REPORT ON TRIP TO SEARCH FOR NIGHT PARROTS NOVEMBER 8-23 1997

By John Blyth and Walter Boles

Introduction

The objective of the Interim Recovery Plan (IRP) for the Night Parrot (*Pezoporus occidentalis*), approved by CALM's Director of Nature conservation in March 1996 was "to decrease the probability of extinction of the Night Parrot by achieving the following aims:
1. find one or more populations of the Night Parrot that can be studied and monitored, and learn how best to locate the birds in the wild;
2. conduct research on movements, home range, activity patterns, food and feeding behaviour, breeding biology, detailed habitat requirements and major threatening processes;
3. use the information gathered:

- to plan larger scale searches and more detailed research programs;
- to plan and conduct any emergency management actions (eg predator-control and fire management) seen to be necessary to maintain the population(s);
- as the basis for a full recovery plan."

Considerable activity relevant to the first aim of this objective has taken place since the approval of the IRP. More than 40 reports of possible sightings of Night Parrots have been received from members of the public since the release by CALM of a publicity leaflet. On the basis of these reports, and their congruence with historical reports, field searches have been carried out in apparently suitable habitats at five locations in the southern goldfields and eastern wheatbelt and at four isolated locations in the far eastern Pilbara and Little Sandy Desert. Despite many hours of spotlighting, mist netting and general searching these trips have been unsuccessful in finding Night Parrots.

The November 1996 expedition to the eastern Pilbara and Little Sandy Desert was funded mainly by CALM with assistance from the 'Australian Geographic/Australian Museum Night Parrot Fund' managed by the Australian Museum.

In the 1997/98 year $17 500 was granted from the Endangered Species Program of Environment Australia to fund continuing searches for Night Parrots in Western Australia. Assistance in the form of Walter Boles' time and travelling expenses was again received from the 'Australian Geographic/Australian Museum Night Parrot Fund' managed by the Australian Museum.

The main target for a 1997 field trip was Meentheena Station in the north-eastern Pilbara, which has just been purchased by Main Roads W A, CALM and Environment Australia to be managed by CALM for nature conservation and recreation. The trip was conducted by John Blyth (CALM Woodvale) and Walter Boles (Australian Museum), travelling from Perth, and by Peter Kendrick and John Angus of CALM's Pilbara Region travelling from Karratha.

The decision to search on Meentheena was made following a field investigation and report by Peter Kendrick, Regional Ecologist for CALM's Pilbara region, and was based on the following reasons.

> (i) The then leasee reported two possible sightings of Night Parrots, in late spring of both 1989 and 1991 to Peter Kendrick. There is also a 1979 report from the same property in the literature that is widely considered to be convincing. The property is also the most northern of about ten places of reported sightings from the eastern Pilbara, all of which are within a radius of about 150km, and all of which are near the edge of pastoral country just before the transition to sandy desert.
> (ii) The presence on Meentheena of year round water in even the driest years, including soak areas which may support food plants throughout the year;
> (iii) An absence on the property of foxes and assumed small numbers of cats;

(iv)The presence of several rare or threatened medium sized mammals (Brush-tailed Possums, Bilby, Rock Wallaby, possibly spectacled Hare Wallaby) as reported by Peter Kendrick;
(v) 1997 was an outstanding year in the area with high early cyclonic rain in February and March and later heavy rain in July/August, so 'nomadic' or irruptive species had had an opportunity to build up to more significant numbers.
(vi) CALM was negotiating to purchase Meentheena and more biological data would be useful.

Two other areas were also considered worth inspecting during the Meentheena field trip, for the following reasons. First, a report of a possible recent sighting in dense salt bush had been received from Berringarra Station in the Murchison Basin. Secondly, a well-accepted series of sightings, including the taking of a specimen, had been made by a Public Works tank and mill inspector, Martin Bourgoin, from 1912 to 1935 at Nichol Spring waterhole in the Gascoyne Basin (Wilson 1937). The decision was taken for John Blyth and Walter Boles to visit these two sites by making a relatively small detour on the way from Perth to Meentheena.

Aims of the November 97 trip

1. To find one or more Night Parrots, confirm the probable location of a population, and learn the best ways to find them.

2. To take detailed observations of habitat factors where the species was present and compare these with places where it was not seen.

