

Tiwest Joint Venture

Survey for the Western Ground Parrot *Pezoporus wallicus flaviventris* within the Mt Adams Road Project Area



Preparing for evening listen for Western Ground Parrots (M. Bamford)

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INTRODUCTION

The Western Ground Parrot *Pezoporus wallicus flaviventris* is a distinctive sub-species that is listed as Critically Endangered on the WA Wildlife Conservation Act (1950) and as Endangered on the Federal Environment Protection and Biodiversity Conservation Act (1999). There are other races in Eastern Australia of lower conservation significance. The only known population of the sub-species is scattered along the south coast of Western Australia, from Albany to Cape Arid (just east of Esperance), and is believed to contain less than 250 birds. The Western Ground Parrot was recorded north of Perth during the Nineteenth Century, but it was believed to be extinct in the region until recently. Following a sighting in 2000 near Jurien Bay, however, surveys and a publicity campaign were undertaken in the region, resulting in some unconfirmed reports that the sub-species may still occur in the area (Newbey and Hartley 2007). These reports included a fairly reliable sighting in August 1992 of an adult male and an immature bird a few kilometres south-west of the Beharra Spring Gas Plant, which lies within Tiwest Joint Venture's Mt Adams Road lease. This report did not come to light until recently, but as a result, the Western Ground Parrot was considered to be a taxon of very high conservation significance that may occur in the project area by Metcalf and Bamford (2007).

As a result of the revelation that the Western Ground Parrot may persist in the Tiwest Mt Adams Project Area, a proposal to undertake surveys for it was proposed and this work was carried out in May 2008. This report presents the results of that survey.

METHODS

The Western Ground Parrot is a highly cryptic species that fortunately calls loudly, with a characteristic call (mostly distinctive, ascending whistles), around sunset and sunrise. Therefore, surveys for the species are based largely upon aural surveys, in which people are placed at regular intervals through suitable habitat to listen at the right time of day. This approach has been used for many decades to monitor the (declining) population along the south coast (eg. McNee 1999), and was used by Newbey and Hartley (2007) to search for the species east of Jurien. It was therefore adopted for the Mt Adams Road investigations.

Surveys were undertaken at Mt Adams Road area from 15th – 20th May 2008. The survey programme was advertised through Birds Australia (WA) to get volunteers able to assist, with Tiwest supporting the survey by providing accommodation and covering costs. Some Tiwest personnel also assisted on the first listening session. Personnel involved in the project were:

Dr Mike Bamford (consultant to Tiwest but a volunteer for field surveys)

Karl Edwards (volunteer with experience in surveys on the south coast)

Gwen Goodreid (volunteer)

Graham Goodreid (volunteer)

Carol Horton (volunteer)

Alistair Cuthbert (volunteer with some experience in previous surveys on the south coast)
Mike Walters (volunteer)
Nick Sibbel (Tiwest)
Jacqui Hay (Tiwest)
Lance Wheeler (Tiwest)

People involved in the survey, whether or not they had previous experience, were trained using recordings of the species' calls prepared by the Department of Environment and Conservation. These training CDs include recordings of the calls of other bird species with which the parrot may be confused, notably the Tawny-crowned Honeyeater *Phylidonyris melanops*.

Actual surveys were undertaken on every available evening and morning (See table 1). There were 10 survey sessions with the number of participants ranging from 6 to 10, giving a total of 69 survey events (ie. one person listing during one session is a survey event). Four of these survey events (in session 2) were repeat surveys to follow-up on a possible call, so there were 65 independent survey events. Dates, times and locations of surveys events are given in Appendix 1.

Table 1. Survey effort.

