

THREATENED SPECIES AND/OR COMMUNITIES RECOVERY TEAM

PROGRAM INFORMATION

Recovery Team	Western Swamp Tortoise Recovery Team
Reporting Period	Calendar year 2010

Current membership

Member	Representing
1. Chair Craig Olejnik <i>appointed in April 2010</i>	DEC - Swan Coastal District - Nature Conservation Coordinator
2. Exec Officer Jacqui Maguire	DEC – Swan Coastal District
3. Dr Gerald Kuchling	DEC – Swan Coastal District - Chief Investigator
4 Dr Andrew Burbidge	DEC Science Division - Research Fellow
6 Helen Robertson	Perth Zoo - Director Animal Health and Research
7 Dr David Groth	Department of Biomedical Science, Curtin University of Technology
8 Jan Bant	Friends of the Western Swamp Tortoise (FoWST)
9 Prof Don Bradshaw	School of Animal Biology, the University of Western Australia
10 Terry Morley	Adelaide Zoo
11 Nicki Mitchell	University of WA

Dates meetings were held	12 April 2010 and 20 December 2010
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One to two paragraph summary of achievements suitable for <i>WATSNU</i>	<ul style="list-style-type: none"> - Translocation of 15 captive bred tortoises to swamps within Moore River Nature Reserve in July 2010. - Finalised the bore upgrade at Twin Swamps NR in June 2010 to supplement key swamps in dry years. As in previous years north west swamp was supplemented and north east swamp was supplemented for the first time during spring 2010. - 33 hatchlings produced at Perth Zoo. - Population monitoring at Ellen Brook, Twin Swamps, Mogumber and Moore River Nature Reserves. - Successful application by DEC for grant from the Perth Zoo totalling \$4790 as part of the WA Threatened Fauna Project was obtained in 2009 and implemented in autumn 2010. - The ARC Linkage Project - <i>Animals on the Move/an integrated response to selecting conservation reserves under climate change</i> which is being undertaken by UWA, in conjunction with the Perth Zoo and DEC, commenced with modelling and research undertaken in 2010
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List of actions undertaken by Recovery Team

Action 1 –Employment of Chief Investigator

Although applications for external funding were made, there were no State NRM or Commonwealth grants obtained to fund implementation of the Recovery Program and employment of Chief Investigator in the 2010/2011 financial year. Consequently the 2010/2011 program, which includes DEC's contributions to the Perth Zoo's captive breeding program and employment of Chief Investigator is unfunded.

Action 2 – Management of Ellen Brook, Twin Swamps, Mogumber and Moore River Nature Reserves

Routine management of the nature reserves continued as in past years, including fence maintenance, weed control and rehabilitation works. An improved vermin control (baiting for foxes and rats) program was developed and implemented in 2010. In addition monitoring bores with data loggers were maintained and water samples were collected and analysed within swamps at all reserves.

Specific management works were conducted as follows at each of the reserves:

Ellen Brook Nature Reserve

- Bandicoot trapping undertaken in May 2010 with 14 individual trapped and removed from the reserve
- New rat and fox baiting programs were implemented at EBNR
- A planting day was undertaken at the reserve with assistance of the FoWST group.
- A weed control trail was completed to investigate methods for controlling *Watsonia*. Finding will be utilised in developing a weed control program.

Twin Swamps Nature Reserve

- Bandicoot trapping undertaken in May 2010 with 9 individual trapped and removed from the reserve. 14 Black Rats were also trapped and euthanased as part of the trapping program
- The new upgraded bore pump was operational for most of winter and spring. North west swamp was supplemented from 12 July to 28 August and from 13 September to 29 October 2010. Additional piping was installed and north easter swamp was also supplemented from 25 August to 29 October. Despite the very dry conditions in 2010 the new pump was able to maintain reasonable water levels in both swamps during spring.
- New rat and fox baiting programs were implemented at TSNR

Mogumber Nature Reserve

- 1080 fox baiting continued within the reserve and properties immediately adjacent.
- Adjacent private property (70ha) north of existing habitat acquired by DEC in 2009. Utilising funding from the FoWST and the Perth Zoo, pond deepening and some rehabilitation was conducted at the site in early 2010. Despite bad rainfall year some of the ponds filled with water. Additional planting were conducted at the site in 2010 with assistance from the FoWST.

