

Newsletter of the Friends of the Western Swamp Tortoise

A very specialised habitat

The Western Swamp Tortoise (WST) relies on winter-wet habitat for its survival success. Although ideal for tortoises and other aquatic fauna, such an environment can be challenging for many plant species. Plants not adapted to a saturated environment can't transpire efficiently in anaerobic waterlogged conditions and plant roots are also likely to decay which reduces nutrient uptake. The paperbark *Melaleuca* species, however, thrive in such an environment!

Those that attended the July 2015 tortoise release at Twin Swamps Nature Reserve would have seen a low



woodland of the paperbark species *Melaleuca preissiana* (Moonah) dominating the inundated central part of the swampland (*above right*). The water table is naturally high in this area and the water expresses at the surface as large pools following high rainfall and soil saturation. At Twin Swamps (and perhaps soon at Ellenbrook) the saturation process needs to be artificially maintained due to lowered ground water levels. Paperbark woodland in winter-wet swamps is the favoured natural habitat of the WST yet this habitat has also faced many threats. Fragmentation from land-clearing, exotic pests (such as rabbits), weed invasion, changed fire regime and pathogens have all compromised the quality and extent of this vegetation. This has obviously impacted on the success of the WST; when a species is endemic to a niche habitat and that habitat is compromised it can have devastating impacts, as Australia's most endangered reptile would tell you...

Twin Swamps is one of only a handful of examples of vegetation categorised as '*Forests and woodlands of deep seasonal wetlands of the Swan Coastal Plain*'. This vegetation is recognised as a Threatened Ecological Community in Western Australia and is listed as 'Vulnerable' under category C; that is, '*The ecological community may be still widespread but is believed likely to move into a category of higher threat in the medium to long term future because of existing or impending threatening processes*'. The link here between habitat destruction and species decline is obvious and illustrates the need to retain and conserve habitat to ensure species survival.

Janelle Atkinson

Incubation update



A hatchling being reared at the Zoo

Eggs laid in the Perth Zoo captive breeding program are collected, catalogued and incubated and the hatchlings are reared in the Zoo for a year or two before being released into the wild. The incubation period of eggs is variable and usually quite long: 5 to 7 months. The embryonic development is generally completed after about 100-120 days (depending on temperature) and the fully developed hatchlings then—rather amazingly—aestivate inside the egg. Hatching appears to be triggered by a sudden



Eggs being incubated at the Zoo

drop in temperature, which in the wild is mainly related to the first rainfall in autumn.

The Western Swamp Tortoise, in common with all Australian turtles of the family Chelidae appear to have genetic sex determination and remains unaffected by the incubation temperature.

Information courtesy of Dr. Gerald Kuchling (personal correspondence)

Perth Zoo display animal

Perth Zoo's Education Program is looking forward to welcoming a male Western Swamp Tortoise (number 354) who is not part of the breeding program but will have great value as an ambassador for the species. He will become the centre-point of an education program that will reach thousands of children and teachers each year. There will also be some life-like tortoise models (like ours) joining the program.



Adult tortoises on display at the Zoo.

Where are they now?



From around October-November—the beginning of the Nyoongar season of Kambarang—adult breeding females (at least 8 years old) lay 3-4 eggs underground near the edges of the swamps in either natural fissures in the ground, deep leaf litter or the artificial aestivation tunnels (*left*) and take no further care of them. They and other adult tortoises aestivate until the swamps refill in late autumn (the season of Djeran).



Easter: eat chocolate, save tortoises!

Who needs any further excuse to eat lots of chocolate over Easter, other than to help raise money for the conservation of Australia's most critically endangered reptile? You can find these cute chocolate tortoises packed in an attractive box at any outlet of the Margaret River Chocolate Company (Swan Valley, Margaret River or Perth city). Part proceeds are donated to the Friends to assist in our work.

Bullsbrook Museum

The Friends group is proud to collaborate with the Bullsbrook Historical Society to provide an outdoor display shelter in the grounds of the new local Museum, which is scheduled to open on April 8-9. Located on Turner Rd in West Bullsbrook, it housed the area's first public building—the former Bullsbrook Agricultural Hall (*below*), which opened in 1904.



The information in the display will focus heavily on the history and rediscovery of the Western Swamp Tortoise in the Bullsbrook area in 1953, but will be similar in format to the existing unit in the garden at Edgecombe Brother's winery (12130 West Swan Rd, Belhus.) While you are in the Swan Valley, look out

for our other displays at Puma 'Gingers' Roadhouse (*right*, 1383 Great Northern Highway Upper Swan) and the public rest-rooms on the corner of Chittering Rd and Great Northern Hwy, Bullsbrook and also at WA Reptile Park, 92 Henley St, Henley Brook.



Update on the stormwater project.

Term 4 of 2015 saw two groups of students attaching the drain stickers to stormwater drains in the immediate vicinity of their school. Caversham Primary and Aveley Primary spent time preparing the drain covers to receive the stickers, which were glued on with a special epoxy. We still have about 50 stickers to attach near the other two schools in the program. The children hope the stickers will remind the school cohort to ensure **only rain goes down the drain** by reducing littering. You can see the Aveley students working on the project by going to the school's Facebook page.



<https://www.facebook.com/Aveley-Primary-School-WA-296082750419344/?ref=hl>

You can help save an endangered species, right on your doorstep!
Membership of the Friends is **FREE** and we have lots of great activities, including behind-the-scenes zoo visits and tortoise release days.



Join us to help save the tortoise... because EXTINCTION SUCKS!

For further information on any of the group's activities, contact Jan on
9344 2872 or **0408024800**

Email: westernswamptortoise@yahoo.com.au

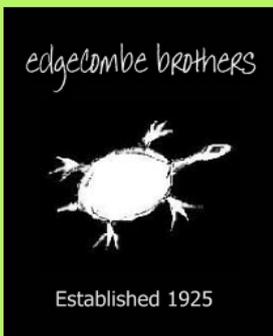
check out the website

www.westernswamptortoise.com

or find us on **Facebook** (Friends of the Western Swamp Tortoise)



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