

Non-Government Schools Animal Ethics Committee - STANDARD OPERATING PROCEDURES

SOP No:	02	
SOP	Tortoises	
Scientific Name:	<i>Emydura macquarii</i> (Murray Short Necked) <i>Chelodina longicollis</i> (Common Long Necked)	
Category:	2 only	
Approved activities	Activity	Category
	a. Observation of a particular tortoise behaviour	2
	b. The appropriate care of classroom pet tortoises	2
	c. Capture, restraint, and handling of tortoises	2
Approval Level:	Where an activity is not listed in this SOP, approval must be sought from the Non-Government Schools Animal Ethics Committee (NGSAEC) and confirmed before it can be undertaken.	
Authority:	Government Schools – Department for Education and Childhood Development Animal Ethics Committee Independent and Catholic Schools – Non-Government Schools Animal Ethics Committee (NGSAEC)	
Authority Approval Date:	1 August 2010	
Last Update:	3 July 2023	
Disclaimer:	<i>This document may be updated at any time. You should check the web site regularly to ensure that you are meeting the most recent recommendations. If you note any concerns with the information provided (inadequate, incorrect) please contact the relevant AEC.</i>	
Licensing Requirement:	Not applicable	
Compliance Requirement:	The keeping of this species requires approval from the School Principal. It is recommended that this Standard Operating Procedure be followed as a minimum in the provision of appropriate care and housing for this species.	

General Information: **Tortoises or Turtles in Australia?** In Australia, there are no true land-only (terrestrial) chelonians and therefore freshwater chelonians are called tortoises. Marine chelonians are called turtles. Overseas tortoise is used to describe terrestrial chelonians, terrapins for freshwater chelonians and turtles for marine chelonians.

Freshwater tortoises in Australia are ectothermic with clawed and webbed feet. They live on land and in water. They breathe air and need to be able to reach the surface easily. They are heavily armoured with a shell.

Baby tortoises are available in summer from pet shops. They are bred for pets and should not taken from the wild as it is illegal. As they grow, they will need larger tanks and larger tortoises are preferably kept in outdoor ponds.

- Physical Attributes:**
- **Size (adult): small: less than 10cm, large 30cm or more**
 - **Weight (adult):** Varies with size.
 - **Life span:** 10-40 years.
 - **Sexual maturity:** Murray short-necked males: 5-6 yrs, females 9-11 yrs. The gender of a mature tortoise can usually be determined by external characteristics. For example, Long necked male tortoises have a concavity on the plastron (lower shell). The male's tail is longer than the females, and his vent is located down towards the tip of the tail

Behaviour: **Normal:** Tortoises are active during the day and rest at night.
Socialisation: Once past the baby tortoise stage a tank will only be suitable for one tortoise. In large ponds several tortoises can live together. Male tortoises may be aggressive and territorial towards other males and females. Activity levels (hibernation, moulting etc.): If tortoises are housed outside or in cold tanks they will hibernate. During hibernation, their temperature lowers and their heartbeat slows, making them sluggish. Tortoises also shed their outer skin (scale like pieces) throughout the year.

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Environment:

Housing/Space: Indoors aquariums should be at least 60cm x 40cm x 120-150 cm for small tortoises. Initially with baby tortoises the tank should have half designated to a water area and half as a garden area. Tortoises must be able to climb out of the water or they can drown. Outside ponds for larger tortoises can be made from a fibre glass pond or an old bath. The edge of the pond must be flush with the ground or ramped to allow the tortoise to crawl out. Outside enclosures MUST be fenced one metre high and 30 cm below ground. They must also have a wire roof to prevent predator attacks. To accommodate three larger tortoises a pond should be 2m x 2m x 50 cm deep at least. Outside ponds should receive ample sunlight but also have an area of permanent shade.

