SOME RESULTS OF LONG-TERM RAPTOR MONITORING IN THE KOSTOMUKSHA NATURE RESERVE

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Twelve species of diurnal raptors and seven species of owls, including species from the Red Data Books of Russia and Karelia, were registered during the 20-year period of observations in the Kostomuksha nature reserve. During this period most encounters happened with two species of buzzards – the Common and Rough-legged ones. Annual registration numbers have decreased since the beginning of regular observations due both to subjective factors (registration of raptors by observers) and actual population decline.

Key words: diurnal raptors, owls, Kostomuksha nature reserve, contact cards.

НЕКОТОРЫЕ РЕЗУЛЬТАТЫ МНОГОЛЕТНИХ НАБЛЮДЕНИЙ ЗА ХИЩНЫМИ ПТИЦАМИ В ЗАПОВЕДНИКЕ «КОСТОМУКШСКИЙ». Адрианова О.В., Кашеваров Б.Н. Государственный природный заповедник «Костомукшский», Карелия, Россия.

За 20-летний период наблюдений в заповеднике «Костомукшский» зарегистрировано 12 видов дневных хищных птиц и 7 видов сов, в том числе занесенных в Красную книгу России и Карелии. Наибольшее количество визуальных встреч произошло за это время с двумя видами канюков, обыкновенным и мохноногим. С начала регулярных наблюдений произошло снижения количества ежегодно регистрируемых хищных птиц, что объясняется как субъективными факторами (регистрация наблюдателями хищных птиц), так и реальным снижением их численности.

Ключевые слова: дневные хищные птицы, совы, заповедник «Костомукшский», карточки встреч.

INTRODUCTION

In the 1940s, the area where the Kostomuksha nature reserve is now situated was studied by Finnish ornithologists and later, in the 1970s, in connection with the construction of the town of Kostomuksha, by Karelian scientists (Danilov et al. 1977). In 1985-1986, after designation of the Kostomuksha nature reserve, the authors started observations upon birds, including raptors, and inventory of the reserve fauna. There were practically no ornithologists in the reserve staff during its history, and observations were conducted by inspectors of the security department and by specialists in various fields from the scientific department. The results of these observations were published in several reviews about the reserve fauna (Adrianova et al. 1990, Kashevarov & Pozdnyakov 1977, Kashevarov 1979). Short studies in the reserve were done by Finnish ornithologists from the Game and Fisheries Institute, Oulu University, by Russian ornithologists from the Moscow State University (Matyushkin & Danilenko 1999), but the largest contribution was made by S.V. Sazonov (Karelian Research Centre), who conducted his research for several years. Thanks to these studies 171 bird species were registered from the Kostomuksha area, including 137 species within the reserve (Sazonov 1997, Sazonov & Zimin 1997).

MATERIALS AND METHODS

Observations upon raptors (diurnal raptors and owls) are conducted in the territory of the reserve all year round. The instruction is that being in the field all employees of the reserve should register all encounters with raptors in special contact cards. All in all, slightly more than 300 encounters with raptors have been registered over the period of observations. Most of the encounters were with two species of Buzzards, as well as with the Osprey, Goshawk and Great Grey Owl (fig. 1). Because information about identification of buzzard species is not always reliable due to the sometimes inadequate qualification of observers, registrations of the two species were summed up.

RESULTS AND DISCUSSION

As of now, 12 species of the diurnal raptors (*Accipiteriformes*) and 7 species of owls (*Strigiformes*) have been registered from the reserve. They are: the Osprey (*Pandion haliaetus),* White-tailed Sea Eagle (*Haliaeetus albicilla),* Golden Eagle (*Aquila chrysaetos),* Common Buzzard (*Buteo buteo),* Rough-legged Buzzard (*Buteo lagopus),* Goshawk (*Accipiter gentilis),* Sparrowhawk (*Accipiter nisus),* Hen Harrier (*Circus cyaneus),* Black Kite

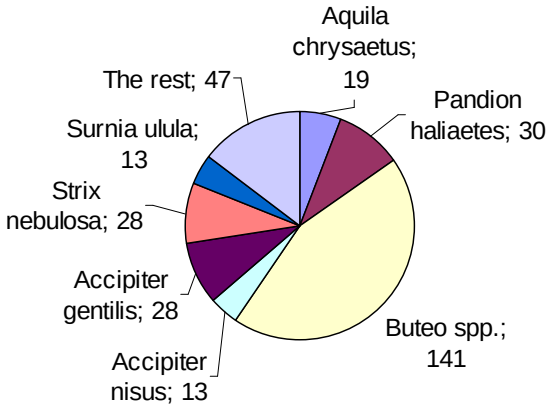

Figure. 1. Number of encounters with raptors in 1986–2004 (n = 319).

(*Milvus migrans*), Peregrine Falcon (*Falco peregrinus*), Merlin (*Falco columbarius*), Hobby (*Falco subbuteo*), Kestrel (*Falco tinnunculus*), Great Grey Owl (*Strix nebulosa*), Ural Owl (*Strix uralensis*), Pygmy Owl (*Glaucidium passerinum*), Tengmalm's Owl (*Aegolius funereus*), Short-eared Owl (*Asio flammeus*), Hawk Owl (*Surnia ulula*) and Snowy Owl (*Nyctea scandica*).

Four species (Hen Harrier, Kestrel, Ural Owl and Snowy Owl) were registered only once each. Some others – the Merlin, Hobby, Pygmy and Tengmalm's Owls – were registered less than 5 times over 20 years.

