



CALM LIBRARY ARCHIVE
NOT FOR LOAN

CHUDITCH RECOVERY TEAM

ANNUAL REPORT

1994

by

Keith Morris and Peter Orell

for

The Chuditch Recovery Team

Property and copyright of this document is vested jointly in the Director, National Parks and Wildlife Service, Australian Nature Conservation Agency, and the Executive Director, WA Department of Conservation and Land Management.

ARCHIVAL

The Commonwealth disclaims responsibility for the views expressed.

599.

237

(941)

MOR-CHV

Department of Conservation and Land Management
Western Australian Wildlife Research Centre
PO Box 51, Wanneroo, WA 6065.

SUMMARY

This document reports on the third year of implementation of the chuditch recovery plan. Financial support continued from ANCA's Endangered Species Program, World Wide Fund for Nature (utilising a grant from Alcoa), and CALM. The revisions to the plan commenced in 1993 were finalised and satisfactory progress has been made on all actions. Studies into the impact of prescribed burning regimes and timber harvesting on chuditch and other threatened mammals commenced in the jarrah forest of south west WA. The completion of the research into the impact of fox control on chuditch enabled CALM to commence Operation Foxglove in May 1994 whereby 450 000 ha of jarrah forest will be regularly fox baited to enhance the conservation of fauna, including chuditch. Population monitoring continued at Mundaring, Batalling and Kingston. The captive breeding colony was maintained at the Perth Zoo. One litter of six was born in captivity, another six young were in the pouch of an injured female chuditch taken to the Zoo for treatment. Sixteen 1993 captive born young were released into Julimar Conservation park in May. Monitoring of the reintroduced population at Julimar continued and numbers appear to have stabilised in the monitoring area. Negotiations were completed with the Department of Defence about the use of the adjacent Bindoon Training Area for chuditch conservation.

1. INTRODUCTION

The Chuditch Recovery Plan was prepared in November 1991 and revised during 1993/4 to reflect changes in actions and budgets. The major change was the inclusion of a trial translocation to Julimar Conservation Park before attempting a translocation to the semi arid areas. The first recovery objective was modified slightly to "Average daily trap success rates at monitoring sites in Jarrah forest remaining at or increasing above 1%", and an additional recovery objective "The maintenance of a population in at least one semi arid monitoring site" was included. The revised recovery plan was approved by the CALM Corporate Executive, Lands and Forest Commission, National Parks and Nature Conservation Authority and the Western Australian Minister for the Environment during 1994. The plan will be published as a CALM Wildlife Management Program early in 1995.

2. RECOVERY TEAM

The Chuditch Recovery Team met twice in 1994; on 29 July at the Perth Zoo, and on 6 December at Dryandra Woodland. The Minutes from the July meeting formed the basis of a Progress Report for 1994. Membership of the recovery team is as follows:

Mr Keith Morris	(Chair)	CALM Woodvale
Mr Peter Orell		CALM Woodvale
Dr Andrew Burbidge		CALM WATSCU
Ms Sally Stephens		ANCA ESU
Mr John Gardner		Alcoa
Dr Ray Nias		WWF
Dr Graham Hall		Perth Zoo
Mr Bob Hagan		CALM SFR
Mr John Skillen		CALM CFR
Mr Paul Brown		CALM Swan Region
Mr David Mitchell		CALM Wheatbelt Region

A representative from CALM's Wildlife Branch no longer attends Recovery Team meetings.

3. RECOVERY PLAN STATUS AND FUNDING

The recovery plan completed its third year of implementation in 1994, and was fully funded by ANCA, WWF (Alcoa grant), CALM and Perth Zoo.

4. PROGRESS ON RECOVERY ACTIONS

Habitat Management

Action 3.1 - Research into effects of prescribed burning regimes on chuditch:

Pre burn information on refuge sites and movement patterns of chuditch was obtained at Batalling prior to the prescribed spring burn in September. Post fire monitoring suggests that this very patchy and cool burn had little impact on chuditch in the area. Den logs, which contained dependent young at the time of the fire, were not burnt and there was no apparent mortality among adult chuditch. There was some indication that two of the females started using den logs outside the burn area following the fire.

Action 3.1.2.1 - Effectiveness of silvicultural guidelines:

Pre logging sampling at the Kingston study site commenced in March. Information on abundance, distribution and refuge sites of chuditch and other threatened mammals has been collected but not yet analysed. Trap success rates for chuditch range between 0.5 - 1.0 % and ten animals have so far been fitted with radio collars. Logging is due to commence in February 1995.

