

Protection of birds in the Finnish archipelago

TORSTEN STJERNBERG

STJERNBERG, T. [Zoological Museum, University of Helsinki, N. Järnväggsgatan 13, SF-00100 Helsingfors 10, Finland] 1976. — *Protection of birds in the Finnish archipelago*. *Ornis Fenn.* 53:142–146.

The necessity and historical background of bird protection in the Finnish archipelago are briefly reviewed. The aims and results of the present programs for water and shore bird protection are outlined. In 1974 there were 73 ornithological reserves in the Finnish archipelago; only one of them is a Strict Nature Reserve, protected by law. In addition, several associations for waterfowl protection have their own sanctuaries. Recent information on the distribution and numbers of birds has been used in compiling lists of conservationally important areas: the Mar list, the Finnish List of Wetlands of International Importance (= CW list) and the Survey of Important Wetlands in Scandinavia.

Historical background. The human population of the Finnish archipelago was most numerous at the turn of the last century, when the settlement, which earlier had been concentrated on the main islands, also extended to more marginal areas (HUSTICH 1964). As this community was almost completely self-sufficient, the natural resources, including the bird fauna, were heavily exploited. The Game Act of 1934 was a much needed measure for the conservation of waterfowl.

Since World War II, the rising numbers of summer cottages and holiday-makers in the archipelago have resulted in increasing disturbance of the avifauna. In 1968 there were approximately 45 000 summer cottages in the Finnish archipelago, and in 1974 the motor-boats and sailing-boats numbered 150 000 and 5000, respectively.

During the last few decades, forest management has changed considerably. There are now few places where the White-tailed Eagle *Haliaeetus albicilla* can find suitable breeding habitats and

trees for nesting (KULVES 1973, STJERNBERG 1974); to some extent the same also holds for the Osprey *Pandion haliaëtus* (SAUROLA 1976).

Organochlorines and other chemicals, found in relatively high concentrations in the Baltic, constitute a severe threat to many species (e.g. ANDERSSON et al. 1974). Oil catastrophes also threaten the most important areas. Nowadays the Mink *Mustela vison* occurs in almost the whole archipelago, with unfortunate consequences for the fauna, especially birds breeding in holes and crevices. The great adaptability of the Herring Gull *Larus argentatus* has resulted in recent decades in a rapid increase of the populations in the vicinity of larger cities along the coast, partly at the cost of other species, e.g. the Lesser Black-backed Gull *Larus fuscus* (BERGMAN 1965).

Aims. Bird protection in the Finnish archipelago should:

- 1) safeguard the continued existence of a breeding avifauna rich in species and individuals,
- 2) maintain bird sanctuaries in different regions,

TABLE 1. Land areas of ornithological reserves in the Finnish archipelago 1974 (BORG 1974). Most large reserves are also protected for other purposes besides bird conservation.

Coastal region	Area (ha)				Unknown	Total
	0.1—5	5.1—50	51—200	>200		
Eastern border to Hanko	16	22	7	3	1	49
Hanko to Vaasa, including the Åland islands	8	4	4	2		18
Vaasa to Tornio	3	1	1	1		6
Total	27	27	12	6	1	73

in different types of archipelagos and different archipelago zones. These sanctuaries must be so planned that all the typical faunal elements and breeding habitats are well represented,

- 3) ensure that the populations of endangered species do not decrease,
- 4) organize investigations of different species and ecosystems, partly as pure research, partly for planning how living natural resources should be utilized, and partly to gather information to be used in possible future crises,
- 5) maintain sanctuaries for species on passage through the archipelago, where they can rest, feed and moult.

What has been done? In 1974 the Finnish archipelago contained 73 areas protected for birds (Table 1). Most of these were protected by the Nature Conservation Act; about one quarter by the Game Act. Although the numbers of islands are by far the highest in SW Finland and Åland, most reserves are in the Gulf of Finland. This is due to the fact that in most cases protection is the result of the activity of the landowner himself. No general plan exists for conservation in the Finnish archipelago, but some progress has recently been made.

The information on species composition and numbers of individuals in the bird communities in the Finnish archipelago has increased greatly during recent decades (e.g. BERGMAN 1957, 1965, 1968, BERGMAN et al. 1967, GRENQUIST 1938, 1965, HAAPANEN & PAASIVIRTA 1973, v. HAARTMAN 1945, HILDÉN 1966, NORDBERG 1950, PAAVO-

LAINEN 1957, STJERNBERG et al. 1974, TENOVUO 1966, VÄISÄNEN 1972, cf. also Fig. 1). It has thus been possible to pick out the most important areas.

