

# CHUDITCH RECOVERY TEAM

## ANNUAL REPORT

1996

by  
Keith Morris  
for the Chuditch Recovery Team

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## SUMMARY

This report covers the fifth year of implementation of the Chuditch recovery plan. Financial support continued from Environment Australia's Endangered Species Program, CALM, Perth Zoo and Department of Defence. Satisfactory progress has been made on all actions and a five year review was prepared for Environment Australia on which decisions relating to future funding will be based. Studies into the impact of prescribed burning regimes and timber harvesting on Chuditch and other threatened mammals continued in the jarrah forest of south west WA. All impact treatments have now been implemented. Sampling up to 12 months post impact suggest that none of these disturbances have had a detrimental impact on Chuditch abundance or condition. Population monitoring continued at Mundaring, Batalling and Kingston as well as at several sites in the northern jarrah forest as part of the research associated with Operation Foxglove. The captive breeding program continued successfully at Perth Zoo and 43 young were weaned during the year. Monitoring of the reintroduced population at Julimar continued and the more intensive ground fox control appears to have contributed to the spread of Chuditch to peripheral areas. Work in the wheatbelt concentrated on planning and implementing a translocation to Lake Magenta nature reserve. Monitoring up to four weeks post release indicates that Chuditch were establishing successfully.

## 1. INTRODUCTION

This document reports on the fifth year of implementation of the Chuditch recovery plan.

## 2. RECOVERY TEAM

The Chuditch Recovery Team met twice in 1996; on 25 June at Perth Zoo and on the 19 November at CALM's Wildlife Research Centre, Woodvale. The Minutes from the June meeting formed the basis of a Progress Report for 1996. Membership of the recovery team for 1996 was as follows:

Mr Keith Morris (Chair)	CALM Woodvale
Mr Peter Orell / Mr Brent Johnson	CALM Woodvale
Dr Andrew Burbidge	CALM WATSCU
Ms Sally Stephens / Ms Stephanie Maxwell	Environment Australia, TSCU
Mr John Gardner	Alcoa
Ms Denise True	World Wide Fund for Nature, Australia
Dr Mark Bradley	Perth Zoo
Mr Bob Hagan	CALM Southern Forest Region
Mr Kim Williams / Mr Rob Brazell	CALM Central Forest Region
Mr David Mitchell	CALM Swan Region
Mr Mal Graham	CALM Wheatbelt Region

## 3. RECOVERY PLAN STATUS AND FUNDING

The recovery plan completed its fifth year of implementation in 1996, and was fully funded by Environment Australia, CALM and Perth Zoo. The Department of Defence fund the baiting on the Bindoon military training area, adjacent to Julimar conservation park. A review of the recovery plan was prepared during 1996 and the outcome of this will determine whether funding from Environment Australia is continued.

Under the IUCN (1994) criteria, Chuditch should now be regarded as Vulnerable, rather than Endangered, and this status will be included in the revised Marsupial and Monotreme action Plan (Maxwell *et al.* 1996). The recovery plan objective would now be to downlist its conservation status to Lower Risk by 2001.

## 4. PROGRESS ON RECOVERY ACTIONS

### Action 1 - Habitat Management

#### Research into effects of prescribed burning regimes on Chuditch:

An investigation into the effect of management strategies (prescribed burning and fox control) on the home range of Chuditch was undertaken at Batalling as part of an Honours degree in natural resource management by Ms Harriet Mathew (Mathew 1996). Monitoring at Batalling was undertaken in March (pre-autumn burn) and July (post-autumn burn). Trap success rates increased following the prescribed burn in April but this probably reflects a seasonal variation in Chuditch trap success rates

