

OBSERVATIONS ON THE EFFECT OF INCREASED RAINFALL ON BIRDLIFE IN CENTRAL AUSTRALIA

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RAINFALL

The last three years have seen abnormally wet conditions in most of Central Australia. Some indication of the amount of rainfall may be seen from the following figures—

Recording Station	Year	Actual Rainfall	Average
Alice Springs	1971	123.4 mm	246 mm
” ”	1972	271.2 mm	246 mm
” ”	1973	448.1 mm	246 mm
” ”	1974	778.4 mm	246 mm
” ”	1975	600.5 mm	246 mm
Ayers Rock	1971	151.4 mm	177 mm
” ”	1972	118.8 mm	177 mm
” ”	1973	370.3 mm	177 mm
” ”	1974	926.6 mm	177 mm
” ”	1975	376.8 mm	177 mm
Ormiston Gorge	1971	105.6 mm	Not Estab.
” ”	1972	244.3 mm	” ”
” ”	1973	514.6 mm	” ”
” ”	1974	816.1 mm	” ”
” ”	1975	486.6 mm	” ”

These should only be seen as local indications, as much of the rain occurred during summer thunder storms, and falls were variable, often higher than the figures quoted above, but in all areas substantially above the average.

The effect of this sustained high level of precipitation was that in most areas of the Northern Territory generally referred to as arid (i.e. South of 18°S. Lat), rivers and streams flowed almost continuously and swamps formed in poorly drained locations. These swamps and ephemeral lakes stretched from the swollen Lake Woods near Newcastle Waters in the North to Lake Eyre in the South. In this way a series of aquatic habitats formed a continuous chain through usually dry country.

It is the writer's belief that the presence of these waters allowed the extension of many birds' normal range, and permitted long stays in unusual locations.

FOOD SOURCES

The extended presence of standing water, and adequately regular falls of rain, allowed through the years 1972 to 1975 an enormous blooming in various forms of food supply. Aquatic vegetation, fish, pond snails and aquatic insects all increased. Land insects were present in profusion and particularly noticeable was the

number and variety of Grasshoppers. Vegetation showed unparalleled growth, and most species flowered and set larger than normal quantities of seed. This was also a period of rapid breeding and increase in the population of small mammals. The Domestic Mouse *Mus musculus*, Hopping Mouse *Notomys alexis*, and *Sminthopsis* species were often present in enormous numbers.

All these factors, coupled with mild seasons, provided resident and casually visiting birdlife with ample food supplies. The changes that have resulted in the bird populations of the Centre can be expected to be modified drastically as seasons return to normal.

OBSERVATIONS ON INDIVIDUAL SPECIES

The observations given below are intended to indicate the widespread occurrence of species, or sightings of individuals, which were considered unusual by the writer. Although man-made water sources, such as the sewerage lagoons at Alice Springs and station dams, certainly contributed to the maintenance of many species, a watch was kept on natural water sources and their surrounds to gauge their effect. Rangers employed with the Northern Territory Reserves Board, and Wildlife Rangers employed with the Department of the Northern Territory, have confirmed many of the sightings, and in personal communications told me of many others. A full accumulation of this information has not been attempted here; and I emphasize the personal, and hence limited, nature of the reports given hereunder. Some of the conclusions I have reached will undoubtedly be subject to variation when, and if, other information is collated from other observers. These observations are therefore intended as a contribution to what could be a most valuable collection of information.

The period under discussion includes calendar years 1973 to 1975.

LITTLE GREBE *Tachybaptus novaehollandiae*

Regularly seen throughout 1973 and 1974 along rivers with deep pools in the Macdonnell Ranges. Usually in pairs or small groups of up to five birds. Breeding in many locations where deep water remained for long periods. Also on lake at Ringwood Station 100 km south-east of Alice Springs.

HOARY-HEADED GREBE

Podiceps poliocephalus

During February 1974 a number of these birds appeared on lawns in Alice Springs, where they sought to remain under or near sprinklers. Most were immature and in poor condition. The breeding area was not established but isolated adult birds were seen around this time on deep pools remaining in the Todd River north of Alice Springs.

Parker (S.A. Orn. 25:60) suggests this species is not uncommon in the Alice Springs area. However, during the period reviewed, the writer only observed it in large numbers for the limited period, given above, in 1974.

PELICAN *Pelecanus conspicillatus*

There has probably been a small number of Pelicans in Central Australia for many years. Prior to the recent wet years groups of up to six birds were often seen on the relatively permanent pools in the Finke River west of Hermannsburg. Through the wet years the numbers increased, in the main probably by movement from the south. They have been regularly seen flying over Alice Springs, circling over pools but rarely landing. In March and August 1976, flocks containing 24 Pelicans were seen over the town.

