

## Abundance and distribution of birds of prey in the Kłodzko Region (SW Poland)

### Početnost a rozšíření dravců v oblasti Kłodzka (JZ Polsko)

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**ABSTRACT.** In 2002, from mid-April till the end of June, a survey of raptors was performed in the Kłodzko Region (Lower Silesia, SW Poland), an area of 1 540 km<sup>2</sup>, reaching altitudes between 300-1425 m a. s. l. Additionally, earlier data, collected since the 1990s, were used for estimation of the population size. Fourteen raptor species were recorded. Among them ten were considered as breeding or probably breeding. Besides the Common Buzzard (*Buteo buteo*), which was not counted, the most abundant were the Kestrel (*Falco tinnunculus*) and Sparrowhawk (*Accipiter nisus*). The Honey Buzzard (*Pernis apivorus*) and Hobby (*F. subbuteo*) occurred in high numbers as well. Interesting records include possible breeding of the Peregrine (*F. peregrinus*) and Red Kite (*Milvus milvus*), Black Kite (*M. migrans*) and an observation of Montagu's Harrier (*Circus pygargus*) and the Saker (*F. cherrug*). The methods employed were certainly insufficient in the case of the Goshawk (*A. gentilis*) and Sparrowhawk, and thus the numbers obtained for these species should be considered as minimum.

### INTRODUCTION

The birds of prey populations inhabiting mountainous regions of Poland are rather poorly known (TOMIAŁOJC & STAWARCZYK in print). There are only some data from the Carpathians (GŁOWACIŃSKI et al. 2000, KUNYSZ & HORDOWSKI 2000), and from some small fragments of the Sudetes, e. g. Krkonoše Mts. (FLOUSEK & GRAMSZ 1999) and some fragments of the Kłodzko Region: Bystrzyckie (MIKUSEK 1996) and Stołowe Mts. (MIKUSEK & DYRCZ in print). Data from the SE part of the studied area (Bialskie Mts. and Śnieżnik Massif) where wide compact forest complexes predominate, are less accurate.

However, the Eastern part of the Sudetes has never been surveyed yet. This paper sums up our present knowledge on the distribution and abundance of raptors of the Kłodzko Region in 1990-2002.

### STUDY AREA

Situated in the Central and Eastern Sudetes, the Kłodzko Region resembles a „peninsula” wedge into the area of the Czech Republic (Fig. 1). The northern limit of the region is marked by the belt of forelands (Sudetic Foreland) and, in the western part, the northern edge of the Bardzkie Mts. The study area described in this paper is delimited by the country's borders in

the west, south and east and by the administrative borders of the Złoty Stok, Kłodzko and Radków communities in the north. The total area under study amounted ca 1540 km<sup>2</sup>. The altitude of the Kłodzko Region ranges from 300 to 1425 m a. s. l. (Mt. Śnieżnik). Its central part is crossed by the valleys of the Nysa Kłodzka River and its tributaries, which are surrounded by open farmland and a mosaic of arable fields and wooded patches. The majority of mountainous parts of the area is covered by forests, mainly spruce stands of different age at higher altitudes, with some mixture of deciduous woods at lower ones. In total, ca 40% is occupied by woodland and ca 40% by farmland, the rest representing urban, suburban and alpine habitats. The region is well populated with ca 110 persons per 1 km<sup>2</sup>, but the population is very unevenly distributed.



**Fig. 1** – Study area.  
**Obr. 1** – Studované území.

## METHODS

The survey was conducted from late April till the end of June 2002 by a team of four experienced observers. Two methods of survey were applied: observations of soaring birds of prey from well-exposed places with a wide view of the environs, and whole-day penetrations of the study area. All towns and most villages were controlled for Kestrel (*Falco tinnunculus*) occurrence. For estimation of the abundance of raptors, data from earlier years were used as well, especially those collected in the 1990s which were partially based on nest searching in the Stołowe and Bystrzyckie Mts. (MIKUSEK 1996, MIKUSEK & DYRCZ in print.).

