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## Migratory Movements of the Swamp Harrier

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The interesting paper by Michael Sharland referring to the migrations of the Swamp Harrier (*Circus approximans*) in Tasmania (*Emu*, vol. 58, p. 75), prompts me to place on record the following observations, scrappy and somewhat indefinite though they may be.

On February 28, 1953, I was a passenger aboard the *New Australia* passing through Bass Strait. As an immigrant just arriving in Australia, I was amazed and puzzled by the numbers of 'brown hawks' that I saw. There were always up to half a dozen in sight at any one time. Flying at about 50 feet above the sea, they did not appear to be attracted to the ship and did not follow it as did the numerous kites in the Middle East. I did not notice that they were flying in any particular direction, but, at the time, the possibility of a migratory movement did not occur to me and I gave no attention to that point. My main interest was to obtain full identification details so that I might later ascertain the correct name for this Australian 'land hawk' with the strange habit of hunting at sea. It was not until I saw a Swamp Harrier in Sydney that I was able to satisfy my curiosity and dispel my false ideas as to its oceanic feeding.

Although I did not accurately record the number of Swamp Harriers seen on that date, I would estimate that in about three hours' observation some 200 birds passed the ship. There can be little doubt that all were Tasmanian birds heading for the mainland. The number of birds seen in a short time and the fact that the movement was a diurnal one across a well-used shipping lane and towards a reasonably frequented coastline, make it peculiar that no other observer has reported the migration. There seems to be scope here for Victorian observers, watching from strategic points, to make a detailed study of this well-marked but little-known migratory movement.

In April 1958, over a period of some three weeks, I made a few trips to a large lake near Wentworth, New South Wales.

On each trip I noted two or three Swamp Harriers as being present and considered that this represented the static population. Over the same period, another person, alarmed at the numbers of ducks being killed by the Harriers, set about their systematic destruction. While I conscientiously recorded my two or three residents, he, equally conscientiously, shot or trapped over thirty of them, still leaving the same two or three! Obviously a movement of Swamp Harriers was taking place over the lake throughout the period. No concentrated movement this, but the gradual drifting through of single birds. This was a movement that could be missed by any watcher unarmed with gun or trap.

Since 1954 I have kept detailed notes of the numbers of birds seen from day to day in various parts of the south-west of New South Wales in an area ranging from Urana in the east to Wentworth in the west. Following the experience at Wentworth and the publication of Sharland's paper, it occurred to me that an analysis of these figures for the Swamp Harrier might be revealing. Accordingly I totalled up all sight recordings on a monthly basis for the years 1954 to 1958 inclusive. The tally is as follows—

Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
26	16	11	28	25	19	27	36	48	56	(8)	26

(As I was away from the area for most of each November, that month's total may be ignored).

The figures fall into an interesting pattern. A movement of the species into the area begins in July, continues over the following months with a peak in October. It is not possible to say, of course, how many passage birds, if any, augment these totals, or whether all birds concerned are local breeding visitors. This influx coincides exactly with the movement into Tasmania. Numbers then fall away gradually, with a most noticeable drop in February and March, suggesting that the majority of local breeding birds leave the area at that time, as is the position in Tasmania. There is then a noticeable increase in April, confirming the movement at Wentworth. This rise seems best explained by the arrival of Tasmanian or Victorian birds moving north. Some of these move further on leaving smaller numbers to winter during May and June until the southward and return movement starts in July again.

The small number of years concerned in this analysis render the figures, and the conclusions drawn from them, somewhat suspect and unfortunately I have now left the area and cannot continue the counts. Nevertheless, the pattern that has emerged, conforms very well with Sharland's findings. Perhaps other observers analysing their field-notes may be able to throw more light on the subject, a particularly interesting one, for, in Australia, the study of migration has received insufficient attention to date.