A low-level, light aircraft flight in July 1976 by the writer along the Finke River, from Hermannsburg to Depot Hill south of Maryvale Station, revealed five widely separated pairs mostly well south of the central highland area.

LITTLE BLACK CORMORANT

Phalacrocorax sulcirostris

Almost all of the rivers which have formed persistent waterholes have been heavily populated with several varieties of fresh water fish. Most of these are less than 15 cm long, and make excellent food for Cormorants and Darters. The Little Black Cormorant has been seen in almost all of those locations where trees overhang the water or where rocks protrude from the surface. Numbers in any one locality have been low. Often only one bird to each substantial stretch of water.

PIED CORMORANT *Phalacrocorax varius*

Similar remarks apply to this species as the preceding one, though it does not appear to have been present in such large numbers.

LITTLE PIED CORMORANT

Phalacrocorax melanoleucos

This bird has been sighted regularly over the period reviewed, either singly or in groups of two or three. It seems to have a more mobile habit in these conditions than where rivers are more permanent, and is often seen in flight

along major river beds, passing over (for no obvious reason) deep pools with adequate food and roosting places. All birds seen appeared to be in good condition.

Noted at Ringwood Lake during early 1976 in small groups.

DARTER *Anhinga anhinga*

Deep waterholes of a more permanent nature with suitable food supplies and roosting places have been abundant during the period reviewed, and the Darter seems to have taken up residence in many of them. Single birds have been seen regularly at Ellery Creek Big Hole, Ormiston Gorge, Serpentine Gorge and pools along the Finke River.

WHITE-FACED HERON

Ardea novaehollandiae

Always present in Central Australia, this bird extended its range into normally dry desert areas and probably intermingled with otherwise separate populations.

A flock of more than thirty was seen at Ringwood Lake in June 1976. These were restlessly flying from one feeding shallow to another.

WHITE-NECKED HERON *Ardea pacifica*

Personal observations have indicated a steady increase in the numbers of these birds at any place where water is present. During the first wet year, 1973, few were seen. In mid-1976 they could be seen in most swamps and along all rivers with water still visible. Individuals have been observed in the township of Alice Springs to remain at the one water hole for as long as 23 days, roosting much of the time in one place.

WHITE EGRET *Egretta alba*

Seen on the Todd River in Alice Springs, Junction Waterhole in the Macdonnell Ranges north of the town and on Simpsons Gap National Park. Isolated individuals only. The bird at Simpsons Gap National Park was perched in Mulga trees some four km from water. All in mid-1975.

STRAW-NECKED IBIS

Threskiornis spinicollis

Seven birds sighted in flight over Todd River December 1975.

YELLOW-BILLED SPOONBILL

Platalea flavipes

First sighted in October 1972 in a quarry near Alice Springs. Subsequently at Henbury Station 110 km south-west of Alice Springs a flock of 17 birds was observed feeding. During early 1976 it was common to see groups of two to five birds feeding along the Todd River in the Alice Springs township.

BLACK SWAN *Cygnus atratus*

26 at Ringwood Lake June 1976.

GREY TEAL *Anas gibberifrons*

Common in small numbers on all open waters, especially the Hugh and Finke Rivers after subsidence of flooding. Also on small pools in mountain country throughout.

Flocks of 3000-5000 birds were present on Ringwood Lake in June 1976.

WOOD DUCK *Chenonetta jubata*

Common in flocks of up to 50 birds on suitable waters. Pairs or small groups were often seen throughout the area on water as limited as roadside puddles in wetter months.

Breeding along the Finke River on Henbury Station in October 1975.

BLACK-SHOULDERED KITE

Elanus notatus

With the blooming of insect populations this Kite increased rapidly in numbers. At the time of writing (September 1976), there had been no notable rain since March; and although the huge quantity of insect food disappeared, with the drying of the flora and extremely cold winter, the Black-shouldered Kites were still present in large numbers and seemingly in good condition. Generally more common near the Ranges.

These observations tend to agree with those of Parker (*S.A. Orn.* 25 : 61 and 25 : 115), in that the Kite is obviously well and widely established in Central Australia, but probably with considerable fluctuations in population according to the supply of food.

WHISTLING KITE *Haliastur sphenurus*

Commonly seen over ephemeral swamps.

WEDGE-TAILED EAGLE *Aquila audax*

The period of substantial plant growth led to huge increases in rabbit numbers, thus providing a greater than natural increase in food supply. Wedge-tailed Eagles (only protected in the Northern Territory since 1974) have increased accordingly.