The methods employed enabled us relatively precise estimation of the abundance of the Honey Buzzard (*Pernis apivorus*), Kestrel and Hobby (*F. subbuteo*). However, they were

certainly insufficient in the case of the Goshawk (*Accipiter gentilis*) and Sparrowhawk (*A. nisus*), and therefore the numbers obtained for these species should be considered as minimum. The methods used in the survey did not allow us a precise estimation of the most abundant species, i.e. the Common Buzzard (*Buteo buteo*).

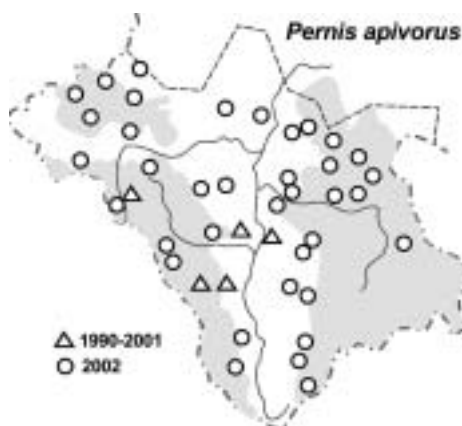
## RESULTS

### Honey Buzzard (*Pernis apivorus*)

The species was rather evenly distributed in the region, although it avoided large compact spruce forests in its eastern part (Bialskie Mts. and Śnieżnik Massif). Ca 40 sites were found (Fig. 2) but, taking into account the number of suitable breeding places, the abundance was estimated at 45-55 pairs (Table 1). The species reached its highest numbers in the Krowiarki and Złote Mts. (ca 13 sites) and Bystrzyckie Mts. (ca 10 sites). The preferred environments were mosaic habitats and the margins of deciduous wood patches.

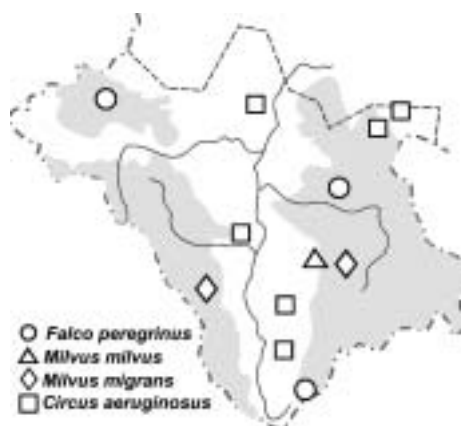
### Black Kite (*Milvus migrans*)

Two records: one passing bird on 1<sup>st</sup> June 1996 near Poręba in Bystrzyckie Mts., and another one on 30<sup>th</sup> May 2002 near Marcinków (Śnieżnik Massif) landing in the hornbeam forest (Fig. 3, Table 1).



**Fig. 2** – Breeding sites of the Honey Buzzard in 1990-2001 and in 2002.

**Obr. 2** – Hnízdní lokality včelojeda lesního v letech 1991-2001 a v roce 2002.



**Fig. 3** – Breeding sites of the rarest birds of prey: Peregrine, Red Kite, Black Kite and Marsh Harrier.

**Obr. 3** – Hnízdní lokality méně početných druhů dravců: sokola stěhovavého, luňáka červeného, luňáka hnědého a motáka pochopa.

### Red Kite (*Milvus milvus*)

Two records, made within a small area on 3<sup>rd</sup> May and 29<sup>th</sup> July 2002, indicate a possibility of one pair breeding near Konradów (Fig. 3, Table 1).

### White-tailed Eagle (*Haliaeetus albicilla*)

One record: 30<sup>th</sup> May 2002 one flying bird in the vicinity of Marcinków.

