Corella, 1991, 15(1): 24-26

A LITTLE USED SOURCE OF DATA ON MIGRANT BIRDS

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Received 7 January 1989

INTRODUCTION

Traditionally information on bird movements comes from band returns, radar observations, telemetry, observations along 'leading lines', and observations at lighted structures. In Australia the number of recaptures of banded migrant birds away from the banding site is relatively small. Radar work at this time is limited to studies of wader movements, and 'leading lines' have been little used except in studies of honeyeater movements in south-eastern Australia.

Information from the tropics suggests that for the majority of species visual observations of migration will be of limited use. This is because birds fly above the height at which observers on the ground can discriminate them (Elkins 1983; Richardson 1978). Observations at lighted structures have been the major source of data on the timing and routes of forest and woodland bird migration in Queensland to date, e.g. Booby Island (Ingram 1976) and Pine Islet (Makin 1961). Observations at these structures are more frequent during wet or overcast weather (Avery *et al.* 1976; Richardson 1978), and frequently there is an inverse relationship between the number of migrants captured and the number actually moving. Notwithstanding this limitation, lighted structures do provide data which identify when birds are moving and which species are involved, and give indications of the age and sex structure of migrant bird populations.

This note reports the results of a trial of one important under-utilized source of data which can produce useful information on migrant as well as resident species with a minimal investment of time.

METHODS

Birds are 'captured' after they fly into windows or other structures during migration through Townsville, Queensland. The Queensland National Parks and Wildlife Service office in Townsville accepts and treats the birds, the majority of which are brought in by the general public. The species, date and capture locality are recorded for each bird brought in. Age was not recorded for most species early in the study but is now routinely collected, however, age data are still few in number. Birds which are rehabilitated successfully are released. Individuals of rare or uncommon species which die are collected and transferred at irregular intervals to the Queensland Museum. The data for all birds, whether released or preserved, are included in the results. The study commenced in November 1985 and is ongoing.

RESULTS AND DISCUSSION

A total of 141 individuals of 14 species of migrant birds was recorded over the 31 month period from November 1985 to May 1988 (Table 1). 'Window-bashing' at night was the most common form of capture for these species and was inferred from birds being found injured or unconscious in the early morning beneath windows or walls.

Numbers of most species were too small for any trends to be apparent. However, when the data for all species are plotted, the existence of the autumn migration is clear, with peaks during

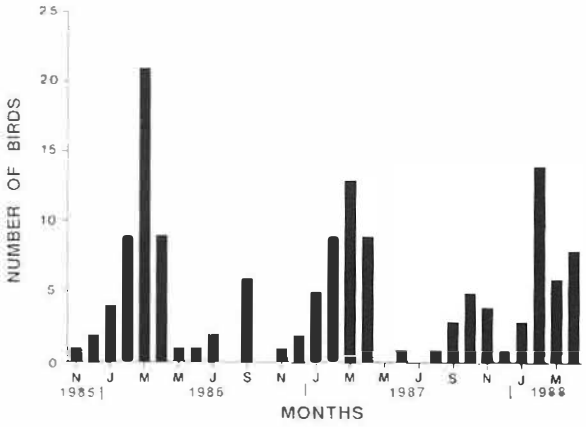

Figure 1. *Total numbers of migrant birds of all species captured monthly at Townsville, Queensland (November 1985—June 1988).*

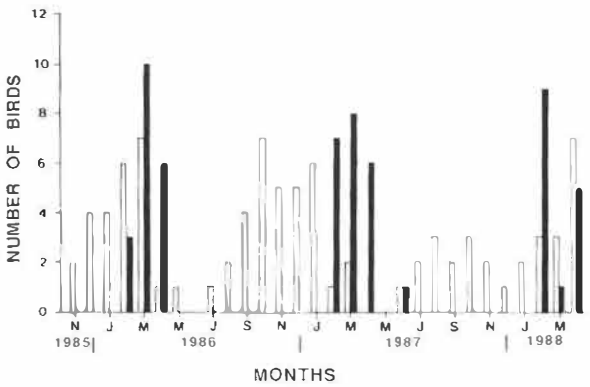

Figure 2. *Monthly totals of Forest Kingfishers (solid bar) and Rainbow Lorikeets (open bar) captured at Townsville, Queensland (November 1985—June 1988).*

TABLE 1

Migrant bird species and numbers captured during the study period.

Species	Numbers
Superb Fruit-Dove *Ptilinopus superbus*	10
Torresian Imperial-Pigeon *Ducula spilorrhoa*	1*
Shining Bronze-Cuckoo *Chrysococcyx lucidus*	1
Common Koel *Eudynamys scolopacea*	21
Channel-billed Cuckoo *Scythrops novaehollandiae*	3
White-throated Nightjar *Caprimulgus mystacalis*	6
Azure Kingfisher *Ceyx azureus*	13†
Forest Kingfisher *Halycon macleayii*	57
Sacred Kingfisher *Halycon sancta*	6
Buff-breasted Paradise-Kingfisher *Tanysiptera sylvia*	1
Rainbow Bee-eater *Merops ornatus*	3*
Dollarbird *Eurystomus orientalis*	16
Black-faced Monarch *Monarcha melanopsis*	1
Spangled Drongo *Dicrurus hottentottus*	2*
Total	141

*Diurnal migrants.
†Presumed migrant on the basis of the timing of observations and previous published information.

