

The Corncrake (*Crex crex*) in Slovakia

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1. Introduction

Slovakia is a small European country, but with high biodiversity. The country lies between elevations of 92 to 2655m. Of the total territory, 49035 km² 50% is covered by agricultural land. The population (over 5 million) is concentrated mainly in lowlands and valleys - the mountainous areas are less populated. The distribution of Slovakia's population is impacted by land use and land structure.

During the last 40 years land structures have changed. Fields were amalgamated and agriculture became more intensive. Small plots were converted into large fields, chemicals were used extensively as were agricultural machines. During this period a great many meadows and pastures were changed into arable land. At present, arable land predominates in lowlands. Meadows and pastureland prevail in mountainous and hilly areas and in foothills and cover 839,000 ha (17% of the total territory of Slovakia). After changes in the country in 1989, mainly due to economic conditions, the situation changed. Recultivation and 'improvements' were stopped, use of chemicals was reduced, traditional agriculture has to a lesser extent, returned in some areas, or land has been abandoned in others.

2. Development of knowledge about the corncrake

Until 1995 no special attention was given to this species. This fact is reflected also in older data on this species from Slovakia. General knowledge on the corncrake (mainly faunistic data) are collected in wider publications dealing with the avifauna of Slovakia (e.g. FERIANC 1977) or Czechoslovakia (HUDEC & CERNÝ 1977). Data on breeding distribution in the years 1973-77 are pu-

blished by STASTNÝ et al. (1987). Estimate of population and trends in 1973-1994 is made by MURIN et al. (1994).

After 1995 the Society for the Protection of Birds in Slovakia (SOVS) began to organise mapping and monitoring of the corncrake at the territory of Slovakia. Mapping was based on:

a. collecting of data from experts (ornithologists, state officials in nature protection) and volunteers,

b. systematical overnight counts of calling males in the squares of data-bank of the Slovakian fauna were evaluated in only three areas (at the north west of Slovakia, the Slovakian Karst) and the Morava River floodplain.

Since 1996 80 males were ringed to find migration routes of the birds. The result was one ringed bird captured last year.

In spite of the above mentioned activities and some improvement in existing data, our knowledge is seen as incomplete and we plan now to update it.

3. Distribution and important areas

On the basis of data from fairly recent authors (FERIANC 1977, HUDEC & CERNÝ, 1977, STASTNÝ et al. 1987) corncrakes originally were distributed more in lowlands and valleys of large rivers and less at higher elevations of 700-800 m. We presume that due to intensification of agriculture the majority of the population shifted to higher elevations. At present corncrakes are distributed generally in foothills and in mountainous regions. They are rare in the most intensively managed regions of the West-Slovakian lowland and in valleys of bigger rivers with dense human population. During the mapping survey they were found from the lowest parts of the country up to

subalpine meadows above the tree line. Breeding was proved even in elevations of 900m (Demko, Oleksák).

Because of the dispersed distribution of corncrakes in Slovakia, it is difficult to specify important areas of corncrake population. Based on present information, the floodplain meadows around the Morava River and the region of north western Slovakia can be identified (Orava, Kysuce).

4. Size and development of national corncrake population

4.1. Size of national corncrake population

The estimate of the population size is based on the results of the mapping of calling males in the years 1996-97, updated with estimates of population sizes for revision of the IBAs. On the basis of these data the estimate of the present population is min. 1400 max. 1700 calling males with data accuracy. In mountainous parts of north western Slovakia the population density reaches 0.11 - 0.17 males/10 ha of agricultural land.

4.2. Development of population

Authors from the period before the 1990s (FERIANC 1977, HUDEC & CERNÝ 1977, STASTNÝ et al. 1987) presume a massive decline of population size during the last 50 years due to intensification of agriculture. Data from the years 1973 - 1994 (MURIN et al. 1994) estimate the population size to be 600 - 900 pairs and report a low decline of population of between 20 - 50%.

The present estimate of population (1400 - 1700) does not reflect an increase, but is the result of more intensive research. On the basis of the results of mapping lasting four years, monitoring of a few localities and personal experience of the individuals dealing with the mapping it is supposed, that in the last 5 - 8 year period the status is stable, or with only a small population increase. We suppose that this status is the result

of unsuitable social and economical conditions in agriculture during the last few years.

It is obvious that these population trends in the future will depend on changes in the economy. In the next five years a large change from the present situation is not anticipated. If the next ten years see further intensification and large agricultural farms, the population will be reduced. But neither intensification nor lack of production in some agricultural areas for longer periods can be beneficial for corncrake populations and the result could be a decline. More than ten years of abandonment could lead to complete habitat change and further processes changing the habitat making it unsuitable for corncrakes.

5. Threats to the corncrake population

The main threat to the corncrake population in Slovakia is loss of suitable habitat. In the past the problems were mainly due to conversion of meadows and pastures to arable land, meliorations and recultivations of soils with low productivity, draining of marshlands, etc. Future habitat losses will be due to loss of grasslands due to building dams, water reservoirs, enlargement of settlements, road building and building of highways.

In some areas, due to long abandonment of meadows and pastures in less accessible mountainous regions, habitats are being lost because of the secondary succession of bushes and trees (e.g. around the water reservoir at Nová Bystrica). Some abandoned meadows and pastures are threatened by intentional reforestation by humans.

Direct killing of birds (documented by findings of mowed nests and fledglings) is caused mainly by earlier mowing and by mechanisation of mowing on larger plots. In large parts of the area the unsuitable land structure is a factor - vast fields without any scattered bushes, trees or clumps, wetlands, etc. Three cases of road killing of corncrakes are also documented.

The impact of hunting is thought to be small, as is the impact of recreational activities. The impact of pesticides is unknown (it was not studied).

6. Conservation status

The corncrake is established as a protected animal by the act of the National Council of the Slovak Republic No. 287/1994 on Nature and Landscape Protection. This means that the disturbance of corncrakes in their natural surroundings, specifically their killing, wounding, catching and removing, is prohibited. The destruction and damage of their habitats and nests is also prohibited. According to this act, protection does not apply to protected corncrakes in cases where intervention in their natural life style is the direct result of necessary normal maintenance of property, for hygienic or veterinary reasons. In these cases, the nature protection body may determine conditions for executing such activities. The Ministry of the Environment, under special notice, will establish the details of the conditions of protection.

The corncrake is listed as vulnerable in the former Czechoslovakian Red Data Book (SEDLÁČEK 1988) and also vulnerable in the Red Bird List for Slovakia (in prep.).

7. Conservation Projects

Two current projects organised by the SOVS are the mapping of corncrakes in Slovakia and monitoring at selected localities.

In the years 1999 - 2000 we plan to expand this by adding another project "Threats and ways to protect the corncrake". This project will document reasons for threats on the basis of detailed, studied model areas, the impact of social and economical factors and a suggestion for effective protection

In the area of practical protection, camps for volunteers were organised in 1997 - 1998 with

the goal of mowing the abandoned grasslands around the Nová Bystrica water reservoir.

The next project, indirectly positively influencing the corncrake, is the project for revitalisation of the meadows in the Morava River floodplain done by the Slovak Agency for Nature Protection (SAZP) in cooperation with NGO Daphne. In 1999 a project is planned to be done by the National Park service at the National Park Muránska Planina. The purpose is monitoring and practical protection of corncrakes at selected localities of the National Park.

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