FLORIDA INTERNATIONAL UNIVERSITY

SOP #: BBC 105.01

Title: SOP - Receipt and Quarantine/Acclimation of Fish

Approvals:

Director of Marine Science Program _____ **Date:** 10/10/13

Attending Veterinarian _____ **Date:** 10/10/13

1. Purpose

1.1 This SOP describes procedures followed at Florida International University, Marine Science Program - Aquarium for receiving and quarantine of fish.

2. Responsibility

2.1 It is the responsibility of all personnel using fish in research, teaching and testing to abide by this sop.

3. Guidelines

3.1 Receipt

3.1.1 For overnight shipped fish, upon arrival at the laboratory, the shipping container will be opened and gently poured into a holding bin. For field collected and self-transported fish, the transport container shall be opened and inspected. Dead fish will be removed. Water quality parameters appropriate for the species and transport conditions will be measured and managed. Important parameters may include ammonia, salinity (ppt), conductivity (ms/cm), dissolved oxygen (mg/L), temperature (°C) and pH. As shipping water is typically high in toxic ammonia and has a low pH from a combination of ammonia and CO_2 from respiration, it is best to remove the fish to clean water of the appropriate parameters for the species as soon as possible after opening the shipping bags.

3.2 Taxonomic Verification of shipped fish. Field collected fish should be identified in the field and non-target species returned to the environment.

3.2.1 Upon receipt, qualified lab personnel will verify the species received was identified by the supplier or will verify the species using an appropriate taxonomic key.

3.3 Acclimation/Quarantine Holding

3.3.1 Fish received by the Aquarium should be kept in acclimation for at least 2 days following receipt and prior to being utilized or transferred into other tanks.

3.3.2 Temperature acclimation should be achieved by changing the water temperature at a rate not to exceed 3°C within a 12-hour period in the absence of species-specific information about temperature tolerances. Some species, estuarine species especially, can handle higher temperature changes.

3.4 Disease Monitoring and Treatment

3.4.1 Upon receipt at the laboratory, fish will be examined for parasites and fungal and bacterial diseases and treated upon arrival as needed. Received fish may also be treated with a wide spectrum antibiotic as per BBC SOP 102, if a general decline in the health of the population is observed. If the fish population does not respond to this procedure, the population should be terminated and a new lot of fish obtained.

3.5 Maintenance

3.5.1 Tanks will be checked daily for the presence of dead and sick fish. Dead fish will be removed immediately and disposed of as biohazardous waste; sick fish will be removed to isolation tanks for treatment.

3.5.2 Water quality will be monitored during holding and acclimation.

3.5.3 In special cases, such as densely packed tanks, dissolved oxygen (DO) will be monitored; however, such conditions should be avoided unless required for the research protocol and routine monitoring of DO should not be necessary.

3.5.4 Temperature should be measured daily. Temperature may be controlled using a variety of techniques. Indoor systems will be controlled partially by:

3.5.4.1 Ambient temperature which is regulated by the rooms HVAC controls.

3.5.4.2 Appropriate sized submersible aquarium heaters.

3.5.4.3 Temperature controlled water bath regulated by a heat pump/chiller.

3.5.5 Salinity should be measured at least weekly or whenever acclimation involves the alteration of water salinity. Salinity will be maintained by the manual addition of freshwater to prevent salinity creep from evaporation.

3.5.6 The pH should be measured at least once a week.

3.6 Records

3.6.1 Record keeping will consist of documentation on the receipt of the population and an explicit account of daily routines. All observations and measurements must be dated and initialed.

3.7 Macro and micro environment

3.7.1 Tanks will be kept clean by regular scrubbing with appropriate aquarium cleaning tools. (note: in some cases allowing algae growth on tank surfaces can be beneficial)

3.7.2 All sponges and scrapers will be rinsed with fresh water until clean, dried, and stored until needed.

3.7.3 When meters are used for water quality measurements, they will be sanitized and rinsed well with deionized water between tanks.

3.7.4 Prior to working with any tank, cleaning hands with hand sanitizer is necessary, and care should be taken to limit contact with the tank water.

4. References