Moore River Nature Reserve

- Released 15 captive bred tortoises to the western swamp habitat. The 15 were radio-tracked but unfortunately 8, which were found on dry land, had to be returned to the zoo due to a well below average winter rainfall.
- A spillway on the eastern boundary bund was installed using concrete. Also repairs were made to the existing constructed bunds to the west.
- 1080 baiting continued on a monthly basis.
- Vegetation monitoring of established transects conducted within the TEC area.

Action 3 – Tortoise population monitoring

Due to dry winter many adult females at EBNR and TSNR were not in breeding condition (chose not to breed). However, despite the dry winter and spring of 2010, two females were found to be gravid at Ellen Brook Nature Reserve, one at Twin Swamps Nature Reserve, two at Mogumber Nature Reserve and one at Moore River Nature Reserve. This was the first record of a gravid female at Moore River Nature Reserve.

New individuals including hatchlings (not captive bred) were captured at EBNR which is evidence that natural recruitment is occurring there. There was evidence of successful breeding at TSNR with a hatchling produced

from a monitored nest. However the hatchling could not be monitored.

15 captive bred tortoises were released at Moore River NR in NW swamp area. This is the generally the same location as the previous translocation. All 15 had radio transmitters attached. Of the 15, 8 were discovered on dry land not feeding and were consequently returned to the Perth Zoo.

Current population estimates suggest that there are still less than 50 adult WSTs in the wild, but with several juveniles close to maturing this target could soon be reached.

Water levels continued to be monitored within swamps at all the WST reserves. Unable to conduct detailed chemical water analysis in 2010 due to the extremely dry year.

Action 4 – Captive Breeding

Plans were finalised and works costed, to facilitate the major upgrade of the captive breeding facilities at the Perth Zoo. Final costs were well above expected and options for sponsorship are being investigated.

A total of 160 WST (hatchlings, juveniles and adults) were at the Perth Zoo at the end of 2010

33 hatchlings were produced from 17 females at the Zoo.

Aestivation tunnels and banksia leaf litter continued to be used at the Perth zoo to help the tortoises transition into the wild.

Action 5 – Translocations

15 captive bred tortoises were released at Moore River NR in NW swamp area. All 15 had radio transmitters attached. Due to the dry winter 8 of the 15 radio-tracked juveniles were discovered on dry land not feeding and were consequently returned to the Perth Zoo in October 2010. 2 found in ponds were left and 4 had shed their transmitters.

Due to additional supplementation there are plans to conduct another translocation at TSNR in 2011 of 30- 50 individuals.

Action 6 – Education, Sponsorship and Publicity

The Perth Zoo provided a grant of DEC of \$4790 for a nominated in-situ project (Mogumber habitat restoration) as part of the Wildlife Conservation Action funding program. This project was undertaken in 2010 with up to 3000 seedlings planted at Mogumber.

There was a article and photo in the West Australian newspaper on the ARC Linkage project. In addition the newspaper separately featured WST in a threatened species article.

Midland Brick has offered \$30,000 in sponsorship to assist in funding the Perth Zoo Captive breeding facility upgrade.

Event conducted to release 15 tortoises to Moore River NR was held in July 2010 involving Perth Zoo, DEC, FoWST and interested members of the public and media bodies. The event was highly successful with considerable media coverage including a Channel 10 news story. The Environmental Minister also published a media release on the translocation of WST at Moore River.

Assessment of progress towards meeting criteria for success (from Recovery Plan)

Good progress has been made in 2010 towards meeting the following criteria of success:

- presence of a population of more than 50 adult, sub-adult and juvenile tortoises at Mogumber Nature Reserve by 2011;
- The total number of adult wild *Pseudemys umbrina* being >50 as indicated by KTBA data for 2011;
- the creation of a population from captive-bred animals at Moore River Nature Reserve.

However, the final evaluation if these criteria will be met will only be possible retrospectively at the completion of the current recovery plan cycle in 2015.

Assessment against criteria for failure (from Recovery Plan)

Below average rainfall and wamer winter temperatures resulted in marginal conditions for the tortoises this year. This limited the possibility for successful translocations and may have impacted the tortoises ability to breed and to naturally recruit. If the next years are dry like 2010 two of the three criteria for failure will be challenging to avoid meeting by 2015:

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| | <ul style="list-style-type: none">- continuing decline in numbers of adult Western Swamp Tortoise in the wild (mortality particularly of breeding females appears to increase in dry years);
and- the maintenance of more than 50% of the non-hatchling world population of <i>P. umbrina</i> in a single captive colony (dry years limit the possibility of translocations and numbers in captivity build up). |
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