

## The Corncrake (*Crex crex*) in Sweden

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### 1. Introduction

In the 19th century the corncrake *Crex crex* was abundant in southern Sweden north to about 6030'N. It occurred in all suitable habitats and particularly in meadows. The species suffered a strong decline by the time of modernisation in farming, that is in the period 1910-1940. In recent times population size has been characterized by large yearly fluctuations. The main threat to the survival of the corncrake in Sweden is early mowing of the preferred habitat which means low breeding success.

### 2. Development of knowledge about corncrakes

The decline in Sweden is poorly documented but corncrakes were reported to disappear from former occupied areas already by the late 1800s

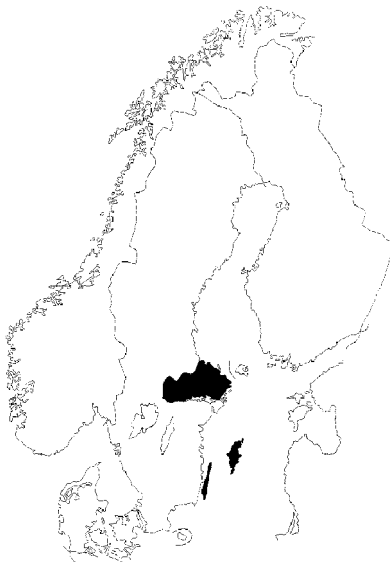


Figure 1.: Important areas of corncrake population in Sweden.

(ANONYMUS 1890). In the 1920s, distribution was fragmented in most of the breeding range (JÄGERSKIÖLD & KOLTHOFF 1926). Further observations of the decline all over Sweden in the 1930s led to appeals in faunistic literature and the species was a cause of nation-wide concern (LÖNNBERG 1940).

Since 1968 the corncrake has been monitored on the Swedish mainland by spontaneous reports from ornithologists. On three occasions (1957, 1968 and 1994), SOF (Swedish Ornithological Society) have organised country-wide surveys of corncrakes. On the Baltic island of Öland a detailed survey was carried out in the 1970s. In the early 1990s Ottenby Bird Observatory initiated a radio-telemetry study on the southern parts of Öland (OTTVALL & PETTERSSON 1998).

### 3. Distribution and important areas of corncrake population

Corncrakes are regularly heard in South and Central Sweden but rarely north of 6030'N. Three important areas can be identified within the national population (Fig. 1). Two areas are found in the Baltic on the islands of Öland and Gotland. The population on the Swedish mainland is concentrated to the central parts and mostly to the provinces of Uppland and Västmanland.

### 4. Size and development of national corncrake population

#### 4.1. Size of national corncrake population

The 1994 SOF nation-wide survey recorded 365 calling corncrake males (PETTERSSON 1995). There is reason to believe that 1994 was an exceptionally bad year. The previous year, 1993, almost 500 singing males were reported on the Swedish

mainland only. This is the highest number of singing males recorded on the mainland in a single year in modern times. About 250 males were heard on Öland and Gotland together in 1994. The good year of 1993 at least 800 males should have been involved in that year's occurrence. Numbers of singing corncrake males fluctuate between 400-1 000 and the accuracy of this estimation is 2 on a scale 0-3 (3 = a census accurate to 10 % of the true number).

#### 4.2. *Development of population*

##### *a. National population trend*

There is almost no information of the population size before the 1958 national census but probably the national population size reached the low level of today already by the late 1940s (RISBERG 1988). The 1968 national census suggested a recovery of the population from the 1950s (ENEMAR 1968). In the last 10 years numbers seem to have increased, at least on the Swedish mainland (PETTERSSON 1995).

##### *b. Accuracy of data*

The positive trend on the Swedish mainland during the 1990s is probably not explained by increased ornithological activity. Öland was surveyed in the 1970s and the 1990s with comparable methods while annual fluctuations in numbers on Gotland are almost unknown. Hence, in total, the accuracy of existing data is quite high.

##### *c. Population trend in restricted areas*

In the Springs of 1972-75 singing corncrake males were surveyed on Öland and 239 males were heard (RODEBRAND 1978). In the 1994 nation-wide survey 137 males were reported on Öland (PETTERSSON 1994) and another survey in 1997 documented 90 singing males (OTTVALL & PETTERSSON 1998) and thus confirmed that a decline had occurred on the island. In the study area on southern Öland, there is no clear trend in number of calling corncrake males during the period 1972-1997 (OTTVALL & PETTERSSON 1998). Corncrakes have almost completely disappeared along the east coast of the island and are restricted to two rather small core areas.

An estimation for Gotland suggested around 600 calling males in the late 1970s (SOF 1990). The 1994 survey only recorded around 100 singing males (PETTERSSON 1995), indicating a higher loss than on Öland. An incomplete survey in 1998, however, recorded about 100 singing males on a restricted part of the core area of Gotland (OTTVALL in prep.), which indicates that year by year fluctuations are large.

While corncrake numbers have declined on Öland and Gotland, Central Sweden has gained in numbers in the last 10 years. In Uppland for example, 10-60 corncrake males were reported annually in the period 1970-85, while 30-135 males were reported annually in 1986-1997.

##### *d. Future national population trend*

Yearly fluctuations of the national population size is probably influenced by the influx of corncrakes from another source. In the short term the rather stable population trend in Sweden will most likely continue, unless there is a catastrophic decline in corncrake numbers in Eastern Europe. In the long-term, however, as the destiny of the present abundant corncrake populations is uncertain, the population in Sweden is severely threatened.

##### *e. Reasons for stable population trend*

Studies on Öland suggest low reproductive success of corncrakes trying to breed there due to early mowing (OTTVALL & PETTERSSON 1998). There are few incidents of confirmed breedings on the Swedish mainland in the past 20 years (RISBERG 1996). The median date of the first harvest of silage and hay fields has been brought forward more than two weeks in Sweden in the last 25 years (OTTVALL & PETTERSSON 1998). Hence, the development in farming practices has not been beneficial to corncrakes. Indications that the national population is not viable favour the idea that the population is supported by immigration.

## 5. Threats to corncrake population

The major threat is early mowing which in most cases prevents hatching of young in the preferred habitat. The predominant method of mowing

is outside-in, towards the centre, which is a further threat in the event there are young that are not able to run fast enough.

Drainage and a homogenous farming landscape give few alternative habitats for breeding attempts to the grassland managed for silage and hay.

Along the east coast on Öland intensive grazing by cattle on shore meadows prevents corncrakes from settling in this previously used habitat.

## 6. Conservation status

By law the corncrake is fully protected under a schedule of the Wildlife Act. In the latest edition of the Swedish Red Data Book (AHLÉN et al. 1996) the corncrake was elevated from the category "case-demanding" to "vulnerable".

## 7. Conservation projects

Small subsidies from a limited budget have been paid to farmers in our study area on southern Öland for corncrake-friendly management. Corners of fields have been set aside from mowing or grazing during the corncrake breeding season. Payments have worked well and corncrakes have been found to breed successfully in some of the areas set aside.

## 8. Ongoing or planned conservation or study projects

The Corncrake Project on southern Öland is intended to continue, but in what form is still unclear. Hopefully, it will be possible to undertake action for corncrake-friendly management on Öland and in Sweden on a larger scale in the near future. In Central Sweden field work including radio-tracking of corncrake males was conducted in 1998. This project is likely to continue for some years.

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