Movement: Tortoises can swim strongly and can move fast both in water and on land. They retract their legs and head into their shell, particularly for defence. They should be able to swim and turn freely, dive under the water and come out onto rocks in their enclosure. Tortoises require sunlight to bring themselves to their optimum temperature so they can begin their daily activities. **Water:** Ponds and tanks can be filled with mains or rainwater treated with a commercial water conditioner to remove chlorine, chloramine, and heavy metals. Water depth needs to be at least 50cms deep to help prevent the water from overheating during summer. Tortoises are not affected by alkaline conditions, but prolonged acidity is harmful. A water pH of seven is recommended. Do not spray any chemicals near tanks or ponds that can contaminate the water.

Temperature: Water temperature should remain between 22 - 24°C, not exceeding 30°C. A thermometer can be used to monitor water temperature. **Filtration:** A filtration system is essential for keeping the water clean in indoor tanks. The rate of circulation should be moderate. Filtration is not required but helpful in outdoor ponds.

Lighting: Where natural lighting or time outside in the sun is not provided, a light is necessary. Indoor tortoises need at least 5% UVA/UVB lighting. Light bulbs should be changed every 6-9 months, as UV output will decrease long before the light bulb burns out. A basking platform can be provided near the light to allow the tortoise to dry out. Metal caging should be provided around any lights to prevent thermal burns.

Covering: Where the tortoises are at risk from younger children or where the water is closer than 20cm to the top of the aquarium a glass and mesh covering over the aquarium should be provided.

Shelter: The aquarium should provide an area for refuge from lights and noise and somewhere to hide. This can be created with natural materials like plants and rocky overhangs or a towel at one end of the tank.

Cleaning: To clean, replace approximately 25% of the water every 7 days. New water should be treated with water conditioner. Regular removal of solid waste is also required. A full tank or pond clean should not be done as it removes bacteria that helps control ammonia levels within the water. The wastewater can be treated with 1:5 ratio of bleach to water and be poured into the toilet or onto gardens. It must not be discarded into the stormwater drains or septic tank systems.

Feeding:

Diet: Tortoise pellets, frozen tortoise meat blocks (thaw to feed), fish, meat, and shrimps can all be fed to tortoises. Tortoises eat in water. If the water is too cold or they are preparing for hibernation, they cannot digest the food properly and may not feed. Avoid soiling the tank by using a smaller 'feeding' tank/container.

Daily requirements: Adult turtles (older than 1 year) can be fed 3 - 4 times a week, while baby tortoises (less than 1 year) should be fed daily or twice daily. It is important to ensure babies receive appropriate calcium and phosphorus ratios to prevent shell deformities as they grow. Seek advice from a Veterinarian or pet shop staff where appropriate.

Supplementary feeding: Insects that have not been sprayed with insect spray can be provided. These can be sourced from pet shops.

Equipment: A small net to remove uneaten food from the tank/pond after feeding. A piece of fine feeding wire or thick fishing line can be used to dangle food for baby tortoises and to stimulate them to eat.

