



CARE OF THE RED EARED SLIDER

The most commonly kept aquatic turtle or terrapin is the Red Eared Terrapin or Red Eared Slider, *Trachemys scripta elegans*, from the genus of painted turtles. They can live for 30 years quite easily. Although mail individuals are tractable, some can be aggressive. They are not suitable pets for young children, and will place considerable demands for care and time on their owners. They need large tanks or ponds, which can be difficult and time consuming to clean. Anyone contemplating the purchase of a Red Eared Slider should seriously consider the long-term commitment necessary to provide good care for the entire life of these animals.

Proper care of a Red Eared Slider requires considerable expenditure of time and money, and should one owner no longer wish to provide care, assume that it will be difficult to find a good home. Release of unwanted pets into the wild is an unacceptable solution. Without a home territory and the necessary environment, most abandoned turtles will die slowly of starvation. In climates, which do allow the turtles to survive, the introduction of a non-native species can seriously upset the balance of native species. There is always a risk that the abandoned animal will carry and release into the environment bacteria, viruses or parasites. The consequences can be devastating to native animals, which may have no resistance.

HOUSING

Housing requirements are determined by the size and number of Red Eared Sliders kept. The enclosure can be a glass aquarium, a plastic tub or a pond. The use of an outdoor pond is restricted to very hot climates. The enclosure must be selected with forethought to cleaning and filtration. Water will need to be drained and replenished, and periodically the enclosure will need to be disinfected. Avoid a gravel or sand substrate as this will make cleaning and filtration more difficult. Turtles also tend to eat gravel, and this can lead to a blocked intestine. The load on the filter can be lessened by habituating the animals to feeding in a separate, smaller, easily cleaned tank. Larger animals will require a large enclosure and an especially efficient filter system. As a rule, the combined surface area of all the residents' carapaces (top shell) should not exceed 25% of the accessible floor area. The enclosure should not be in direct sunlight, as this can lead to overheating and algae growth.

Turtles require a dry "haul-out" area. This must be large enough to accommodate all the tank residents, and to permit them to dry off completely. This is an important aspect of the thermo-regulation (temperature control of the turtle's body). The basking area can be a flat rock atop bricks or a cinder block. It may be built above water level with access provided by a ramp. The dry haul-out must be secure, as it may otherwise topple and trap a turtle, drowning it. A dark cave or a hide, perhaps underneath the basking platform, is often appreciated by turtles, but must be accessible to the owner. A screen over the enclosure may also be necessary to prevent escape and the entry of children and predators.



WATER QUALITY

Water quality is in many cases the most important factor affecting a turtle's state of health. Frequent water changes are the best way of ensuring optimal water quality. Partial water changes are not adequate. Tanks of lesser water volumes need to have the water changed more often, as do tanks with a higher stocking density. For example, three or fewer four inch (10 cm) turtles in a ten gallon (4.5 L) aquarium, need to have their water changed every two to three days, and a 50 gallon (23 L) aquarium would need to be changed weekly. If the turtles are fed in their enclosure, the water should be changed within 12 hours.

A small tank can be carried for a water change, a larger tank must be drained or siphoned. Once empty, the walls of the tank should be soaped and rinsed to remove bacteria and any traces of cleaner. De-chlorination of water is not necessary, but it is important to be sure that the turtles do not return to water of a different temperature than that before cleaning. A drastic temperature change could kill the animals, so check this with a thermometer. Water must be at least as deep as the width of the widest turtle's shoulders. Otherwise, if overturned, the animal will not be able to right itself and may drown.

Filters will improve water quality, but they are not a substitute for water changes. Aquarium filters are designed for fish, which produce significantly less solid waste than turtles. Feeding turtles in a separate tank or feeding area with its own drainage helps, as they will usually defecate while feeding. Water quality should be evaluated weekly, or after alterations to the environment. Water can appear clean, but the pH, ammonia, nitrate and nitrite levels may be inappropriate or indeed, dangerous. Test kits are available from aquarium or koi supply centers.

