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COORDINATED WATERBIRD COUNTS (CWAC)

INFORMATION SHEET No. 4 **APRIL 2009**

BASIC COUNTING TECHNIQUES

The following information has been adapted from an article in the 1991 African Waterfowl Census report, published by Wetlands International (formerly the International Waterfowl and Wetlands Research Bureau), and compiled by Christian Perennou. More specialised techniques are dealt with in additional information sheets.

General: Try to plan your count so that you cover the largest concentrations of birds and/or the toughest terrain, e.g. marshy areas requiring wading, first, while you are still fresh. The first is the higher priority. Also, try to plan the count so that the sun is in a favourable position, i.e. behind, or at least to the side of you, as much as possible.

Counts should be immediately written into a field notebook or dictated into a handheld recording device. Waterbird numbers can be counted accurately or estimated, depending on factors such as numbers of birds, visibility conditions, the activity of the birds, etc.

Usually, accurate bird by bird counts should be made when:

- numbers are relatively small (less than 1000);
- the birds are stationary;
- there is little disturbance, i.e. the birds are not frequently taking flight;
- the birds are well spaced out in an open area;
- visibility is good.

Usually, numbers should be estimated when:

- numbers are relatively large (greater than 1000);
- birds are moving rapidly or flying;
- there is likely to be disturbance;
- the birds are very crowded and not all individuals are clearly visible;
- visibility is poor.

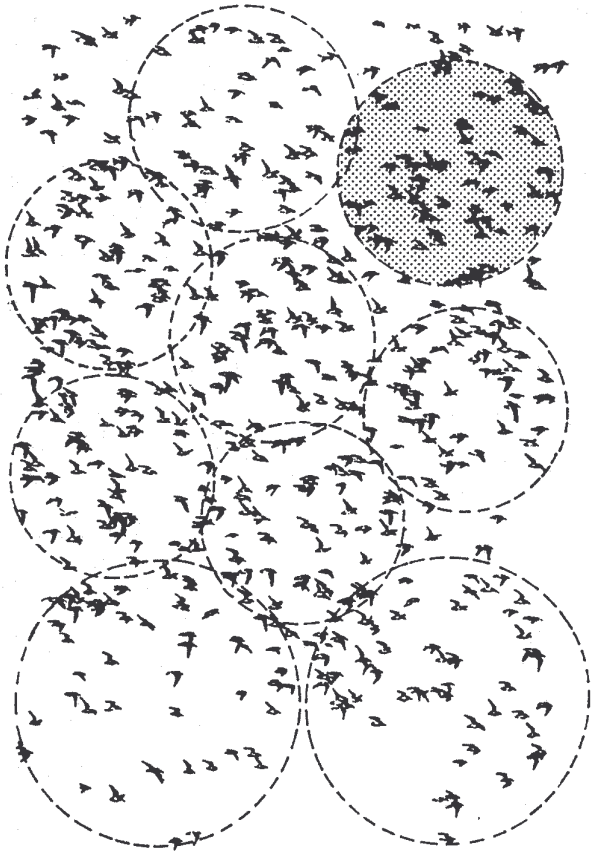
Techniques for accurate counting:

- viewing individual birds and counting 1, 2, 3, 4, 5, 6, 7 ...etc;
- viewing small groups of birds within a scattered flock and noting group size 3, 7, 4, 2, 11, 17, 3 etc., to be totalled later;
- counting flocks in multiples, i.e. 2, 4, 6, 8, 10, 12, etc. This is faster than counting individually.

Methods for estimating numbers: An easy and relatively accurate method for estimating numbers of birds in large flocks, either in flight or on the ground, is the "block method". This involves accurately counting the number of individuals in a "block" of a certain size within a flock. A block should have 10, 20, 100 or some other round number of individuals. The block is then used as a model for counting the whole flock by counting the number of blocks that make up the flock and multiplying. Some examples are given below:

Shaded circle = number accurately counted
Unshaded circles = number estimated

This flock contains an estimated 60 - 70 birds (i.e. 6 blocks of 10 birds plus several left over). (NB actual flock size is 66 birds.)



This flock contains an estimated 450 - 500 birds (i.e. 9 blocks of 50 birds plus several left over). (NB actual flock size is 491 birds.)

Always bear in mind that when estimating the size of a large flock of birds the natural tendency is to underestimate the number of birds present. Experience in using this technique is important. Counters should make a conscious effort to practise counting in blocks and check their results against accurate counts of individuals. In time it will become second nature to use the technique accurately.

Counting mixed flocks: There are two basic approaches to obtaining counts for each species when mixed flocks are encountered:

(1) **Species by species:** Count all of one species and then do the next species, etc., starting with the most abundant species and ending with the least abundant. This ensures that even if a flock flies away during counting, an estimate of less abundant species can be made using the counts of more abundant species. For example, there were 613 Curlew Sandpiper and there were roughly half as many Knots which flew away. Therefore the estimated number of Knots is 300. This method is appropriate where the birds appear settled and unlikely to fly. Recording the numbers is simpler with this method as one is not jumping from species to species.

(2) **All species simultaneously:** Observe a mixed flock and record 5 Shelduck, 10 Coot, 1 Grey Heron, 3 Shelduck, 8 Cape Teal, 6 Coot, etc. This is an appropriate method where there are several widely spaced groups of birds or where birds are moving rapidly. It results in many subtotals which must be added later.

Miscounting: Great care should be taken when flocks are flying in and out of the area being counted. Basically, if a flock comes from behind, i.e. from an area already counted, it should not be counted again. If an uncounted flock flies away or towards an area already counted, its numbers should be estimated immediately - it may not be possible to locate it again later. However, care should be taken that it is not counted again later! Better still: try to avoid flushing birds as much as possible!

It is worth bearing in mind that CWAC counts are not competitions to get the highest number of birds. Accuracy, rather than high numbers, is what matters.

Counting in teams: Although counters can work alone with success, working in teams of two can be more fun easier and more efficient. These are the following advantages:

- While one counts the other can record;
- While one counts the other can observe the movement of flocks in and out of the area;
- Counts can be cross-checked;
- When large, multi-species concentrations are encountered, you can each count different species simultaneously, e.g. one of you counts the waders while the other tackles the ducks;
- Identifications can be confirmed;
- Help is at hand in the event of unforeseen accidents.

Important: Have fun!!

James Harrison, David Allan, Doug Harebottle & Marius Wheeler