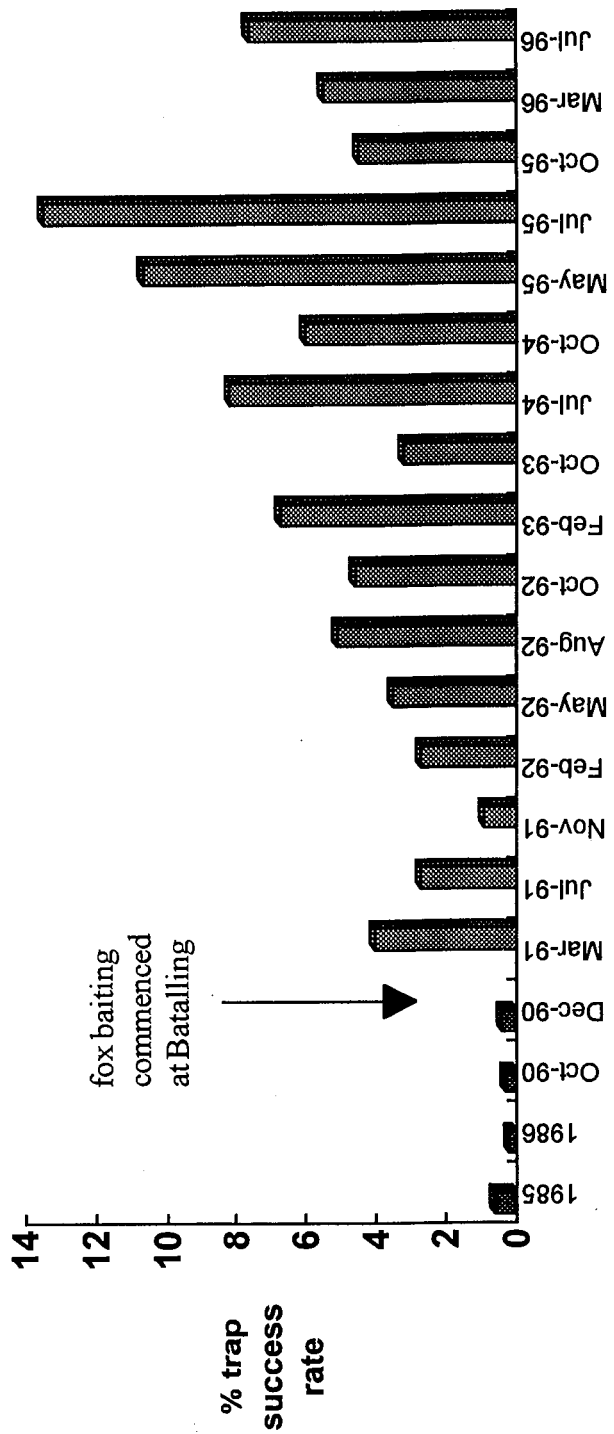
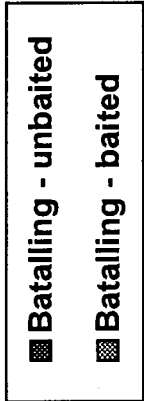
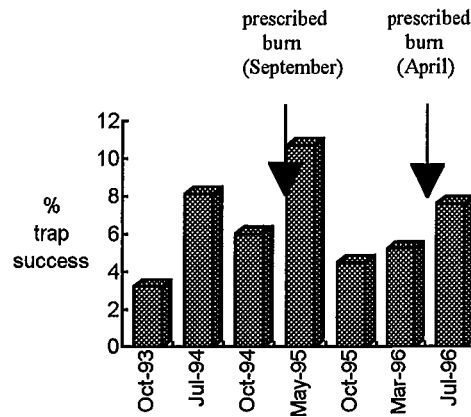


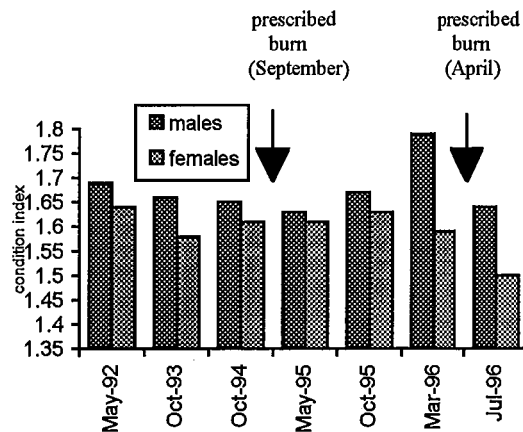
Figure 5. The impact of fox control on Chuditch at Batalling forest

rather than a response to the prescribed burn. These data do suggest, however, that prescribed burning at this scale (4 000 - 6 000 ha burns) in either spring or autumn do not detrimentally impact on Chuditch.



