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The White-tailed Sea Eagle *Haliaeetus albicilla* Population and Breeding Productivity in Estonia and some regions of NW Europe

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INTRODUCTION

The present review concerns the White-tailed Sea Eagle, its present population size and trends as observed in Estonia, Latvia, Lithuania, Kola Peninsula (Russia) and Vitebsk region (Byelorussia). Information about Estonia is based on our own observations. As far as other regions are concerned, personal communications of J. Lipsberg (Latvia), E. Drobelis (Lithuania), S. Ganusevic (Kola, Russia) and V. Ivanovsky (Vitebsk, Byelorussia) have been made use of.

In Estonia the national White-tailed Sea Eagle programme was started in 1964. Since 1984 Estonia (together with Latvia and Russia) has participated in the international colour-ringing programme, being a coordinator of this activity.

At present intensive teamwork, under the guidance of Björn Helander (Sweden), the leader of this programme, has operated in Estonia and Kola Pensinsula, and at a more discreet level in Latvia, Lithuania and Byelorussia.

ESTONIA

Out of approximately 600 pairs of White-tailed Eagles in the Baltic Sea region, about 80 pairs live in the eastern Baltic with half this number, 40 pairs, in Estonia (*ca.* 1% of the European population). It is interesting to note that last century the estimated number in Estonia was also up to 40 pairs - a remarkable number considering the size of Estonia (45,200km^2) and the total length of its coastline (3,794km).

The low level of the White-tailed Eagle population between 1920 and 1975 was caused by human persecution and, from the beginning of the 1960s, environmental pollution as well. Although the White-tailed Eagle has been officially protected since 1935, active protection measures date only from the beginning of the 1980s.

Following the introduction of a large-scale feeding programme, the decline of the Baltic population of Sea Eagles was halted during the mid-1970s and 1980s. This was the result of improved juvenile survival, during a period when reproduction was at its lowest. Average breeding success in Estonia during 1965-1975 was 30% and

there were 1.12 young per successful nesting and only 0.23 per active nest. Between 1965-1975 only 10-15 pairs were known.

In Estonia the national White-tailed Eagle Project was started in 1964. Known eyries were monitored 1-2 times each year. Since 1983 the level of field research has increased and active protection measures have been taken (winter feeding, building of artificial nests).

Since 1980 we have also noticed a slight increase in breeding success (as in Sweden and Finland). During 1980-1985 the average success was 50% and productivity 1.4 young per successful nest and 0.5 per active nest. The corresponding numbers during 1986-1991 were 1.5 and 0.6. At the same time a considerable difference in breeding success has been observed in different areas. For example, during 1985-1986 five pairs of Sea Eagles in south-east Estonia reared 1.1 young per active pair. At the same time nine pairs in western Estonia reared 0.7 young per active pair. Thus, the restoration of the Sea Eagle population began first in eastern Estonia and only from the late 1980s also in western Estonia.

The Present Situation

Out of the present 40 pairs of Sea Eagles, 31 nests are well-known to researchers.

The eagles' main habitat is on the west Estonian islands and coastal areas. For example, eight pairs live at Saaremaa, four at Hiiumaa, two at Vormsi, one at Muhu and two pairs on other western Estonian islands. Up to eight pairs live in the coastal areas of western Estonia. We suppose that up to four pairs live in the coastal areas of the Gulf of Finland, in northern Estonia.

The up to 15 pairs living in eastern Estonia should be taken as a separate part of the population. They are connected with the catchment areas of Lake Peipsi-Pihkva, Lake Võrtsjärv, the Narva River and Emajõgi River.

As a rule, the eyries are situated up to 5km distant from a suitable body of water. The nests (N=82) are built mainly on pines (67%) or aspens (27%), the mean height (N=97) being 17.5m (min. 7m, max 31m.) The Sea Eagles of Estonia bring to their nests birds (54%), including coots (31.3%), mallards (16.5%) and grebes (9.3%). The fish brought divide as follows: pike (59%), perch (9.3%), bream (8.4%). The share of mammals in the Sea Eagle diet is only 2%, being mainly hares (36.4%).

On the basis of the data of 1960-1970, we assumed 15 pairs of Sea Eagles as a maximum nesting in Estonia and between 1930-1970 only 30 cases of nesting were known. Beginning from the 1980s, the eagles consistently repopulated almost all their former habitats. In addition to the Baltic population becoming more healthy and decreasing mortality, the sparse human population of the coastal regions and protection of eagles' habitats and coastal wetlands have also contributed to the process. From the eagles' point of view, large nature protection areas, such as Matsalu, the islets of Hiiumaa, the Bay of Käina, parts of Saaremaa, boglands at the estuary of the Emajõgi River, the Endla Nature Protection Area and the proposed nature reserve on the Lower-

Pedja River are of great importance. In 1991, from the 31 nest sites known in Estonia at present, 23 were situated in various protected territories.

Eagles have been given supplementary food in winter and artificial nests have been built for them as well. The first feeding places were built at Matsalu and Vilsandi at the beginning of the 1980s. Since 1985 there are also four supplementary feeding places in south-east Estonia. In 1991, of the 31 pairs of Sea Eagles known seven were

Figure 1. Distribution of the Sea Eagle in Estonia.

occupying artificial nests.