Session Number	Date	Times	Sunrise/sunset	Number of personnel	Area surveyed* (ha)
1	15/05	1750-1900	1735	9	160
2	16/05	0600-0700	0650	8	60
3	16/05	1730-1825	1735	7	120
4	17/05	0545-0650	0650	6	100
5	17/05	1730-1825	1735	6	100
6	18/05	0545-0650	0650	6	100
7	18/05	1725-1830	1735	6	100
8	19/05	0550-0645	0650	6	100
9	19/05	1720-1830	1735	7	120
10	20/05	0545-0700	0650	7	120

*Area surveyed does not include repeat surveys

Surveys usually began before sunset/sunrise (see Table 1). Evening surveys continued until almost an hour after sunset (when it was fully dark), while morning surveys finished shortly after sunrise, by which time it was fully light. During surveys, personnel were arranged at 400m intervals along tracks, this being the spacing recommended for Ground Parrot surveys by DEC when conditions are good.. Listening conditions were ideal on almost all sessions, being still and clear, although there was a light (and very cold) wind on the morning of 17th May. Under ideal conditions, Ground Parrot calls can be heard from distances of over 200m, so during each session and at a spacing of 400m, any bird should have been heard along a transect about 500m wide and extending over 200m beyond the terminal observers. This was used as the basis for the calculation of the area

surveyed during each session (see Table 1). The total area surveyed was *ca.* 1080ha and the total field effort was approximately 70 person-hours.

Locations for surveys were determined by access and habitat. Tracks were used for access for ease of personnel deployment and safety. There were two vehicles present at all times and two-way radios available at different locations along the survey line. On the south coast, Western Ground Parrots occur in low heath, often with a component of sedges, and surveys in the Mt Adams area therefore focussed on heath habitats, some of which did have a sedge component. However, other habitats were included in the survey as it can not be assumed that the sub-species in the area uses the same habitats as the birds on the south coast. The northern population of the Western Ground Parrot has probably been isolated from the south coast population for centuries if not millennia, and therefore it may have some different adaptations to the local environment. Survey also occurred in seasonally damp areas, as the eastern subspecies of Tasmania and eastern mainland Australia (*P. w. wallicus*) is often associated with damp heaths (Higgins 1999). Survey areas were also chosen to cover a range of fire-ages, including areas were long-unburnt that had recently-burnt vegetation adjacent. The species on the south coast favours long-unburnt vegetation, but there is some evidence that it moves from unburnt vegetation (that provides dense cover) to forage in recently burnt area (S. McNee pers. comm.). Some surveys were carried out in the vicinity of the 1992 sighting. Figure 1 illustrates the locations of all survey points and the location of the 1992 sighting.

The survey points were grouped in two areas: around the intersection of Mt Adams and Tomkin Road, where the vegetation was largely low heath with a sedge component, and was south-west of the Beharra Springs gas plant, around the location of the 1992 sighting. The vegetation in this second area was mostly heathland dominated by *Banksia hookeriana*, but there were patches of heath from which the banksia was absent. Seasonal damplands/wetlands were also present in this area. These supported heath and thickets. The vegetation most similar to that used by Western Ground Parrots on the south coast was that around Mt Adams and Tomkin Road. Vegetation and fire-age maps are presented in Appendix 2.

Figure 1. Locations of survey points in the Mt Adams road area, May 2008. Each point represents one person listening for approximately an hour either at sunrise or sunset. The location of the 1992 sighting (318 431E, 6 736 318N) is also indicated.

OBSERVATIONS AND DISCUSSIONS

No Western Ground Parrots were heard (or seen). Despite this, on two occasions calls were heard that were consistent with part of a Ground Parrot call. Alistair Cuthbert heard a distinctive series of rising notes near the intersection of Mt Adams and Tomkins Roads on the evening of 15th May, but while he subsequently identified these as “probably” part of a Ground Parrot call when listening to recordings, the call was not heard again when the site was revisited the following morning. He heard no other calls quite like these for the rest of the week. Karl Edwards heard a possible call in the distance on the morning of 17th May, but this was inconclusive.