The Finnish list for Project Mar is one of the first steps in this direction (HAAPANEN 1968). The Finnish CW list comprises the internationally most important wetlands in Finland, including the archipelago (ANON. 1973a). The two lists are combined in the Survey of Important Wetlands in Scandinavia (including Finland) (ANON. 1973a, 1973b). The Council of Environmental Protection has made an important proposal concerning the development of the network of national parks in Finland (ANON. 1973c). If it is accepted, five national parks will be created in the Finnish archipelago (now nil), and both the local and regional diversity of the avifauna and breeding habitats will be guaranteed (BORG et al. 1976).

Since 1934, a varying number of associations for waterfowl protection have been active in the archipelago (GRENQUIST 1951). They have protected areas of their own, where hunting is forbidden. Furthermore there are some privately protected areas in the archipelago, one of the most important being Klävsjär, SE of Mariehamn.

Landing is usually forbidden on the protected areas. The prohibited period varies from 1 1/2 to 12 months per annum. Jussarö, east of the Hangö penin-

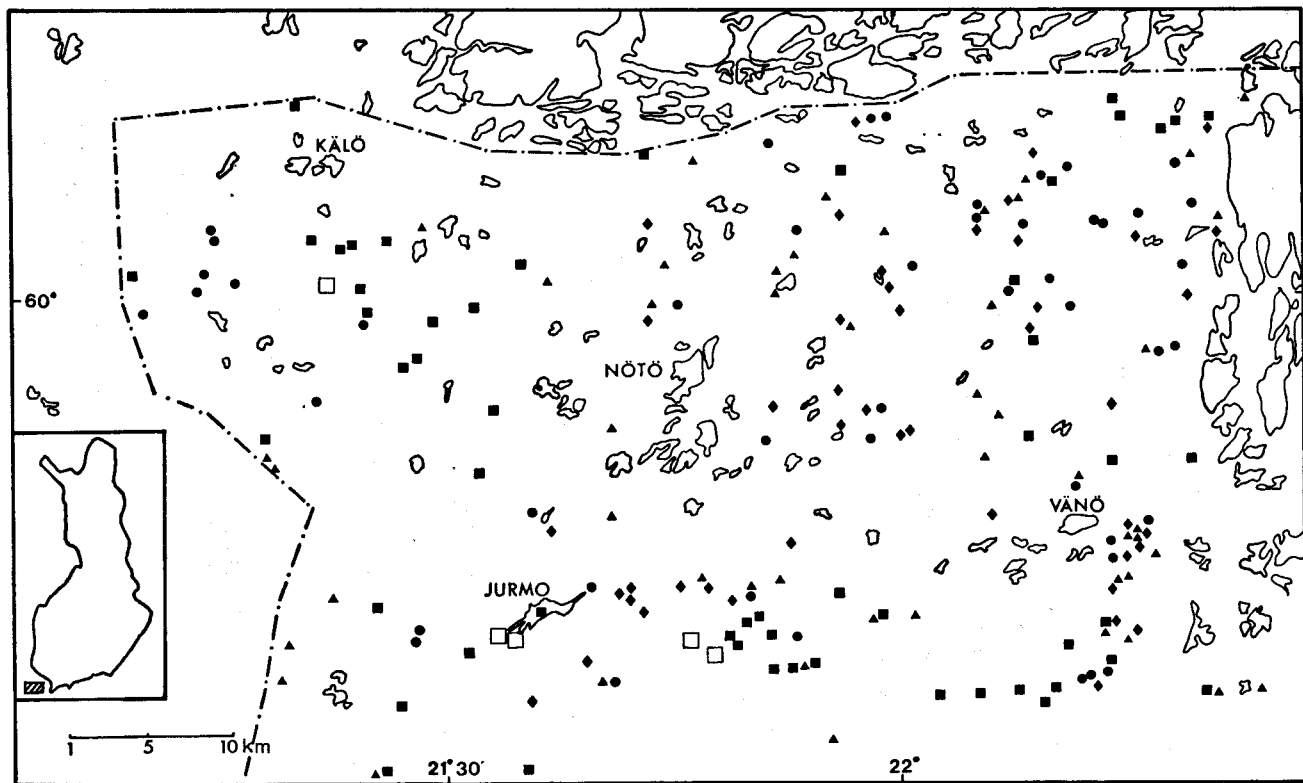


FIG. 1. Bird skerries in the southern part of the SW Archipelago of Finland (T. STJERNBERG, unpubl. investigations made 1973—76). The following classes have been used: I (symbol: square) = breeding sites for *Hydroprogne caspia* or *Alca torda*; large *Cepphus grylle* colonies; bird skerries with an abundant and diverse bird community. II (circle) = large *Somateria mollissima* colonies; large *Sterna* sp. colonies; breeding sites for *Anser anser*; large colonies with *Larus fuscus*; skerries with *Stercorarius parasiticus* but also rich in other bird species. III (triangles) = small *Cepphus grylle* colonies; small Laridae colonies with a diverse waterfowl and wader community. IV (diamond) = pure *Larus argentatus* colonies (including large ones); bird skerries not especially rich in individuals but with a typical bird skerry fauna and flora. — A few skerries have been placed in class I on the basis of reports by local people (symbol: open square).

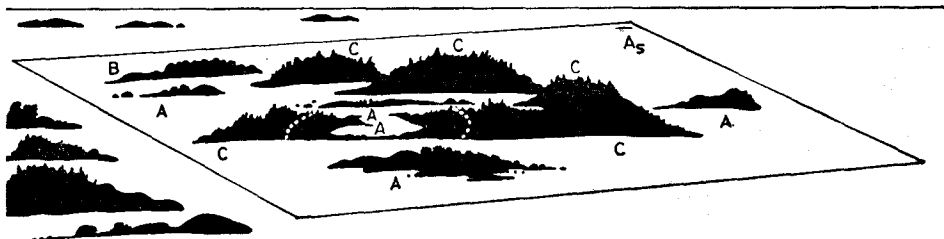


FIG. 2. Schematic drawing showing arrangement of protection for the bird fauna of an island group in the outer archipelago (from BERGMAN 1971). A. Landing (and visiting the sheltered bay) forbidden 1.4.—31.7. — B. Preferred Eider breeding islands in archipelagos rich in Common Eiders; landing forbidden 1.4.—30.6. — C. Landing allowed.

sula, is still the only marine Strict Nature Reserve in Finland. Movement without special permission is forbidden in Jussarö all the year round. Most of the ornithological reserves are small (Table 1). The few reserves covering whole miniature archipelagos are, from E to W and N: Haapasaari, Söderskär, Nothamn, Jussarö, Tvärminne, Björkör, Valsörarna and Krunnit.

In 1972 the World Wildlife Fund in Finland appointed an expert group to plan how to save the White-tailed Eagle in Finland. Besides other activities, described by HELANDER (1975), the group has organized a network of winter-feeding stations for the eagles. The results of winter feeding have been encouraging; at least 10 Finnish White-tailed Eagles fledged in 1974, i.e. after the first active winter-feeding period. This is the highest number recorded in 1970—75 (JOUTSAMO et al. 1975). Unfortunately, the breeding habitats of the White-tailed Eagle are, with one exception, unprotected. They are endangered by forest management, summer cottages and/or direct disturbance by man.

Information and education, as well as research, belong intimately to all nature conservation. Nature conservation in the Finnish archipelago owes a great deal to Prof. GÖRAN BERGMAN, who has long tried to enlighten the gen-

eral public. He has also devised a clear scheme for the protection of the bird fauna in different types of archipelagos (Fig. 2).

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Selostus: Saaristolinnuston suojele Suomessa

Saaristolintujen suojelussa tulisi kirjoittajan mukaan:

- 1) turvata linnuston säilyminen runsaana ja monipuolisena;
- 2) säilyttää tarkoin suojeltuja alueita, jotka yhdessä muodostavat alkuperäistä saaristoluontoamme — sen eri saaristoja ja saaristovyöhykkeitä — mahdollisimman hyvin edustavan verkoston;
- 3) turvata uhanalaisten lajien elinmahdollisuudet;
- 4) pitää huolta siitä, että eri lajeja ja eri ekosysteemejä tutkitaan perustutkimusta, järkevän hyväksikäytön suunnittelua sekä mahdollisiin kriisitilanteisiin varautumista varten; sekä
- 5) säilyttää läpimuuttavien lajien tärkeimmät leveys-, ruokailu- ja sulkimipaikat suoja-alueina.

Vuonna 1974 Suomen saaristossa oli 73 linnustonsuojelualuetta, joista varsinkin suurimmat on rauhoitettu muistakin kuin linnustollisista syistä (maapinta-alojen jakautuma Taulukossa 1). Saaristossa on vuodesta 1934 lähtien toiminut metsätys- ja riistanhoitoyhdistyksiä, joilla on omat rauhhoitusalueensa. Lisäksi on joukko yksityisiä rauhhoitusalueita. Kuvassa 1 esitetään eteläisen Saaristomeren lintuutojien linnustonsuojelullinen luokittelu (I:stä IV:ään, I on korkein luokka). Nykyisten tietojen perusteella tärkeimmät mereiset vesi- ja rantalinnustomme pesimäalueet on ehdotettu suojelettaviksi eri yhteyksissä (Mar-

luettelo, CW-luettelo, Pohjoismaiselta kannalta tärkeät lintuvedet, Suomen kansallispuistoverkon kehittämisohjelma (jne.). Kuva 2 esittää, miten linnustonsuojelu voidaan toteuttaa kuvitellussa ulkosaaaristovyöhykkeen saariryhmässä (A. Mäihinnousu kielletty 1.4.—31.7.; lähdelmassa oleskelu kielletty samana aikana, B. Tärkeät haahkasaaret: mäihinnousu kielletty 1.4.—30.6., C. Mäihinnousu ja oleskelu sallittu).

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