BANDED LANDRAIL *Rallus philippensis*

Sighted at Simpsons Gap National Park near Alice Springs, where breeding took place successfully, and at Alice Springs Telegraph Station, in December 1974 and January 1975. Uncommon in this area, and difficult to observe, owing to its habit of tunnelling through thick grass or reeds near water—this bird may be present elsewhere in the region. But it is unlikely to be a permanent resident. See Parker (*S.A. Orn.* 25 : 115).

SPOTTED CRAKE *Porzana pusilla*

Wide banks of couch grass as much as a

metre in height along many major waterways have provided excellent habitat for this bird. It is probably fairly common and has been seen at Palm Valley, 120 km south-west of Alice Springs, Simpsons Gap National Park and several places along the Todd River within the Macdonnell Ranges.

Though the Spotted Crake was only recorded for the first time in the area in 1967 (Parker *S.A. Orn.* 25 : 63), the nature of its habitat has probably limited observations.

BLACK-TAILED NATIVE HEN

Tribonyx ventralis

This nomadic species was present in large numbers in isolated suitable locations in 1972, before the later extensive flooding. With the advent of rains, it appears to have become more widespread, and broken up into smaller flocks. Noted breeding at Simpsons Gap in 1975.

COOT *Fulica atra*

Seven seen feeding at Ringwood Lake in June 1976. Widely scattered over the lake.

BANDED PLOVER *Vanellus tricolor*

Three seen on drying edges of Ringwood Lake in June 1976.

BLACK-FRONTED DOTTEREL

Charadrius melanops

This bird has become extremely common, and during the last two years has increased in number and range, so that the verge of every river pool or swamp is subject to their regular visit or permanent occupation. Noted breeding consistently through the wet years under review, and still laying along Ellery Creek, although pools at time of writing are drying.

In a walk along Giles Creek, approximately 90 km east of Alice Springs, dozens of these birds were encountered, which perhaps never having seen humans were quite fearless and allowed approach to within one or two metres.

RED-KNEED DOTTEREL

Charadrius cinctus

A flock of some 40 birds stayed on the claypan at Ewaninga Reserve, 40 km south of Alice Springs, for several days in February 1975.

BLACK-WINGED STILT

Himantopus himantopus

Four flocks of approximately 100 birds each were seen feeding on Ringwood Lake in June 1976.

AUSTRALIAN PRATINCOLE

Stiltia isabella

Present in scattered groups of up to 200 on Alice Springs airport from June to December 1975. Seen feeding on the runways on insects struck by aircraft.

PINK COCKATOO *Cacatua leadbeateri*

These appear to be increasing in number. Small parties, and flocks of up to 25 birds, are often encountered, particularly in the sand dune desert country adjacent to major rivers. Often seen at roadsides feeding on the seeds of Paddy Melon, *Colocynthis vulgaris*. Noted nesting along the Hugh River in August 1976.

COCKATIEL *Nymphicus hollandicus*

Flocks of 20 to 40 birds were common at waterholes in the Macdonnell Ranges in 1972, but have largely dispersed to the open desert country since.

BUDGERYGAAH *Melopsittacus undulatus*

In the dry summer of 1972-73, Budgerygahs were present in large numbers in the Macdonnell Ranges, and where water occurred. During December of 1972 flocks of 10,000 to 15,000 birds visited Ellery Creek Big Hole daily, wheeling around in tight formation and alighting to drink. Hundreds settled on the water surface and drank with wings outstretched. Those that stayed too long were unable to fly with their water-logged wings, and either drowned immediately, or fluttered to the shore or a rock surface, where they crawled out to dry. So great were the numbers alighting on trees that the weight broke branches of up to 40 cm diameter from Redgums, *Eucalyptus camaldulensis*.

Following the rains during 1973, it seemed that every hollow log on every tree along every creek was filled with nesting Budgerygahs. In 1974 and 1975 nesting was not so intense, but continued strongly in particular sites at seemingly random times of the seasons.

During 1975 and 1976 it had become rare to see more than 20 to 40 birds in a flock, and then mostly well away from the water and central ranges.

It can probably be assumed that with wild seasons, widespread abundance of food seeds, and the brief but common occurrence of surface water in the sand dune areas, the flocks have dispersed widely.

