top ½ inch) in sump/filtration tanks and replace with new substrate.

### **Semi-Annually (every 6 months):**

- Flow-through tanks are recommended to have tanks and/or source water quality evaluated.
  - Since water quality is constantly changing in flow-through systems more frequent evaluation may not be necessary. If high mortality or other clinical concerns are recognized, water quality intervals may be increased.

### **As needed:**

- Disinfect the animal room including walls, floors, and ceilings (if possible) (*Guide* pg. 86).
- Remove and replace worn or damaged equipment from primary enclosures and surrounding facility (*Guide* pg. 86).
- Pelleted feed must be discarded after 6 months of the milling date unless manufacturer guidelines recommend a shorter or longer expiration (*Guide* pg. 66). Manufacturer guidelines will be followed for frozen feed.
- Clean and sanitize feed storage containers (*Guide* pg. 67).
- For filtration system and pumps, clean all filters per manufacturer's instruction.
- 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 ([SOC-30-102](#)).

**Facilities:**

- Temperature alarms must be installed in all rooms housing seahorses (*Guide* pg. 136).
- All electrical outlets in close proximity to water sources must be GFCI (*Guide* pg. 150)
- Adequate ventilation must be provided for the health and comfort of the animal at all times, governed by thermal and moisture loads (*Guide* pg. 80).
- Floors shall be moisture-resistant, non-absorbent, impact-resistant, and relatively smooth (*Guide* pg. 137). Refer to Physical Plant SOC 50-102.

**Housing:**

- Whenever possible and depending on the species, seahorses should be socially housed in compatible groups (*Guide* pg. 82).