Ornis Hungarica : 129-133. 2003

International corncrake monitoring

N. Schäffer and U. Mammen

Schäffer, N. and Mammen, U. 2003. International corncrake monitoring. – Ornis Hung. 12-13: 129-133.

An International Corncrake Monitoring Scheme is suggested in order to follow the population trend of Corncrakes affected by large-scale changes in land-use in Central and Eastern European Countries. A low cost and relatively low effort monitoring method is described in this paper. Corncrake experts in all breeding range countries are asked to support the project, co-ordinated by the International Corncrake Conservation Team (www.corncrake.net).

N. Schäffer and U. Mammen, International Corncrake Conservation Team, RSPB, The Lodge, Sandy, Beds SG19 2DL, UK.

1. Introduction

The Corncrake *Crex crex* breeds in Europe and eastwards through Central Asia as far as western China, and winters in sub-Saharan Africa. From recent surveys in Central and Eastern Europe and from new population estimates for Asiatic Russia, it can be shown that the Corncrake is considerably more numerous than was thought in the early 1990s. The global population is estimated as 1.7-3.0 million singing males, approximately 1.1-1.8 million of these being in Europe (Schäffer & Green 2001).

Historically, rapid declines have occurred in western Europe as a result of changes in agricultural practices. The main factor in the decline throughout western and central Europe has been the intensification of grassland management, which leads to earlier and more rapid mowing of hay and silage. The decline was continuous through the 20th century until the early 1990s, by which time Corncrake populations in western Europe were tiny. However, there are clear indications that in the 1990s the Corncrake population increased in several European countries. In central and eastern European countries, the apparent causes were political changes and privatisation, which had led to reductions in farming intensity and to land abandonment. Parallel increases in some western European populations are thought to represent an overspill from populations further east.

Corncrake specialists in Europe expect this increase to reverse rapidly and soon in the species' Eastern European strongholds, because, although land abandonment temporarily favours the species, abandoned areas rapidly become unsuitable through scrub encroachment. In central and eastern Europe, a likely alternative to land abandonment is the intensified management of hay meadows, or their conversion to arable use, changes which also would result in widespread habitat loss. For these reasons, the species is considered globally threatened and is classified as Vulnerable (BirdLife International 2000).

One of the main objectives of the International Corncrake Action Plan (Crockford *et al.* 1996) is monitoring the global Corncrake population. This paper presents the International Corncrake Monitoring Scheme (ICMS), which employs methods designed to minimise the effort required for its implementation, in terms of time and expenditure.

2. Methods

An annual count, always on the same sites, of Corncrake males forms the basis of the ICMS. Fieldworkers may select survey sites freely, provided that the survey plots are as typical as possible of the areas that Corncrakes occupy in that region or country. Field workers are also free to choose the size of their survey area, but it should be as large as possible. It is sensible that, in the main, they select sites that can be surveyed completely during a single night, but it is allowable to register larger sites, in cases when not only will several field workers be able to work together, but also it can be guaranteed that the large site can be surveyed over several years. In some countries, it might be preferable to appoint regional or national co-ordinators whose detailed knowledge of the region would allow them to select the sample sites and to supervise the survey work.

The survey results should be reported (on standardised survey forms) to us at the International Corncrake Conservation Team annually (see annex). In turn, we will report progress made and will record the results of the monitoring on our home page (www.corncrake.net) and in mailings.

2.1. Survey

2.1.1. Timing and number of surveys

In most countries, the period 20 May-10 July is suitable for counting singing males, although 1-30 June is best. Male Corncrakes are most likely to be calling continuously at night in June. The density of singing Corncrakes recorded in any single June nocturnal survey is probably *c*70-80% of the true average density of singing males present. Hence, a total of 2-3 visits is preferred, to reduce the chance of unreliable results from an anomalous survey carried out when males happen to sing less than usual. What is most important is that the number of surveys and their timing should be the same in every year.

2.1.2. Survey method

Male Corncrakes are most likely to be heard singing in the middle of the night from 2300 to 0200 local time and so we recommend that surveys be restricted to that time period. A small but variable proportion of Corncrakes sing during the day but usually not continuously. Hence, diurnal counts can give a very misleading underestimate of numbers, particularly when a series of such annual counts is considered: the figures obtained would bear little relationship to the real numbers of male Corncrakes. For obvious reasons, windy nights (wind stronger than force four) should be avoided. It is recommended that the site be visited the day before the survey, in order to plan the nocturnal survey route, which should always remain within 500m of any potential Corncrake habitat (*e.g.* meadows, pastures, nettle beds). During the nocturnal survey, field-

workers should stop at the chosen points and listen. All Corncrakes heard should be recorded immediately on a map. The stopping places should be within 500m of every portion of suitable habitat. A fieldworker finding a Corncrake must record its direction from at least 2 separate locations and mark its position on a map by triangulation. Fieldworkers must never place too much reliance on the volume of the Corncrake call, because the volume depends on which way the bird is facing when it calls. It is all too easy to form the illusion of 2 birds (one nearby, the other distant) when a bird turns to call in another direction. Fieldworkers must also beware the sound reflections and echoes from rocks and buildings, for these give the illusion of 2 birds in different places. This problem can be resolved by the observer listening carefully to the calling rates; two real birds will call at different rates, but echoed calls from a single bird naturally are uttered at the same rate. It should be noted that the distance at which singing birds are detected can vary considerably between nights and between individual observers. Observers can adjust the separation distance between listening stops according to the prevailing conditions, wider separation being possible on still nights, but closer spacing will be necessary on breezy nights. Tape lures of Corncrake calls will bias the survey results, and therefore must not be used.