Action 3.1.3 - Rehabilitation after surface mining:

During 1994, Alcoa conducted fauna trapping programmes in unmined forest at Jarrahdale and Willowdale, and in rehabilitation at Huntly and Willowdale. One male chuditch was trapped in an unmined area of upland forest at Willowdale North. This is the third chuditch trapped at Willowdale since mid-1993 and confirms that a small population is present in the area. The Willowdale North trapping programme involved a total of 280 trap nights (using cage traps and large Elliott traps) representing a success rate of 0.35 %. In the other trapping programmes, no chuditch were trapped in unmined forest at Jarrahdale (240 trapnights), and in rehabilitation at Huntly (240 trapnights) and Willowdale (208 trapnights). At all sites, fox baiting only commenced in June, so recoveries in chuditch numbers would not yet be apparent. Trapping conducted in 1993 and 1994 has provided useful baseline data against which future increases in the densities of chuditch and other mammal species can be assessed.

Construction of fauna habitat dens and corridors continued at Jarrahdale and Willowdale minesites. The dens consist of one or more logs, stumps or rocks partly covered with soil and arranged to provide shelter and burrowing sites for chuditch and other mammal and reptile species. Corridors consist of logs and stumps placed in rehabilitated areas and connecting areas of unmined forest. The extent to which dens and corridors are used by indigenous mammal species will not become apparent until their numbers increase following fox baiting.

Action 3.1.4 - Clearing of habitat:

The proposal to harvest timber in Kerr forest block, near Balingup, resulted in a dispute between the WA Government and conservation groups. The chuditch was known to occur in the area. The conservation groups were successful in obtaining an injunction to prevent logging in the area and lawful proceedings are now underway.

Research into effects of fox baiting

Action 3.2 - Monitoring of the Batalling chuditch population continued as part of other research (woylie monitoring, impact of prescribed burning on chuditch). Trap success rates reached 8.5 %, the highest for any known population of chuditch. Body weights of males and females in August averaged 1 100 g and 700 g respectively and have declined compared with previous body weights at lower abundances.

The success of the research into the impact of fox baiting on chuditch has enabled CALM (with Alcoa support) to commence Operation Foxglove in June, whereby 450 000 ha of jarrah forest is baited to control foxes. An extensive fauna monitoring program has been commenced to determine the most effective baiting regime at this scale. The Batalling area has been incorporated into Operation Foxglove and the adjacent forest previously used as an unbaited control is now being baited four times a year. A monitoring transect for woylies has been established in this area and chuditch numbers will also continue to be monitored.

Population Monitoring

Action 3.3 - Chuditch monitoring continued at Mundaring, Batalling and Kingston. All these sites are now subject to fox control and trap success rates at Mundaring and Kingston are expected to increase above the present levels of 0.5 - 1.0 %. Chuditch also occur at several of the Operation Foxglove monitoring sites and their numbers will be assessed as fox control proceeds.

The diet of chuditch at Batalling was assessed through scat analysis. Invertebrates were in approximately 66 % of the scats examined, a result similar to that for chuditch in the Dwellingup area. Interestingly mammal remains, including threatened numbat, woylie and quenda, were found in 13 % of the scats examined and attempts at trying to establish a numbat population at Batalling has shown that the chuditch is a significant predator of this diurnal species.

Semi arid Research

Action 3.4 - Several surveys of wheatbelt reserves were undertaken by CALM staff during 1994 in an attempt to locate a population of semi arid chuditch suitable for research into their biology and requirements. Semi arid animals were also required to establish a separate captive breeding colony to provide for semi arid translocations. The areas surveyed and the results are shown in Table 1. After 7 000 trapnights only one male was trapped in the wheatbelt. It was interesting that this animal was also trapped in 1990 at Lake Magenta Nature Reserve and must have been at least 5 years old when re-trapped in 1994. This animal was taken to the Perth Zoo where blood and ear tissue was taken for DNA analyses. The animal died in captivity in December 1994.

