

Status of the Imperial Eagle *Aquila heliaca* in Ukraine between 1897 and 1993

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At the end of the 19th and in the early 20th centuries the Imperial Eagle was widespread in most of the Ukrainian forest-steppe areas. Nowhere numerous, there were as a rule considerable distances between each breeding pair. It occurred in largest numbers, even up to the 1940s, in the regions of Kharkov, Sumy (in the south), Poltava, Dnepropetrovsk (in the north-west and east) and Kirovograd (Zubarovsky 1977).

Since that time the species declined precipitously in Ukraine and ceased to breed in many localities. The most likely reason was the felling of the old forests containing its breeding sites, deterioration of the food base as the land was developed and subjected to the uncontrolled use of pesticides, and direct human persecution, especially during the campaigns against "harmful" birds of prey in the 1950s and 1960s.

According to V.P. Zhezherin (1988), by the mid-1980s there were scarcely more than seven breeding pairs of Imperial Eagles in the whole of Ukraine. This figure was too low, however, since between 1986 and 1993 I found 14 occupied nests in the east of Ukraine alone, along the Seversky Donets river. Moreover, according to data in the literature and answers to enquiries, we know of the breeding of isolated pairs in other regions (Sumy, Chercassy, Kiev, Odessa, Kirovograd, Dnepropetrovsk) and in the Crimea (see map).

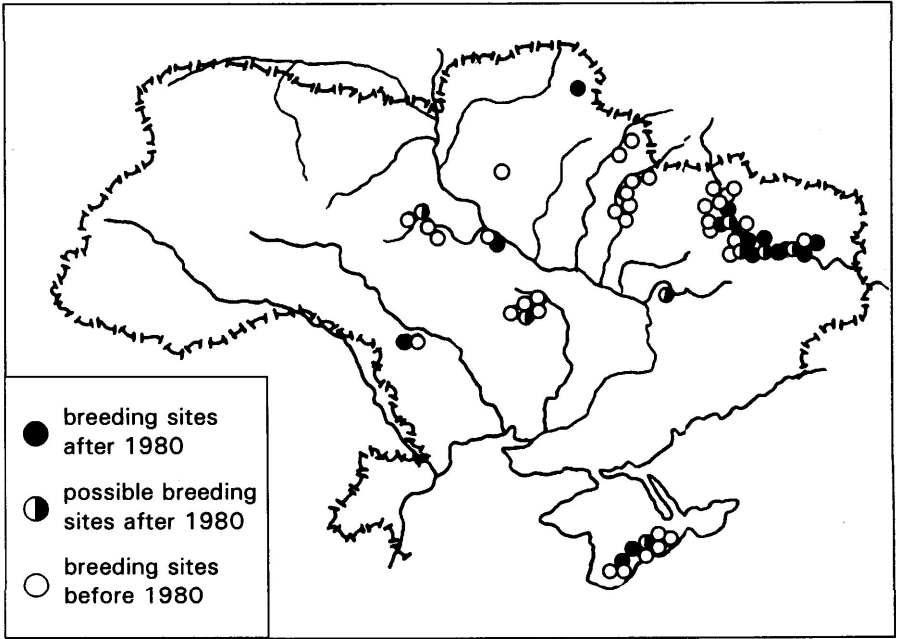
To-day, when there is such heavy human pressure on the natural landscape and its wildlife, the Imperial Eagle breeds only in remote, sparsely inhabited districts where the old forest survives; nevertheless the total population may still be estimated at 50 breeding pairs.

Beginning in 1994 it is planned to launch a project entitled "Conservation of the Imperial Eagle in Ukraine", the realisation of which will enable us to determine the precise areas in which it occurs, the exact number of breeding pairs, and the measures necessary for their protection.

CURRENT DATA

Given that the data provided by V.M. Zubarovsky (1977) are rather out of date and that during the last 10-15 years very little information is to be found in the ornithological literature regarding the distribution and status of birds of prey in Ukraine, we cannot give an accurate estimate of the present-day population of the Imperial

Figure 1. Distribution of the Imperial Eagle in Ukraine during the past 100 years



we cannot give an accurate estimate of the present-day population of the Imperial Eagle in this territory and designate all its breeding sites. There are many districts which have never been properly investigated.