BARN OWL *Tyto alba*

The years 1974 and 1975 saw animals such as the Long-haired Rat, *Rattus villosissimus*, Domestic Mouse, *Mus musculus*, Hopping Mouse, *Notomys alexis* and others increase to plague proportions. In these years also there was a rapid increase in the numbers of Barn Owls. At times, in drives at night through the East Macdonnells, it was common to see a Barn Owl on every third or fourth roadside post. The rapid increase was noticeable as far from Alice Springs as the Ayers Rock-Mt.

Olga National Park (320 km), and this indicated a widespread change in population density.

With the disappearance of the animals mentioned above in 1976, the Barn Owl also dwindled in numbers, and has become once more a relatively uncommon nocturnal sight.

TAWNY FROGMOUTH *Podargus strigoides*

Seen in large numbers during mid-1976 along roads east and south-east of Alice Springs. Interesting to note that, while many were obviously present in the same areas after the wet years, they did not enjoy the widespread increase of the Barn Owl.

RED-BACKED KINGFISHER*Halcyon pyrrhopygius*

The sudden rush of flood waters scoured out the sandy banks of many creeks, leaving ideal sites for the nesting burrows of this bird. With the good food supply it nested continuously and successfully through the wet years.

SACRED KINGFISHER *Halcyon sanctus*

Though not numerous, this bird is common in Central Australia. Sightings have been widespread throughout the Macdonnell Ranges. During January 1976 a number of them were found in the Alice Springs area in poor condition. Some of these were photographed while still alive, and though not all were handled, most subsequently died. Weather conditions at the time were mild and humid, and most of the summer to that time had been cooler than usual. Unfortunately cause of death was not established, but distance travelled and weather conditions en route may be significant factors. See Parker (*Emu* 71:100).

The Sacred Kingfisher was seen nesting during January 1976 in a knot-hole in a Redgum on Todd River, north of Alice Springs. This is believed to be the first record of breeding in Central Australia. The nest site was located over running water, and contained juveniles when first observed. Adult birds frequently entered the knot-hole, carrying large grasshoppers in their beaks. The nest site was visited twice by the writer while it was occupied, and a third visit found it deserted. It is not known whether the young survived.

CRIMSON CHAT *Ephthianura tricolor*

During 1973 and 1974 this nomadic species was present in large numbers over wide areas of the Centre. It was noted nesting in 1973 on Simpsons Gap National Park, Orange Creek Station and in the East Macdonnells.

RUFOUS-CROWNED EMU-WREN*Stipiturus ruficeps*.

With Spinifex, *Triodia spp.*, growing even more thickly than before, it is probable that

this species is enjoying some increase. Seen in the Corroboree Rock area, East Macdonnells May 1976.

WILLIE WAGTAIL *Rhipidura leucophrys*

Suitable conditions were provided during the wet years for nesting sites preferred by this bird. One was seen with the typical nest in the end of a Mulga, *Acacia aneura*, branch hanging over water in one of the Henbury Meteorite Craters. Many local observers have commented on the apparent substantial increase in the number of these birds.

PAINTED FINCH *Emblema picta*

Plentiful in many rocky gullies along ranges east and west of Alice Springs. Commonly seen along rocky ridge tops in mild weather and almost always near water.

One flock of more than 200 birds was seen in May 1976 on a low outcrop associated with the then running waters of Giles Creek near Allua Well.

With the favourable seasons there has apparently been a general increase in numbers

since the period of more normal aridity before 1973. These birds appear to be heavily reliant on the waterholes, and it remains to be seen whether they will maintain their numbers.

MAGPIE LARK *Grallina cyanoleuca*

The availability of mud for nesting, and an ample food supply, contributed to the breeding success of this bird in the area.

REFERENCES

- Chinner, M. E. 1972-76. Pers. Records.
 Condon, H. T. 1969. A Handlist of the Birds of South Australia. The South Australian Ornithological Association.
 Corrick, M. G. July/August 1976. Water in Lake Eyre. Victorian Naturalist.
 Frith, H. J. 1967. Waterfowl in Australia Angus and Robertson.
 Immelmann, K. 1965. Australian Finches. Angus and Robertson.
 Parker, S. 1971. Critical Notes on the Status of Some Central Australian Birds. Emu 71(3). 1969. New and Interesting Distribution Records of Central Australian Birds. S.A. Orn. 25(3). 1970. Critical Notes on the Status of Some Northern Territory Birds. S.A. Orn. 25(5).
 Rix, C. E. 1970. Birds of the Northern Territory S.A. Orn. 25(6).
 Slater, P. 1970. A Field Guide to Australian Birds, Non-passerines. Rigby.
 Slater, P. 1974. A Field Guide to Australian Birds, Passerines. Rigby.
 Storr, G. M. 1967. List of Northern Territory Birds. W.A. Museum.