**Figure 1. Chuditch trap success rates at Batalling before and after a prescribed spring burn.**

While the condition of Chuditch, measured as the cube root of body weight divided by the long pes measurement, has fluctuated at Batalling over the last three years with females declining in condition in July 1996 (Figure 2), it would be difficult at this stage to attribute this to prescribed burning. Again it is more likely seasonal climatic factors and reproductive status that have led to the changes observed. Monitoring will continue to determine this.

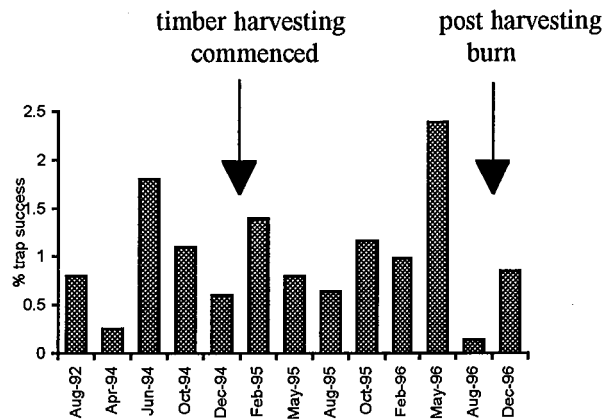


**Figure 2. Condition of Chuditch before and after prescribed burns at Batalling.**

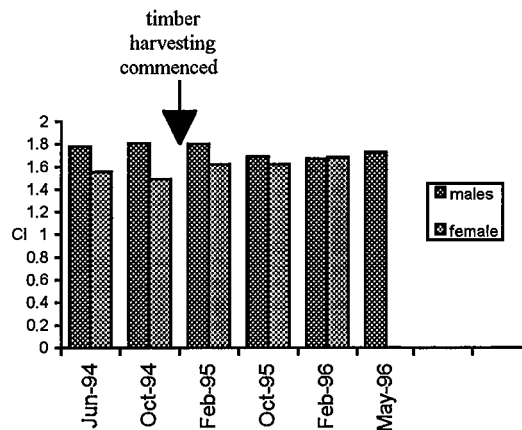
**Effectiveness of silvicultural guidelines:**

An interim report on the impact of timber harvesting and associated activities on medium-sized mammals in the jarrah forest was prepared (Morris *et al.* 1996). Abundance of Chuditch, as estimated by trap success rates, does not appear to have been affected by timber harvesting activities at the Kingston study site (Figure 3). Post-logging trap success rates for Chuditch along road transects varied significantly,

ranging between 0.2 % and 2.3 %. No population trend is apparent, either following the commencement of fox control in December 1993, or following timber harvesting. It should be noted that trap success rates for all medium-sized mammals at Kingston exceeds 60% and that competition for traps may be a factor in low Chuditch trap success rates. Similarly there is no difference in the condition of male and female Chuditch before and up to twelve months after timber harvesting (Figure 4). All of the females trapped in 1996 had produced young.



**Figure 3. Chuditch trap success rates along road transects at the Kingston timber harvesting study site.**



**Figure 4. Condition of Chuditch before and after timber harvesting at Kingston.**

**Rehabilitation after surface mining:**

During 1996, Alcoa conducted fauna trapping programs in unmined forest north east of the Huntly mining operations. The program involved a total of 240 trapnights. No Chuditch were trapped. At all three Alcoa mines, fauna sightings by field staff are recorded and stored on an Excel database and GIS generated maps. During 1996, two Chuditch sightings were recorded at the Jarrahdale mine, nine at Huntly and seven at Willowdale. Fox baiting as part of Operation Foxglove has continued at all sites and it is possible that Chuditch abundance is increasing, however continued monitoring is required to confirm this.

Fauna habitat dens and corridors are now routinely constructed at all three mines. Dens consist of one or more logs, stumps, or rocks 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 use of dens and corridors by fauna will be monitored as rehabilitation matures.

Advice was provided to Worsely Alumina about management of Chuditch in the bauxite mine sites at Boddington. Guidelines for providing adequate refuge sites and vegetation in rehabilitated minesites, fox control, prescribed burning and workforce awareness were included. A copy of the report is attached.

**Community involvement:**

Stephanie Maxwell prepared a report on the Community Involvement Program which she coordinated in 1995. A copy is attached. In February, the "Friends of the Chuditch" community group held a workshop in Bunbury on the role and use of 1080 in Chuditch conservation. Information on the response of Chuditch to 1080 fox control was presented. This group is also preparing a Community Action Plan for Chuditch conservation, however CALM has had little input into the preparation of this. CALM scientists were not invited to participate in another workshop on the impact of prescribed burning on Chuditch and other fauna.

