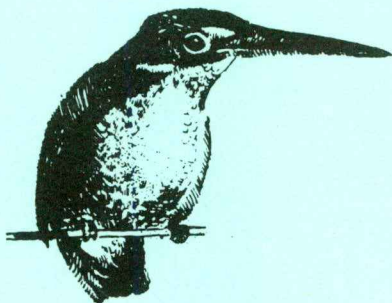


AUSTRALIAN BIRDS



Journal of the
N.S.W. FIELD ORNITHOLOGISTS CLUB

Vol. 17, No. 3

March, 1983

ISSN 0311-8150

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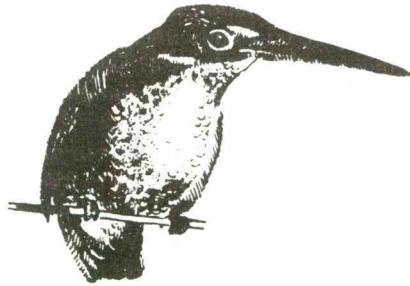
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AUSTRALIAN BIRDS



Vol. 17, No. 3

March, 1983

SEASONAL VARIATION IN POPULATION SIZE OF PIED CURRAWONGS AT THORNLEIGH, NSW

R.A. BUCHANAN

SUMMARY

The maximum number of Pied Currawongs *Strepera graculina* seen each afternoon in a suburban yard in Thornleigh, Sydney was recorded for five years. A seasonal pattern emerged from this data: numbers were highest in early summer, decreased dramatically in autumn, increased in winter and decreased slightly in spring. Seasonal variation in numbers was thus unrelated to temperature. Other published accounts of the seasonal abundance of Pied Currawongs have not reported large numbers in urban areas during summer.

INTRODUCTION

Despite almost two hundred years of European settlement in south-eastern Australia and several studies (Walsh 1965, Strong 1966, Readshaw 1968a and 1968b, Wimbush 1969), the seasonal movements of Pied Currawongs are still not clear. Standard works give the reader two different viewpoints. Leach (1958), Frith (1969), Reid, Shaw & Wheeler (1973), Rowley (1974), Reader's Digest (1977) and Morris, McGill & Holmes (1981) all use the word nomad to describe the movements of Pied Currawongs, while Bourke (1955) and Pizzey (1980) both use the term altitudinal migrant. Other authors, such as Wheeler (1967) and Cayley (1972) discussed seasonal changes but did not classify them. Slater (1974) described the species as mainly sedentary, but with regular altitudinal movements in some areas. Altitudinal movement involves movement to the Great Dividing Range in spring and a return to lower altitudes in autumn (Readshaw 1968b).

These discrepancies may be semantic as every intermediate stage between sedentary and migratory birds exists (Dorst 1974), but it may also reflect the absence of substantial data on these birds outside the winter months.

METHODS

This study was carried out in suburban Thornleigh (166 m a.s.l.) approximately 19 km north-west from the centre of Sydney. The surrounding district consists of detached dwellings in 750 m² blocks with some factories and shops along a major traffic corridor 0.75 km distant. Most of the blocks are well vegetated with a mixture of exotic and native species. Bushland is present in the valleys on each side of the narrow (approximately 1-3 km wide) urban area. Vegetation in the bushland ranges from tall open-forest to shrub dominated communities.

The climate is mild, with average daily minimum temperatures ranging from 4.6°C to 15.9°C (Fig. 2). The nearest (1.5 km) climatic station is at Pennant Hills (Department of Science and the Environment 1979).

The study site was at the junction of the built-up area and bushland. It consisted of a backyard containing a lawn surrounded by a dense growth of shrubs and trees.

The maximum number of Pied Currawongs, in this yard and in two large trees in neighbouring yards, was recorded each afternoon for five years (February 1977 to January 1982 inclusive). The number of records ranged from 115 to 150 for each month of the five-year period. During the afternoon bread and dilute honey mixture, seed and meat were put out for a range of birds including Rainbow Lorikeets *Trichoglossus haematodus*, Noisy Miners *Manorina melanocephala*, Laughing Kookaburras *Dacelo novaeguineae*, Australian Magpies *Gymnorhina tibicen* and Pied Currawongs. These handouts were sufficient to attract large numbers of Pied Currawongs to the yard, but were unlikely to have influenced any population movements caused by weather, general availability of food or other factors.

RESULTS

A pattern of high summer, very low autumn numbers followed by a winter peak and a decline in numbers in spring was repeated in all five years. However, Fig. 1 shows that these patterns were not exactly the same each year. For example, the lowest number of birds was recorded in April in four of the five years (once in March), while the highest winter-spring numbers were recorded twice in July, twice in August and once in September. The comparative numbers of birds visiting the site also varied from year to year. For example, the winter peak varied from an average of nine to twenty birds.