2.2. Interpretation of the results

During every survey, the position of the Corncrakes located should be marked in a map. At the end of the field season, data from each survey night should be summarised on a summary map that presents the location of every singing bird. If the records show that on separate visits singing birds were present at locations less than 200m apart, it is usually best to treat the two records as referring to the same bird, but records of birds separated by more than 200m should be treated as referring to two birds. However, if an area known to hold singing Corncrakes has been mowed, a neighbouring area may very well hold more singing birds than the previous visit some of may have moved more than 200m, and these will now be closer than 200m to other singing birds: judgement is therefore called for in assessing the numbers of individual birds. Although some degree of overestimate and underestimate is possible in these circumstances, the extent is likely to be small, and is most important it to apply the agreed rules consistently year to year.

2.3. Instructions for filling in the survey forms

The survey forms are largely self-explanatory, but those aspects that might lead to misunderstandings are elaborated below:

Sheet A

Sheet A needs to be completed only once for each site. A map showing the exact location and boundaries of the survey area should be attached to Sheet A. Essential points are:

- Name of survey area
  The name selected for the survey area should take into account either the local name or should mention the nearest sizeable human settlement. This name must be repeated on Sheet B.

- UTM quadrat or geographical co-ordinates
  Please fill in the number of the UTM quadrat or the geographical co-ordinates of the site. Should this not be possible, please attach a map, 1:500 000 scale or larger, on which the location of the survey plot and some of your country's borders are clearly shown.
- Number (No)
  Please ignore this line.
- Method
  Please tick to show whether or not you followed the recommended method, or describe your alterations. Once you have chosen your method, you must keep strictly to it in all survey years.
- Habitat
  Although you do not have to fill in this line, please make a rough note of the percentage of different vegetation types in the entire survey area during the calling period.

Habitat types: some problems

The ICMS selected a very wide range of habitat types, but despite this it is not always straightforward to identify habitat types with certainty, because many habitats do not fall clearly into any category mentioned on sheet A some of the main problems are:

- A spring hay meadow may be used as pasture later in the year
  In such a case please describe the habitat type existing during the main Corncrake breeding season.
- The term 'cultivated/uncultivated' is imprecise
  Please note that we have attempted to categorise habitats over a very large area (Europe, parts of Asia), and that uncultivated meadows and pastures (possessing features like rough topography, bushes, ditches, regular flooding) are distributed mainly in central and eastern Europe, having almost disappeared from western European countries.
- Corncrakes in clearfells
  Although this is a rather common observation in very large forest clearfells, particularly in eastern Europe, please remember that Corncrakes can use clearfells only for a short period, when tall herbs are dominant.

Please note that it is optional to complete the vegetation categories.

Sheet B

A copy of Sheet B has to be completed annually and has to be returned by 31 August. Observers are requested to fill in this form for their survey site whether they have found Corncrake in that year or not.

- Reference Number (No)
  Observers will receive their Reference Number from the international coordinators after the first survey year, and so they are required to complete this line only from the second survey year onwards.
- Survey results
  Observers are requested to fill in one line for each survey of a site during the season. For participation in the International Corncrake Monitoring Scheme, two to three surveys of a site during the year are sufficient. Should observers have carried out more than seven surveys of any single site, they should choose the results from no more than seven typical surveys.

- Best estimate of males present throughout the core season
  This is the most important information on the survey form. Observers are requested to fill in a figure of calling males present during the core breeding season based on their individual surveys and experience.
- Old data
  Should observers have old survey and monitoring data, they are requested to fill in an example of Sheet B for every year of these data. Old data are very valuable for our analysis of the population trend.

References

Crockford, N., Green, R., Rocamora, G., Schäffer, N., Stoweand, T. & G. Williams. 1996. International action plan for the Corncrake (*Crex crex*). In: Globally threatened birds in Europe – Action plans. – Council of Europe Publishing. Brussels[B1].

Schäffer, N. & R. E. Green. 2001. The global status of the corncrake. – RSPB Conservation Review 13: 18-24.

Stattersfield, A. J. & D. R. Capper. 2000. (Eds). Threatened birds of the world. – Lynx Edicions and BirdLife International, Barcelona (Spain) and Cambridge (U.K).