Water pH will vary regionally, to a degree, but should be between 7.5 and 8.0 pH should be checked when any tank parameters are changed (eg. new filter, water change). A sudden pH change can be lethal. Nitrite, nitrate, phosphate and ammonia levels should be 0, although ammonia may rise to 0.05 mg/L and nitrate to 0.3 mg/L.

Filter choices will vary with tank size and with turtle size and number. Consult a good aquarium shop regarding your specific needs. As a general guide, a filter for a 30-gallon fish tank might be expected to cope with a 10-gallon turtle tank. Check the product guidelines. Mechanical filters include Aquaclear Filter, which rests on the tank rim. The Fluval Canister Filter sits beside the tank, and is appropriate for larger systems. Biological filters, such as Tetra Brilliant and Rainbow Bio-Sponge, consist of a sponge containing bacteria which process waste in water bubbled through the sponge. In most cases sponges will need cleaning two to three times daily. This must be done in tank water, in accordance with manufacturers' directions, so as not to disturb the balance of bacteria. Generally speaking, it is time to clean the sponge when the solid waste collected begins to slow the bubbling water. A mechanical and a biological filter can work well in combination. Under gravel filters must not be used in turtle enclosures, as these can cause the release of fatal toxins from decomposing waste.



TEMPERATURE AND LIGHT

The goal of the reptile owner should be to provide a micro-environment: a replication, as far as possible, of the temperature, lighting and humidity conditions in the wild turtles have evolved in conditions very different to those usually found in captivity. A temperature and lighting gradient is crucial. Allowing the animal to choose between temperatures within an appropriate range will permit thermoregulation. If not allowed to control body temperature turtles will be sluggish and unable to digest food. Their immunity will be impaired and they will fail to thrive. Turtles not kept within their preferred optimum temperature zone (POTZ) usually have poor appetites and are more susceptible to disease. An ambient air temperature of 24-29° Celsius (75-85° F) is adequate for most Red Eared Sliders, if a basking hot spot is provided. A ceramic heater or infrared bulb at the end of the dry haul-out, left on 24 hours a day. Will provide secondary, background or constant heat, with a gradient. An incandescent 50-150 watt light bulb (left on only during daylight hours) above the basking area will provide the turtle with a hot spot. This should reach 33-35° C (90-95° F).

Ultraviolet light allows normal calcium metabolism. Glass and plastic filter ultraviolet (UV) rays, and so sunshine through a window does not provide an adequate source of UV light. A regular photoperiod, 10-12 hours of light in 24, is necessary for the physical and psychological well being of a reptile, and a timer is recommended for this. Lights may be marketed as “full-spectrum”, but they do not necessarily emit the correct wavelengths of light. Lights suggested include: Dura-test Vita-lite and Vita-lite Plus, Reptisun and Iguana light (Zoomed Laboratories). While black lights do emit the appropriate UVB rays, they do not emit “natural looking” light, and an additional light to mimic sunlight should be provided. For the turtle to receive maximum benefit from his T.N light, it should be fixed 18-24 inches from his basking spot. Most lights, although they will continue to emit visible light, will eventually cease to produce the UVB component of the spectrum and should be replaced every 6-12 months. None of these lights approaches natural sunlight, in terms of UVB output and the psychological importance of proper lighting. An animal may benefit from a combination of lights. As long as UV requirements are met, lights may be added to improve color, appetite and behavior. Black lights should be used cautiously as they are not safe for every species and long term or close exposure can lead to eye damage for reptiles and their keepers.

Sunlight but *only when the animal is within its POTZ*, is tremendously beneficial. When the temperature outside is warm enough, expose your turtle to natural sunlight, either through a screened window or outside in a secure enclosure. Be aware that reptiles, when exposed to natural sunlight, often undergo dramatic behavior changes, becoming very active and sometimes aggressive.

Turtles put outside for fresh air and exposure to natural sunlight should have access to water and to shelter adequate to permit them to control body temperature. Two to three hours, several times weekly will be beneficial. Unless securely confined and protected, animals must be closely supervised.

Submersible aquarium heaters are necessary to maintain water temperature at 24-29° Celsius (75-85° F). These can be protected from turtles wishing to destroy them by placing them behind porous plastic sealed across the tank corner (be sure the sealant is safe for use in an aquarium). Check water and ambient temperatures with a thermometer. Gauging with one's hand is not accurate.