The seasonal differences are statistically significant at the 5% confidence level (students t-test) and the number visiting the site was clearly unrelated to temperature, as peaks occurred in both the coldest and hottest months of the year (Fig. 2).

The variability in comparative numbers and the precise timing of seasonal differences resulted in a high standard deviation and range for the five-year period. The highest standard deviation was 6.5 in July and the greatest ranges occurred in January (2-35) and November (0-34) (Fig. 2).

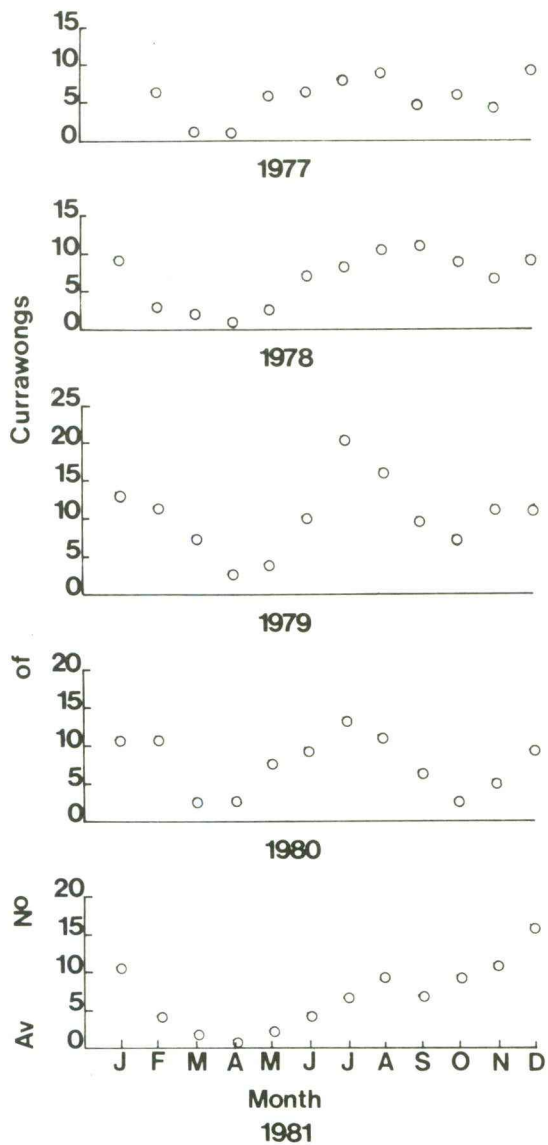


Fig. 1. The average number of Pied Currawongs recorded at the study site on each month over the five-year study period.

DISCUSSION

This study was undertaken in conjunction with a more detailed study of food of Pied Currawongs (Buchanan in prep.), in which I was interested in the number of birds visiting the site of pellet collection each afternoon. The sample area was therefore unusually small for a study aimed primarily at sampling the seasonal changes in bird populations. However, continuous casual observations of the local population suggest that the results reflect seasonal changes in the local population of Pied Currawongs, and not just changes in their use of the feeding station, except perhaps in spring.

High December-January numbers, when a large population of young birds was present, were certainly reflected in the surrounding urban area and bushland. The decrease in autumn was associated with a dearth of birds seen or heard in the district. Winter numbers were again very high in the urban and bushland areas, but the low numbers in spring may have been an artifact caused by a change in behaviour due to breeding, as reasonable numbers were still in the district.

Nest construction can begin in Thornleigh as early as late July, and laying can commence in late August (B. Howie, pers. comm.) while more usually eggs are recorded from September to December (Morris, McGill & Holmes 1981). The birds studied by Recher (1976) had well defined territories during breeding, and the decrease in numbers at the Thornleigh site may have reflected this territorial behaviour, with only non-breeding birds available to visit the site. Numbers certainly decreased in the built-up area during these months, but the number of birds in the bush (some in well-defined flocks of 10-30 birds), remained relatively high.

Although available data is incomplete, winter arrival and departure times of flocks seem reasonably consistent over a distance of 500 km from north-eastern Victoria to the Sydney area, at altitudes ranging from approximately 100 m a.s.l. to above 1500 m a.s.l. Flocks arrive in April-May and depart in late August to October (Campbell 1903, Roberts 1942, Walsh 1965, Vellenga 1966, Readshaw 1968a, Frith 1969). The results of this study are consistent with these, and indicate that the spring decrease in numbers at the Thornleigh site reflects a departure of some birds.

