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The Status, Range and Breeding Success of the Lesser Spotted Eagle *Aquila pomarina* in Poland

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The results presented here are based on the activities of the Polish Working Group on Lesser and Greater Spotted Eagles. The Group was formally established on 26th January 1991 but in fact, as a team of persons dealing with the Lesser Spotted Eagle, it existed earlier.The number of known, certainly occupied breeding territories was 779 for the period 1985-1991 (a few data from 1980-84 are included). With probably occupied breeding territories, the number totalled 920 for this period. This forms the basis for an estimate of about 1,200 breeding pairs in Poland. More than twice the earlier estimates by Krol (in Gensbol 1987) and Tomialojc (1990). This is probably due, not to a real increase in the population, but to better knowledge about it. The most numerous populations occur in north-east, east and south-east Poland (Table 1) and we also found the highest densities of breeding territories in these regions (Table 2). In south-east Poland the number may be underestimated, due to lack of information from relatively large and suitable areas. Furthermore, a dispersed population occurs in Pomerania and in Central Poland, with individual pairs also in West Poland. In Warmia and Mazury Regions, in areas with small, scattered deciduous forests surrounded by wet meadows and pastures, the Lesser Spotted Eagle is the second most common pecies of raptor after the Buzzard *Buteo buteo* and usually reaches about five pairs per 100 km^2 (Krol, 1985; Brewka & Rodziewicz, unpubl. data).At present we cannot say much about trends in number but this seems to be stable, although in areas with a dispersed population in Central Poland abandoned breeding territories have been found in recent years more often than previously (I. Mirowski, pers. comm.). This distressing fact needs close attention in the immediate future.

In the years 1988-90 breeding success of the Lesser Spotted Eagle averaged about 70% and is comparable with the rate stated by Król on Ilawa Lakeland (pers. comm.) from the beginning of the 1980s. Only in 1991 the reproductive success was extremely low (Table 3), probably due to unusually cold weather in spring, which ould not fail to have an impact on amphibia and small mammal populations. Moreover, the rough data about rodent populations collected for the whole of Poland indicate a decline in that year after a peak in 1989-90 (Rankow-Zmudowska, pers. comm.). So this low rate of breeding success could be affected by both factors.

Table 1. Numbers of the Lesser Spotted Eagle *Aquila pomarina* in Poland, 1985-1991.

Region	*Number of known territories**	*Estimated numbers & source*
Pomerania	7-10	a. 50 R.Czeraszkiewicz W.Górski
North-East Poland**	244-310	a.400 B.Brewka M.Rodziewicz
East Poland	290-295	a. 360 E.Pugacewicz J.Wójciak
South-East Poland**	202-255	a. 300(more?) J.Hordowski P.Kunysz M.Stój
Central Poland	31-42	a.45 S.Chmielewski I.Mirowski M. Rzepala J.Slupek
West Poland	5-8	a. 10 T.Mizera
Total	779-920	a. 1165

* First number - certainly occupied breeding territories; second number - total of certainly and probably occupied breeding territories.
** Individual data from 1980-1984 included.

Up to 1991 in Poland, nine broods of Lesser Spotted Eagle were found with two chicks reared (most of them in recent years), out of almost 300 successful breeding attempts in this period. This indicates that the rearing of two chicks by the Lesser Spotted Eagle is a rare but regular occurrence. All cases took place in north-east and east Poland. In at least five cases both adult birds were seen. It seems to be important to recognise both birds of a pair because of the possibility of mixed mating with Greater Spotted Eagle (*Aquila clanga*), which relatively often rears two chicks.

Table 2. Reproductive success of *Aquila pomarina* in Poland, 1988-1991.