The map shows not only those nests which have been located in the Seversky Donets river valley but also those sites where the eagle was known during the last decade, based on the literature or on published information. For comparison we give the data on breeding sites known from the end of the last century (Rudinsky & Gorlenko 1937; Zubarovsky 1977; Zhezherin 1988).

Analysis of such information as we have show that to-day the Imperial Eagle is very unevenly spread throughout Ukraine. Most pairs breed in the eastern part of the country where, in the Seversky Donets valley, there are not less that 20-25 pairs. Probably about 10 pairs can be found in the Poltava valley and in the Dniepr lowland. There is one known breeding pair in the north of the Sumy region (V. Afanasjev, *in litt*).

West of the Dnieper river the species is spread up to the border with Moldavia. In that fairly extensive area, mainly within the bounds of the Dnieper and the south-

This figure, however, may be too low, since there are many places in that district which are quite suitable as breeding sites and the region has not been sufficiently investigated by ornithologists during recent decades. The individual pairs of eagles which have been found (see map) during the past ten years (data from S. Prokopenko, V. Strigunov, V. Kina, V. Piluga) all bred in those sites previously as well (Zhezherin 1988).

The Imperial Eagle has long been known to breed in the Crimea (Puzanov 1931, 1933; Kostin *et al.* 1981; Kostin 1983; Zubarovsky 1977; Zhezherin 1988). To-day our knowledge is confined to data from S.P. Prokopenko, who has told us of the breeding of two pairs and the nest site of one further pair which have recently been found. The total population of this species in the Crimea is probably not more than five pairs.

It is interesting to note that all pairs breeding in the territory on the left (east) bank of the Dnieper possibly belong to the Volga-Don population, insofar as they are distinctive in their choice of nest sites; thus, despite the presence of large deciduous forests, all nests were found in pine (*Pinus sylvestris*) forests and built at the tops of these trees. Those birds which inhabit the region west of the Dnieper river, on the other hand, may belong to the West European population, since here all nests were found in old deciduous forests, built mainly on oaks (*Quercus* spp.).

The literature contains very little information on the migration of the Imperial Eagle in Ukraine for the last decades. According to V.M. Zubarovsky (1977), spring wandering has been noted in the middle of March and lasts until the beginning of April. Autumn wandering occurs throughout October. Those birds which inhabit the Crimea may possibly remain there during winter. The breeding season, according to our observations, begins in early April and ends in the first ten days of August, when the young birds fledge.

CONSERVATION MEASURES

The Imperial Eagle is a rare and vanishing species in Ukraine. It is included in the Red Book and, in addition, is protected under the Law for the Protection of Nature. This law provides for fines to be paid for each bird injured or killed, and also for removing eggs from the nest. But in reality this doesn't guarantee preservation of the species, especially during recent years when the country is in a difficult economic situation. Moreover, the eagle's breeding sites receive no special protection, which may cause serious problems, due to the continued felling of the old forest in the districts where it breeds.

CONCLUSION

1. Up to the end of the last and the beginning of this century the Imperial Eagle was widespread in steppe and forest-steppe areas and in the Crimea. Nowhere

was it rare.

2. During the second half of the 20th century the population declined precipitously being reduced to isolated breeding sites within its former range.
3. The main factors contributing to this decline are the felling of the old forest, deterioration of the food base and direct human persecution.
4. Between 1980 and 1993 only a few breeding sites were known, in the Crimea and in the territory west of the Dnieper river.
5. The most favourable areas for the eagle during recent years are the pine forests along the Seversky Donets river in eastern Ukraine, where 14 occupied nests and 4 other breeding sites have been located.
6. The total population in Ukraine is estimated at approximately 50 breeding pairs.
7. The eagle's nest sites are not protected.
8. A serious threat is posed by the felling of the old forests in the breeding range.
9. The most vulnerable nest sites should at least be declared as Bird Protection Areas and thus preserved from economic development.

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