Virtually all observations on Pied Currawong populations concern the winter months. For example, Caley 1800-1810 (reported in Currey 1966), Campbell (1903), Roberts (1942), Vellenga (1966), Gall (1977) and Marsland (1977) all record winter flocks in altitudes ranging from sea level to elevations above 1500 m. Even the studies carried out by Walsh (1965), Strong (1966), Readshaw (1968a and b) and Wimbush (1969), emphasize the winter months.

Pied Currawongs tend to congregate around human settlements in winter. Only 10-20 years after European settlement Caley wrote that the birds could be seen in large flocks on the newly sown wheat in the depths of winter in the Sydney area (reported in Currey 1966). Readshaw (1968b) located all the birds in his survey close to settlement at parks, playgrounds, rubbish tips and the like, while in the Snowy Mountains Wimbush (1969) concluded that the apparent altitudinal movement to the valleys in winter occurred simply because settled areas were usually in the valleys. This type of behaviour is no doubt associated with the large amount of food scraps found near towns, but it may also be associated with the production of fruit by exotic plants which grow around settlements. For example, Privet (*Ligustrum sinense* and *L. lucidum*) is a very common weed in the Sydney suburban area and produces a prolific crop fruit

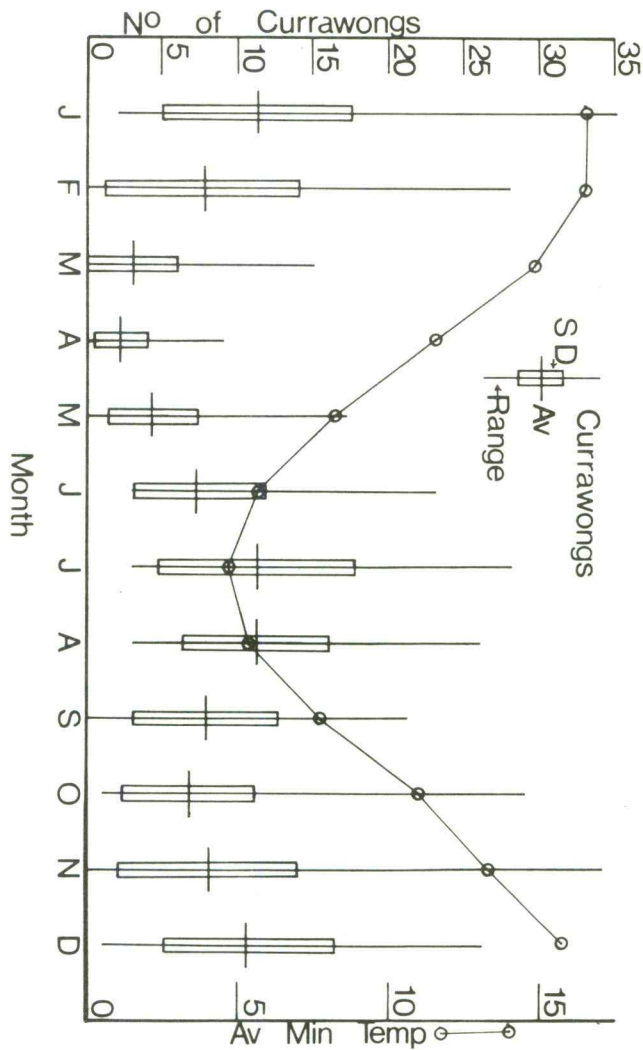


Fig. 2. The standard deviation, range and average number of Pied Currawongs at the study site over the five-year period 1977-1981. The average minimum temperature recorded at the nearest climatic station is also shown.

in winter. In Mittagong, Walsh (1965) noticed that peak winter numbers of currawongs coincided with the fruiting of privet, which was the main food supply. The two species of privet are also the main food supply in winter in the Thornleigh area (Buchanan in prep.). Opportunistic feeding behaviour is also reported by Loyn (1980) who recorded Pied Currawongs following logging operations and scavenging for insects and small reptiles.

Observations over summer are far sketchier and none indicate a tendency to flock in urban areas as the results in this study indicate. Jones (1981) studied the avifauna of the city of Wagga Wagga (approximately 200 m a.s.l.) on the western slopes of the Great Dividing Range and found that Pied Currawongs are numerous in winter, but absent from the entire district during summer. Readshaw (1968b) concluded from his study and other recapture data that these birds return to mountain forests in spring, mainly over long distances (up to 320 km). Records of banded birds published in the Australian Bird Bander and Corella since Readshaw's (1968b) study show that the vast majority of recovered birds have been banded and recovered in the latter eight months of the year. This again suggests that these birds are normally not abundant near settlements during January to April inclusive.