One can see from the species list that 4 raptor species from the Red Data Book of Russia have been registered from the reserve: the Golden Eagle, White-tailed Sea Eagle, Osprey and Peregrine Falcon. Unfortunately, it is nowadays impossible to affirm for sure that they nest in the reserve, although some time ago it was definitely so, at least for three of them.

Analysis of raptor registrations during the above mentioned period gave the following results (fig. 2). The number of encounters with diurnal raptors and owls was high in 1986–1990. The number peaked in 1988 (51 contact cards). Buzzard registrations in this year constituted less than 25%. In 1987 and 1989, Buzzards accounted for 69% and 43% of all registrations, respectively. In 1986–1990, the number of annually registered species was also the highest (10–14). Later, this index decreased to 2–6 species annually, the same happening to the total number of contact cards.

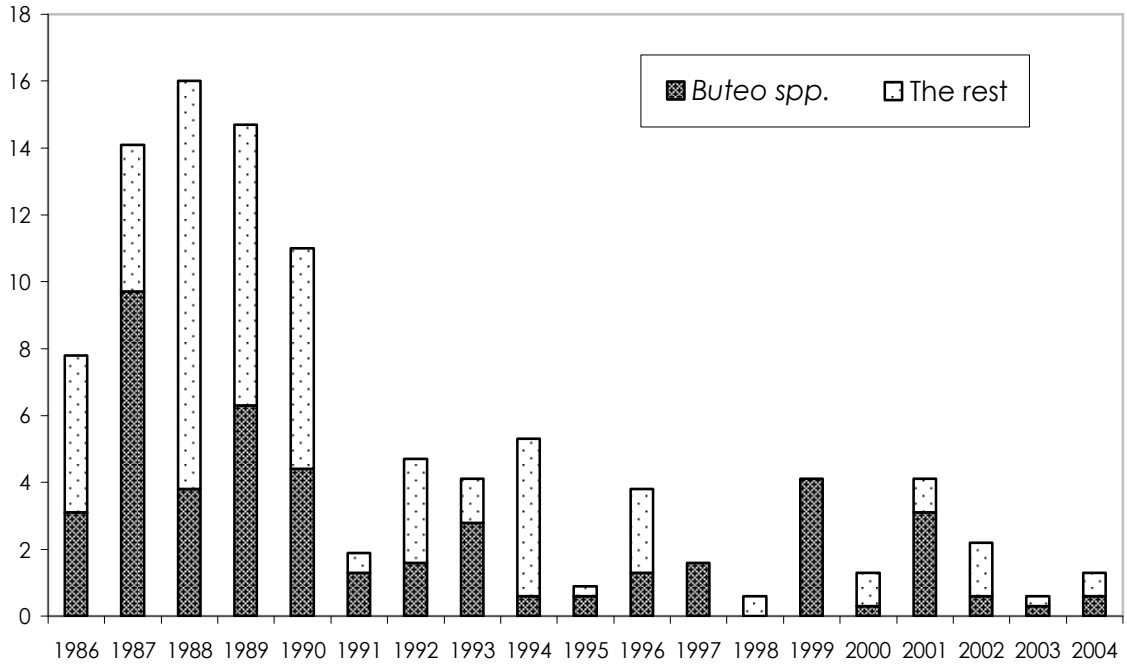

Figure 2. Number of contact cards (%) for Buzzards and other raptors in 1986–2004 (n = 319).

The year to be noted specifically is 1988. This year a record number of contact cards were filled for the Great Grey Owl and the Hawk Owl – 12 and 9, respectively. This may be due to the fact that 3 breeding pairs of the Great Grey Owl were registered from Lake Kalivo area, two of them nesting at a distance of less than 200 m apart, and the third one not further than 2 km away. The Hawk Owl was also registered there in summertime, most probably also in relation to breeding. Osprey nests were found on one of the islands in Lake Kalivo and on its eastern shore, close to the border of the reserve, and 3 to 6 contact cards were filled for this species annually in 1986–1990. This constitutes 7–14% of annually filled contact cards. As mentioned above, the number of annually filled contact cards has

been decreasing since 1990. Most encounters were with Buzzards, but even for these species encounters have lately been few.

A possible explanation for the decrease in the number of raptor registrations may be that the reserve staff spent less time in the field conducting observations. But this is not the only reason. At the same time, winter track counts showed a trend for a decline in grouse population in the reserve, especially for the Capercaillie (*Tetrao urogallus*) (Kashevarov & Heikkilä 2003). Moreover, the number of encounters with species like Buzzards decreased notably compared to the late 1980s although the regularity of visits to northern parts of the reserve and observations remained the same. At that time, the authors observed 1–2 pairs of the birds circling in the sky on nearly every trip to the reserve. It is possible also that guards did not always fill contact cards for the species (since they were common), and the number of the cards could have been greater. In the past several years, no pairs of circling birds have been observed.

CONCLUSION

The number of raptors in the area where the Kostomuksha nature reserve is situated now has probably decreased over the period of observations. This happened although some human impacts, like disturbance, direct persecution, etc., on the reserve territory itself decreased. Human impact on the territory now keeps decreasing further due to the reform of the national border guarding system. On the other hand, commercial exploitation of the forests around the town of Kostomuksha and the reserve has intensified with harvested areas coming very close to the reserve border. Thus, assessing the status of bird populations, not to speak of forecasting it, appears impossible without detailed investigations by ornithologists and close heed to the situation with raptors from all reserve staff.

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