There were also some interesting calls heard on the morning of 19th May; these had the structure of a Ground Parrot call, but were given quietly. This was at a location within a kilometre of the 1992 sighting. They may have been another bird species mimicking a Ground Parrot call (perhaps the Rufous Fieldwren), and it was noted that Tawny-crowned Honeyeaters were often giving a rising, three-noted whistle which is part of the Ground Parrot call. This species is known to mimic Ground Parrots on the south coast, and Newby and Hartley (2007) commented that some of the Tawny-crowned Honeyeaters heard east of Jurien during their surveys appeared to be mimicking Ground Parrots. They considered this to be evidence that the honeyeaters had recently (within <10 years?) heard Ground Parrots. On this basis, it seems possible that Ground Parrots had been in the Mt Adams Road area within the last 10 years, although it is already known that they were present (and breeding) in 1992.

Hearing birds apparently mimicking Ground Parrots does not mean the species is still present in the Mt Adams Road area, but not getting any definite records in May 2008 does not mean that the species is absent. The area covered by surveys probably represents <5% of the Tiwest lease area, and there is extensive habitat to the south and west, extending almost unbroken to include Beekeepers’ Nature Reserve, Badgingarra National Park, Mt Lesueur National Park, Nambung National Park and south to Moore River National Park. On the south coast, Western Ground Parrots are known to move in response to fire, changing vegetation condition with fire age and probably other factors, so if a small population is surviving in the heathlands of the northern sandplains, it could be very difficult to locate.

If a northern population is extant, it could be very important for the survival of the Western Ground Parrot as the south coast population is in decline. This decline is possibly due to a series of extensive fires and changes in the abundance of feral predators; ironically feral Cats may have increased in abundance due to the control of Foxes and there is speculation that this has impacted on the bird’s population. Fire management in areas such as Tiwest’s Mt Adams Road Project area is therefore important, with the aim being to avoid extensive fires and to provide a mosaic of fire ages. This is already being undertaken by DEC. Any plans to control feral predators also need to be considered carefully.

Locating the Western Ground Parrots on the northern sandplain remains a priority and a challenge, perhaps best approached through cooperation between resource development companies with interests in the area, DEC and Birds Australia (which can provide volunteers and expertise). Publicity associated with the 2007 surveys undertaken by Newby and Hartley (2007) resulted in a number of old sightings being reported by the public (including the 1992 sighting near Beharra Springs). Education and awareness-raising among personnel working in the Mt Adams Road project area may be useful, and could include people associated with the gas plant as well as Tiwest. If further surveys are to be carried out, it is probably useful to go to areas not yet visited for Ground Parrot surveys.

REFERENCES

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- McNee, S.A. (1999). Report on Western Ground Parrot Survey at Waychinicup and Manypeaks; April to October 1998. Suppl. WA Bird Notes: 90.
- Metcalf, B. and Bamford, M. (2007). Fauna assessment of the Mt Adams Road Project. Unpubl. report to Tiwest Joint Venture by Bamford Consulting Ecologists, Kingsley.
- Newby, B. and Hartley, R. (2007). Search for Western Ground Parrots in the northern sandplain 2007. Unpubl. report by Birds Australia WA, Floreat.

Appendix 1. Details on survey events for the Western Ground Parrot undertaken in the Mt Adams Road area in May 2008. (Datum WGS84)