In the light of this data, the high summer numbers in suburban Thornleigh, only 166 m a.s.l., are somewhat surprising. Readshaw (1965) observed small parties in summer at elevations of 600 m to 1200 m a.s.l. which he concluded were probably family groups. They appeared to be continually on the move except that they lingered and flocked together wherever they found abundant supplies. Perhaps abundant food supplies explains their presence in the Thornleigh area.

Whether Pied Currawongs are nomadic or migratory is a question which remains unresolved, and the answer depends largely on the definitions used for these terms. Rowley (1974) outlines three requirements before a bird can strictly be called migratory: (a) a significant part of the total population is involved; (b) the movements conform to a regular and predictable schedule, and (c) "movement must be from one clearly defined part of the world to another equally clearly defined region". The first two of these are partly fulfilled in this and other studies, but the third is not. Birds have been recovered ("Recovery Roundup" in Australian Bird Bander and Corella) over 100 km distant from their banding place in a different year in the same month, but very few have been recovered in a different year in the same month at the banding place.

It seems likely that this species is nomadic, but that it does have favoured routes of travel and favoured feeding grounds at different seasons. It may well be that the pattern of movements has become far more well defined since European settlement and that no matter how much data is collected to confirm population movements, this will not elucidate the type of movements before towns and cities were present in the Australian landscape.

ACKNOWLEDGEMENTS

My thanks are due to Shirley Buchanan for collecting some of the data, and for the typing.

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THE SQUARE-TAILED KITE AS A MIGRANT IN SOUTH-EASTERN AUSTRALIA

S. J. S. DEBUS

The Square-tailed Kite *Lophoictinia isura* has been regarded as nomadic (e.g. Morris, McGill & Holmes 1981), perhaps because of the scattering of fortuitous sightings. However, Cupper & Cupper (1981) found that adult pairs regularly bred in certain favoured localities. They also found that the kite's breeding diet consists of nestling birds; these and most other recorded prey items (insects and lizards) have a strongly seasonal availability in temperate Australia. I therefore analyzed Square-tailed Kite reports in south-eastern Australia to see if any obvious pattern emerged.

METHODS

Records were extracted from the NSWFOC annual bird reports for the years 1970-1981 inclusive (Rogers 1971-1978, Lindsey 1979-1982). An "occurrence" here means one kite present at a given locality for one month or part thereof. This was necessary to overcome difficulties associated with the variety of ways in which observations were reported. Thus an individual seen regularly at one place over two or more months is treated as one occurrence in each month. Young kites in the nest were not counted, although there were several reports of breeding. One report was not included in the analysis: G. Clancy reported the species at Grafton "throughout most of" 1980 (Lindsey, 1981).

Some additional records for south-eastern Australia were extracted from the RAOU Atlas of Australian Birds. These records were a proportion of the accepted Unusual Record Report Forms, and were a random sample regarding observation dates. They came to my attention for a different reason, and were incidentally included in this analysis.

I made sporadic efforts in 1979, 1980 and 1982 to locate Square-tailed Kites in the cooler months (May-August) in northern New South Wales. Limited searches were made in areas near where the kites had been previously reported (Bundarra, Baradine, Coonabarabran).

TABLE 1

Reports of the Square-tailed Kite in southeastern Australia, 1970-1981

	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
FOC reports:	13	10	4	1	—	1	3	—	1	8	10	13
Atlas: NSW	5	3	3	—	—	—	—	1	—	—	1	1
Vic	1	1	—	—	—	1	—	—	1	1	1	—
SA	—	—	1	—	—	—	—	—	—	—	1	1
Totals	19	14	8	1	—	2	3	1	2	9	13	15

RESULTS AND DISCUSSION

Table 1 illustrates the seasonal bias in Square-tailed Kite observations. The total number of occurrences in each season was: summer 41, autumn 3, winter 6, spring 37. The figures for spring and summer are conservative, since some observations spanned weeks or months and may have involved more than one bird. My own winter searches for the kites in apparently suitable habitat (open eucalypt and callitris forest) were unsuccessful.

The data suggest that the Square-tailed Kite is a spring-summer breeding migrant to south-eastern Australia. This is hardly surprising in view of its preferred prey — nestling birds, lizards and insects are at their peak abundance in the warmer months. The Square-tailed Kite thus appears to be one of the most migratory of raptors in the south-east, rivalling the winter exodus of Swamp Harriers *Circus approximans* from Tasmania (Green, 1977).

Caution is needed in interpreting these data because the Square-tailed Kite is notoriously difficult to identify, and some of the records may be based on misidentifications. However, the sources used offer a reasonably high level of reliability in this respect. Moreover, supposing a significant number of the observations are spurious, it becomes even more difficult to explain the strong seasonal trend in the data.