3. To record the call of the Night Parrot.

4. To capture one or more birds and take detailed descriptions, including standard measures of length and weight, photographs, and samples of feathers and crop material; these data would be used for sexing, ageing, genetic studies, and identification of food items.

5. To band any Night Parrots that were captured and fit radio transmitters on up to five birds.

6. To track birds fitted with radio transmitters and gather information as to roosting and feeding areas, distances travelled between these two, and distances between roosting and feeding areas and water:

7. To gather enough field information to make a first estimate of the possible density of Night Parrots in any population found.

8. To take good field notes at and around the points of reported sightings. These would include dominant plant communities, any interesting community types such as deep pools, springs and soaks, and general range condition with photographs.

9. To make observations on areas containing long unburnt spinifex: size, extent, position, contiguity to water and possible feeding areas, samphire or other succulent vegetation.

10. To record species (and where possible and appropriate) an estimate of numbers of all other birds observed in the study area and any extra observations of such things as breeding or behaviour.

11. To record the presence and numbers of any introduced animals, and observations as to any impacts on the environment.

Methods

General observations, including breeding records, were made of birds at all sites, with all species seen or heard being recorded. Opportunistic sightings at other places were also recorded if they appeared to provide information of interest about specific species.

1. Berringarra Station, 8,9/11/97.

The reported sighting and its location were discussed with the station manager and the location examined. We observed birds around two small waterholes near the homestead on an arm of the Murchison River for about three hours just before and after sundown and for about an hour early the next morning. Hand torches and binoculars were used to examine birds moving around at the waterhole during the two hours of darkness. The waterhole referred to above and several tank and trough systems were searched during the day for feathers.

2. Nichol Spring, Mulgul Station, 9-11/11/97.

Edges of the extensive pool system were searched for feathers, the nearby spinifex area was examined as to its probable suitability for Night Parrots, and other areas of spinifex on the property were sought on a traverse of about 25km. Spotlighting was conducted along the existing road and track system adjacent to spinifex near the waterholes, and three tape recorders were run for two hours each near the main pools on the first night. Two mist nets were set at each of the two main pools for over three hours on the second night.

3. Meentheena Station, 11-22/11/97.

The original intention was that much mist netting would be conducted at isolated water holes in the areas in the northern part of the property from which possible sightings of Night Parrots had been reported. However, on inspection of the property it became clear that water was so freely available, particularly in the area that the previous leasee had reported his sightings, that mist netting was unlikely to be the most effective use of the time available. On the other hand a number of tracks were present that ran through apparently suitable habitat for either or both of roosting or feeding. Spotlighting along these tracks appeared to be a more promising method of searching, and was conducted for a total of about fifty vehicle-hours, covering a total of approximately 500km.

One night of mist-netting was conducted around a tank and trough system, isolated from other water, from near which the historical report had come.

Three hours of sound recording were conducted at one site where apparently suitable roosting or breeding habitat was available adjacent to pools with good drinking water.

Throughout the trip daytime searching was also carried out to detect potential hiding places for Night Parrots, for feathers around the edges of water and waterholes and in the nests of other birds, and for feathers and other remains around the roosts of birds of prey. About twenty person-hours were spent searching for feathers around river pools and other waterholes, covering about 10km of perimeter.

Results

No Night Parrots were seen or heard, no feathers likely to be from Night Parrots were found and no unidentified calls that could have been made by Night Parrots were heard or recorded. Thus, aims 1 to 7 above were not achieved.

However, field observations and photographs of habitat were taken as appropriate, and bird lists compiled (see Appendix), at all sites and these are discussed briefly below in relation to aims 8 to 11 above.

1. Berringarra Station

Areas examined appeared to be quite heavily grazed by sheep, and little habitat that appeared to suit what is known about the behaviour of Night Parrots was seen.

Although little time was spent searching for birds on this station, 52 species were seen and included an interesting mixture, with widespread species and those with their main distributions in southern Australia making up most species (see Appendix).

2. Nichol Spring, Mulgul Station.

Martin Bourgoin apparently saw Night Parrots at this site on several occasions between 1912 and 1937 (Wilson 1937), but several searches in the last 20 years have been unsuccessful. The spinifex clumps surrounding the pool and creek line are now extremely old. They were probably very large and dense earlier this century. They are now mainly composed of circles, often of diameters up to five or more metres, of a narrow band of spinifex that would probably not provide the quality of refuge that younger, more vigorous clumps would.

