

The Saker Falcon *Falco cherrug* in Kazakhstan

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ABSTRACT

In 1993 the National Academy of Science of the Republic of Kazakhstan (NAS RK) and the National Avian Research Center (NARC), Abu Dhabi, initiated a monitoring project to assess the distribution, density and productivity of Saker Falcons *Falco cherrug* in Kazakhstan. The harvest of Sakers in Kazakhstan has increased over the past five years. Historically, only a small proportion of falcons were trapped during migration. Now, adults and juveniles are being taken from their breeding grounds, resulting in local extinctions. The Saker, especially in southeast Kazakhstan, may become extinct at the present level of trapping. It is expected that trapping will continue in these areas and possibly in other remote areas of east Kazakhstan on the borders with China and Russia. Field biologists will continue to monitor existing study areas, and survey new ones in order to assess the impact across the whole country. Continued co-operation between the NAS RK and NARC, and the development of the Global Strategy for the Conservation of Falcon and Houbara Resources, is hoped will conserve and restore the Saker in Kazakhstan.

INTRODUCTION

The current project is a collaboration between the National Avian Research Center, Abu Dhabi (NARC) and the National Academy of Science of the Republic of Kazakhstan (NAS RK). It commenced in 1993, following a two year pilot study contracted to the Institute of Terrestrial Ecology UK, assisted by NAS RK scientists.

The project is carried out by biologists from the Institute of Zoology of NAS RK, joined in the field in 1997 by NARC fieldworker Mark Watson. Its aims are to assess the distribution, density and productivity of Sakers, to study their migration, and to obtain biomedical and morphometric data on the population in Kazakhstan. Valuable data has been obtained on habitat use, morphometrics, biomedical aspects, natal dispersal and genetics of the population over this study period. This paper concentrates on the breeding success of Sakers in Kazakhstan in the years 1993-1998.

Kazakhstan

Kazakhstan's 2,700,000 km² represent more than half the species' longitudinal distribution and at least two-thirds of its latitudinal distribution (Kenward, *et al* 1995). The Saker is irregularly distributed

in Kazakstan and only occupies habitat where suitable prey and nesting places coincide. This includes rocky mountains in the south, east and north of the country up to 2,500 m in alpine ranges (Zailiysky and Dzhungarsky Alatau, Altai). Estimates of density range from 10-20 pairs per 1000 km² to 0.1-2 pairs per 1000 km², according to habitat (Kenward & Pfeffer, 1995).

Study Areas

The study areas were three mountain sites in southeast Kazakstan within a radius of 200 km east (Great and Small Boguty, Turaigyr), west (Anarhay and Serektas) and north of Almaty (Malaisary). The area of these varies from 260 to 540 km² with one site in the central part of the Republic (Betpakdala desert) about 15000 km², 500 km distant from Almaty. In 1997 Watson initiated survey and monitoring of sub-populations in the Alakul depression and Altai mountains.

METHODS

Study areas were visited between April and July. Traditional sites were visited to ascertain occupancy and breeding success and study areas were searched for signs of new Saker nesting attempts. A Yaz off- road vehicle was used to travel within each study area; where this was impossible, areas were searched on foot. The location of each new nest was recorded using a Global Positioning System GPS. Wherever possible, adult and young birds were ringed, fitted with subcutaneous passive integrated transponders (microchips), photographed, measured and weighed. Blood and feather samples were taken for pesticide, biomedical and genetic analyses. Prey remains and pellets were collected. In 1997, additional data were obtained on local prey-bases. Sampling and measuring techniques followed NARC protocols (Fox *et al* 1997). Chicks were assumed to have fledged successfully if they were over 80% of the average age of first flight (Steenhof & Kochert 1982) when last observed.

RESULTS

Saker breeding numbers have declined over the years of the study. This began in 1992, and has been especially marked in the more accessible southeast of the Republic. By 1998 the number of occupied nests was reduced to a critical level, with the complete removal of sub-populations from some monitored regions (Anarhay, Malaysary). The number of breeding pairs in different regions are shown in Figures 1 and 2.

Figure 1. The decline of Saker nesting pairs in Southeast and Central Kazakstan

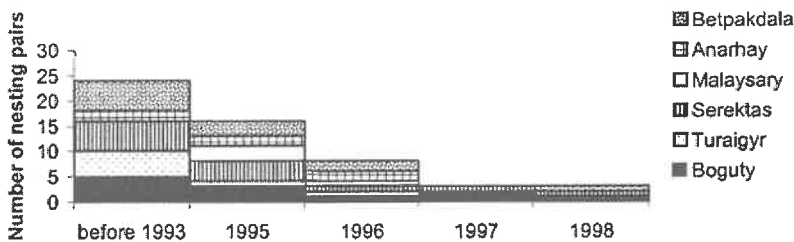
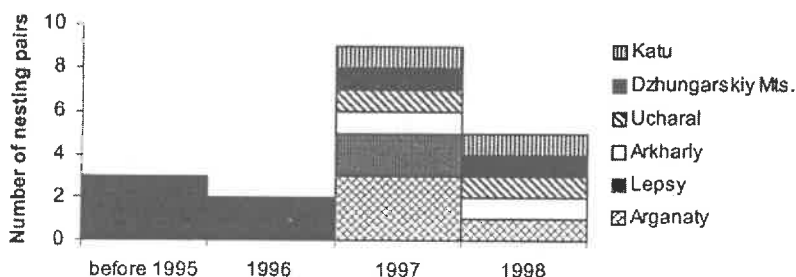