One question remaining is where do the kites go in winter? The obvious answer is the tropics, but this needs confirmation by banding and systematic seasonal counts. It is perhaps significant that Grafton, in the sub-tropical northeast of New South Wales, is the only locality where the species was observed through most of a year.

A number of the records also challenge previously-held assumptions about the Square-tailed Kite's range and habitat preference in New South Wales. There are a number of records from coastal and near-coastal localities, especially where there are resident ornithologists regularly reporting their observations, eg. Grafton and Moruya. The Square-tailed Kite may occur, more frequently than is realized, over open eucalypt forest and heathland on the coast. From my experience of it in coastal Queensland, this species is easily overlooked if it is closely working the canopy of a large tract of forest. It would certainly be worth watching for it over any of the larger coastal national parks and state forests in New South Wales.

ACKNOWLEDGEMENTS

I wish to thank Miss J. Strudwick of the Atlas of Australian Birds for permission to include Atlas records in this paper.

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AGGRESSIVE WING FLUTTERING BY THE LITTLE GRASSBIRD

WALTER E. BOLES, WILLIAM E. DAVIS, JR, and N.W. LONGMORE

Wing fluttering is a major component of many avian displays. In many species, it features prominently in the distraction displays at the nest, appeasement behaviour, food 'begging' by females and fledged young and a wide range of aggressive behaviour. It is part of the display of several finch species in territorial defence (Andrew, 1957) and is associated with high levels of aggression in the American Goldfinch *Carduelis tristis* (Coultee, 1967). Wing fluttering displays precede attack in the Least Flycatcher *Empidonax minimus* (MacQueen, 1950) and Loggerhead Shrike *Lanius ludovicianus* (Smith, 1973). We report here our observations of wing fluttering displays by two Little Grassbirds *Megalurus gramineus* in an apparently territorial dispute.

On 23 June 1982, while we were visiting Bakers Lagoon near Richmond, NSW, N.W. Longmore heard a single note call of this species coming from low, dense creek-side vegetation. By imitating its three note territorial song, he was able to attract three birds into view. The Grassbirds moved about in the vegetation, occasionally disappearing from view and intermittently calling. Two individuals, initially about six metres apart, gave scolding calls and moved towards each other with deliberate wing beats of a greater amplitude than is usually associated with wing quivering actions such as food begging. Series of five or six beats were given, separated from the next series by a momentary pause, as the birds moved forward. They held their bodies horizontally and as they came closer, bowed their heads. One bird stopped, but continued to flutter its wings; the other continued towards it. When the two birds were several centimetres apart, they pounced at each other, made contact and fought for 5-10 seconds. They then separated, and we did not see any further aggression between them. The entire sequence took about 25-30 seconds.

We interpret this encounter as territorial. The combatants made contact at the point where the one bird stopped its forward movement, and their bout was restricted to this area. This suggests that this was the boundary of the two adjoining territories. The high intensity wing fluttering is similar to that reported for other species. Our observations were made at least a month before the reported breeding season (Reader's Digest, 1976) but territories appear to have been established at this time. We do not know if these were breeding territories; as Little Grassbirds are sedentary in this area, they may have been winter territories.

Little Grassbirds use wing fluttering in other contexts. Bryant (1940) described it as part of courtship: the birds "face each other, droop and flutter the wings and utter the chattering call" (p. 163). Whitlock (1912) and Hindwood (1950) mentioned this species practicing diversionary tactics at the nest, fluttering and feigning a broken wing.

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A SECOND BIRD COUNT ON THE MURRUMBIDGEE

J. WAUGH

From 3 December to 7 December 1981, I travelled with A.M. Fisher by canoe from Wagga Wagga to Narrandera along the Murrumbidgee River. The journey of about 200 km took 42 hours of paddling, and a bird count was kept. Birds were included only if seen along or over the river.

Of the 50 species reported by Guppy (1974, *Birds* 8: 85-88) on a similar journey through this area in November 1972, I saw 40 and added another 26 species. The difference in the number of species is probably because of the drought conditions of 1981. Fourteen species (marked B in Table 1) were observed breeding.

I have described the habitat elsewhere (Waugh 1981, *Aust. Birds* 15: 44-46). The commonest and most widely distributed bird was again the Sulphur-crested Cockatoo although the largest number of birds seen together was a flock of 110 Rufous Night Herons. Sixteen species seen in 1980 were not seen in 1981, and 14 species seen in 1981 were not seen in 1980. Fifty-two species appear on both lists.

Increases of 100% or more were noted in the numbers of Rufous Night Heron, Galah, Yellow Rosella, Sacred Kingfisher, Dollarbird, Fairy Martin, White-winged Chough, Magpielark, Australian Magpie and Australian Raven.