The bird fauna here, although again not thoroughly examined, showed as expected a much greater dominance of species of mainly arid zone and northern distributions (see Appendix).

3. Meentheena Station.

The site of the historical (1979) report has obviously supported dense spinifex in the past, but appears to have been burned regularly over the last few years and the spinifex is now probably too small and sparse to provide secure cover. Along the more heavily grazed stream lines, introduced Buffel Grass (*Cenchrus ciliarus*) has largely taken over from native species of grasses and herbs. Being heavily grazed the Buffel Grass does not provide the sort of cover that it is assumed is required by Night Parrots. Much of the property gives a similar appearance.

However, in the area in which the previous leasee reported seeing Night Parrots in 1989 and 1991, there were many small, incised stream courses that had good quality water, native herbs and grasses and were relatively little affected by cattle or Buffel Grass. Perhaps most importantly, many of these sites contained very large, dense clumps of spinifex, sometimes covering hundreds of square metres.

The much greater number (89) of bird species recorded on Meentheena than on the two other stations is at least partly a function of the longer time spent on the property and the greater area and diversity of habitat searched. However, Meentheena is an area of great habitat diversity and obviously supports a wide range of mainly northern and arid zone birds (see Appendix).

No foxes were seen during the many hours of spotlighting, nor were any signs of them observed during the day. However, several cats were seen during spotlighting and appeared to occur in most terrestrial habitats, although probably in quite low numbers.

The most striking feature of the bird fauna on Meentheena was the large number of species of nocturnal birds, and their abundance, including those spending most time on the ground. Bush Stone-curlews, Little Button-quail, Spotted Nightjars and Australian Owlet-nightjars were common and the three first-named (all ground-nesters) had recently bred on the property. It is tempting to assume that this is at least partly a result of the absence of foxes, although relatively low stocking rates on this cattle station may also be significant.

Discussion

Night Parrots remain elusive and no sign of them was obtained on this trip. However, some points of interest in regard to the status of the species can be gleaned from observations made on this and previous trips. In the two places visited on this trip from which well-regarded reports of Night Parrots have come in the past (Nichol Spring and a specific site on Meentheena), there has been apparently major change in the structure of the spinifex since the time of the observations. Most notably, the very large dense clumps in which it is assumed Night Parrots like to shelter and breed were no longer present at either of those sites, although for different reasons. Further, it seems likely that modern burning regimes, grazing by domestic stock and the continuing spread of Buffel Grass continue to reduce the area of such mature but still vigorous spinifex.

All of the areas in the southern goldfields and eastern wheatbelt of Western Australia that have been searched in the last three years have been based on large salt lake systems dominated by samphire and other chenopod species. The reported sightings of Night Parrots that prompted interest in these areas were mainly from ten to fifty years old. These areas currently exhibit significant signs of modification resulting from grazing by domestic stock, goats and rabbits, and lack the large dense thickets presumed to be required by Night Parrots. Foxes were also found to be abundant in these areas. It is reasonable to assume that much of the fringing land around these salt-lake systems may have been suitable for Night Parrots prior to grazing and the proliferation of foxes.

While searching for Night Parrots is hampered by a lack of detailed knowledge of their habits and how to find them there have been sufficient searches by experienced ornithologists, all unsuccessful, over the years to suggest that the species is extremely uncommon.

On the other hand, the existence of places such as Meentheena, without foxes, containing small but significant areas of mature, vigorous spinifex, as well as apparently abundant water and food resources, suggests the likelihood of small numbers of Night Parrots being able to survive throughout their original range. The continuing survival on Meentheena of good numbers of other ground dwelling species that are rare or absent in much of the pastoral region is also significant. We see no reason to doubt the validity of the sightings of the previous leasee of Meentheena. The station is now managed by CALM, and the possibility of eventually finding Night Parrots here or in other places where sympathetic management is practised remains real.

A major road for mining access is currently under construction across the northern end of Meentheena, traversing much of the area where conditions apparently suitable to Night Parrots remain. If completed, this road may create some adverse effects, including easier access to feral predators although these appear to be few at present. However, the road will also allow relatively easy access to the 'good' areas of the property, facilitating further study, and protective management.

The Night Parrot is recognised in Western Australia as Critically Endangered and we believe that this is the appropriate status for the species.

Reference

Wilson H 1937. Notes on the Night Parrot, with references to recent occurrences. *Emu* **37** 79-87.

