

STANDARD OPERATING PROCEDURE #519

AQUATIC ANIMAL HUSBANDRY

1. PURPOSE

This Standard Operating Procedure (SOP) describes routine care and husbandry practices for fish species.

2. RESPONSIBILITY

Principal investigator (PI) and their research staff, animal care staff.

3. MATERIALS

- 3.1. Aquaria
- 3.2. Feed
- 3.3. Water monitoring kit
- 3.4. Sanitation kit
- 3.5. Records (water quality, feeding, experimental)

4. PROCEDURES

- 4.1. Aquaria:
 - 4.1.1. Use preferably glass or Plexiglas tanks for easy observation of fish.
 - 4.1.2. Adapt the system to species-specific and research needs.
 - 4.1.3. Ideally, select systems with water quality monitors that can continually assess temperature, pH, conductivity, dissolved oxygen, etc. If not possible, use water quality meters to check these parameters periodically.
 - 4.1.4. Use preferably tanks that are easy to remove individually for cleaning or access to fish.
 - 4.1.5. Set up breeding tanks with drop-through mesh, marbles or grating to prevent fish from eating their eggs, or apply other techniques to prevent cannibalism. For juvenile fish, provide special screened baffles to avoid them being swept out of the tanks with the water flow.
- 4.2. Space Requirements:
 - 4.2.1. A standard recommendation for space requirements of fish is one inch of fish per gallon of water.
 - 4.2.2. How well the fish survive, grow and reproduce can be used to assess adequacy of space as well as successful care.
 - 4.2.3. The housing density is also dependent on the capacity of the biofilter.
 - 4.2.4. To estimate the capacity, use the following formula:
 - 4.2.4.1. Calculate the surface area of the aquarium (surface = width x length)
 - 4.2.4.2. Divide the calculated surface area to calculate the number of inches of fish the aquarium can house:
 - For fresh water, tropical fish: $(W \times L) / 12 = \text{Number of inches of fish}$
 - For fresh water, cold water fish: $(W \times L) / 30 = \text{Number of inches of fish}$
 - For marine tropical: $(W \times L) / 48 = \text{Number of inches of fish}$
 - 4.2.5. There is a wide range of recommendations regarding space requirements for zebra fish. Ranges of six to twenty five fish per two and a half liters of water are common.
 - 4.2.6. Generally, growing fish and breeding adults are thought to require more space than non-breeders.

4.12. Identification and Records:

4.12.1. Identification labels placed on fish tanks should contain relevant information such as, for example, genetic

4.4. Water quality maintenance (check all applicable):

Flow through system

Flow rate:

6.1.3. List the cleaning/sanitizing agents (specify generic or broad category) used.

6.2. Cleaning and disinfection of room:

6.2.1. Describe animal room cleaning frequency, procedures (floors, walls, ceilings, ducts, exposed pipes, and fixtures), methods (hose, high pressure washer, vacuum cleaner, hand brushing, mopping, etc.), and cleaning/sanitizing agent(s) (generic name) used.

6.2.2. Describe the procedures for sanitizing cleaning implements such as mops and mop buckets.

6.3. Describe how the effectiveness of sanitization procedures is monitored (water temperature monitoring, microbiologic monitoring, visual inspections, etc.).

6.4. Describe the program for controlling pests (insects, rodents, etc.) noting the control agent(s) used, where applied, and who oversees the program and applies the agent(s).

6.5. Describe procedures for disposal of dead animals.

7. ANIMALS

7.1. Source:

7.2. Health status:

7.3. Stocking density:

7.4. Number of fish:

7.5. Size of fish:

