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# STATUS OF THE WHITE-TAILED SEA EAGLE IN GREENLAND, 2000

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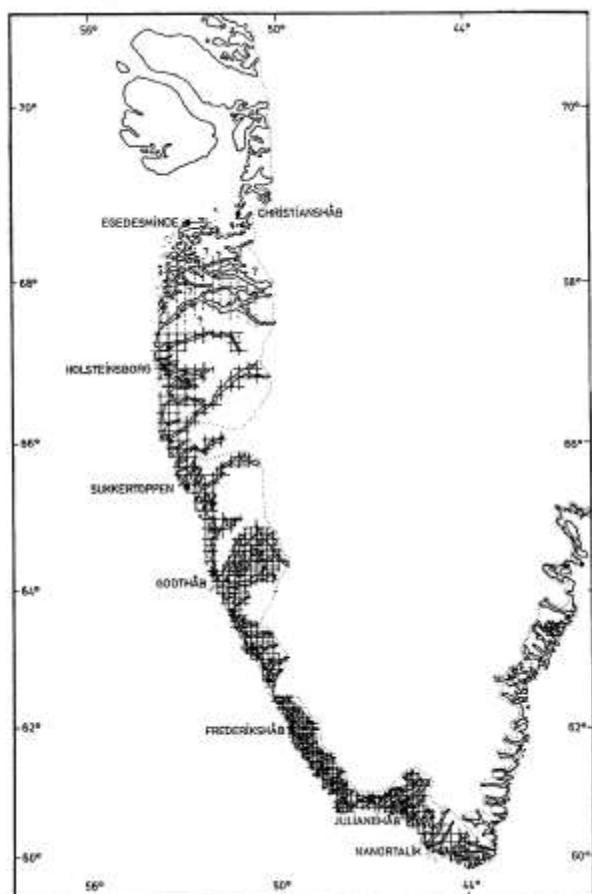
## ABSTRACT

The White-tailed Sea Eagle *Haliaeetus albicilla groenlandicus* has been studied extensively from 1972-2000 in Greenland by the author. Research on the Greenland Sea Eagle population has included determination of the size of the total population, population trends, and food habits. However, due to funding constraints, population monitoring has declined from 1996-2000, and only two minor areas in the Paamiut and Nuuk districts (approximately 20 pairs) have been monitored yearly since 1996. Although funding and research are limited, it is worthy to note the decline in reproductive success over the period 1973-2000. Possible explanations for the decline in reproductive success include bad weather during the spring brooding period, the decline in prey availability, and threats such as lead poisoning and being shot by humans. The current White-tailed Sea Eagle population appears to be stable but stressors on the eagle's reproductive success could lead to a decline in the near future. The White-tailed Sea Eagle population in Greenland is estimated at approximately 150 - 170 territorial pairs. Being isolated from other eagle populations the White-tailed Sea Eagle is still a vulnerable species in Greenland and monitoring efforts should be increased to track the productivity and success of the population.

## INTRODUCTION

During the period 1972-1995, the White-tailed Sea Eagle population in Greenland was studied extensively by this author and others. Several papers have been published over this time period covering aspects such as population status and trends, food habits, nest sites etc. (Christensen 1979, Hansen 1979, Wille & Kampp 1983, Kampp & Wille 1990, 1997). However, over the time period 1996-2000, it has only been possible to monitor a small fraction of the total population. In two minor areas, the Paamiut and Nuuk districts, about 10 - 20 pairs have have been visited every year.

In recent years, it has not been possible to raise funds for further White-tailed Sea Eagle investigations in Greenland. This may be due to the fact that the breeding population of Sea Eagles has been stable over the period 1972-1995 with some 150-170 pairs of adult birds. Furthermore, the general situation of the environment in Greenland is rapidly deteriorating with nearly all wildlife being over-exploited (Hansen 2002). Therefore, all research efforts must go to preventing a collapse of the environment in the near future.



**Figure 1.** Map of South-west Greenland showing distribution and population density of the White-tailed Eagle, 1972-74. Small hatching: 0.5 pair/100 sq.km; medium hatching: 0.3-0.49 pair/100 sq. km; largest hatching: < 0.3 pair/sq. km. The northern limit for regular breeding is poorly known and marked with ??? (From Hansen 1979).

## RESULTS

Although current funding and research has been limited some unpublished data are worth mentioning, particularly the notable decline in White-tailed Sea Eagle reproductive success over the time period 1973-2000. As illustrated in Table 1, there has been a successive decline in brood size over the study period, from approximately 1.5 up to the mid-1980s down to about 1.3 in the 1990s.

**Table 1.** Brood size of the White-tailed Sea Eagle in Greenland, 1972-2000. n=number of broods.

Period (n = number of successful nests)	Numbers of nestlings per successfull nest
1972-75 (n = 85)	1.49
1980-85 (n = 250)	1.51
1986-90 (n = 189)	1.40
1991-95 (n = 87)	1.31
1996-2000 (n = 51)	1.29

## DISCUSSION

It is obvious that the breeding success has been declining over the last 30 years, but it is difficult to pinpoint all of the factors involved. In theory the reasons are considered to be a combination of years with bad weather in spring during the brooding period (May) and the observed decline of available food.

Seabirds, such as Brünnich's Guillemot *Uria lomvia*, gulls, and eiders *Somateria mollissima* have declined dramatically associated with extreme over-exploitation for many years (Hansen 2002? 2001 in the reference list). The decline in prey availability has occurred all over the breeding range of the White-tailed Sea Eagle in Greenland. Also fish populations have declined, especially the formerly widely distributed and very common Arctic Cod *Gadus morhua*, which has almost disappeared since the early 1990s.

It seems clear that White-tailed Sea Eagles have to "work" much harder to find food now compared with formerly - 'back in the good old days'. This scarcity of food may explain why it is now much harder to find nests with three or even with two nestlings.

Also the analysis of 12 eagles, found dead during the last few years, may provide further explanation. Thanks to Dr. Oliver Krone in Berlin it has been possible to do autopsies using X-ray and chemical analysis for heavy metals (such as lead and cadmium) in different organs.

A preliminary survey shows that at least four of the 12 eagles were definitely shot and two had died from lead-poisoning, presumably by eating gamebirds that had been shot and killed or crippled. In one eagle the liver contained 36.3 ppm lead and kidney 10.9 ppm lead (wet weight basis). Another bird had 26.4 ppm lead in the liver and 14.9 ppm lead in the kidney (Krone & Wille, *in prep.*).

## CONCLUSIONS

To judge from the available information from the study area the isolated population of White-tailed Sea Eagles in Greenland is still stable, but the scarcity of food, the illegal killing and the recently identified threat of lead-poisoning may lead to a decline in the coming years. It is obvious that the Greenland White-tailed Sea Eagle is still a vulnerable population that should be monitored more closely. This is even more justified since this eagle population is apparently isolated and must be self-sustaining in order to survive.

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