Regular exchange of information on the status of Sea Eagles of Estonia began within the framework of the Northern European White-tailed Eagle Project in 1975. Beginning from 1984, efforts have been made to colour-ring all the young. Until now we have ringed 85. Unfortunately, we have no observations of ringed eagles during their nesting period, nor from late summer or winter. In two cases the eagles ringed here and observed in the west came from western Estonia. It is supposed that our Sea Eagles migrate, at least partially, to the south and south-east, where they are not observed, and towards winter birds without rings come to us from the north-east and east

A short account of nesting success of Sea Eagles in Estonia between 1980-1991 is given in Table 1.

Table 1. Productivity of the White-tailed Sea Eagle in Estonia, 1980-1991.

	1980	81	82	83	84	85	86	87	88	89	90	91
1. Checked territories				21	18	17	18	20	21	24	26	29
1.2. Occupied territories			14	13	15	15	17	19	17	24	20	24
1.3. Territories with eggs or decorated nests	9	9	13	7	10	15	16	17	16	20	20	21
1.4 Territories with no activity				4	1	3	1	1	0	0	1	1
1.5. No data				4	2	0	0	0	3	4	5	4
2.No.of successful nestings	4	4	7	5	5	6	7	10	6	7	7	12
3. No. of unsuccessful nestings	5	5	6	2	5	9	9	7	10	13	13	9
4. Percentage of successful nestings	44	44	54	71	50	40	44	60	40	35	35	57
5. No. of young capable of flight	5	5	7	7	6	12	12	14	10	8	12	18
5.1. No. of young capable per successful nest	1.3	1.3	1	1.4	1.2	2	1.7	1.4	1.67	1.14	1.7	1.5
5.2. No. of young capable per occupied territories			0.5	0.54	0.4	0.8	0.71	0.74	0.59	0.33	0.6	0.72
5.3. No. of young capable per established nesting	0.55	0.55	0.54	1.0	0.6	0.8	0.75	0.82	0.63	0.4	0.6	0.86

In conclusion, the present state of the Sea Eagle population in Estonia is satisfactory. Active protection, existence of good habitats and favourable feeding areas enable further stabilisation of the situation.

All human activity within a radius of 200m from the nest is strictly forbidden. In addition it is planned to establish a wider radius of 1,000m, within which economic activities are permitted only from September to January. Problems are caused by the recently introduced privatisation of land as well as human settlements in coastal areas becoming more populated. Some Sea Eagles also perish in the traps set by hunters, although the use of such traps was banned in 1991. Forests are often too young to provide suitable nest trees. All this neccessitates active measures to improve the living conditions for Sea Eagles. Although the long-term efforts to protect the eagles have been fruitful, the future of the species cannot yet be taken for granted. The eagles' future depends on the prospect of maintaining its environment.

NORTH-WEST EUROPE

There are now approximately 650 (with inland breeders) occupied White-tailed Sea Eagle territories around the Baltic. About 80 territories exist along the coast of the East Baltic. This is considerably more than ten years ago (Stjernberg, Saurola, published data).

Besides Estonia, White-tailed Sea Eagle populations are also increasing in Latvia and Lithuania. According to J. Lipsberg and the Latvian Bird Atlas there are some eight pairs in Latvia. The figure for Lithuania in 1991 was seven (E. Drobelis, pers. comm.).

According to V. Ivanovski, at least 15 pairs are breeding in Vitebsk region (in the Byelorussian Pozerje) and as many along the Ponoy River in Kola Peninsula (data of J. Ganusevic).

Unfortunately there is no recent information on the situation in Leningrad region, Russian Karelia and Pskov region.

The colour-ringing programme

The international colour-ringing programme commenced in 1976, and in the East Baltic in 1984. In 1984-1990 there were two colour combinations: one in Estonia and Latvia, another in Russia and Byelorussia. Since 1991 there have been independent colour combinations for Estonia, Latvia and Lithuania.

Table 2 reflects the results of this work.

Recoveries

The first recovery information came from Aland. T. Stjernberg told us of a young Sea Eagle with Estonia/Latvian ring found on 18 December, 1986.

Table 2. Colour-ringing of White-tailed Eagle nestlings, 1984-1991.

State or region	1984	1985	1986	1987	1988	1989	1990	1991
Estonia	5	12	11	13	10	6	11	17
Latvia	1	3	2	2	1	4		
Lithuania								1
Leningrad			2					
Kola-Ponoy					10	10	12	9
Vitebsk	2	1		1	4	2	2	3
Total	8	16	15	16	25	22	24	30

In 1984-1991, 156 nestlings were ringed, 85 of them being from Estonia.

In 1987 a young dead Sea Eagle was found in Öland, ringed at a nestsite in Matsalu Bay.

In 1989 a Sea Eagle with an Estonian/Latvian ring was seen in Norway.

On 13 March, 1989, live Sea Eagles with Estonian/Latvian rings were seen in Smoland (Sweden).

More successful recovery results were received regarding the migration of young eagles from the Ponoy River (Kola Peninsula).

In the first year of ringing two specimens were observed at a feeding place in North Finland in winter 1988/1989.

On 11 November, 1989, one specimen having flown into wires was found damaged between Lulea and Boden (Sweden). This eagle was cured and released to the wild.

On 12 and 13 March, 1990, one specimen ringed on 2 July, 1988, was observed at a feeding place near Nyköping. This was a remarkable record, since so far there were no observations in the south of birds nesting in the north.

On 28 November, 1990, a Kola Sea Eagle was observed in Aland.

Present ringing data obtained in the Eastern Baltic are too scanty for final conclusions and we look forward to following up intensive research on the management of the White-tailed Sea Eagle in this area.

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