### Sparrowhawk (*Accipiter nisus*)

A widespread species in the whole region, found at ca 50 locations, but certainly more numerous than the records suggest (Fig. 4). It seems to be more evenly distributed in the western part of the region than in the eastern one, where it was probably overlooked in young, large compact forest complexes. In the best surveyed Stołowe Mts. and their vicinity the species occurs at 18 sites, which shows a potential density for a breeding population. Taking this into consideration, the total number can be estimated at 100-120 pairs in the whole region (Table 1).

**Table 1** – Observed and estimated numbers of birds of prey in the Kłodzko Region.

**Tab. 1** – Počet pozorovaných dravců a odhad jejich početnosti v oblasti Kłodzka.

species	number of pairs	
	observed	estimated
<i>Falco tinnunculus</i>	ca 80	90-110
<i>Accipiter nisus</i>	ca 50	100-120
<i>Accipiter gentilis</i>	ca 35	50-60
<i>Pernis apivorus</i>	ca 40	45-55
<i>Falco subbuteo</i>	ca 35	40-50
<i>Circus aeruginosus</i>	5-6	5-8
<i>Milvus milvus</i>	1-2	1-2
<i>Milvus migrans</i>	0-2	0-2
<i>Falco peregrinus</i>	0-3	0-3

### Goshawk (*Accipiter gentilis*)

Found at 38 sites but certainly underestimated in the compact forests of the eastern part of the region (Fig. 5). It seems to be most abundant in the Bystrzyckie Mts., where a dozen sites were found in the 1990s. The total number was estimated at 50-60 pairs (Table 1).

### Common Buzzard (*Buteo buteo*)

The method used in the survey was not precise enough to estimate the numbers of this species. However, the observations indicated that the Buzzard was definitely the most numerous raptor species recorded in the whole region, especially abundant in the mosaic of habitats and margins of forest while less numerous in the compact forest complexes.

### Marsh Harrier (*Circus aeruginosus*)

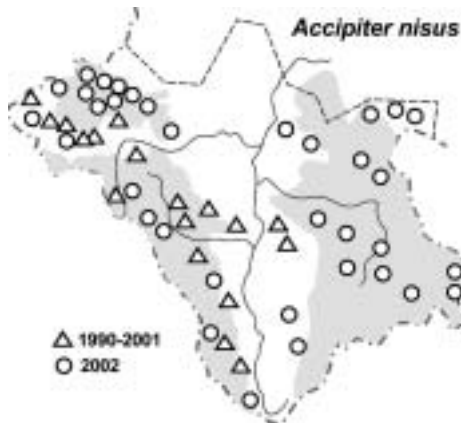
Pairs or single birds were seen at 6 localities in the vicinity of towns Międzylesie, Bystrzyca Kłodzka, Kłodzko and Złoty Stok (Fig. 3, Table 1). All were recorded in open areas with reed patches offering suitable breeding places.

### Montagu's Harrier (*Circus pygargus*)

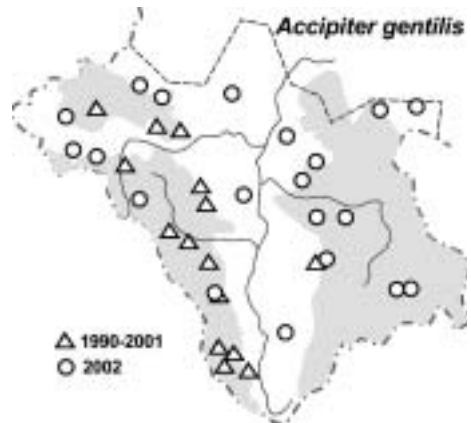
One female was observed 1<sup>st</sup> June 1996 on the military training ground near Kłodzko.

### Osprey (*Pandion haliaetus*)

One record: on 28<sup>th</sup> May 2002 one bird was seen in the Nysa valley near Podtynie (north of Kłodzko).