In Table 1 the common and scientific names follow the number given in Morris, McGill and Holmes 1981 (*Handlist of birds in New South Wales. NSWFOC: Sydney*). The next column shows whether the bird was recorded by Guppy in 1972, the next whether seen by me in 1981, the next the number of entries for each species, and the last the total number of each species seen during our trip.

The last entry in Table 1 was probably a flock of Little Ravens *Corvus mellori*, a species common in the region. No calls were heard from this flock and the characteristic flight of Little Ravens was not noted.

Table 1. Bird species recorded along the Murrumbidgee River between Wagga Wagga and Narrandera 3-7 December 1981.

Species	B	1972	1981	Entries	Total
54 Australian Pelican <i>Pelecanus conspicillatus</i>			X	3	8
59 Darter <i>Anhinga melanogaster</i>		X			
61 Great Cormorant <i>Phalacrocorax carbo</i>		X	X	2	2
62 Pied Cormorant <i>Phalacrocorax varius</i>			X	1	1
63 Little Black Cormorant <i>Phalacrocorax sulcirostris</i>		X	X	1	1
64 Little Pied Cormorant <i>Phalacrocorax melanoleucos</i>			X	13	18
68 Pacific Heron <i>Ardea pacifica</i>	B	X	X	3	3
69 White-faced Heron <i>Ardea novaehollandiae</i>	B		X	20	24
72 Little Egret <i>Egretta garzetta</i>		X			
76 Rufous Night Heron <i>Nycticorax caledonicus</i>		X	X	20	146
82 Sacred Ibis <i>Threskiornis aethiopica</i>		X			
83 Straw-necked Ibis <i>Threskiornis spinicollis</i>		X			
84 Royal Spoonbill <i>Platalea regia</i>			X	1	1
85 Yellow-billed Spoonbill <i>Platalea flavipes</i>	B	X	X	26	48
89 Black Swan <i>Cygnus atratus</i>		X			
94 Pacific Black Duck <i>Anas superciliosa</i>	B	X	X	35	66
96 Grey Teal <i>Anas gibberifrons</i>	B	X	X	10	22
102 Maned Duck <i>Chenonetta jubata</i>	B	X	X	59	384
115 Whistling Kite <i>Haliastur sphenurus</i>	B	X	X	9	11
116 Brown Goshawk <i>Accipiter fasciatus</i>			X	2	2
121 Wedge-tailed Eagle <i>Aquila audax</i>			X	1	1
122 Little Eagle <i>Hieraaetus morphnoides</i>		X	X	1	1
126 Peregrine Falcon <i>Falco peregrinus</i>		X	X	1	1

127	Australian Hobby <i>Falco longipennis</i>	X	X	2	2
129	Brown Falcon <i>Falco berigora</i>		X	2	2
130	Australian Kestrel <i>Falco cenchroides</i>	X	X	6	7
133	Stubble Quail <i>Coturnix pectoralis</i>		X	1	2
149	Black-tailed Native-hen <i>Gallinula ventralis</i>	X			
150	Dusky Moorhen <i>Gallinula tenebrosa</i>	X	X	2	2
161	Masked Lapwing <i>Vanellus miles</i>		X	3	6
173	Black-fronted Plover <i>Charadrius melanops</i>		X	13	17
242	Feral Pigeon <i>Columba livia</i>	X	X	2	22
245	Peaceful Dove <i>Geopelia placida</i>	X	X	42	46
249	Common Bronzewing <i>Phaps chalcoptera</i>		X	1	1
252	Crested Pigeon <i>Ocyphaps lophotes</i>	X	X	5	7
259	Galah <i>Cacatua roseicapilla</i>	X	X	130	410
263	Sulphur-crested Cockatoo <i>Cacatua galerita</i>	X	X	134	792
272	Superb Parrot <i>Polytelis swainsonii</i>	X	X	3	3
274	Cockatiel <i>Nymphicus hollandicus</i>	X			
280	Yellow Rosella <i>Platycercus flaveolus</i>	X	X	40	89
281	Eastern Rosella <i>Platycercus eximius</i>		X	2	4
284	Red-rumped Parrot <i>Psephotus haematonotus</i>	X	X	35	73
294	Pallid Cuckoo <i>Cuculus pallidus</i>		X	1	1
298	Horsfield's Bronze-Cuckoo <i>Chrysococcyx basalis</i>		X	3	3
305	Southern Boobook <i>Ninox novaeseelandiae</i>		X	1	2
320	Laughing Kookaburra <i>Dacelo novaeguineae</i>	X	X	52	65
323	Sacred Kingfisher <i>Halcyon sancta</i>	B	X	X	97 104
325	Rainbow Bee-eater <i>Merops ornatus</i>	B	X	X	47 64
326	Dollarbird <i>Eurystomus orientalis</i>	B	X	X	74 82
333	White-backed Swallow <i>Cheramoeca leucosternum</i>		X	5	5

