

Fauna monitoring report (June 2007)
Western Shield Fauna Recovery Program
Department of Defence Land - Bindoon

During the week of 25-29 June 2007 the Department of Environment & Conservation's (DEC) Perth Hills District completed the annual Western Shield fauna monitoring on behalf of the Department of Defence in Bindoon Defence Training Area (Bindoon DTA).

The fauna monitoring program complements the aerial baiting program, which together forms the Western Shield campaign, a widespread program that aims to control foxes and subsequently enable native fauna to recover in areas they have declined or disappeared due to fox predation. Bindoon DTA is one of the areas that has been targeted for fox baiting as part of the Western Shield campaign and the annual fauna monitoring undertaken by DEC's Perth Hills District aims to demonstrate the effect of this baiting on presence and abundance of native fauna that are returning to this large area of vegetated habitat.

The 2007 trapping regime in Bindoon DTA was increased from previous years by setting 120 Sheffield cage traps for 4 nights on both an established transect, a transect used once before in 2005 and 2 new transects. The established transect was South Road, which has been used annually as part of the fauna monitoring in Bindoon DTA since its inception. 60 traps were set at 200m intervals running south from Roberts Road until almost Barretts Crossing (see attached map). For the new transects, 20 traps were set for the first time along a west-east track in the north section of Bindoon DTA (code named Bindoon North), 20 traps were set further south along a west-east track that goes past Sneaker Range (code named Bindoon Central) and 20 traps were set in the southern end of Bindoon DTA along Signals Road (see highlighted sections on attached map that shows the transects used). Bindoon Central had previously been trapped along once before in 2005.

All traps were checked daily and all captures processed and recorded on data sheets. Measurements recorded included weight, gender, head length and pes length. New animals were ear tagged with individual identification numbers and animals trapped with an existing ear tag were recorded as a recapture.

All the animals caught in Bindoon DTA in June 2007 were chuditch, *Dasyurus geoffroii*. This is similar to previous years other than the odd echidna or feral cat that have previously been caught.

The table below shows the number of chuditch that were caught along each transect.

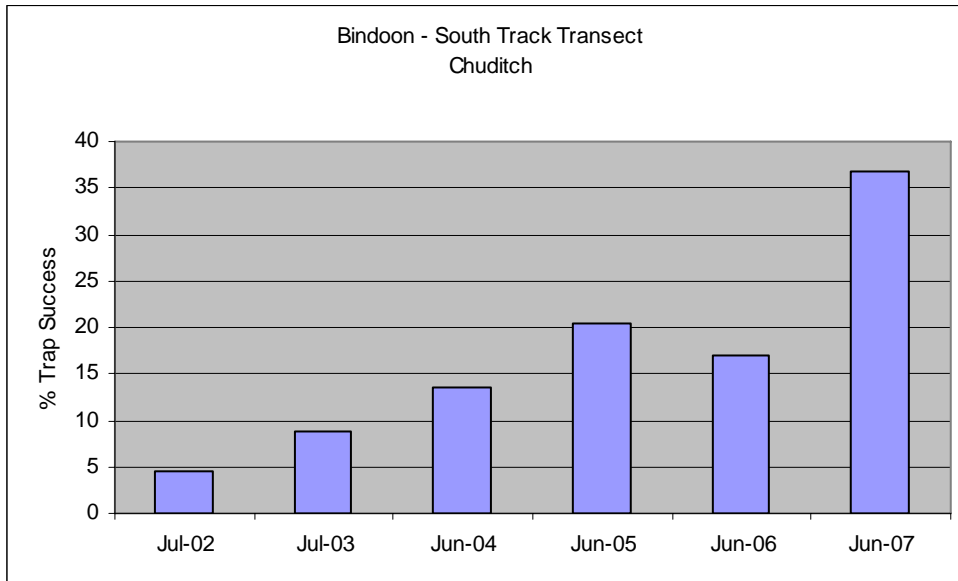
	South Road	Bindoon North	Bindoon Central	Signals Road
New	21 Males 10 Females	1 Male	8 Males	4 Males 4 Females
Recapture	9 Males 7 Females, 4 of which had tiny pouch young.			4 Males
Retrap	27 Males 14 Females	1 Male		3 Males 2 Females
TOTAL CAPTURES	88	2	8	17

NB. New = animals caught for the first time, ear tagged with a unique identification number, gender and growth measurements recorded.

Recapture = animals captured in a previous year's trapping session, ear tag details, gender and growth measurements recorded.

Retrap = animals already captured on an earlier day during the current trapping session.

The graph below shows the number of chuditch caught in traps along South Road as a percentage of the number of traps set, over time.



Some observations from the results:

- 64 different individuals were trapped over the course of the 4 nights, 43 were males and 21 were females. Of the 48 new animals caught, 34 were males and 14 were females.
- The majority of animals were trapped along the South Road transect. The reason for the concentration of chuditch in this area is unknown.
- Only 4 females were caught that were carrying young. This could be because it was early in the breeding season and other females were yet to mate or give birth to their young. All the females caught with young were recaptures from previous years, meaning they were more than a year old and had been sexually reproductive before. Many of the females caught as new animals were probably last year's young and only coming into breeding season for the first time. NB One of the main reasons the trapping is undertaken at this time of year is to minimise stress on female chuditch, who would be carrying much larger young if trapped later in the year.
- There were more males than females that were caught overall. This is likely to be because it was breeding season and males were roaming across the landscape looking for females. They would have been more likely to encounter a trap. Females would have been more likely to remain in their own territory.

These results clearly indicate a remarkable increase in the number of chuditch that are occupying habitat within Bindoon DTA. The 2007 trap success rate of 36.7% along South Road is absolutely exceptional and there are no other monitoring sites in WA containing chuditch that are anywhere near comparable to Bindoon for the numbers of individuals caught during similar trapping programs.

In contrast, the adjacent Julimar State Forest, from where it is assumed that the chuditch in Bindoon DTA have migrated and established since the commencement of fox baiting, had a population peak in 1998 with a trap success rate of 8.73%. This has now declined to an average annual trap success rate of around 4%, which Julimar seems to be sustaining from year to year. The eventual population density at which chuditch will stabilise in Bindoon DTA is unknown as their numbers are still increasing at the moment. However, what is certain though is the correlation between fox baiting and the ability for this species to be able to colonise the habitat at Bindoon DTA as fox numbers have been controlled. It is a clear demonstration of the benefit of fox baiting and the need to continue this baiting so that chuditch and other native fauna species can re-occupy a niche they would have once inhabited prior to the dominant predatory effect of foxes.

The Department of Environment and Conservation would like to thank the Department of Defence for their continued support of the Western Shield Program. If you would like any further information please contact Stefan de Haan at DEC's Mundaring office on 9295 9105.



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