February–April of each year (Fig. 1). The evidence for the return migration during spring is not as obvious, but minor peaks do exist. Comparison of the data for the Forest Kingfisher *Halycon macleayii*, a well known migrant, with that for the resident Rainbow Lorikeet *Trichoglossus haematodus* illustrates the concentration of 'captures' expected with a migrant species during the autumn and to a lesser extent spring migration periods (Fig. 2). Only one record for the Forest Kingfisher occurred outside of these periods. The peaks in capture rates of Rainbow Lorikeets beginning in spring and continuing through summer appear to be caused predominantly by increased captures of juveniles after breeding. Window-bashing in Rainbow Lorikeets occurred most frequently during the day and primarily as a result of their habit of flying low and fast through suburban areas.

The February–April period when most of the migrants are caught is at the end of the wet season in northern Australia and is characterised by overcast weather and frequent rain. The small numbers of migrants captured during the July–September period is probably related to the clear skies in the Townsville region at this time of year.

The data from this source may assist in identification of additional migrant species. Blakers *et al.* (1984) consider the Azure Kingfisher *Ceyx azureus* to be sedentary in most areas. However, the records collected during this study for the Azure Kingfisher show a similar distribution to those of other migrant species, suggesting it is a migrant. Further data should clarify this point.

The value of collecting information of this type is for long-term studies in which patterns of movement may emerge from systematic accumulation of data. Timing of movement of migrant birds is obtained even though its interpretation requires a consideration of weather conditions at the time of capture. Indirect techniques of this type for collecting data on migratory birds are very important in Australia because of the small numbers of bird observers and banders with the time to carry out more intensive studies. The author hopes that this note will help stimulate other individuals and organizations to initiate projects of this type as they cost little and return much needed information.

ACKNOWLEDGMENTS

I am grateful to the staff of the Queensland National Parks and Wildlife Service, Northern Regional Office, in particular Graham Smalley, for diligently collecting the data over the last three years. Kim Lowe and Stephen Garnett provided helpful criticism on an early draft of the paper.

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RECOVERY ROUND-UP

This section is prepared with the co-operation of the Secretary, Australian Bird and Bat Banding Schemes, Australian National Parks and Wildlife Service. The recoveries are only a selection of the thousands received each year; they are not a complete list and should not be analysed in full or in part without the prior consent of the banders concerned. Longevity and distance records refer to the ABBBS unless otherwise stated. The distance is the shortest distance in kilometres along the direct line joining the place of banding and recovery; the compass direction refers to the same direct line. (There is no implication regarding the distance flown or the route followed by the bird). Where available ABBBS age codes have been included in the banding data.

Recovery or longevity items may be submitted directly to me whereupon their merits for inclusion will be considered.

Hon. Editor.

The following abbreviations appear in this issue:
AWSG — Australasian Wader Study Group.
TBBC — Taiwan Bird Banding Centre
VWSG — Victorian Wader Study Group

Australian Pelican *Pelecanus conspicillatus*

(a) 170-02308. Adult (+1) banded by J. A. K. Lane at Peel Inlet, WA on 13 Dec. 77. Recovered dead near Avelon Beach, Mandurah, WA on 10 Oct. 90, over 12 years 9 months after banding. 2 km W.

(b) 170-02453. Adult (+1) banded by J. A. K. Lane at Peel Inlet, WA on 6 Feb. 78. Recovered dead at Falcon, WA on 23 Aug. 90, over 12 years 6 months after banding. 8 km SW.

(c) 170-04091. Nestling banded by M. H. Waterman on North Pelican Island, The Coorong, SA on 8 Dec. 84. Recovered dead near Forest Hill, Qld on 30 June 90, over 5 years 6 months after banding. 1 529 km NE.

(d) 170-07089. Nestling banded by M. H. Waterman on Pelican Island, The Coorong, SA on 12 Nov. 88. Recovered dead near Wee Waa, NSW in Oct. 89. 1 114 km NE.

(e) 170-07839. Nestling banded by M. H. Waterman on North Pelican Island, The Coorong, SA on 5 Nov. 89. Recovered dead near Windorah, Qld on 16 Apr. 90. 1 156 km NNE.

(f) 170-07959. Nestling banded by M. H. Waterman on North Pelican Island, The Coorong, SA on 5 Nov. 89. Recovered dead 40 km SW of Young, NSW on 3 July 90. 787 km E.

(g) 170-12167. Nestling banded by M. H. Waterman at Lake Eyre South, SA on 21 Apr. 90. Recovered sick and rehabilitated on Headingly Station, near Mount Isa, Qld in June 90. 900 km N.

(h) 170-12903. Nestling banded by M. H. Waterman at Lake Eyre South, SA on 21 Apr. 90. Recovered, later died at Brunchilly Station, near Tennant Creek, NT in June 90. 1 203 km N.