FEDERATION OF BRITISH AQUATIC SOCIETIES

AQUARIUM MANAGEMENT CARE SHEET No: 3 Heating & Lighting 01/01/98

HEATING: Modern submersible heater/thermostat units are extremely reliable, it's usually only a power cut that stops these units from performing rather than a fault on their part. Whilst various forms of heating devices have been tried (under tank heating mats etc) it is the fully submersible combined heater/thermostat units that are most widely used although some large external power filters may have built in heating units.

It is good practice to tailor the size of the heater to the size of the aquarium. As a rough guide, allow 10 watts per 5 litres of water when choosing a heater. One 150 watt heater will suffice for the average 60cm tank: larger tanks can have their heating requirements split into two separate units placed at opposite ends of the tank for better (and faster) heat spread.

ALWAYS SWITCH OFF THE HEATER AND ONLY REMOVE IT FROM THE WATER AFTER A 'COOLING DOWN' PERIOD HAS ELAPSED

For guidance on installing heaters see **Aquarium Management Care Sheet 4**

LIGHTING: This can be adapted according to requirements. For instance, 'fish only' situations (for example, bare tanks for fry raising) won't need as much light as would a fully-planted aquarium. Another increase, not only in light levels but also in colour-spectrum too, would be needed for a marine tank with coral and other invertebrate growth.

Aquariums generally need to be lit for around 12-14 hours a day. The light fittings found in standard hoods are adequate for general fish viewing but for more luxuriant plant or coral growth you will need to double this amount at least. Where hood space is restricted you may need to change the type of light if light levels are still not enough.

Types of Lighting: The norm these days is to use **fluorescent lighting**. If the tubes can be accommodated in a sealed hood – but still have easy access for maintenance - so much the better. A recent introduction has been the 'luminaire' type of fixture where the light sits on top of the open aquarium.

Safety is also another factor that is being built-into aquarium lighting, with the use of low voltage equipment, especially in aquariums aimed at the children's market.

Fluorescent tubes come in various 'colour temperatures' based on the Kelvin (^{o}K) scale. The higher the temperature, the whiter (colder) the light is. Normal daylight (sunshine) is around 6,500^{o}K but some fluorescent tubes for marine aquariums now approach 20,000^{o}K. Actinic 'blue' tubes are advantageous for invertebrate growth.

Hanging pendant type of light fittings use much more powerful **metal halide lamps** and are used over open top aquariums. These lamps must be hung at least 30cms above the water surface to prevent both water splash damage to the lamps and also scorch damage to the aquarium inmates.

Control of Lighting: Using both timers and (if so desired) dimmers. It is possible to simulate dawn, mid-day, dusk and night-time lighting situations.

For Care of Lights, see Routine Maintenance, **Aquarium Management Care Sheet No 8**