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THE RELIABILITY OF ESTIMATES OF DENSITY FROM TRANSECT COUNTS

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Densities were estimated from transect counts for seven species at Wollomombi, New South Wales. These estimates are compared with accurate densities derived from intensive studies of colour-banded birds. Also estimates of density of the Golden-headed Cisticola *Cisticola exilis*, at Port Moresby, Papua New Guinea, are compared with seasonal changes in behaviour of that species. Three methods of analysis were applied to the transect data: the Fixed-strip Transect, Variable-strip Transect and the Line Transect Methods. While all methods tended to underestimate density the Variable-strip and Line Transect Methods performed much better than the Fixed-strip Transect Method, because they attempted to overcome problems associated with varying detectability. However, the bias of estimates was not constant and differed greatly between species and between seasons. These results demonstrate the need for caution in using transect methods to compare densities where the detectability of birds may differ. It is concluded that no one method of censusing is appropriate to all species under all conditions and that combinations of different methods are required for accurate estimates.