Years	1988	1989	1990	1991
Number of occupied breeding territories	46	88	128	229
Number of occupied breeding territories with known outcome	30	64	94	188
Number of productive nests	20	43	70	71
Nest success	67%	67%	74%	38%
Number of fledged young	20	43	74	72
Number of young per occupied breeding territories with known outcome	0.67	0.68	0.79	0.38
Number of young per productive nest(n)	1.0 (n=20)	1.0 (n=43)	1.06 (n=70)	1.01 (n=82)

We received information about such mixed pairs in Biebrza Valley this year (Pugacewicz, pers. comm.) but this has not yet been confirmed by the Faunistic Commission. An account of all cases of rearing two chicks is in preparation.

In 1990 and 1991 the members of our Group ringed 50 and 65 chicks repectively. In this year we received help from ornithologists from the Netherlands.

The future of the Polish Lesser Spotted Eagle population probably depends on the direction taken by Polish agricultural development. Threats connected with the nest site do not seem to be very serious. The Lesser Spotted Eagle does not require very old stands of forest like, for instance, the White-tailed Sea Eagle. It is not uncommon to find nests on trees with a diameter at breast height of 20-30cm. Moreover in Poland the nests and their surroundings have been protected by law since 1984, and foresters have a positive attitude towards this protection, at least in some regions. For example, in 1987 the Administration of State Forests in Olsztyn (North-East Poland) employed two ornithologists to deal solely with the protection of rare raptors. Thus more dangerous are the threats to foraging habitat. The great political and consequent economic changes will result in development of agricultural methods with greater

Table 3. Density of *Aquila pomarina* in different plots in Poland.

Location	*Years*	*Plot size(km²)* total area	*Plot size(km²)* woodland area (t.a.)	*Number of pairs (w.a.)*	*Density* pairs per 100km² t.a.	*Density* pairs per 10km² w.a	*Source*
1.Bukowa Forest	1981-83	-	90	3	-	0.3	M.Kalisinski & A.Jackowski after Król (1985)
2. Leczynsko-Wlodawska Plain	1980-83	-	99	2-3	-	0.2-0.3	M.Keller (pers.comm)
3. .Ilawa Lakeland	1984	680	163	39	5.7	2.4	W.Król & M. Rodziewicz (1985) after KRSC
4.Forest Bialowieza	1985-87 1990	620	558	66-67	10.6-11.0	1.2	E.Pugacewicz (pers.comm.)
5.Forest Knyszynska	1989	1300	1000	46-49	3.6	0.5	E.Pugacewicz (pers.comm.)
6.Biebraza Valley central part	1990	890	221	41-43	5.0-5.3	1.9	E.Pugacewicz (pers.comm.)
7.Biebraza Valley southern part	1990-91	389	68	9-11	2.3-2.8	1.3-1.6	E.Pugacewicz (pers. comm.)
8.Neighbourhood of Ketrzynn	1988-91	50	18	11	22	6.1	M.Szablowski (pers.comm.)
9. Neighbourhood of Lidzbark	1988	540	146	8-9	1.5-1.7	0.5-0.6	M.Rodziewicz unpubl.data
10. Neighbourhood of Nidzica	1989	485	128	10	2.1	0.8	B.Brewka & M.Rodziewicz unpubl.data
11. Neighbourhood of Morag	1990	325	51	14	4.3	2.7	B.Brewka & M.Rodziewicz unpubl. data
12. Strzelce Forest	1990-91	284	-	19	6.7	-	J.Wojciak (pers.comm.)
13. Neighbourhood of Wlodawa	1990-91	-	-	-	3.5	-	J.Wojciak (pers.comm.)
14. Pisz Forest	1988-91	435	186	14-17	3.2-3.9	0.8-0.9	I.Mirowski unpubl.data
15. Olsztyn Lakeland	1987-91	368	113	13-16	3.5-4.3	1.2-1.4	I.Mirowski & M.Szymkiewicz unpubl.data
16. Przemysl Plateau	1988	-	45	-	-	2.0-2.2	J. Hordowski & P. Kunysz(1991)

intensity. So the problem is not of protecting individual territories but one of general agricultural policy in the regions of highest Lesser Spotted Eagle density. But if we want to protect foraging habitat we must first know the requirements of the eagles and this is the most important goal for the immediate future.

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