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Conservation and Attractions

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The Recovery Plan currently has six primary strategies, which will be implemented concurrently:

- (i) implement management guidelines for Ellen Brook and Twin Swamps Nature Reserves and seek to acquire additional land to extend Ellen Brook Nature Reserve;
- (ii) monitor the tortoise populations on Ellen Brook and Twin Swamps Nature Reserve and monitor water depths and water chemistry in selected swamps in both reserves;
- (iii) continue with the captive breeding project to produce tortoises for re-introduction to Twin Swamps Nature Reserve, Mogumber Nature Reserve and other sites;
- (iv) continue to re-introduce tortoises to Mogumber Nature Reserve utilising partly grown tortoises produced by the captive breeding project and commence translocations to other suitable sites;
- (v) continue to rehabilitate the land purchased for addition to Ellen Brook Nature Reserve to render it suitable for occupation by western swamp tortoises; and
- (vi) continue to disseminate educational and publicity material about the western swamp tortoise and continue to raise funds for its conservation.

Actions completed so far include:

- the construction of a fox-proof fences around habitat within Ellen Brook and Twin Swamps Nature Reserves;
- the construction, by the Water Authority of Western Australia, of a bore, pump and pipelines to allow pumping of groundwater into selected swamps at Twin Swamps Nature Reserve;
- between 1995 and 2001, the reintroduction of 148 captive-bred tortoises at Twin Swamps Nature Reserve;
- research into the ecology and breeding biology of the tortoises at Ellen Brook Nature Reserve;
- the purchase and reservation of land immediately south of Ellen Brook Nature Reserve;
- a start to rehabilitating the purchased land to make it suitable for tortoises;
- purchase of land at Mogumber for addition to the Mogumber Nature Reserve, partly to protect habitat thought suitable for western swamp tortoises; and
- experimental release of 26 captive-bred tortoises at Mogumber in 2000 and 2001.

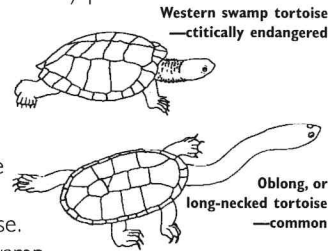


Western swamp tortoises being released at mogumber Nature Reserve.

What you can do

Everyone can help. Some things you can do are:

- Support the conservation of threatened species and the implementation of the recovery plan.
- Learn more about the conservation of our State's natural heritage. Learn the difference between the western swamp tortoise and the more common oblong (or long-necked) tortoise.
- If you find a western swamp tortoise outside the nature reserves, please contact the Department's Swan Coastal District office on 9405 1222 immediately and someone will visit you to measure and sex the animal and take it to one of the nature reserves or to the captive colony at Perth Zoo. Pick up the tortoises and place it in a cool (room temperature), dry or damp place, not in deep water. A cardboard box is suitable, but make sure the tortoise can't climb out. Treat tortoises gently. Western swamp tortoises do not bite, but may give off an unpleasant odour when handled. This is of no concern. Some people have not reported sightings because they fear resumption of their land. This is not the case—private land is not resumed for inclusion in the conservation estate.
- If you live near the nature reserves, advise the Department of any wildfires on or near them and of any issues relating to reserve management. Fire calls (24 hours)—telephone 9334 0333.



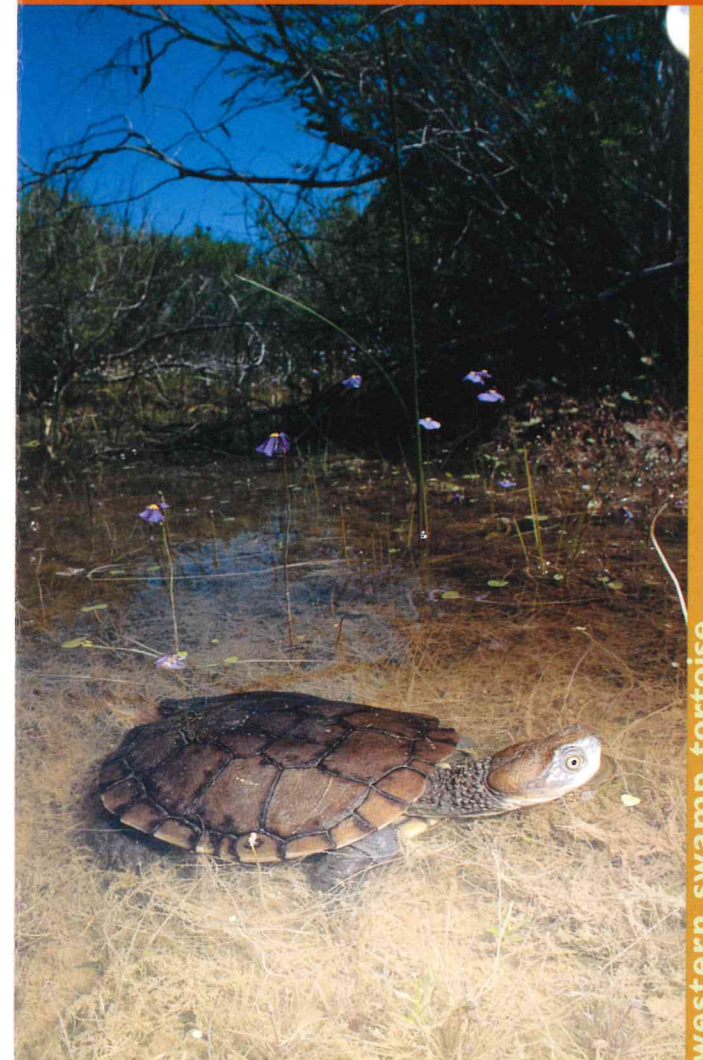
For further information contact

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Photos courtesy of Gerald Kuchling from UWA's Zoology Department

