STANDARD OPERATING PROCEDURES

DIVISION OF COMPARATIVE MEDICINE
UNIVERSITY OF SOUTH FLORIDA

TITLE:	**Aquatic Habitats™ System**
SCOPE:	Research and Animal Care Personnel
RESPONSIBILITY:	Facility Manager, Professional and Administrative Staff, Research and Technical Staff
PURPOSE:	To Outline the Proper Procedures for the Operation and Maintenance of an Aquatic Habitats™ System

I. PURPOSE

1. This procedure outlines the operation and maintenance of the Aquatic Habitats™ system (AHAB).

II. RESPONSIBILITY

1. The Facility Manager in conjunction with the research staff ensures that the system is properly maintained and in good working order.

2. The veterinary professional, administrative, and managerial staff ensure that all research and technical staff using this equipment are adequately trained and experienced in the use of the Aquatic Habitats™ system.

3. Research and technical staff using this equipment are responsible for reading the AHAB user manual to understand the operation and maintenance of the system.

III. SYSTEM APPLICATION

1. The Aquatic Habitats™ system is an automated closed re-circulating aquaria system designed to house aquatic vertebrates and to control and monitor the water conditions and water quality within the system.

IV. SYSTEM START UP AND USE

1. The AHAB system can be acclimated by several methods. Refer to the AHAB user manual.

V. MAINTENANCE

1. **Daily Maintenance**
    a. **AquaNode Display**- check the display at least daily to verify it is operational and record the water quality information on the ***Room Status Sheet***.
    b. **System Function**- correct operation of the main components of the AHAB system can be verified by observing flow rates and recognizing normal flow of the system.
    c. **Tank Inspection**- visual inspection of each tank should include checking for positive water flow and for any tank that may be operating in the overflow mode.
    d. **Pre-Filter Pad**- inspect daily, replace weekly and as needed. Frequency of filter replacement is dependant on number of fish in the system.
    e. **Particle Filter**- visually inspect for discoloration and replace twice a month, and as needed. Refer to AHAB user manual for cartridge replacement instructions.
    f. **Pressure Gauge**- visually inspect pressure and if approaching 20 psi replace particle filter (normal pressure is about 15 psi).

g. **UV Light**- inspect light to verify it is on when applicable (e.g., when notice increased algae buildup). Replace every 9 months.
h. **Salt Dosing System**- visually inspect to verify proper operation and tank level.

2. **Weekly Maintenance**
   a. **Water Quality**- conduct colorimetric water analysis to determine ammonia, nitrite, pH, hardness and alkalinity using a commercially available water quality test kit (e.g., Hach™ test kit) and are performed according to the Fish Farmers Quality Test Kit Manual. This information is to be recorded on the ***Room Status Sheet***. Data for pH should be checked against AquaNode data to determine if calibration is necessary. The percentage of toxic ammonia nitrogen should be calculated, refer to AHAB user manual.
   b. **Filter Pads**- it is advisable to replace filter pads once per week, and as needed when the system is operating with a full biological load.

3. **Bimonthly**
   a. Filter Cartridges- replace

4. **Monthly Maintenance**
   a. pH Probe- clean probe and calibrate.
   b. Conductivity Probe- clean probe
   c. Heating Element- ensure element is heating properly.

5. **Quarterly maintenance**
   a. Replace charcoal filter.

6. **Six-Month Maintenance**
   a. Air Stones- visually inspect, and replace every 3-4 years.
   b. Temperature Probe- clean probe and calibrate.
   c. Biofilter- rinse
   d. System Cleaning- periodically disassemble system for cleaning. Tanks are removed and cleaned with DI water. **Caution:** use of chemicals and detergents can be detrimental to fish, refer to AHAB user manual.
   e. Water Supply Filter- changed by U.S. Filter under service agreement.
   f. Conductivity probe- calibrate

7. **Nine-Month Maintenance**
   a. UV- the effectiveness of the UV system will be at its minimal acceptable level after 9 months of operation due to bulb degradation. Replace bulb, refer to AHAB user manual.
   b. UV Quartz Sleeve- replace every 9 months with UV bulb.

8. Additional maintenance/service should be performed by authorized personnel.

VI. TROUBLESHOOTING

1. Refer to the AHAB user manual.

VII. REFERENCES

1. Refer to the AHAB user manual for additional information or contact Aquatic Habitats™ customer service at (407) 886-7575.

Approved: **Date:**