# TECHNIQUES

## MEASURED EFFORT SITES - A POTENTIAL SAFRING PROJECT

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Traditionally, bird-ringing has been regarded as a tool to answer the questions: "Where do birds go?", and "How long do they live?". The tool has provided, and will continue to provide, many fascinating answers to these two important questions. However, with a small amount of extra effort, bird-ringing can help to provide answers to many other interesting questions as well. For example, with regard to both Palaearctic and intra-African migrants, we would like to ask: "When do they arrive and depart?", "How does the size of the population build up during immigration and decrease during emigration?", "How does the size of the population this year compare with the size last year?", and "How does the timing of the increase compare between years?"

Many southern African bird species are described as 'resident', to distinguish them from Palaearctic or Afrotropical migrants. But how true is the description 'resident' for some bulbuls, sunbirds, starlings and other common birds? We know well that bulbuls quite suddenly become locally abundant for a few weeks when favoured plants bear fruit, and then disappear again. Similarly, sunbirds arrive to exploit a nectar resource, then vanish. Similar questions arise from these irruptive species as for regular migrants, the main difference between them being that the time scales of events are generally much shorter, of the order of weeks, rather than months. For genuinely resident species, questions to which ringing can help supply an answer are: "What is the ratio of adults to juveniles immediately after the breeding season?" and "How does the size of the population compare between years?".

The extra effort required from the ringer in order to answer these questions is a commitment to ring regularly at a site, both when birds are abundant and when they are scarce, and to keep a careful record of the total ringing effort and any other factors which might have affected the number of birds caught (wind, mist, cloud cover, etc.).

As an experiment for the next two years, we would like to propose to ringers that they consider turning their favourite ringing site into a 'Measured Effort Site'. Initially, the requirements to be met will be:

1. Register your ringing site as a Measured Effort Site. You will then receive special Measured Effort Site forms, designed to make record-keeping easy, and be kept informed of progress, problems or changes to the sheme.

2. Hold at least one ringing session at the site in each calendar month, with a maximum interval of six weeks between sessions.

While nomadic species are present at the site, it may be necessary to ring at least weekly in order to get a handle on arrival, departure and the timing of the peak. There is no minimum interval between ringing sessions, so you can ring as frequently as you are able. However, ringing on successive days is probably inadvisable.

3. Record the number and length of nets in use. As far as possible, put nets up in the same places for each netting session.

4. Record the length of time the nets were in use. Try to keep the netting sessions of roughly equal length.

5. Fill in the forms after each session and return them annually. The details required for each session are essentially the date, the measured effort, and the number of birds of each species (broken down into sex and age classes where this can be easily done).

6. The results from a Measured Effort Site will be more valuable if they continue year after year. So select a site which you are likely to be able to keep using.

The idea of measuring the netting effort is that it enables an index of relative abundance to be estimated. As a simple example, if it takes 5 mistnet-hours to trap 50 Cape Bulbuls at Rondevlei in August and 10 mistnet-hours to trap 20 in November, we estimate that Cape Bulbuls were 5 (=50/5÷20/10) times more abundant in August than November at Rondevlei. The objectives of this trial Measured Effort Site scheme will be to examine whether this approach is feasible in southern Africa and to determine whether more stringent or more lenient requirements will be needed to provide answers to the questions above. For example, it might prove necessary to put the nets up in exactly the same places, or for constant periods of time, or monthly sessions might prove too few. In this trial period we would like to experiment with several protocols to see what requirements are the most suitable for local conditions. We might, therefore, approach some ringers at Measured Effort Sites with a request to see if they are willing to operate in a more rigid way.

Several ringers, engaged in so-called 'community studies' may well have been ringing in this mode for years. If so, we would like to hear from you: we will be needing data sets to adapt and fine-tune the statistical methodology available to analyse the data from Measured Effort Sites. Most importantly, we want the Measured Effort Sites scheme to be enjoyable to ringers, and to give them the opportunity to participate in a project in which contribution from each individual is manageable, but for which the whole will be greater than all the parts. We want to keep the red tape to the minimum that will enable us to produce results that will face up to rigorous scientific scrutiny.

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