**Fig. 4** – Breeding sites of the Sparrowhawk.  
**Obr. 4** – Hnízdní lokality krahujce obecného.



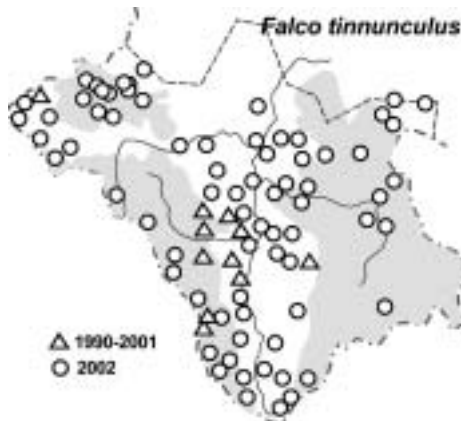
**Fig. 5** – Breeding sites of the Goshawk.  
**Obr. 5** – Hnízdní lokality jestřába lesního.

*Kestrel (Falco tinnunculus)*

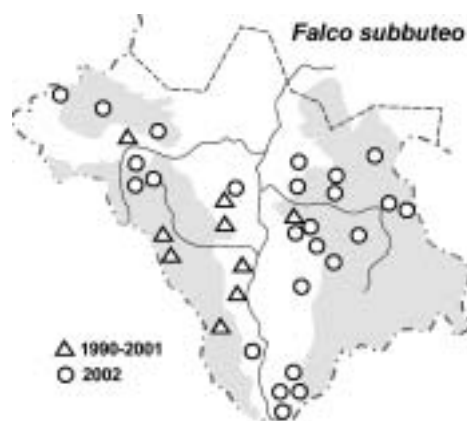
One of the most numerous birds of prey with ca 80 sites recorded in the region and the total number estimated at 90-110 pairs (Table 1). It was especially numerous along the Nysa Kłodzka and Orlica River valleys, at the highest densities found in the Stołowe Mts. (17 pairs) and in the vicinity of towns Międzyzlesie, Bystrzyca Kłodzka, Kłodzko and Kudowa Zdrój (Fig. 6). On the other hand, it seemed to avoid the Śnieżnik Massif and southern part of the Bialskie Mts.

*Hobby (Falco subbuteo)*

Ca 35 sites were recorded, including some localities found earlier in the 1990s. It occurred mainly on the margins of forest complexes in the Krowiarki, Bystrzyckie and Złote Mts. as well as on the western edge of the Śnieżnik Massif (Fig. 7). At some suitable it was places probably overlooked, and hence the total number can be estimated at 40-50 pairs (Table 1).



**Fig. 6** – Breeding sites of the Kestrel.  
**Obr. 6** – Hnízdní lokality poštolky obecné.



**Fig. 7** – Breeding sites of the Hobby.  
**Obr. 7** – Hnízdní lokality ostříže lesního.

### Peregrine (*Falco peregrinus*)

Two records in 2002: an adult chasing a Common Buzzard was seen on 2<sup>nd</sup> May at the Bialskie Mts. north of Łądek Zdrój and a pair crossing the border to the Czech Republic side was recorded on 15<sup>th</sup> May east of Boboszów (Fig. 3, Table 1). Regular records since the year 1994 in the Stołowe Mts. concern most probably introduced and recently breeding birds on the neighbouring Czech territory (T. BELKA, pers. comm.).

### Saker (*Falco cherrug*)

An adult bird was seen on 9<sup>th</sup> May 2002 near Kamieńczyk, west of Boboszów, flying towards the Czech border.

## DISCUSSION

Of the 14 species of birds of prey recorded in the Kłodzko Region, ten were considered as breeding or probably breeding, while White-tailed Eagle, Montagu's Harrier, Osprey and Saker were nonbreeders. The distribution of sites indicates that birds of prey (except Kestrel) avoid open areas of plough land in the centre of the Kłodzko Region, and also compact spruce forests at higher altitudes in the mountains, especially in the eastern part. The highest densities were recorded in the mosaic of habitats connected with river valleys and margins of forest complexes.