Report on an expedition to the east Pilbara areas to search for Night Parrots (*Pezoporus occidentalis*), November ~~12-29, 1996~~ 8-23:1997

APPENDIX: BIRDS SEEN AT SAMPLING AREAS DURING THE NOVEMBER 1997 EXPEDITION TO SEARCH FOR NIGHT PARROTS.

X indicates species seen; * indicates evidence of breeding

Common Name	Berringarra Station	Nichol Spring, Mulgul Station	Meentheena Station
Brown Quail			X (several sites)
Stubble Quail	X		
Black Swan			X*
Australian Wood Duck			X
Pacific Black Duck			X
Grey Teal	X	X*	X
Hoary-headed Grebe			X
Hardhead			X
Australasian Grebe			X
Darter			X
Little Pied Cormorant		X	X
Little Black Cormorant			X*
Great Cormorant			X
Australian Pelican			X
White-faced Heron	X		X
White-necked Heron		X	X
Great Egret			X
Nankeen Night Heron		X	X*
Straw-necked Ibis			X
Yellow-billed Spoonbill			X
Black-necked Stork			X*
Black-shouldered Kite			X
Whistling Kite	X	X	X
Spotted Harrier			X*

Collared Sparrowhawk	X		X
Wedge-tailed Eagle	X		X
Little Eagle		X	
Brown Falcon	X	X	X
Australian Hobby	X		
Grey Falcon			X*?
Peregrine Falcon		X	
Nankeen Kestrel	X	X	X
Spotless Crake			X
Eurasian Coot			X
Australian Bustard		X	X*
Little Button-quail			X*
Common Sandpiper			X
Sharp-tailed Sandpiper			X
Bush Stone-curlew			X*
Black-winged Stilt			X
Black-fronted Dotterel		X	X
Common Bronzewing	X	X	
Crested Pigeon	X	X	X
Spinifex Pigeon		X	X
Peaceful Dove	X		X
Diamond Dove	X	X*	X
Galah	X	X	X
Little Corella	X	X	X
Cockatiel	X		X
Australian Ringneck	X	X	X
Mulga Parrot	X		
Budgerigar	X		X
Pallid Cuckoo			X

Horsfield's Bronze-Cuckoo	X		X
Pheasant Coucal			X
Barking Owl		X	
Southern Boobook		X	X
Barn Owl	X	X	X
Tawny Frogmouth			X
Spotted Nightjar		X	X*
Australian Owlet-nightjar		X	X
Blue-winged Kookaburra		X	X
Red-backed Kingfisher			X
Sacred Kingfisher		X*	X
Rainbow Bee-eater	X		X
Black-tailed Treecreeper			X*
White-browed Treecreeper	X		
Splendid Fairy-wren		X	
Variegated Fairy-wren		X	X
White-winged Fairy-wren	X		
Red-bowed Pardalote			X
Striated Pardalote	X	X*	
Weebill	X	X	X
Yellow-rumped Thornbill		X	
Chestnut-rumped Thornbill	X	X*	X
Slate-backed Thornbill		X	
Southern Whiteface	X		
Spiny-cheeked Honeyeater	X	X	
Yellow-throated Miner	X		
Singing Honeyeater	X	X	X
Grey-headed Honeyeater			X
White-plumed Honeyeater	X	X*	X

Black-chinned (Golden-backed) Honeater			X
Brown Honeyeater	X	X	X
White-fronted Honeyeater	X		
Crimson Chat	X		
Jacky Winter	X		
Red-capped Robin		X	
Hooded Robin		X	
Grey-crowned Babbler	X	X	X
Crested Bellbird	X		
Rufous Whistler		X	
Grey Shrike-thrush	X	X	X
Magpie-lark	X	X	X
Willie Wagtail	X	X	X
Black-faced Cuckoo-shrike	X	X*	X
White-winged Triller	X		X
Black-faced Woodswallow	X	X	X
Little Woodswallow		X	X
Pied Butcherbird	X		X
Australian Magpie	X		X
Little Crow	X		X
Torresian Crow	X	X	
Western Bowerbird		X	X
Singing Bushlark			X
Richard's Pipit	X	X	X
Zebra Finch	X	X	X
Star Finch			X
Painted Finch			X
Mistletoebird	X	X	X
Tree Martin		X	X

Spinifexbird			X
Rufous Songlark			X
	52	53	89