**Action 2 - Research into effect of fox baiting**

Monitoring of the Batalling Chuditch population continued as part of other research (Woylie monitoring, impact of prescribed burning on Chuditch). Seasonal variation in trapability of Chuditch was again obvious with trap success rates being higher in July than in October. Trap success rates appear to have stabilised at between 5 and 8 percent at Batalling, reflecting a significant increase on trap success rates before fox control was implemented (Figure 5).

Mathew (1996) found a significant reduction in home range size for both males and females at Batalling compared with those in forest where there was no fox control undertaken (Serena and Soderquist 1989). Male home range area was 509 -719 ha (compared with 1500ha) and female home range area 278 - 314 ha (compared with 900 ha). This suggest that competition with foxes for food resources may be a limiting factor for Chuditch abundance in the Jarrah forest.

**Action 3 - Population Monitoring**

Chuditch were monitored in the Mundaring District twice in 1996; in May and November. Two standard transects were used each time; one north of the Mundaring Weir and the other south. Results of this monitoring compared with 1994 are shown in Table 1. Although no Chuditch were trapped on the southern transect, previous road kills indicate that a population does exist in this area.

	North transect (% trap success)	South transect (% trap success)
February 1994	1.7	not trapped
May 1996	3.6	0
November 1996	2.3	0

**Table 1. Chuditch monitoring in Mundaring District.**

Trap success rates for Chuditch at Operation Foxglove fauna monitoring sites in the northern jarrah forest range between 0 and 2.3 percent (de Tores 1996). Chuditch have now been recorded from 21 of the 49 monitoring sites, two more than 1995. It is not yet possible to determine a response to the fox control, however the seasonality in trapability of Chuditch is again obvious with higher capture rates at all baited sites in the winter months.

#### **Action 4 - Semi arid Research**

No further reports of Chuditch in semi arid parts of WA were received in 1996. Further research will be associated with the translocated population at Lake Magenta.

#### **Action 5 - Captive Breeding**

The captive colony at Perth Zoo presently (December 1996) comprises 61 Chuditch (27.34.0). During 1996, ten out of 18 females paired produced 48 young, 5 of which disappeared at a very early stage. Forty three young (22 females, 21 males) were weaned at the Perth Zoo in 1996. All were microchipped. A total of 153 Chuditch have now been born and raised in captivity at Perth Zoo since the captive breeding program commenced in 1989 (Table 2). Two males and two females died during the year, one male and one female were euthanased. Another male was relocated to the Big Swamp Wildlife Park, Bunbury. Thirty one (18 females, 13 males) were released at Lake Magenta nature reserve in October 1996.

Year	# held	# births	# deaths	# released into wild	# from wild
1989	3.6.0	0	0.3.0	0	0
1990	11.9.0	7.5.0	1.0.0	0	1.1.0
1991	16.14.2	4.5.2	1.0.0	0	2.0.0
1992	24.33.2	8.17.0	3.3.0	12.11.2	1.2.0
1993	9.19.0	11.12.0	0.2.0	9.9.1	3.3.0
1994	23.25.0	3.3.0	0.2.0	10.8.0	5.4.0
1995	13.15.0	17.18.2	5.2.2	2.0.0	3.1.0
1996	27.34.0	21.22.5	3.3.5	13.18.0	0.0.0

**Table 2. Summary of the captive breeding program at Perth Zoo (# males.# females.# unsexed).**

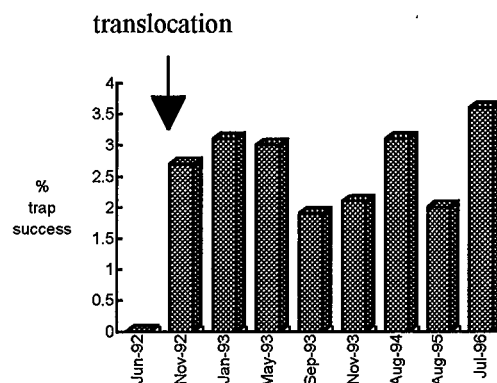


The captive colony had relatively few health problems in 1996. One female and her young developed dermatitis which was treated with skin washes and anti-inflammatory drugs. Twenty new Chuditch cages have been constructed and the colony will ultimately be located at the threatened breeding centre being established at the zoo.