The most numerous species was the Common Buzzard. The high numbers of the Kestrel distinguishes this region from other parts of Silesia as well as from the rest of Poland (TOMIAŁOJĆ & STAWARCZYK, in print). Its population, estimated at 90-110 pairs, constitutes ca 20–25% of the Silesian population. It seems that such a high number of Kestrels results from the proximity of the more abundant Czech population of the species (DANKO et al. 1994) with density of 25 breeding pairs/100 km<sup>2</sup> (ŠŤASTNÝ et al. 1996). It is twice more numerous in the Krkonoše Mts. (FLOUSEK & GRAMSZ 1999) than in the whole Kłodzko Region too.

A relatively numerous species was the Honey Buzzard – ca 15% of its Silesian population occurred in the region. It seemed to be more common in mountainous and submountainous regions of Poland (HORDOWSKI 1991, GŁOWACIŃSKI et al. 2000, KUNYSZ & HORDOWSKI 2000) than in lowlands. Similar numbers were estimated in the nearby area of the Náchodsko Region (ŠŤASTNÝ et al. 1996) and Orlicke Mts. (HROMÁDKO in print), but on the other hand e. g. in Krkonoše Mts., it was unexpectedly scarce (FLOUSEK & GRAMSZ 1999).

Although the Sparrowhawk was recorded only at ca 50 sites, we think that it was one of the most abundant species with the total number estimated at 100-120 pairs. A twice higher number of the Sparrowhawk than the Goshawk is typical of mountainous and highly wooded areas of the Sudetes (FLOUSEK & GRAMSZ 1999, HROMÁDKO in print). Still the number of the latter must have been underestimated. Probably, both species have recently been increasing in numbers (DYRCZ et al. 1991).

Records of the Peregrine at two different locations, as well as earlier observations in the Stołowe Mts., indicate that the birds breeding in the Czech Republic can soon colonize the region. Recent sporadic breeding of this species is also possible, although the availability of suitable nest habitats (rocks) is low, however breeding in trees cannot be excluded. Also the record of the Saker shows that occupation of the Polish territory by the growing Czech population is possible in the future. The first breeding of the Saker in Poland was noted as early as 1998 close to the Polish-Czech border (AUGST 1998).

An interesting suggestion is also the possible breeding of the Red Kite, which does not occur in mountainous regions of Poland (TOMIAŁOJC & STAWARCZYK, in print), although there are some records from the Krkonoše Mts. (FLOUSEK & GRAMSZ 1999).

## SOUHRN

Studie početnosti dravců byla v oblasti Klodzka (JZ Polsko) prováděna v roce 2002, a to v období od poloviny dubna do konce června. Ke stanovení odhadu velikosti populací byla dále použita data získaná již dříve v průběhu 90. let. Celkem zde bylo zjištěno 14 druhů dravců, z čehož deset druhů je považováno za hnízdící či pravděpodobně hnízdící. Kromě káně lesní (*Buteo buteo*), která nebyla do sčítání zahrnuta, byli nejběžnějšími druhy poštolka obecná (*Falco tinnunculus*) a krahujec obecný (*Accipiter nisus*). Dalšími hojnými druhy byli také včelojed lesní (*Pernis apivorus*) a ostříž lesní (*F. subbuteo*). Mezi zajímavá zjištění patří pravděpodobné hnízdění sokola stěhovavého (*F. peregrinus*), luňáka hnědého (*Milvus migrans*) a luňáka červeného (*M. milvus*) a taktéž pozorování motáka lužního (*Circus pygargus*) či raroha velkého (*F. cherrug*). Poněvadž nebyla použita metodika zjišťování početnosti v případě jestřába lesního (*A. gentilis*) a krahujce obecného (*A. nisus*) zcela dostačující, je nutno považovat zjištěnou početnost těchto druhů za minimální.

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