334	Welcome Swallow <i>Hirundo neoxena</i>		X	X	77	555
336	Fairy Martin <i>Cecropis ariel</i>	B		X	59	738
340	Black-faced Cuckoo-shrike <i>Coracina novaehollandiae</i>		X	X	27	32
360	Shrike-tit <i>Falcunculus frontatus</i>			X	2	2
365	Rufous Whistler <i>Pachycephala rufiventris</i>		X	X	3	3
367	Grey Shrike-thrush <i>Colluricincla harmonica</i>		X	X	50	50
374	Restless Flycatcher <i>Myiagra inquieta</i>			X	3	3
376	Grey Fantail <i>Rhipidura fuliginosa</i>		X			
377	Willie Wagtail <i>Rhipidura leucophrys</i>	B	X	X	67	76
389	Clamorous Reed-Warbler <i>Acrocephalus stentoreus</i>		X	X	12	13
393	Rufous Songlark <i>Cinclorhampus mathewsi</i>			X	43	46
432	Brown Treecreeper <i>Climacteris picumnus</i>			X	20	28
438	Little Friarbird <i>Philemon citreogularis</i>			X	37	42
442	Noisy Miner <i>Manorina melanocephala</i>		X			
455	White-plumed Honeyeater <i>Lichenostomus penicillatus</i>		X	X	85	145
481	Striated Pardalote <i>Pardalotus substriatus</i>		X	X	11	11
484	European Goldfinch <i>Carduelis carduelis</i>			X	1	2
486	House Sparrow <i>Passer domesticus</i>		X	X	9	26
499	Common Starling <i>Sturnus vulgaris</i>	B	X	X	89	733
501	Olive-backed Oriole <i>Oriolus sagittatus</i>			X	1	1
509	White-winged Cough <i>Corcorax melanorhampus</i>		X	X	17	100
511	Magpie-lark <i>Grallina cyanoleuca</i>	B	X	X	111	164
516	Dusky Woodswallow <i>Artamus cyanopterus</i>			X	1	1
519	Pied Butcherbird <i>Cracticus nigrogularis</i>		X			
520	Australian Magpie <i>Gymnorhina tibicen</i>		X	X	43	72
523	Australian Raven <i>Corvus coronoides</i>		X	X	60	132
—	<i>Corvus</i> sp.				1	50

FURTHER FOOD ITEMS OF THE WEDGE-TAILED EAGLE

MICHAEL BROOKER

With some exceptions, the species of birds taken by Wedge-tailed Eagles *Aquila audax* include most of those locally available with bodyweights greater than 100 gm (Brooker & Ridpath, 1980, Aust. Wildl. Res. 7: 433-452). Food remains from a nest in the Macquarie Marshes, central western NSW (from which two chicks fledged) included birds from two orders that are rarely taken: Pelecaniformes (at least two Great Cormorants *Phalacrocorax carbo*) and Ciconiiformes (one spoonbill *Platalea sp.*). Other birds found in the food remains were Black Swan *Cygnus atratus* (at least three), Pacific Black Duck *Anas superciliosa* (two), Grey Teal *A. gibberifrons* (one), and unidentified crow or raven *Corvus sp.* (two). Other animal remains consisted of a turtle (probably *Chelodina longicollis*), Eastern Grey Kangaroo *Macropus giganteus* (two) and Pig *Sus scrofa* (nine). The kangaroo and pig material was from juvenile animals but the waterbird remains (identified by G. van Tets) appeared to be from adults. The collection was made during a drought year (1980) and no widespread breeding by waterbirds had occurred there since 1978.

These observations further demonstrate the ability of the Wedge-tailed Eagle to utilise most of the available prey species in an area — in this case, an extensive inland freshwater swamp.

The food remains at the nest of a White-billed Sea-eagle *Haliaeetus leucogaster* occupied in the same year and situated c. 2.5 km from the Wedge-tailed Eagle's nest contained material from Glossy Ibis *Plegadis falcinellus*, Pacific Black Duck, Pink-eared Duck *Malacorhynchus membranaceus*, Purple Swamphen *Porphyrio porphyrio*, pig, and turtle.

M.G. Brooker, 21 Dwyer Street, Cook, ACT 2614.

OBITUARY: A. O. ("BOB") McCUTCHEON

ALAN K. MORRIS

Alexander Oliver McCutcheon, known always as Bob, died on 27 August 1982, and the Castlereagh region is the sadder for his passing.

