

Distribution and population changes of the White Stork *Ciconia ciconia* in the northwestern USSR

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At the turn of the century, Estonia and the Leningrad region lay at the northern limit for the distribution of the White Stork, the bird being occasional in both areas. Since that time, considerable changes have taken place. In Estonia, the years 1954–1971 were a period of population growth, though the population sometimes fluctuated dramatically. During these years White Storks expanded their range, and in 1972 they bred successfully in the Leningrad region. In 1974, the total Estonian population comprised 1060 pairs, more than three times as many as 20

years earlier (for population trends in Estonia, Latvia and Lithuania up to the mid-1970s, see Veromann 1976, *Ornis Fennica* 53:150–152). During 1975–80 only minor changes took place in Estonia, but the range expanded further. During the 1980s the population has grown again. Now there are at least 1500 pairs of White Storks in Estonia, and the expansion towards the east continues, which is in sharp contrast with the population collapse recorded in Western Europe.

The Mute Swan *Cygnus olor* in Estonia

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During 1908–28 one or two Mute Swan pairs bred annually on Saaremaa island, western Estonia. After being exterminated, probably by poachers, the Mute Swan recolonized Estonia in 1959. In 1964 there were 10–11 breeding pairs. The population continued to increase, and in 1973 the number of pairs reached 80. The results of the following censuses showed a continuous increase: 1974 110, 1978 276, 1980 about 225, 1983 390 and 1985 310 pairs. In 1965–73 the number of incubating pairs increased by 26% per year, in 1974–78 by 28% and in 1981–83 by 20%. Severe winters in 1978/79 and 1984/85 reduced the population by nearly 25% and decreased the breeding success.

The largest local populations breed in Käina Bay (1000 ha: 61 nest-sites in 1983 and 47 in 1985) and

in the eastern parts of Matsalu Bay (3000 ha: 55 nest-sites in 1983 and 50 in 1985).

The breeding success of the Estonian Mute Swans depends on the winter conditions. Most Mute Swans overwinter in the coastal waters of Estonia. In January there may be up to 800 individuals. After the mild winter of 1982/83, the nests contained on average 5.16 ± 1.78 (SD, $n = 188$) eggs, which produced 4.37 ± 1.86 young (222). After the severe winter of 1984/85 the corresponding figures were 4.17 ± 1.72 (103) and 3.15 ± 2.01 (78).

Most pairs breed on small islets (31% of all pairs in 1978 and 55% in 1985) or in coastal reed-beds (53% in 1978 and 31% in 1985). Breeding attempts in the Estonian lake district have been unsuccessful up to 1985 (first successful breeding in 1986).

Extensive spring rest in Estonia of migrating Brent Geese *Branta leucopsis* — a newcomer to the Estonian breeding fauna

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Great flocks of the Brent Goose arrive in western Estonia in the third week of April. The numbers peak in the first half of May, and the birds resume migration in mid-May with mass departure (mainly to

NNE–NE) during at most a couple of days between 18 and 25 May.

The Brent Goose population of the Barents Sea amounts at present to about 70 000 birds (B.

Ebbinge, in litt.). Of these, the majority passes through western Estonia during the spring and autumn migrations. Brent Geese stopping to rest during the spring migration in Estonia have been studied since the 1950s. From 1974 onwards, spring counts by aircraft have revealed 70 rest localities.

The numbers of resting Brent Geese have increased during the study period: 18 000–25 000 in the 1970s 37 000 in the early 1980s, and even 41900 on 7 May 1986; at the same time 10 000–15 000 individuals were counted at the rest places on Gotland in the Swedish Baltic. The dynamics of the numbers of resting Brent Geese approximates that of the population at the wintering sites (Ebbinge in litt.).

Resting Brent Geese graze on saline and suprasaline coastal meadows, coastal pastures, cultivated meadows and fields. The geese prefer coastal meadows, where the food consists of the dominant vascular plants, with *Festuca* sp. and

Juncus gerardii as the preferred species.

Roosting takes place mainly outside the foraging grounds, particularly on small Baltic islands without foxes or human activities (or where no islands are available, in shallow coastal water). The Estonian rest areas are considered important for the geese, enabling them to build up fat reserves for flight to the breeding grounds, and for subsequent breeding. At present 15% of the birds rest within state reserves. An increase of reserve areas is called for.

The Brent Goose is known to have established a small isolated population on Gotland in Sweden in the early 1970s. Later, in 1981, the first Estonian breeding took place in the Matsalu reserve, followed in 1983 by birds on Saaremaa island. By 1986 the population had grown to 8–9 pairs with a total of ca. 60 offspring. During recent springs, offspring of the Gotland birds have been spotted in Estonia.

Breeding success of the White-tailed Eagle *Haliaeetus albicilla* in Estonia

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In a previous paper (Randla 1976, *Ornis Fennica* 53:125–127) the first author reported that the White-tailed Eagle has shown a decline in fertility in Estonia, and its numbers have been decreasing. In 1945–65 there were records of about 30 different localities where the species nested, and there were some additional, unconfirmed nesting places. In that period, at least 15, perhaps even 20 pairs were breeding each year.

A decline in numbers was observed after the mid-1960s. In the early 1970s the number of breeding pairs was 10–15, and the breeding success had declined. In 1970–76, 0–2 pairs bred successfully each year, and the number of fledged young was 0–2. No young were produced in 1971 or 1975.

In the 1980s the situation has improved (Table 1). In 1986 the number of hatched young was 12, but one chick (in a brood of two) succumbed before fledging. The slight increase in the number of

occupied territories is probably mainly due to increased research in the field.

The present population is not evenly distributed in Estonia. Most pairs nest in Western Estonia, though the fewer pairs in southeastern Estonia (between Lake Võrts and Lake Peipus) produce an equal number of young (Table 2). The productivity in western Estonia has markedly improved compared with the 1970s, when the pairs nesting in western Estonia were least successful (Randla 1976).

In 1984 Estonia and Latvia joined the international programme for the protection of the White-tailed Eagle in NW Europe (including Greenland). According to J. Lipsberg (pers.comm.), two pairs out of three nested successfully in Latvia in 1985. Estonian and Latvian eaglets were marked with colour rings in 1984–86; a total of 34 young were ringed.

Table 1. Breeding success of the White-tailed Eagle in Estonia in 1980–86.

	1980	1981	1982	1983	1984	1985	1986
Occupied territories	?	?	14	13	15	15	17
Active nests (decorated or with eggs)	9	9	13	7	10	15	16
Successful nests	4	4	7	5	5	6	7
Fledged young	5	5	7	7	6	12	11
Fledged young/territory	?	?	0.50	0.54	0.40	0.80	0.65

Table 2. Breeding success of the White-tailed Eagle in two areas in Estonia in 1985–86. In addition, there were two unsuccessful nests in NE Estonia each year.

	Western Estonia		Southeastern Estonia	
	1985	1986	1985	1986
Active nests	8	9	5	5
Successful nests	3	4	3	3
Fledged young	6	6	6	5
Fledged young/ active nest	0.8	0.7	1.2	1.0