

Birds Killed by Fences in Diamantina National Park, Queensland

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Summary

Twenty-seven individuals of 18 bird species were recorded as casualties of collisions with fences in Diamantina National Park, western Queensland, between 1996 and 2008. Nine of the 18 species were nocturnal or mainly so. Included in our list is the record of a contemporary (September 2006) specimen of the nationally endangered Night Parrot *Pezoporus occidentalis*.

Because most wildlife casualties in fences go unobserved and unreported it is difficult to assess the extent of the problem (Allen & Ramirez 1990, Booth 2006). Nevertheless, Booth (2006), mainly following van der Ree (1999), listed 44 bird species (and numerous mammal species, particularly bats) recorded as fence casualties in Australia.

Bird remains or, in a few cases, living animals were found caught up in fences or on the ground under fences in Diamantina National Park in the Channel Country of western Queensland (23°45'S/141°8'E) between 1996 and 2008. Our inspection of fences was not systematic but was incidental to other activities in the park. Specimens were identified on the spot or sent for identification to the Australian Museum, Sydney.

We have recorded 18 bird species as casualties of three-strand barbed wire fences at Diamantina (Table 1). Of these, nine are nocturnal or mainly so (Marchant & Higgins 1990, 1993; Higgins 1999; Table 1). Included in our list is the first record of the nationally endangered Night Parrot to be supported by a specimen since one was found dead at Boulia in western Queensland in 1990 (Stafford 2007, Cupitt & Cupitt 2008).

The species composition of our list supports the suggestion of others (e.g. Booth 2006) that most entanglements occur at night because the victims do not see the wire. Our list also contains several fast-flying diurnal species and it is likely that under some topographical circumstances a fence may present a hazard to birds at any hour of the day (Booth 2007).

Although some of our specimens were only fragments of carcasses and in some cases may have been killed long before we found the remains it is likely that in the main the bodies of birds killed in fences are quickly removed by scavengers making it difficult to

assess the full impact of fence-related mortality (Allen & Ramirez 1990, Booth 2006). Our list of fatalities was mostly compiled in visits to Diamantina of less than two weeks per year, suggesting that the yearly toll in the park may be high.

Most of the species in our list are additions to the lists published by van der Ree (1999) and Booth (2006), no doubt because our observations come from a relatively remote and arid area where observers are few. Of particular note is the presence on our list of the Night Parrot which highlights the possible risk to this endangered species posed by the many kilometres of unnecessary internal fencing in national parks and other reserves throughout the arid zone.

There is a significant animal-welfare issue involved when wildlife becomes trapped by barbed wire, often to die a lingering and cruel death. The Southern Boobook *Ninox novaeseelandiae* in our list was found alive hanging with the skin of one wing wound tightly around a barb where it had no doubt been hanging since sometime the previous night; it subsequently died. Several of our specimens have consisted only of the section of wing beyond the carpal joint. One of our Chestnut-breasted Quail-thrush records was of a fresh carcass found several metres from a fence, under which was the section of one wing distal to the carpal joint; it is likely that the bird became entangled, twisted until its wing became detached, then struggled to where it died and was found by us.

Although Cornwell & Hochbaum (1971), Edeburn (1973) and van der Ree (1999) document many casualties involving barbed-wire fences, Cornwell & Hochbaum (1971) also give examples of birds killed in collisions with plain wire strands in fences and power lines. Nevertheless, one way of mitigating the impact of fence collisions on wildlife may be to use plain wire in fences where possible. The best solution no doubt is to remove fences where feasible. Some of the casualties we documented were entangled in the national park boundary fences which are required to exclude stock but many were in internal fencing. Park authorities intend to remove internal fences but this task must take its place in the queue for resources. Another mitigating measure may be to increase the detectability of fences by adding visible and/or audible objects to them (Booth 2006, 2007). Although this may appear impractical at a place as large as Diamantina National Park it could be possible to treat particularly hazardous sections of fence if they could be identified.

Given that fence entanglements present both a welfare and a conservation issue, and given the paucity of data on the subject, especially from remote areas, we recommend that Queensland Parks and Wildlife Service provide the facility and encourage visitors to record their observations of entanglements observed in the park. In addition, birders are able to contribute data to a national database on a downloadable form at www.wildlifefriendly.com.

We thank the many people who have contributed to the bird surveys in Diamantina National Park. Staff of the Queensland Parks and Wildlife Service have facilitated our visits to Diamantina; Sue and Robert Cupitt shared their records with us. Walter Boles of

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Table 1

Species, dates and locations of birds found killed by fences in Diamantina National Park, 1996-2008. The date given is the date of discovery of the specimen(s) and may vary by days or possibly months from the date of death. Co-ordinates are accurate to one minute.

<i>Species</i>	<i>Nocturnal/ diurnal</i>	<i>Date</i>	<i>Number of individuals</i>	<i>Location lat. S/long. E</i>
Common Bronzewing <i>Phaps chalcoptera</i>	D	16 Jun 07 19 Jun 07	1 1	23°33'/141°24' 23°40'/140°29'
Flock Bronzewing <i>Phaps histrionica</i>	D	5 Oct 03	2	24°1'/141°16'
Crested Pigeon <i>Ocyphaps lophotes</i>	D	28 Mar 08	1	24°00'/141°11'
Tawny Frogmouth <i>Podargus strigoides</i>	N	21 Sep 00	1	23°44'/141°39'
Spotted Nightjar <i>Eurostopus argus</i>	N	21 Sep 00 31 Mar 08	1 1	23°44'/141°38' 23°44'/141°23'
Australian Owlet-nightjar <i>Aegotheles cristatus</i>	N	18 Aug 05	1	23°58'/141°42'
Nankeen Night-Heron <i>Nycticorax caledonicus</i>	N	21 Aug 04	1	23°41'/141°22'
Australian Bustard <i>Ardeotis australis</i>	D	17 Aug 05	1	23°41'/141°22'
Inland Dotterel <i>Charadrius australis</i>	N	16 Sep 00	1	23°41'/141°23'
Galah <i>Eolophus roseicapillus</i>	D	31 Mar 08	1	23°42'/141°23'
Australian Ringneck <i>Barnadius zonarius</i>	D	2 Oct 02	1	23°39'/141°30'
Budgerigar <i>Melopsittacus undulatus</i>	D	21 Aug 04	1	23°40'/141°28'

Bourke's Parrot	N	1 Oct 02	2	24°2'/141°33'
<i>Neopsephotus bourkii</i>		30 Sep 03	2	24°2'/141°33'
		24 Aug 06*	1	23°59'/141°4'
		14 Jun 07	1	23°43'/141°23'
Night Parrot	N	17 Sep 06**	1	Not available
<i>Pezoporus occidentalis</i>				
Southern Boobook	N	28 May 96	1	23°40'/141°30'
<i>Ninox novaeseelandiae</i>				
Eastern Barn Owl	N	7 Oct 03	1	23°42'/141°23'
<i>Tyto javanica</i>				
Chestnut-breasted Quail-thrush	D	18 Aug 05	1	23°59'/141°37'
<i>Cinclosoma castaneothorax</i>		17 Jun 07	1	24°1'/141°25'
Zebra Finch	D	18 Aug 05	1	23°58'/141°41'
<i>Taeniopygia guttata</i>				

*S. Cupitt pers. comm.

**Cupitt & Cupitt (2008).