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## EUROPEAN COMMITTEE FOR THE CONSERVATION OF NATURE AND NATURAL RESOURCES

Committee of experts - protected areas

## BULLERO AND LANGVIKSSKAR NATURE RESERVES

Application for the award of the European Diploma submitted by Sweden

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7.764 09.3 Name : Bulerö and Långviksskär Nature Reserves

Name and address of the body responsible for its management :

Statens naturvardsverk (The National Swedish Environment Protection Board), Box 1302, S 171 25 SOLNA

Country : Sweden

ADMINISTRATIVE DATA

Date of decision : Bullerö – 5 December 1967 Långviksskär – 22 December 1983

Municipality : Värmdö

Location : This section of the archipelago is situated approximately 50 km east-south-east of the centre of Stockholm, in the outer archipelago

Total area : Approximately 8,200 hectares Land area : Approximately 726 hectares Number of islands/islets : 1,200

<u>Property owners</u> : Bullerö is owned by the Swedish State through the National Swedish Environment Protection Board. Långviksskär is owned eight/ninths by the Stockholm Archipelago Foundation and one/ninth by Mr Sture Andersson

Nature conservation manager : Stockholm Archipelago Foundation

The purpose of these nature reserves is to protect the scientific and cultural value of the area and to preserve the archipelago area in an unexploited state for the sake of outdoor recreation. These environmental principles should be a prerequisite for the use of the area in outdoor recreational pursuits. This also implies that no special facilities will be allowed for this outdoor recreation beyond a small number of toilets and litter bins. A nature interpretation trail, an information centre and a stopover cabin will be placed on Bullerö.

Special consideration will be given to the archipelago area's ornithological value.

<u>Protective institution</u> : Paragraph 7 of the Nature Conservancy Act (SFS 1964:822) re : nature reserves. The regulations are supported by paragraphs 8-10 of the Nature Conservancy Act and by paragraph 9 of the Nature Conservancy Ordinance (1976:484).

A = Bullerö B = Långviksskär

## REGULATIONS

I. For land owners and others with special legal rights (paragraph 8)

The following activities are prohibited :

- 1. Taking sand, gravel, stones etc on land or in water (A + B)
- 2. Stockpiling materials (B)
- 3. Constructing roads (A + B)
- 4. Laying ground, air or water cables (A + B)
- 5. Felling trees, clearing away bushes or conducting any alterations to the forest beyond what is prescribed in the established management plan (A + B)
- 6. Introducing new plant or animal species into the area (A + B)
- 7. Using chemical pesticides (B)
- Constructing enclosures or other restrictive objects with the exception of necessary fences around building sites or grazing animals (A + B)
- Constructing entirely new buildings or changing the exterior or use of an existing building (A + B)
- 10. Establishing a dock, campsites (even for tents), a mooring buoy or any other permanent arrangements for mooring (A + B)
- 11. Draining, excavating, raising embankments or by any other means changing the area's hydrology (A + B)
- 12. Dredging (A + B)
- 13. Hunting. However, a temporary influx of foxes, badgers or mink may be eradicated after consultation with the county administration (A + B)
- 14. Establishing fish farming (A + B)
- 15. Establishing military facilities or carrying out military manoeuvres (A)
- 16. Conducting commercial transportation to the reserve without permission from the county administration (A + B)
- 17. Entering the reserve's "bird sanctuaries" between 1 February and 15 August
- II For the general public (paragraph 10)

The following activities are prohibited :

- 1. Entering the reserve's "bird sanctuaries" between 1 February and 15 August (A)
- 2. Destroying or damaging natural objects or surfaces by drilling, chopping, blasting, carving, painting, etc (A + B)
- Breaking branches, felling trees or by any other means damaging living or dead trees and bushes, or damaging any other vegetation by digging up underbrush, flowers, grasses, moss or lichens (A + B)
- 4. Disturbing wildlife (eg by climbing on trees used for nesting, capturing or killing mammals, birds, reptiles or batrachians). This also explicitly includes the killing of seals encountered in course of commercial fishing (A + B)
- 5. Bringing along a dog or other domestic animals which are not on a leash (A + B)
- 6. Hunting (A + B)
- 7. Mooring a boat for longer than 48 hours in the same place (A + B)
- 8. Camping in a tent for longer than 48 hours in the same place (A + B)

- 9. Picking the lesser butterfly orchid or other orchid species (A + B)
- 10. Making a fire (A + B)
- 11. Driving motor vehicles at a speed higher than 7 knots within 100 metres of the shore (A + B)
- 12. Conducting commercial transportation to the reserve without permission from the county administration (A + B)

Through the provisions of paragraph 9 of the Nature Conservancy Ordinance, the county administration has appointed the Stockholm Archipelago Foundation as nature conservation manager.

Through the provisions of the same ordinance, the county administration has also established management plans for the reserves (Bullerö 1985 and Langviksskär 22 December 1983).