Zoo veterinarians spent five days with CALM at Julimar Conservation Park during the annual monitoring of the reintroduced Chuditch population. Trapped animals were microchipped if required, bled for health examination and toxoplasmosis titers, weighed and had cloacal cultures taken.

### Action 6 - Translocation

The translocated population at Julimar Conservation Park was monitored again in July. A wider area was again sampled at this time to examine the extent of dispersal of Chuditch since their release. A higher trap success rate of 3.6 % was obtained (Figure 6) and animals were caught to the east of Julimar Brook. This suggests that Chuditch have now spread out to the eastern and northern parts of Julimar as a result of additional ground fox baiting implemented in late 1995.



**Figure 6. Chuditch trap success rates at Julimar Conservation Park**

Baiting of the southern half of the Bindoon military training area continued and is now incorporated into the regular (3 monthly) baiting of Julimar and much of the northern jarrah forest as part of Operation Foxglove.

Planning for a translocation of Chuditch to Lake Magenta nature reserve continued in 1996. Following a reconnoitre in March, release sites were determined and a translocation proposal prepared and approved. Twenty nine Chuditch (17 females, 12 males) were transported by road to Lake Magenta nature reserve on 21 October. Animals were released in the central part of the reserve (between B3-C3) from 2000 hrs at 200 m intervals, alternating male and female as much as possible. Twenty of these were fitted with mortality radio-collars. Another two Chuditch were released on 7 November. Intensive ground and aerial monitoring was then undertaken for six weeks. This has shown that the Chuditch quickly selected good refuge sites, either burrows or hollows in fallen timber. Two Chuditch are known to have died, both probably because of predation. Large movements (>10km) have been recorded.

Individuals trapped 14 days after release were in good condition but had lost between 7% and 19% of their release body weight. Scats contained a large proportion of invertebrate material.

Fox control using aerial and perimeter ground baiting with 1080 dried meat baits, commenced at Lake Magenta in May 1996 and is being repeated every three months. Cyanide transects pre- and post-baiting indicated that after two baitings fox control was almost 100 percent (Dave Algar *pers comm.*). Feral cats are known to be present in the nature reserve.

Under the Western Shield program, it is proposed to translocate Chuditch to Cape Arid national park, Stirling Range national park, and Dragon Rocks nature reserve over the next five years. This, in addition to translocations proposed under the recovery plan should ensure Chuditch conservation in the semi arid wheatbelt.

## **5. BUDGET**

The recovery program was fully funded for 1996 with the Environment Australia Endangered Species Program contributing \$121 900, primarily for operating costs and a technical officer salary, and CALM contributing \$51 800, primarily for 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 Environment Australia grant included \$6 400 for assistance with the maintenance of the captive breeding and health management program at the Perth Zoo. The Department of Defence contributed \$4 500 to the fox baiting program at the Bindoon military training area.

## **6. CONCLUSIONS**

The implementation of the Chuditch recovery plan proceeded satisfactorily in 1996. While research into the impacts of prescribed burning and timber harvesting will continue, the focus for Chuditch conservation will now become the semi-arid wheatbelt. The Western Shield program will provide the opportunity to ensure Chuditch conservation in this area.

## **7. REFERENCES**

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- Mathew, H. (1996). An investigation into the effect of management strategies on the home range of Chuditch (*Dasyurus geoffroii*). Honours thesis, Faculty of Agriculture, The University of Western Australia.
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Serena, M., Soderquist, T.R., and Morris K.D. (1991). *Western Australian Wildlife Management Program No. 7: The Chuditch*. Department of Conservation and Land Management, Como, WA.

**World Wide Fund for Nature**

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**Project 206  
Community Involvement In Chuditch Conservation**

**FINAL REPORT**

**Stephanie Maxwell  
February 1996**

**Project Aim:**

To assist and promote community awareness and participation in the conservation of the Chuditch.

**Project Objectives:**

- To develop and distribute information regarding the Chuditch and the Recovery Plan to interested persons, groups and communities.
- To identify, in association with CALM and the Chuditch Recovery Team, activities that can be carried out by the community to support the objectives of the Recovery Plan.
- To provide assistance to community groups in raising awareness and participation in the recovery plan process.

