

Movements of Crows in Western Australia

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The substance of these notes was prepared in 1922, but was laid aside with a view to amplification by further observation and information to be gleaned from other parts of the State. However, I have not been able to do either, and circumstances are such that it is improbable I shall be in a position to add to the information I have already gained for some time to come. The notes are offered, therefore, as being only a fragmentary contribution to a subject which only extensive travel in the State will enable one to treat with any pretensions to completeness.

Prior to 1923 I resided at Maddington, at the foot of the Darling Range, and it was in 1919 that I began to form an idea that the movements of Australian Crows (*Corvus eccila*) through the district were not entirely sporadic, but definitely seasonal, and having some of the elements of a true, if limited, migration. At the end of that year I saw numerous flocks of Crows flying southwards, the numbers in each flock varying from about ten to considerably over a hundred. Small parties of about 15 to 30 were, however, about the average. I did not give much attention to the matter at the time, but when, in the following season, December, 1920, a similar movement was observed I began to take notice, and commenced to record the numbers and direction of each flock that passed. As these observations were for the most part made during the week-ends, the notes dealt with only a fraction of the birds which actually passed over my "station," but, brief as they were, the records for the seasons 1920-21, 1921-22 and 1922-23 showed a striking similarity.

An analysis of the figures obtained indicated that there were two movements—south during the summer months and north during the winter. There was no perceptible interval between the two, excepting in the spring. When the southward movement is at its height the flight northward begins, and soon quite overshadows the other, continuing unchecked through the winter months. It seems to be an annual cycle broken at only one point. The movement southward is initiated in the first days of December, and all that month large flocks of Crows are to be seen passing over daily, the numerical strength of some of the flocks sometimes forming a spectacular sight. In January the return flight comes into evidence, but at least 70 per cent. of the birds seen are those winging their way southwards. In February the two movements are about equal in intensity, though sometimes in favour

of the northward flight. Thus, in 1921, of the birds recorded, 77 per cent. were flying north. In March the northern movement is entirely predominant. It is in these four months that the two movements are most obvious, for in April, June, July and August, though the northward movement continues to hold sway, the flocks observed passing consist rarely of more than half a dozen birds, and their passage is much less frequent. There is practically no movement whatever amongst the Crows during September, October and November.

It was a peculiar fact that at Cannington, about four miles to the west on the coastal plain, this movement is very much less in evidence, and would certainly not impress itself at all on the observer. The same thing appeared to apply in other parts of the coastal plain near Perth, where I have had the opportunity of making observations. The southward and northward flight of the Crows was apparent only in the direct vicinity of the foothills of the Darling Range, which is merely the escarpment of the tableland, and which marks the line of faulting which has produced the coastal plain. The range is a low one, rising to a height of about 1000 feet.

It is very difficult to interpret correctly this movement on data obtained at only one point, but I submit the following hypothetical conclusions, which may or may not be upheld by subsequent investigation:

1. The migrating Crows follow a narrow flight line from north to south, which is along the face of the Darling fault scarp.

2. The birds which enter into the migration are those which are unable to subsist throughout the year in any one definite part of the State. Certain parts of the country cannot support so many birds in one season as they can in another, and the migration under notice is the levelling up, so to speak, of the Crow population to adjust these seasonal differences in food supply north and south.

3. The winter rains have an influence as far north as Onslow, north of which extends the summer rain area. The summer rains commence in the East Kimberley, normally, in November, and work their way southwards till the north-west coast proper receives its first rains in January. From these facts we may perhaps be able to explain the Crow migration. The dry winter months in the north result in a lessened capacity of the country to support so many birds, the surplus of which gravitates southwards into the winter rainfall area, south of the Gascoyne. After the spring breeding season this necessitates a movement away from the saturated area, and as the influence of the winter rains is receding southwards, and the summer rains have not yet set in in the northern parts

of the State, the south-west forest zone receives an influx of Crows in December, continuing till the area is saturated. As the summer wears on the northern rainfall belt shifts southwards, and by January it reaches its southernmost limit, rendering the country habitable by a larger Crow population. This results in a reversal of the migration, and the more desirable Crow country in the north attracts an inflow of birds from the south, which continues the while the south-west country becomes less and less favourable to the birds during the cold of winter.

4. From a consideration of the rain distribution in the State given under note 3, it will be seen why the southward movement is comparatively short, while the northern movement is more drawn out.

6. The stationary period in spring may be attributed to its being, in general, the breeding period, resulting in a sudden influx south afterwards.

Bird Clubs

By A. G. CAMPBELL, J.P., R.A.O.U., Kilsyth, Vic.

Following a motion¹ passed at the Melbourne Congress of the R.A.O.U., 1925, that the Council be invited to prepare a scheme for closer co-operation between State members, with a view to strengthening the Union in its activities, the matter came up for discussion² at a conversazione in May, 1926, and was carried a step further, when the formation of branch committees, under article 26, was suggested.

I ventured to give some amplification to the ideas put forward in a paper³ read before the Sydney Congress, 1926.

At Perth Congress,⁴ 1927, the matter was again under discussion, with the result that three points for affiliation were set down. Thus, as far as possible, members have been acquainted with the movement, and have taken part in the shaping of the ideas.

The Council, therefore, having adopted this report, desires it to be printed in the pages of *The Emu*, and will submit it to the 1928 Congress for approval and support.

The objects for which "branches" or local committees (now to be called Bird Clubs) shall be promoted are:—

- (a) To increase the interest of members in the Union.
- (b) To attract and educate others, including juniors, to become members of R.A.O.U., by means of associate membership.

¹*The Emu*, Vol. XXV., p. 149.

²*The Emu*, Vol. XXVI., p. 95.

³*The Emu*, Vol. XXVI., p. 193.

⁴*The Emu*, Vol. XXVII., p. 147.