Reserve name	Area	Number of trapnights	Result
Lake Magenta Nature Reserve		1050 (April) 1 400 (July)	no chuditch trapped one male chuditch trapped.
North Kalgarin Nature Reserve	5 168 ha	250 (April) 250 (July) 200 (Oct)	no chuditch trapped no chuditch trapped no chuditch trapped
Reserve No. 31111	3 000 ha	520	no chuditch trapped, recorded Heath Rat, Brushtail Possum and Brush Wallaby
Dongolocking Nature Reserve	1 400 ha	1 000	no chuditch trapped
Boolenalling Nature Reserve	669 ha	482	no chuditch trapped
Frank Hann National Park		1 800 (Sept)	no chuditch trapped

Table 1. Summary of chuditch surveys in the wheatbelt during 1994.

Additional surveys for chuditch were undertaken in the Fitzgerald River National Park and Ravensthorpe Range without success. A confirmed chuditch road kill was found just to the east of the town of Ravensthorpe. Dragon Rocks Nature Reserve (24 000 ha) will be surveyed for chuditch in 1995.

Captive Breeding

Action 3.5 - One litter of six young (3.3.0) was produced from one captive female. Another six young were produced by a wild caught female (from Batalling) brought to the Zoo for veterinary treatment in June. Sixteen (7.9.0) 1993 captive born young were released at Julimar in May. Twenty eight (12.16.0) remain at the Zoo, 15 of these are surplus to requirements and will be released or given to other Zoos. Two wild caught adult males will be acquired in 1995 for the breeding colony. Seven chuditch (one female and six young) were put on display in the nocturnal house.

A serological investigation of chuditch from Julimar, Batalling and Perth Zoo was completed under contract to Stephanie Haigh in 1994. Blood samples from animals from Julimar and Batalling were found to be positive to the protozoan parasite *Toxoplasma gondii*, although the clinical symptoms of toxoplasmosis were not apparent. This disease requires cats and another intermediate host for transmission. Perth Zoo animals tested negative to *Toxoplasma*. All chuditch tested negative to the zoonotic bacterium *Leptospirosis interrogans* and *Chlamydia psittaci*. A report on this study is lodged at the CALM Woodvale library.

Translocation

Action 3.6 - The translocated population at Julimar Conservation Park was monitored in August. Trap success rates over the monitoring transect have remained constant since January 1993 (Table 2), suggesting that numbers have stabilised in this area. A survey to establish occupancy of other areas of Julimar is required and will be undertaken in 1995. A further 16 captive bred Chuditch were released into Julimar in May 1994. These were released to the east of the present monitoring transect and none were trapped during the August monitoring.

Monitoring Period	Trap Success (%)
January 1993	3.1
May 1993	3.0
September 1993	1.9
November 1993	2.1
August 1994	3.1

Table 2. Chuditch trap success rates at Julimar Conservation Park

The Department of Defence has agreed to providing funds from 1995 for the aerial fox baiting of the southern half of the Bindoon military training area, which adjoins the northern boundary of Julimar Conservation Park. This will provide better protection for chuditch which may disperse into the training area from Julimar and provides an additional 10 000 ha of suitable chuditch habitat in the area.

5. BUDGET

During 1994, both the ANCA Endangered Species Program and World Wide Fund for Nature (with a grant from Alcoa of Australia Ltd) contributed significantly to the implementation of the chuditch recovery plan. ANCA provided \$ 58 700 and \$ 42 900 was received from WWF. CALM contributed \$ 55 000 to the implementation of the recovery plan through salaries for a research scientist and district staff, and vehicle standing fees. The Perth Zoo contributed \$ 10 900 through staff salaries and vehicle running costs.

The ANCA grant included \$ 26 400 for assistance with the maintenance of the captive breeding and health management program at the Perth Zoo.

This was the last year of funding of the chuditch recovery plan by WWF (Alcoa grant) under the present agreement. The support for this programme over the last three years by WWF and Alcoa is appreciated and duly acknowledged.

6. CONCLUSIONS

The implementation of the chuditch recovery plan progressed well in 1994. The broadscale fox baiting of the jarrah forest commenced and this will enhance chuditch populations and provide the opportunity to reconstruct the forest medium sized mammal fauna. The survey for chuditch in the wheatbelt had disappointing results and the likelihood of establishing a distinct semi-arid captive breeding colony may need to be reassessed. Major studies into the impact of forest management activities on chuditch and other forest fauna were commenced and good progress was made on these. By being included on the 09 (Perth) Telecom White Pages cover in 1994, the chuditch recovery program was also used to promote the role of government, business and community in the conservation of our threatened species.