**INFORMATION DEVELOPMENT AND DISTRIBUTION:**

- A display on the Chuditch and the Recovery Plan was developed and used at the project launch, for a public meeting in Albany, the Chuditch Convention in Balingup and sent on loan to Brookton Wildflower Show. The display was designed to be easily transported by mail to assist with lending to groups outside Perth.
- The Recovery Team's brochure was produced in August 1995 and more than 500 copies were distributed in the following six months. Bulk requests were received from Dwellingup Information Centre, Western Power, Yallingup LCDC and CALM Nannup, Busselton and Kalgoorlie. CALM was to arrange for distribution of bulk copies of this brochure to regional and district offices throughout the range of the Chuditch.

**Recommendation: Confirm that the Recovery Team's brochure has been distributed in bulk to CALM offices. Arrange for distribution in bulk to other venues throughout the range of the Chuditch.**

- CALM and Alcoa provided materials for distribution in response to public enquiries on the Chuditch.
- A newsletter called *Chuditch Tracks* was distributed in August 1995 to over 300 addresses. The Recovery Team's brochure was included in the mailout. A second mailout was completed in February 1996 with a brief circular and a Friends of the Chuditch brochure and T-shirt order form.

**Recommendation: The mailing list developed through this project should be maintained and used by the NTSN for distribution of information relating to community involvement in threatened species conservation in the south-west and Wheatbelt.**

- A school resource kit was developed including speaking notes, brochures, activity sheets, background information and a set of 16 laminated photographs. It is designed to help teachers or members of the community present information on the Chuditch to primary school classes. The kit is available free of charge, however the photographs must be returned after use. The kit was trialed at Beckenham Primary School and schools in Albany during 1995. It has been promoted through a Greenteach workshop for teachers on forest-related and through an item in *School Matters* which is distributed to all schools in WA by the Department of Education.

**Recommendation: The school kit should be widely publicised, particularly through Perth Zoo Education's Zoo News in term 2 of 1996.**

- Melbourne Zoo and the ANCA Endangered Species Program have a project to put information about community action for endangered species on the Internet. An early draft of the Recovery Team brochure was included in the pilot project, and more detailed information on the Chuditch, Recovery Plan and Friends of the Chuditch is being.

**Recommendation: I will continue to compile information about the Chuditch, the Recovery Plan, Friends of the Chuditch and WWF for the ANCA Internet site and arrange for its addition. Perth Zoo will be consulted during development of the material.**

- Alcoa has produced a video feature on the Chuditch and this project. Keith Morris and I assisted with filming in the field.

**Recommendation: Footage taken during this shoot be obtained for publicity and educational use.**

#### **VOLUNTEERS AND COMMUNITY INVOLVEMENT:**

- A launch of the project was held at Herdsman Lake Wildlife Centre. The function was attended by about 30 people, including members of the Chuditch Recovery Team, representatives of government and non-government organisations, community-based groups and individuals.
- Community interest generated by media coverage associated with the launch of the project was strong. Contacts were entered on a database, along with other organisations relevant to the project including CALM local and regional offices, media, environment centres and organisations, public libraries and tourist information bureaus.
- Two volunteers assisted with monitoring Chuditch and other fauna at Julimar Conservation Park in August 1995.

#### **OTHER LIAISON:**

- I participated in major survey undertaken in the Goldfields and Wheatbelt. Participants in the survey included members of the Recovery Team, CALM staff from district and regional offices in the south-west and volunteers.
- I presented a talk at the July 1995 meeting of Kojonup Rotary Club.
- I held a public meeting and information night at Albany in July 1995.
- Denmark Chuditch Challenge have expressed interest in being involved with broad scale Chuditch surveys in the western part of the South Coast, or further afield.
- I met with CALM staff at South Coast Region and Walpole District to discuss possible locations for community-based Chuditch surveys or fauna monitoring. These included the proposed Mt Lindsay National Park and the western part of Fitzgerald River National Park.
- Perth Zoo Society obtained brochures for distribution to people who have supported Chuditch through the animal sponsorship program. There other possibilities for cooperative activities or promotions with WWF or Friends of the Chuditch.
- Ongoing liaison with the Malleefowl Preservation Group as a model for developing Friends of the Chuditch.

