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Freshwater turtle care

Australian freshwater turtles that are most commonly kept in captivity are the long-necked turtles (*Chelodina spp*) and the short-necked turtles (*Emydura* and *Elseya spp*); there are many different species. Freshwater turtles make great pets and it's a wonderful experience to observe them and care for them. Many health problems in turtles arise from inappropriate care and husbandry conditions. Below is a guide outlining basic requirements for freshwater turtles.

Enclosure

- Most freshwater turtles are housed in indoor aquarium set-ups. The size of the aquarium should be roughly 120cm x 60cm x 60cm, but the bigger the better. The tank should be filled approximately 2/3 to 3/4 with water, and the water depth should be at least 2 times the length of the turtle's carapace (upper shell). Turtles can also be housed in outdoor ponds.
- Turtles need a basking area where they can climb out and dry completely. For a 120cm tank, the basking area should be approximately 30cm in length.
- Substrate can be provided by a layer of gravel or pebbles, ensuring that the size of the pebbles is large enough so your turtle can't swallow it. It may be easier to maintain water quality without any substrate material.

UV light

- Provide UVB radiation 290-320nm. This is required for vitamin D3 production in the skin, which allows calcium absorption from the gut, and is also required for stimulation of natural behaviours, including foraging. Recommended light cycle is 12 hours of light and 12 hours of darkness.
- UV globes should be placed in the same position as the heat lamp, within a distance recommended by the manufacturer, and not filtered by glass. Replace the globe at least every 6 months (even if the globe still appears to be working).
- No artificial UV globe is a replacement for natural sunshine. Take your turtle outside in a secure carrier/cage with shallow water for 20-30 minutes of unfiltered sunshine 2-3 times a week. Make sure shade is provided to prevent overheating.

Temperature and heating

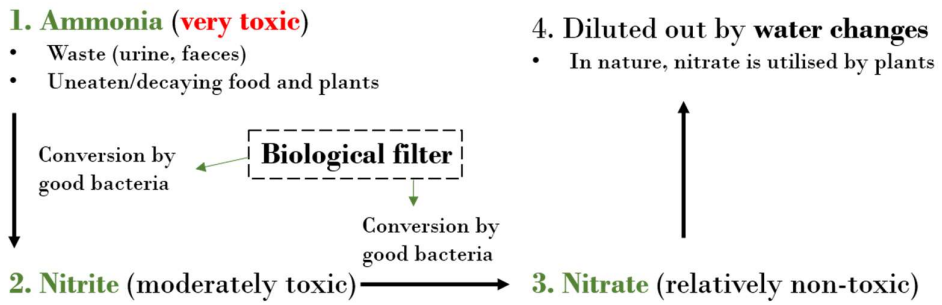
- Monitor the temperature of the water and the basking site.
- Water temperature should be between 20-28C (depending on the species). A thermostatically-controlled aquarium water heater is required. An aquarium thermometer should be used to monitor the temperature, regardless of the thermostat setting.
- Basking spot temperature should be 25-30C (some species require higher temperatures), provided with a thermostatically-controlled globe. A digital thermometer should be used to monitor the temperature, regardless of the thermostat setting.

Diet

- Hatchlings should be fed daily, juveniles every 2 days and adults once to twice a week.
- Offer a few pieces, approximately the size of the turtle's head. Turtles are prone to overeating and rapid growth. If you are able to notice your turtle growing, it is probably being fed too much and is growing too fast.
- Long-necked turtles are primary carnivorous, whereas short-necked turtles are omnivorous.
- Offer your long-necked turtle a variety of whole fish (whitebait, guppies), shellfish (prawns, yabbies), molluscs (snails), insects (crickets, months), and worms.
- Offer your short-necked turtle animal foods as listed for long-necked turtles above, plus vegetable matter including water plants (Duckweed, Ribbonweed), vegetables (spinach, dark-leaf lettuce, broccoli) and a small amount of fruit.
- Any saltwater food item should be soaked in freshwater for a few hours. Shellfish should have heads and any spiny shell removed to prevent injuries.
- Turtles that have access to sunlight and consume whole fish are at a reduced risk of calcium deficiency. However, it is a good idea to supplement their food with a multivitamin (by gut-loading insects/worms, providing a multivitamin gel or injecting a multivitamin into a food item). This is also important if your turtle consumes a lot of frozen food as freezing destroys B vitamins.
- To minimise the risk of malnutrition, feed your turtle at least 3 varieties of food items and regularly offer fresh (non-frozen) food.
- Remove any uneaten food or consider feeding your turtle in a separate container (using water from the tank) to reduce fouling the water.

Water quality

- Water quality is one of the most important aspects of turtle health and poor water quality, in particular the failure of the **nitrogen cycle**, is one of the most common causes of disease in turtles.



- Turtles eat, urinate and defecate in the water, and in general produce a lot of waste that can result in poor water quality. Remember that many harmful chemicals can't be seen, so water clarity is not a good indicator of quality.
- Aquariums need a filter to continuously filter the water and remove harmful waste. The most common type is the external canister filter.
    - When needed, accumulated debris in the canister filter should be cleaned in aquarium water to avoid destroying the biological filter (good bacteria).
- Approximately 25% of the water needs to be removed weekly and replaced with conditioned or dechlorinated water.
- It is a good idea to regularly perform water quality testing (pH, ammonia, nitrite, nitrate and hardness) to ensure that the biological filter is functioning, and the water changes are adequate.
    - Ammonia and nitrite should always be zero
    - There should be a small amount of nitrate (~20-30ppm). This is an indicator that the biologic filter is functioning
    - pH should be 7-8.4
    - Turtles prefer water that is slightly "hard" (140-210ppm), so adding aquarium salt is recommended (approximately 5 grams per 10L of water).

Health care

- Freshwater turtles should have annual health checks, especially if they brumate or are used for breeding
- Weigh your turtle regularly (~ once a month) and record the weight
- Any newly acquired turtles should be quarantined and health checked
- Wash your hands after handling your turtle and between handling of different reptiles