### A DESCRIPTION OF THE NATURAL CONDITIONS

## The terrain

The unexploited outer and middle archipelago, of which the nature reserves are a part, comprise very attractive scenery. The numerous islands, the barren islets, the water and the open horizon to the east compose a picture of rare beauty. A magnificent view of the archipelago is possible from the highest point on Söderön.

#### Geology and topography

The bedrock of the islands consists primarily of gneiss. The terrain is very undulating and is made up of great sections of bare bedrock, which were once old sea bays which have been left "high and dry" through the area's general land elevation. Shore meadows now cover the old sea-bay areas.

## Vegetation

The archipelago area is at least partly within the maritime deciduous forest region. The islets are generally rugged and dominated by bedrock covered in places with brushwood moors. Deciduous forest grows abundantly on the larger islets. Birch (<u>Betula pubescens</u>) dominates, in the form of either stands of trees or as scattered trees and bushes. These birch trees are as a rule young, and in all likelihood even larger areas will be covered with birch forest in the future. Alder and aspen grow along the shores and in moist hollows while mountain ash is common on the bare bedrock and high ground. The largest islands are partially covered with coniferous forest, particularly pine forest.

The shores are mostly made up of bare bedrock, but on Langviksskär there is even a number of shore meadows. Those which lie near the villages are mown every summer. In the areas surrounding the settlements on Lângviksskär and on Bullerö there are a number of open deciduous forest meadows which are still mown. Tärnskär islet, which is the furthest out towards the east, has a special character which distinguishes it from other islets in several ways. There is a great deal of sand in the central part of the islet, which has formed small sandy beaches and sandy bottoms in the lagoons. The vegetation on the island chain is typical of the outer archipelago. Brushwood moors dominate and are charaterised by creeping juniper bushes and heather (Calluna vulgaris) as well as twigs of bilberry (Vaccinium myrtillus), crowberry (Empetrum nigrum) and bog whortleberry (Vaccinium uligunosum). Wavy hair-grass (Deschampsia flexuosa) is common on the bare bedrock areas and up on the high ground. These areas also host such species as common vincetoxicum (Cynanchum vincetoxicum) and bloody cranesbill (Geranium sanguineum). Small fern species like forked spleenwort (Asplenium septentrionale), spleenwort (Asplenium trichomanes) and woodsia ilvensis grow on the precipices.

The stands of alder by the shore and in the hollows often have a luxuriant undergrown of meadow sweet (Filipendula ulmaria). There are also wet marshes with large quantities of peat-moss (Sphagnum sp.) and lesser numbers of flower and grass species.

Along the shore such species as Sharp-pointed rush (Juncus gerardii) can be found as well as many examples of forget-me-not (Myosotis palustris), adder's tongue (Ophioglossum vulgatum), tufted vetch (Vicia cracca), yellow rattle (Rhinanthus angustifolius), mugwort (Artemisia vulgaris), angelica (Angelica archangelica), sea milkwort (Glaux maritima), bottnic hair-grass (Deschampsia bottnica), shore speedwell (Veronica longifolia) and numerous other species.

Reeds (<u>Phragmites communis</u>), sea club-rush (<u>Scirpus maritimus</u>), <u>Scirpus tabernaemontani and Alopecurus arundinaceus</u> grow in sheltered bays. The sandy beach on Tärnskär hosts a rich collection of sea sandwort (Honckenya peploides) and sea rockets (<u>Cakile maritima</u>).

Orchid species are fairly common on the islands. The most prominent is the lesser butterfly orchid (Plantanthera bifolia) which is a characteristic species on Langviksskär. The elder-flowered orchid (Orchis sambucina) and fragrant gymnadenia (Gymnadenia conopsea) are seen here and there on dry meadows, heath-spotted orchid (Orchis maculata) in the bogs and on the brushwood moors and coralroot orchid (Corallorhiza trifida) in only one place.

## Wildlife

The animal species found in the area are typical of the outer archipelago. Foxes (Vulpes vulpes) and blue hare (Lepus timidus) inhabit the larger islands. Roe deer can be found as far out as Bullerö. Both the viper (Vipera berus) and the grass snake (<u>Natrix natrix</u>) are common. Birdlife is rich on the islands and includes the usual seabirds such as the eiderduck (<u>Somateria</u> molissima), tufted duck (<u>Aythya fuligula</u>), scoter (<u>Melanitta fusca</u>), goosander (<u>Mergus merganser</u>), red-breasted merganser (<u>Mergus serrator</u>) and various gull species like the great black-backed gull (<u>Larus</u> <u>marinus</u>), lesser black-backed gull (<u>Larus fuscus</u>), herring gull (<u>Larus argentatus</u>), common gull (<u>Larus canus</u>), common tern (<u>Sterna hirundo</u>) and arctic tern (<u>Sterna paradisaea</u>). Such species as the razorbill (<u>Alca torda</u>), black guillemot (<u>Cepphus grylle</u>), greylag goose (<u>Anser anser</u>), skua-gull (<u>Stercorarius parasiticus</u>), oyster-catcher (<u>Haematopus ostralegus</u>), turnstone (<u>Arenaria interpres</u>) and others nest on the islets. The area also falls within the territory of the white-tailed eagle (<u>Halietus albicilla</u>). The larger islands are home to such species as black grouse (<u>Lyrurus tetrix</u>). In the spring and autumn many rare species use the islands as a port of call during their annual migration.

