Breeding diet and behaviour of a pair of Grey Falcons *Falco hypoleucos* and their offspring in north-western New South Wales

Immy Janse[1], Ulrike Kloecker[2], David Roshier[3] and Ingrid Witte[4]

[1]Van Hall-Larenstein Institute, University of Applied Sciences, Leeuwarden, The Netherlands (Email: i_janse87@live.nl)
[2]Australian Museum Consulting, 6 College Street, Sydney, New South Wales 2010 (Corresponding author: Ulrike.Kloecker@austmus.gov.au)
[3]Australian Wildlife Conservancy, PO Box 6621, Halifax Street, Adelaide, South Australia 5000 (Email: david.roshier@australianwildlife.org)
[4]Parks and Wildlife Group, Offi ce of Environment and Heritage, Briscoe Street, Tibooburra New South Wales 2880 (Present address: Burrell Creek Estate, c/o Post Offi ce, Adelaide River, Northern Territory 0846; Email: victoroo@burrellcreekestate.com)

The diet of a pair of Grey Falcons *Falco hypoleucos* was investigated in Sturt National Park, arid north-western New South Wales, by analysis of pellets and orts collected during October–December 2003 beneath a nest in a riparia Coolibah *Eucalyptus coolabah* beside a gibber plain. The falcons fl edged a brood of four young in a year of above average rainfall in the first half (and average rainfall overall), from an estimated egg-laying date of early August. The falcons' breeding diet (n = 62 prey items from 58 dietary samples) consisted, by number, mainly of birds (99%, 63% being parrots) and one mammal; parrots formed most of the biomass (90%) of identified avian prey. Geometric Mean Prey Weight was 29.6 grams, and dietary diversity (Shannon Index) was 1.98. Small–medium (<100 g) granivorous birds were selected as prey (P <0.01).

Dynamics of the waterbird fauna of Peery Lake, arid north-western New South Wales, after flooding

Judy Smith and Peter Smith

44 Hawkins Parade, Blaxland, NSW 2774
Email: smitheco@ozemail.com.au

Waterbirds were surveyed at the north-western end of Peery Lake, a large freshwater overflow lake on the Paroo River, between October 1990 and January 1994, following a major flood that filled the lake in April 1990. Before drying, the lake was recharged by a moderate flood in January 1993 and retained water throughout the study. The survey area comprised about 555 hectares or 11 percent of the lake, plus the adjacent shoreline. Over nine survey periods, a total of 54 waterbird species was recorded, of which eight species were recorded breeding, although only in low numbers. Species richness in individual survey periods ranged between 17 and 42 species. The number of waterbirds in the survey area varied greatly between survey periods, from 636 to 14 359. Two species, Pink-eared Duck *Malacorhynchus membranaceus* and Grey Teal *Anas gracilis*, accounted for about 60 percent of all waterbirds, but the common species varied between survey periods. The responses of waterbirds to the two flood events were markedly different. Waterbird numbers were initially low after the first flood, peaking 27 months after flooding. By contrast, waterbird numbers were high in the first year after the second flood, but fell sharply 12 months after flooding. The abundance and diversity of waterbirds recorded on this small portion of Peery Lake affirmed the lake's importance to waterbirds. The study also showed the dynamic and highly variable nature of the waterbird fauna, whose response to particular flood cycles at the lake

can diff er widely and cannot be predicted by simple measures such as the size and salinity of the lake.

A survey of outlying populations of the Grey Grasswren *Amytornis barbatus*

Andrew Black[1], Graham Carpenter[2], Roger Jaensch[3], Lynn Pedler[4] and Reece Pedler[5]

[1]South Australian Museum, North Terrace, Adelaide, S.A. 5000. Email: abblack@bigpond.com
[2]24 Dryden Road, Black Forest, S.A. 5035
[3]11 Glen Frew Street, Kenmore, Qld 4069
[4]PO Box 58, Koolunga, S.A. 5464
[5]Natural Resources – SA Arid Lands, PO Box 78 Pt Augusta SA 5700

Two subspecies of the Grey Grasswren occupy terminal swamps of separate inland rivers, *Amytornis barbatus barbatus* on the Bulloo River and *A. b. diamantina* in Goyder Lagoon on the Diamantina. There have been sporadic reports from three other discrete areas; the Eyre Creek, Diamantina River and Cooper Creek floodplains. In a survey of those outlying populations, Grey Grasswrens were sparsely and unevenly distributed, being found at eleven localities (including one within 20 kilometres of Goyder Lagoon) but undetected at 16 where they had been observed previously, in some cases over several years. All five populations appear to be isolated from one another by distances of between 50 and 150 kilometres over which suitable habitat appears to be absent. Grasswrens from Eyre Creek belong to the same subspecies as those in Goyder Lagoon where Eyre Creek terminates, suggesting that in relatively recent times those two populations at least have been in reproductive contact, but the subspecific status of the other two outlying populations remains unknown. Our findings indicate that the outlying populations are small and that one or more might be declining towards local extinction. On the other hand we infer that Grey Grasswrens may be more able to disperse during exceptional seasonal conditions than is widely assumed to apply to grasswren species. Factors that might explain why the outlying populations are small and/or declining are discussed.