

The decline of the Imperial Eagle *Aquila heliaca* in Greece

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INTRODUCTION

It is only a few years since the last known pair of Imperial Eagles disappeared from its traditional nest site in Greece. Although the species is still seen irregularly during all seasons, most likely its extinction from Greece is very close if not already a fact. The following describes the decline of its population, based mainly on own records, collected since 1970 during excursions throughout Greece, especially directed to raptor presence and their conservation.

PAST PRESENCE

The Imperial Eagle had a much wider distribution in the past than found during the last 20 years. In the 19th century, Reiser, Kruper, Lilford, Lindermayer, Erhard and others found the species breeding in most of the plains of mainland Greece, including Attika, Akarnania and Thessaly (Reiser 1905).

Some findings in that century also refer to its presence in the Peloponnese, on Evia and on the Ionian islands, but say that breeding in these areas could not be confirmed. In more recent years, Niethammer (1943) also failed to establish an indication of breeding in the Peloponnese.

Later on, we learned that the Imperial Eagle preferably used the plains and wetlands of the Peloponnese and the western mainland as wintering quarters only, and it is likely that many of the old findings of collected or shot specimens refer to wintering birds from more northern regions and countries.

Also in the first decades of this century the species likely maintained healthy capacity populations in central and northern Greece, favoured by traditional land-uses and widespread pasture in most of the Greek lowlands. As in the rest of the Balkans, the Imperial Eagles preferred to nest in or on the edge of plains that were extensively used for traditional farming and pasture, so habitat conditions had been quite favourable.

Likely, good populations were still present also in the 1940s, as was precisely documented by Makatsch (1950) for the area of Thessaloniki, where he found more than 25 pairs in the lower reaches of the Axios, Loudias and Aliakmon rivers.

For the 1960s, a decline was stated by Voous (1960), Bauer *et al.* (1969) and

Bijleveld (1971), although we later found the population rather underestimated for the region of Thrace.

In the 1970s and 1980s, most indications of breeding presence were found in Thrace, somewhat less in Macedonia (although still frequent in the former Yugoslavian part) and only little evidence on the eastern edge of the Thessalian plain (Hallmann 1989).

Wintering or straggling birds, particularly immatures, however, were and still are recorded in a larger area of Greece, especially in coastal wetlands and their vicinity.

RECENT PRESENCE

After intensive surveys in 1980-1985 (Hallmann 1986), the Greek breeding population was estimated at between 6 and 10 pairs. Thrace was the only area of Greece where the eagles still bred, with 6 active pairs known in those years.

Some records of individuals still indicated presence in two more areas: a plain near the Yugoslavian border in Macedonia and one locality in Thessaly.

In 1986, only two pairs were still active in the Evros area of Thrace. The first near Alexandroupolis stopped nesting after that year, while the other pair within the protected Dadia Birds of Prey Reserve no longer returned to its nest in 1991.

REASONS OF DECLINE

Imperial Eagles share most of their habitat with man: lowland plains and forest-edges near biologically rich areas, such as wetlands and open, grazed low-altitude forests, that have always been, and are still, in use by people. In the past, extensive agriculture and pasture in those areas had likely been quite favourable for the eagles.

Logically, changes in land-use for agricultural intensification, the gradual degradation of rich landscapes with traditional farming and pasture had to affect negatively the eagle's habitat, both for feeding and nesting. Steppe habitats with susliks were reclaimed for cropfields, intensive use of agro-chemicals caused the disappearance of much other fauna, together with their niches: the natural elements in these open landscapes, large, mature trees and groves that served as nesting sites, had gradually been removed.

Apart from these structural habitat changes, the eagles have also been directly affected by man. Poisoning of wolves, foxes, corvids and shooting likely contributed greatly to the decline in Greece.

The Imperial Eagle is as much an opportunistic scavenger as the vultures, and maybe even more vulnerable to poisoned baits than the latter. After a large-scale poisoning, that left hundreds if not thousands of rooks dead in the plain of the Evros delta in 1978, an eagle was seen - still alive - flying away with a dead rook!

Examples of shooting incidents have come to light more frequently: in 1981, an immature bird was found wounded in the middle of Athens! The rehabilitation centre

in Aegina has received several such birds over the last years, and some have again been released to freedom after recovery. Shot and stuffed eagles are often shown and sold in hunting shops.

All raptors are protected by law, but such rules have not the slightest effect on the reality of hunting in Greece: mostly, shooters fire at any larger bird if it is so unfortunate as to come into range.

Known large nesting trees in the riverplain and delta of Evros river disappeared one after the other, although one such nest is still present in the delta. The pair had already moved to the nearby slope-forest when disturbance apparently got too intense. The last surviving three pairs in Evros could hold their own for several years, probably just because they found such refuge in the nearby hills for nesting. However, later on, the partners of two pairs disappeared, leaving mates remaining for some more years alone in their traditional territory. One of these bereaved birds was still seen rebuilding its nest in a subsequent year. In the case of the last known pair - that of the Dadia Reserve - both partners vanished together, which would point to a poisoning incident.

Immature birds are still sometimes seen around their nestsites in Evros, often joining up with other individuals from adjacent countries during winter.

In this respect, there is still some hope that a breeding pair could be re-established in an old territory some time in the future, although this is not very likely unless everything is done to keep survival conditions as favourable as possible.

CONSERVATION

Although extinct or nearly extinct from Greece as a breeding bird, it is anyway necessary to undertake the utmost to protect the last possibilities for re-establishment of pairs in the former territories.

Areas stocked with prey are still available in those places, and also some nests are still intact. The vulture feeding site in Dadia still attracts some individual Imperial Eagles. As long as younger offspring of the last breeding pairs are still alive, a pair could again be formed.

A. Protection of areas rich in prey is equally important. Situated amidst agricultural zones, all suslik pastures should be advisedly protected and managed. The open forest structure, accountable for rich prey populations for many raptors, should be properly managed so as to keep these habitats in good shape.

B. Any presence of a potential nesting pair and nest-site should be kept monitored, studied and subject to a detailed management plan.

C. Hunting should be banned wherever possible in such home ranges, and local shepherds should be engaged, educated and paid as daily "body-guards".

D. Enforcement of hunting regulations would need special training programmes for guards.

E. Captive breeding programmes for eventual release into the wild, particularly at the most recent breeding localities, should be taken into consideration.

F. Education and information campaigns to stem the danger from poisoning and shooting should be organised as a priority.

G. Monitoring and survey work for all known eagle areas should be organized and maintained as a matter of routine. This should become part of a much-needed governmental programme for highly endangered fauna on a national level. Whereabouts of the last nesting cases should be kept secret and only responsible government people should be involved in the conservation effort.

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