Figure 2. Decline of Saker nesting pairs in East Kazakhstan (No data for areas other than Dzhungarskiy Mts until 1997)



The nest success and productivity of the Saker in Kazakhstan reached an all-time low in 1998 (Table 3). Birds were absent from most traditional territories in southeast Kazakhstan. Single adult males were observed near some nests. Chicks were not recorded as having been stolen this season, but all three nests with eggs were abandoned in Betpakdala and in southeastern Kazakhstan. A dead female was recorded on one nest in the Arkharly Mountains. The fate of the nests in eastern Kazakhstan remained unrecorded in 1998 as the team were filming Sakers in Arkharly.

Table 3. Saker falcon nest success & productivity 1995-98 in Southern, Central & Eastern Kazakhstan

Area	Number of nests checked	Number of nests occupied	Number of nests robbed	Number of nests successful	Number of chicks fledged
Southern, Central					
1995	22	13	6	2	5
1996	21	8	5	1	5
1997	21	?	1	2	?
1998	23	3	0	0	0
Eastern					
1995	3	3	0	3	?
1996	3	2	0	1	1
1997	?	16	0	9	30
1998	11	5	?	3	?

DISCUSSION

Although a full understanding of the issue of sustainability in taking wild birds for falconry cannot be addressed until the extent of variable productivity in relation to fluctuating food resources is measured (Watson 1997), it is clear that the main reason for the decreasing Saker population in Kazakhstan is trapping for falconry. Initially carried out only by trappers from Arabian countries, local people quickly became involved, many of whom have little knowledge of falcons and falcon husbandry. Initially they concentrated on taking birds between 25-40 days old, but as demand increased, chicks were taken at increasingly young ages, often when still downy. It was soon realised that these birds were unsuitable for Arab buyers because they had been hand-reared, so attention was switched to trapping adult falcons at their nests. On 10 February 1997 in the Serektas mountains, the team observed 4x4 tracks running through the snow from one nest to another, and on the furthest

nest a dead male Saker was found trapped in a noose. Loops of synthetic cord had been placed on both the nest and adjacent cliffs. Seven adult birds trapped on their nest sites were seen for sale that same spring in local dwellings in the Malaisary region. In 1993, official permission was given to members of the Royal Family of Saudi Arabia to catch Sakers in Kazakhstan.

Many falcons die in captivity before they can be sold, further exacerbating demand. The 1997 monitoring results appeared to show an improvement in the situation in southeast Kazakhstan, with successful breeding attempts in the Boguty mountains, where there had been extensive trapping in previous years. One nest site was re-occupied and single males defended territories, suggesting some re-colonisation. However, this improving trend did not continue in 1998. Trappers from Saudi Arabia with official permission to harvest 30 birds visited this area in the autumn of 1997. In two months they caught 60 birds, half of which were released. Saudi trappers have also made trips to the east of the Republic, surveying the Kazakh regions of the Altai. This raises fears for Sakers breeding in previously inaccessible areas of Kazakhstan.

In summary, the current situation appears to be threatening the status of the Saker as a breeding bird in Kazakhstan. In conjunction with its long-term monitoring programme in Kazakhstan, Russia, Mongolia and Kyrgyzstan, the National Avian Research Center is working on a Global Strategy Plan for the Conservation of Falcon and Houbara Resources. This publication aims to influence the end-users of falcons and educate Arab falconers and policy makers on the importance of sustainable use of natural resources.

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REFERENCES

- BAUMGART, W. 1991. *The Saker Falcon*. Der neue Brehm-Bucherei, Berlin.
- FOX, N. C., C.P. EASTHAM & H.J. MACDONALD 1997. *Handbook of Falcon Protocols*, ERWDA, The Falcon Facility, Wales.
- KENWARD, R. E. & R. H. PFEFFER 1995. Saker Falcons in Central Asia, Final Report of the Pilot Study, Institute of Terrestrial Ecology, the Natural Environment Research Council.
- STEENHOF, K., & M.N. KOCHERT 1982. An evaluation of methods used to estimate raptor nesting success. *J.Wildl. Manage.* 46:885-893
- WATSON, M. 1997. Saker Falcon Ecology and Conservation in North East Kazakhstan. MSc thesis, Durrell Institute of Conservation and Ecology.

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