He was born in 1908 and grew up on the large property, Berida, on Marthaguy Creek, Gilgandra, where his father was the manager. This property in time was acquired for closer settlement purposes, and Bob's family was successful in obtaining two of the blocks, including the homestead portion. Bob was always interested in natural history, especially that of birds and mammals, and since 1935 kept a birdlist for his property (which now stands at over 205 species) and took notes on all the native mammals present in the Gilgandra Shire. Such information is an invaluable source for determining the historical distribution and local abundance of wildlife populations.

My association with Bob began some eight years ago, soon after my appointment to Coonabarabran as Senior Ranger, National Parks and Wildlife Service. This came about because of his membership of the Dubbo Pastures Protection Board. Some Pasture Protection Boards make recommendations on applications by farmers to destroy kangaroos on their properties (these applications are then submitted to the NPWS for final decision). Bob McCutcheon, who was a member of the Dubbo board for 24 years (1956-1980), took considerable interest in any licence issued in his Board area, particularly if the applicant was given permission to destroy wallabies. I would be questioned most closely about such licences, and was soon told if he considered that I was too generous, or if he thought that the farmer had misidentified the species or overstated the case! However, his interest in wildlife was the start of a friendship between us that was terminated only by his death.

Bob it was who drew my attention to the presence of Long-tailed Dunnarts *Sminthopsis macrourus* in the Gilgandra area, so extending the known range of this marsupial mouse much further south than was previously known. He also informed the Service about Tiger Cats *Dasyurus maculata* in the Warrumbungle Ranges, and the pale form of the Swamp Wallaby *Wallabia bicolor* which occurs around Gilgandra.

However, his foremost interest was in birds. From being an ardent duck hunter in his younger days, he became a very competent observer and conservator of the birds in later life. His interest in birds led the Gould League Bird Study Group to hold a campout on his property in 1949. A report on the campout was published (Anon, 1950. Gould League Notes 16:5-6) and a number of photographs show Bob with the campers. Details of 94 species of birds recorded during the camp are given in that report. Then, as in later years, he was able to show the campers the Bush Stone-curlew *Burhinus magnirostris* that nest near the homestead, the Spotted Bowerbirds *Chlamydera maculata* that feed in the datepalms, and the waterbirds that nest along Marthaguy Creek.

Since 1976 he contributed information to the NSWFOC Annual Bird Report. His observations have helped to document the decline in the population of that winter visitor the Superb Parrot *Polytelis swainsonii*, the distribution of the Turquoise Parrot *Nephema pulchella*, and rare visits to the Gilgandra Shire by the Powerful Owl *Ninox strenua* (1976, Aust. Birds 11:15), and the Black-throated Finch *Poephila cincta* (1976, Aust. Birds 11:12).

Despite a serious illness over the past two years, he was still able to watch and to hear the birds he loved so well, right until the end. Bob was a competent naturalist and the Castlereagh Region has been deprived of one who loved and cared deeply for its environment.

Alan K. Morris.

NOTICE TO CONTRIBUTORS

Contributors are requested to observe the following points when submitting articles and notes for publication.

1. Species, names, and the order in which they occur are to be in accordance with "Handlist of Birds in New South Wales". A.K. Morris, A.R. McGill and G. Holmes 1981 Dubbo: NSWFOC.
2. Articles or notes should be typewritten if possible and submitted in duplicate. Double spacing is required.
3. Margins of not less than 25mm width at the left hand side and top, with similar or slightly smaller at the right hand side of pages.
4. No underlinings and no abbreviations except as shown in the examples.
5. Photographs should be glossy finish and not too small.
6. The *Style Manual*, Commonwealth Government Printing Office, Canberra (1966) and subsequent editions will be the guide for this Journal.
7. Diagrams should be on plain white paper drawn with india ink. Any lettering is to be 'professional style' or lightly pencilled.
8. Dates must be written "1 January 1975" except in tables and figures where they may be abbreviated.
9. The 24-hour clock will be used, times being written 06:30, 18:30 for 6.30 a.m. and 6.30 p.m. respectively.
10. Mr, Mrs, Dr are not followed by a full stop.
11. In text, numbers one to ten are spelt; numbers of five figures or more should be grouped in threes and spaced by a thin gap. Commas should not be used as thousands markers.
12. References to other articles should be shown in the text—'...B.W. Finch and M.D. Bruce (1974) stated...' and under heading

REFERENCES

Finch, B.W. and M.D. Bruce 1974 The Status of the Blue Petrel in Australian Waters
Aust. Birds **9**, 32–35

13. Acknowledgements to other individuals should include Christian names or initials.

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