The Western Swamp Tortoise



western swamp tortoise

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western swamp tortoise

The Department of Conservation and Land Management's Western Swamp Tortoise Recovery Team has prepared and updated a recovery plan for the western swamp tortoise (*Pseudemys umbrina*), also known as the short-necked tortoise—the most endangered tortoise or turtle on earth and one of Australia's most endangered species. Implementation of the recovery plan is gradually improving the species' chance of survival.



The western swamp tortoise (*Pseudemys umbrina*).

Western swamp tortoises are small (up to 15 cm shell length), and brown or brown-black above and paler below. There are two wild populations.

Ellen Brook Nature Reserve, adjacent to the Great Northern Highway at Upper Swan, retains a small, remnant population, totalling about 40 to 45 animals, of which only about 10 are adult females.

A second nature reserve, Twin Swamps, located at the corner of Warbrook Rd and the Midland Railway, was also set aside for the captive-bred tortoises. In the 1960s there were about 100 tortoises there, but this population had almost disappeared by 1985. Since 1995, over 100 juvenile captive-bred tortoises have been released and scientists are monitoring them to check that they survive and grow, and eventually breed.

It is thought that western swamp tortoises once occurred throughout the Swan Valley. They have been found at swamps from Perth Airport in the south to Pearce in the north. However, few, if any, remain outside the two nature reserves.

western swamp tortoise

Western swamp tortoises live in clay or sand over clay temporary swamps. During the winter and spring they feed on small aquatic invertebrates such as small crustaceans and insect larvae. In November or early December, the adult



Recording data for identification at Twin Swamps Nature Reserve.

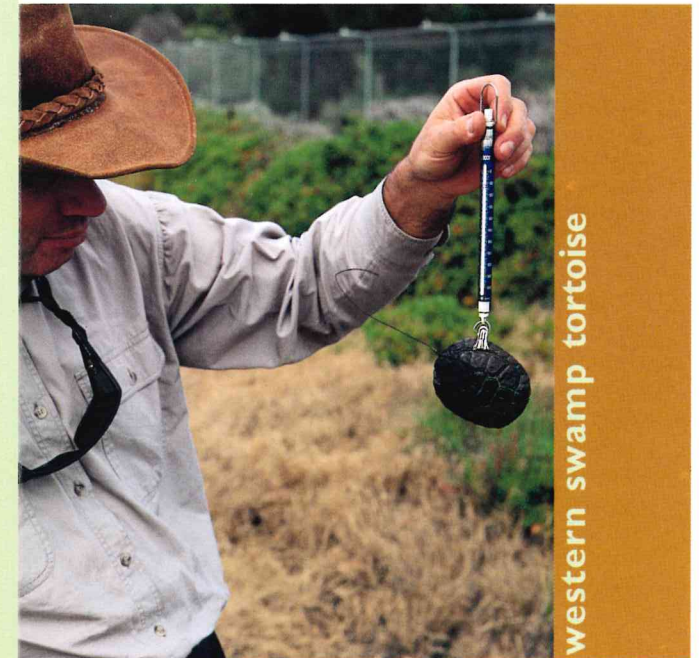
The species always had a very small geographic range. Its current classification as critically endangered is due to:

- a very small geographic range, most of which has been converted to agricultural, industrial or urban use;
- protection of habitat solely in two small nature reserves that include only marginal habitat;
- a specialised biology that includes dependence on a rare habitat, a wholly carnivorous diet, low fecundity and slow growth rates, mitigated to some extent by great longevity;
- decreasing rainfall, compounded by the marginal nature of the remaining habitat, which will become worse if the 'greenhouse effect' causes even lower rainfall in the south west; and
- the presence of introduced predators, particularly the European red fox.

females lay three to five hard-shelled eggs in a shallow underground nest. The eggs hatch the following May and the hatchlings enter the swamps when they fill in June or July. In November or December, the swamps dry and the tortoises spend the summer and autumn aestivating (sleeping) underground, in leaf litter or under fallen branches.

Captive breeding of western swamp tortoises is being carried out at Perth Zoo, with technical assistance from the Zoology Department, The University of Western Australia (UWA). At the end of 2001 there were 16 breeding males, 14 breeding females and 135 other tortoises comprising hatchlings, juveniles, sub-adults and non-breeding adults at the Zoo. It takes from 10 to 15 years for the tortoises to become sexually mature.

The Recovery Team's updated western swamp tortoise recovery plan's objective is to decrease the chance of extinction of the western swamp tortoise by creating at least three wild populations and increasing the total number of mature individuals in the wild to more than 50. A recovery team has been set up to coordinate the implementation of the plan. It has members from The University of Western Australia's Zoology Department, Curtin University of Technology's School of Biomedical Sciences, The World Wide Fund for Nature Australia, Perth Zoo and the Department. The recovery plan is being funded largely by the Department, the Natural Heritage Trust and Perth Zoo, with assistance from a number of sponsors and societies.



Weighing Western swamp tortoises as part of the release program at Twin Swamps Nature Reserve.