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- Breeding:** Tortoises are unlikely to breed unless they have suitable environments for laying eggs.
- **Gestation period:** (incubation) Murray's is 65-85 days, Common is 120-180 days.
 - **Number of offspring:** Females lay 10-15 eggs in holes dug into banks on land.
- Mating:** Little is known about the mating and breeding behaviour of tortoises.
- Pregnancy:** The female goes ashore to excavate a hole in which to lay the eggs where they incubate. The eggs are then carefully covered with substrate. Depending on the species and the soil temperature the eggs can take up to 70 days to hatch. Young tortoises live almost exclusively in the water for the first 2-3 years of their lives; however, they must be able to come to the surface to breathe.
- Handling:**
- Humans: Gloves should be worn when handling turtles and keep any handling times to a minimum.** Tortoises can be handled safely by adults but not by children. Children can sit in circles and observe tortoises moving, they can touch the shell but should not touch their head. This should be done in an area where the tortoise cannot escape. Be aware that tortoises may be frightened and struggle when handled, so take care not to drop them. One hand at the front side and one hand at the rear or one hand on either side or the carapace will assist. Do not crush the tortoise and do not touch their head. Avoid handling baby tortoises.
- Equipment:** Tortoises can be wrapped in a towel when carrying them short distances.
- Transport:** Tortoises can be transported in an enclosed ventilated box, carry cage or another suitable container. Transport quickly and do not leave unattended or allow the tortoise to overheat. Do not transport on days that are over 32°C
- Hygiene:** Thoroughly wash hands with soap and running water for at least 15 seconds after working with or handling tortoises. Dry hands with clean paper towel or an air dryer. Turn off the tap with the paper towel if possible. All reptiles have the potential to transmit diseases (e.g., bacterial infections). Keeping their enclosures clean and using good hygiene should assist with this. Follow first aid procedures should a bite occur.
- Signs of illness:**
- Indicators:
- loss of appetite
 - lethargic
 - skin lesions including a soft shell
 - skin discolouration (e.g., pink)
 - injuries
 - failure to thrive
- Conditions seen in tortoises include skin conditions from poor water quality, swollen eyelids, pneumonia, metabolic bone disease, retained eggs, burns from heat lamps. NEVER drill a hole in their shell. If their shell becomes covered in algae do not use scourers or chemicals to scrub their shell.
- Treatments:** Schools are encouraged to develop a relationship with a Veterinarian and Animal industry representatives (e.g., pet shop staff) familiar with tortoises. These contacts can be used for disease diagnoses, treatment options and, dietary, husbandry and welfare advice. Veterinarians can also assist with emergencies particularly when euthanasia is needed. Many aquarium treatments are not suitable for tortoises and may cause further distress or death.

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Euthanasia: When an illness or injury is such that recovery is unlikely then the tortoise must be euthanised by a Veterinarian. Schools should contact their local Veterinarian to discuss emergency treatment prior to an event occurring when housing tortoises on-site. Any adverse events including death must be reported to the AEC using the ADVERSE EVENTS form. Forms must be returned to the AEC within 7 days of the event occurring.

Disposal/fate planning: When no longer required tortoises must be rehomed and must NEVER be released into the environment or waterways. Bodies must be disposed of correctly in accordance with local council regulations.

Holiday and weekend care: Tortoises can be sent home for weekend or holiday care with students providing consent is received from the school Principal and parents. Staff should provide carers with animal care and record keeping instructions, emergency contacts and must provide appropriate equipment and food. Animals must be checked daily, records kept, and any problems reported to the school immediately, whether left onsite or taken offsite.

Approved activities: **Where an activity is not listed in this SOP, approval must be sought from the Animal Ethics Committee and confirmed before it can be undertaken.**

Activity: **a. OBSERVATION OF A PARTICULAR TORTOISE BEHAVIOUR**

Category: Category 2

Objective: To instruct students in observing behaviours of tortoises

Observation of activities such as feeding or swimming not involving handling of the tortoise are preferred.

Activity: **b. THE APPROPRIATE CARE OF CLASSROOM PET TORTOISES**

Category: Category 2

Objective: To demonstrate to students the appropriate care and husbandry of classroom pet tortoises.

Students must be supervised when interacting with the tortoises in the classroom. They should be supervised when feeding the tortoises to ensure overfeeding is not occurring. Handling by adults should be kept to a minimum and care taken to avoid being bitten when handling larger tortoises.

Activity: **c. CAPTURE, RESTRAINT AND HANDLING OF TORTOISES**

Category: Category 2

Objective: To instruct students on the appropriate methods of capture, restraint, and handling of tortoises

All the equipment needed should be ready prior to capturing the tortoises. Handling should be kept to a minimum (e.g., for removal from the tank when cleaning) and staff should ensure a high standard of hygiene is always maintained. Children must be always supervised.

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Resources:

Freshwater Tortoises - Adelaide Zoo Education Service

www.zoossa.com.au/wp-content/uploads/Freshwater-Tortoises-Oct-09.pdf

Common Long Neck Turtle Care Sheet – Wildlife Fact Sheet

www.wildlife.vic.gov.au/data/assets/pdf_file/0021/84108/Common-Long-Necked-Turtle.pdf

World Wide Fund for Nature – Sea Turtle resources

www.worldwildlife.org/teaching-resources

Australian Association for Environmental Education – Turtle Watch Kit

<https://aaeewa.org.au/>