SEXING AND REPRODUCTIVE BEHAVIOR

Female Red Eared Sliders are generally larger than males. A mature female can have a carapace length up to 280 mm, while males seldom exceed 200 mm. Females can weigh in excess of 2 kg. Males possess relatively longer front claws and longer tails than females.

Female turtles, even without the presence of a male, will occasionally lay eggs. Signs that the turtle may lay include digging, a decrease in appetite, and a heightened activity level. Ideally a nesting area is available all year, as the turtle is more likely to lay in familiar surroundings than in a box to which she is temporarily removed. The nesting area can be constructed from an appropriately sized plastic container (4-5 times larger than the carapace of the female), filled with slightly moist potting soil or peat moss. Many turtles will lay their eggs in the water. Should the eggs be fertile, hatching and raising turtles is a challenge, requiring hiding areas and particular attention to nutrition.

DIET AND NUTRITION

Water turtles are primarily carnivorous and will benefit from a varied diet. Goldfish, guppies, minnows, trout and smelt are all appropriate in small quantities. Live fish should be well fed before being killed and fed to the turtle. Wild caught fish should not be fed, as they may carry parasites transmissible to the turtle. Fish should be fed only in moderation to all commonly kept turtles. Chopped or whole baby mice or skinned, chopped whole adults may be accepted. Pinkies (furless young mice) cannot be fed exclusively as a calcium deficiency will develop. Whole adult mice are nutritious. Mice must be pre-killed.

Commercial diets should be fed in moderation. Be sure that these are not composed primarily of insects. Cat and dog food should be minimized in the diet (not more than 5%), but are valuable supplements. Insects (crickets, flies, etc.), earthworms and mealworms are calcium deficient, but also can be fed in moderation²¹. Earthworms should be cultivated in a wormery, as wild worms may carry parasites or bacteria harmful to reptiles. Feed very little, if any raw meat, liver, chicken gizzard; mince or heart. These have an extremely low calcium content. Do not feed crayfish, shrimp, wild caught insects or spiders, as these may carry harmful bacteria. Trout chow and rabbit pellets can form part of the diet. Do not offer medicated feeds. Bale meal or calcium carbonate can be used as sources of calcium to supplement the diet. These can be included if the diet is prepared in bulk. For large collections, food can be prepared in advance, bound in plain gelatin, cut into portions and frozen.

As they age, turtles may be more willing to consume fruits and vegetables. Dark leafy greens (kale, collards, chard, romaine lettuce, spinach, bok choy, etc.) should be offered. Fruit should be offered only in small quantities (not more than 5% of the diet) and only very occasionally. Greens can be added to a gelatin to force the consumption of vegetables along with more palatable protein foods.

The exact nutritional requirements of turtles are not known, and so variety and frequent revision of the nutritional value of what the turtle actually eats (as opposed to what he is offered) is important. It may take weeks for a turtle to accept a new food, but if the turtle is warm enough, and healthy, persistence will be rewarded. If your turtle is ill, or if his environment is not appropriate, he will be far less likely to have a good appetite, or to try new foods.



Sidney
ANIMAL HOSPITAL

9842 Second Street; Sidney, BC Canada V8L 3C6
T: 250-656-3333 W: www.sidneyanimalhospital.com
E: sidneyanimalhospital@shaw.ca

Very young animals should be fed daily, juveniles every other day and mature turtles every 2-4 days.

SIGNS OF ILLNESS

Turtles should visit a veterinary surgeon yearly, but the following symptoms should alert you to the possibility that your turtle is ill, and their presence will usually warrant a prompt visit to your reptile's veterinary surgeon:

- Lethargy
- Decrease in appetite or anorexia
- Eye or nose discharge
- Swellings on the head, limbs or shell
- Depressions or soft spots on the shell sores on the head, limbs or shell
- Reluctance to swim, swimming crookedly
- Weight loss (it is recommended that turtles be weighed monthly)
- Swollen or itchy eyes
- Difficulty breathing, gasping, respiratory wheezing, open mouth breathing