There was previously an abundance of grey seals (<u>Haliocherus grypus</u>) and otters (<u>Lutra lutra</u>), which were hunted on a regular basis. Nowadays only an occasional seal can be sighted, while the otter disappeared altogether long ago.

## CULTURAL HISTORY

The cultural-historical value of Långviksskär and Bullerö lies primarily in the fact that the island group has been preserved undisturbed, and that the buildings that do exist are concentrated principally in the small villages on Langviksskär and Bullerö. These settlements have been maintained to a large extent in their original state. The buildings are concentrated around shallow harbours which in turn have well-maintained piers and sheds along their outer reaches. The clusters of houses, painted red with white trim and green doors, give a clear picture as to how most villages in the archipelago looked in the past, when, however, there were more cottages. They were torn down at about the same time as the island populations dwindled. Foundations here and there indicate where a house was earlier.

Nowadays, both Bullerö and Langviksskär are inhabited all the year round. A warden and his family live on Bullerö and fisherman Sture Andersson and his wife live on Langviksskär. This means that a tradition started in the late eighteenth century is being preserved and that the villages are still alive.

Fishing has traditionally been the chief occupation, supplemented by bird hunting, livestock raising for household use (cattle and sheep) as well as limited agriculture centred largely around growing potatoes on the few patches of earth which exist on the island. Regular transportation connections with the mainland have never existed. Earlier, archipelago residents rowed or sailed to Stockholm with their fish. After the turn of the century it was not neessary to go any further than Nämdö, an island around 8 km northwest of Langviksskär, because that island received steamboat service to the mainland. To this day Nämdö is still the closest island with regular transport connections and commercial facilities.

The pattern of ownership has also influenced the cultural history of these archipelago areas. Langviksskär was once owned by the artist Axel Sjöberg and later by the Swedish-American William Widgery Thomas, among others. The Bullerö archipelago was partially owned by artist Bruno Liljefors and thereafter by financier Torsten Keruger. This has meant that these areas have not been divided up among many different small-holders and they have thus retained their unexploited character. With the exception of a small share, the islands are now owned by the State and the Stockholm Archipelago Foundation.

#### LAND USB

At the present time, the area is hardly exploited at all from an economic standpoint. Within Langviksskär Nature Reserve, fisherman Sture Andersson has the legal right to fish for a livelihood as well as to hunt water birds in the autumn for his own household needs. All other hunting is prohibited. A small number of other archipelago residents also fish commercially, primarily for eel, and they have been granted special permission to do so for many years. The wardens of the reserves also have the right to fish for their household needs. This fishing does not have any noticeable effect on the functioning of the ecosystem.

The reserves are used for outdoor rereation primarily during the summer months. The reserves can only be reached by boat. Regular sea taxi connections from the mainland exist between 15 June and 20 August, but most visitors usually have their own boat. The most popular destination for visitors has been Bullerö, where an information centre and a stopover cabin are located. On the other wellvisited islands, there are toilets and litter bins as well. Entrance restrictions are in effect in three areas where there are significant numbers of bird species particularly sensitive to disturbance. These restrictions apply between 1 February and 15 August.

### MAINTENANCE

In principle, the vegetation on the islands is to be left to develop freely. A few shore meadows and fields further inland have, nevertheless, been kept open through mowing and grazing for the sake of preserving a cultural-historical tradition. In order to protect wildlife as much as possible from disturbances, bird sanctuaries have been established. Moreover, outdoor recreational activities have been channelled towards certain islands where there is access to toilets and litter bins. The threat of exploitation in the area is nonexistent. Perhaps the greatest threat to the area and its species is water pollution (PCB, DDT), which is incidentally a general problem for all the Baltic. These pollutants originate from waste discharged by all the Baltic States.

#### INTERNATIONAL VALUE

The unexploited archipelago around Bullerö and Langvikssär is unique from an international perspective. The ongoing process of land elevation, at about 0.5 cm/year, gives the area, with its enormous number of islands, a small scale character. The animal and plant life, with its dependence upon the brackish water of the Baltic, is unique and gives the area its special character. Such common freshwater fish species as pike (Esox lucius) and perch (Perca fluviatilis) live here together with saltwater species like cod (Gadus morhua) and Baltic heering (Clupea harngus). Resources like clean water, unexploited islands and a host of water birds make the area very attractive for outdoor recreation. A large area of the archipelago surrounding the nature reserves is either totally unexploited or only to a small extent - primarily for second homes - and can be said to function as a buffer zone.

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