**Recommendation: That the NTSN coordinator continue liaison with a variety of groups and individuals regarding the Chuditch. One links to target specifically is the rural community in the Wheatbelt through the Conservation Council of WA Rural Liaison Officer and the Swan-Avon Integrated Catchment Management Program.**

#### **RECOVERY TEAM:**

- I participated in Recovery Team meetings held during implementation of this project. At the meeting held in November 1995, the team discussed participation of Friends of the Chuditch in the Recovery Team. At a seminar in late 1995, the WA NTSN coordinator asserted that Friends of the Chuditch wished to be represented on the Recovery Team. To my knowledge, this matter has not been formally discussed at a Friends of the Chuditch meeting, or by the Committee of Friends of the Chuditch.

**Recommendation: The Recovery Team maintain liaison with Friends of the Chuditch, including providing copies of Annual Reports to the NTSN and Friends of the Chuditch. The NTSN coordinator should be included in Recovery Team meetings (at least as an observer) in order to facilitate exchange of information and provide input on activities which could benefit from involvement of the community or Friends of the Chuditch.**

**Recommendation: The next revision of the Chuditch Recovery Plan should include a stronger community involvement component.**

**Recommendation: Areas for surveys to locate additional Chuditch populations need to be identified by the Chuditch Recovery Team to assist in planning community-based activities. Community groups such as Friends of the Chuditch may incorporate some of these areas into their plans of activities.**

## FRIENDS OF THE CHUDITCH:

- Friends of the Chuditch was formed in July 1995 at its inaugural event, the Chuditch Convention. The convention was attended by about 50-60 people. The morning was devoted to presentations from invited speakers. The afternoon was spent on a workshop to outline activities the community could undertake to help the Chuditch and setting objectives for Friends of the Chuditch.
- As a result of that meeting, a steering committee was established and held regular meetings during the rest of 1995 to help get activities under way and initiate incorporation of the association. I participated in most steering committee meetings, and since incorporation of Friends of the Chuditch in December 1995 have been a Committee Member. My role has included production of materials to raise the profile of Friends of the Chuditch, and liaison with CALM and other organisations.

**Recommendation:** That the NTSN coordinator assist Friends of the Chuditch to achieve its objectives. It is important to facilitate liaison and a positive working relationship with a variety of individuals and organisations, particularly those represented on the Chuditch Recovery Team.

- Friends of the Chuditch intends to develop a Community Action Plan for Chuditch conservation, similar to that developed by the Malleefowl Preservation Group at Ongerup. The WA NTSN coordinator volunteered to undertake this project, and has applied to the Gordon Reid Foundation for financial resources needed. As yet, preparation of the Community Action Plan has not formally commenced, and there is no deadline set for its completion.

**Recommendation:** The NTSN coordinator work with the Committee of Friends of the Chuditch towards a deadline for completion of the Community Action Plan for the current known range of the Chuditch. Consultation with relevant parties could partly be achieved by members of a Friends of the Chuditch working group. Relevant information has already been sourced during the Chuditch Convention (actions the community can undertake to help with Chuditch conservation) and the seminar on 1080 baiting held in Bunbury in February 1996.

- WWF submitted an application to the South West Eco-Museum Program on behalf of Friends of the Chuditch for funding to purchase a display stand and display materials. The application was unsuccessful. WWF later purchased a transportable display stand for use by WWF and Friends of the Chuditch (it remains the property of WWF) and prepared materials for a Friends of the Chuditch display.
- WWF paid for printing of 500 stickers to publicise Friends of the Chuditch, raise funds and assist with public education. Most of these have already been sold.
- WWF designed and paid for printing of 5000 brochures for Friends of the Chuditch. The brochures include brief information about the Chuditch, information about the aims of Friends of the Chuditch and a membership application form. These brochures are being distributed widely throughout the south-west and the Wheatbelt.
- WWF coordinated production of 21 T-shirts for Friends of the Chuditch. The total cost of \$255.10 will be reimbursed by Friends of the Chuditch following sale of the T-shirts.
- Friends of the Chuditch has not been able to obtain permits to undertake field surveys for Chuditch. There is no clear indication from CALM of their policy in issuing permits. Other community groups within the current known range of the Chuditch have been able to obtain permits to trap native wildlife.

**Recommendation:** CALM needs to provide clear guidelines for community groups wishing to obtain permits for fauna surveys in the field and opportunities for any requirements (eg. training) to be met by members of the community.