Date	period	observer	easting	northing	observations
15/05/2008	evening	AC	322 607	6 745 180	possible rising three-note call to west
15/05/2008	evening	CH	322 615	6 744 775	
15/05/2008	evening	LW	322 622	6 744 350	
15/05/2008	evening	MB	322 653	6 743 950	
15/05/2008	evening	JH	322 920	6 743 710	
15/05/2008	evening	MW	322 690	6 745 540	
15/05/2008	evening	NS	322 690	6 746 090	
15/05/2008	evening	GwG	322 690	6 746 500	
15/05/2008	evening	GrG	322 690	6 746 900	
16/05/2008	morning	KE, CH, AC & MB			Along Tomkin Road at 100m intervals around 322 607E, 6 745 180N
16/05/2008	morning	MW	323 090	6 745 480	
16/05/2008	morning	JH	323 360	6 745 490	
16/05/2008	morning	GwG	323 850	6 745 490	
16/05/2008	morning	GrG	324 140	6 745 590	
16/05/2008	evening	AC	322 387	6 745 480	
16/05/2008	evening	KE	322 172	6 745 488	
16/05/2008	evening	CH	321 780	6 745 485	
16/05/2008	evening	GwG	321 380	6 745 485	
16/05/2008	evening	GrG	320 980	6 745 490	
16/05/2008	evening	MW	320 550	6 745 490	
16/05/2008	evening	MB	320 180	6 745 500	
17/05/2008	morning	CH	322 623	6 743 608	
17/05/2008	morning	AC	322 633	6 743 205	
17/05/2008	morning	KE	322 640	6 742 800	possible rising whistle to west but obscured by wind noise
17/05/2008	morning	GwG	322 644	6 742 415	
17/05/2008	morning	GrG	322 650	6 742 014	
17/05/2008	morning	MB	322 657	6 741 623	
17/05/2008	evening	GrG	318 000	6 737 300	
17/05/2008	evening	GwG	318 000	6 736 880	
17/05/2008	evening	KE	317 940	6 736 473	
17/05/2008	evening	AC	318 280	6 736 333	
17/05/2008	evening	CH	318 461	6 736 100	
17/05/2008	evening	MB	318 520	6 735 700	

Appendix 1 (cont.)

Date	period	observer	easting	northing	observations
18/05/2008	morning	CH	323 386	6 743 350	
18/05/2008	morning	AC	323 720	6 743 156	
18/05/2008	morning	KE	324 060	6 742 850	
18/05/2008	morning	GwG	324 420	6 742 740	
18/05/2008	morning	GrG	324 760	6 742 536	
18/05/2008	morning	MB	325 115	6 742 330	
18/05/2008	evening	CH	320 196	6 737 260	
18/05/2008	evening	AC	320 260	6 736 940	
18/05/2008	evening	KE	320 330	6 736 525	
18/05/2008	evening	GwG	320 400	6 736 150	
18/05/2008	evening	GrG	320 465	6 735 760	
18/05/2008	evening	MB	320 536	6 735 333	
19/05/2008	morning	CH	320 160	6 735 440	
19/05/2008	morning	ACr	319 850	6 735 440	
19/05/2008	morning	MB	319 440	5 735 450	Sweet rising whistle heard, first note low, then rising. From ground. Gentler than Ground Parrot. Several birds
19/05/2008	morning	GwG	319 690	6 737 238	
19/05/2008	morning	KE	319 396	6 737 233	Sweet rising whistle heard, first note low, then rising. From ground. Gentler than Ground Parrot. Several birds
19/05/2008	morning	GrG	318 965	6 737 230	
19/05/2008	evening	CH	320 000	6 736 360	
19/05/2008	evening	KE	319 615	6 736 350	
19/05/2008	evening	AC	319 315	6 736 350	
19/05/2008	evening	MB	318 965	6 736 365	<i>H. psammophilus</i> calling
19/05/2008	evening	GwG	320 100	6 737 100	
19/05/2008	evening	GrG	320 500	6 737 100	
19/05/2008	evening	MW	320 900	6 737 100	
20/05/2008	morning	MW	316 075	6 737 460	
20/05/2008	morning	GwG	316 090	6 737 106	
20/05/2008	morning	GrG	316 100	6 736 680	
20/05/2008	morning	CH	316 115	6 736 280	
20/05/2008	morning	AC	316 115	6 735 860	
20/05/2008	morning	MB	316 120	6 735 400	

Appendix 2. Vegetation and fire age maps for the Mt Adams Project area.

