

# Bothnian Bay Coastal Meadows Management Project

*The Finnish Candidate for the Landscape Award of the Council of Europe 2021*





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*The unique features of the coastal meadow landscape in the Bothnian Bay are the product of traditional agricultural methods used for centuries. Image from 1912. Photo: Samuli Paulaharju / Picture Collections of the Finnish Heritage Agency / Ethnographic Picture Collection*

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# Unique boreal Baltic coastal meadows need management

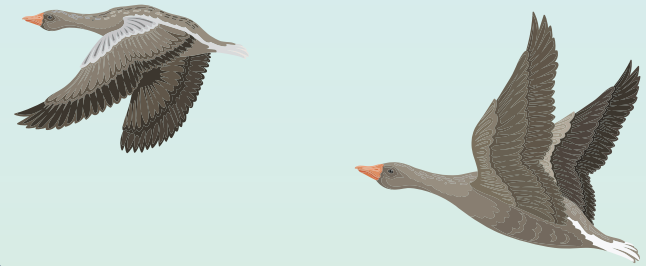
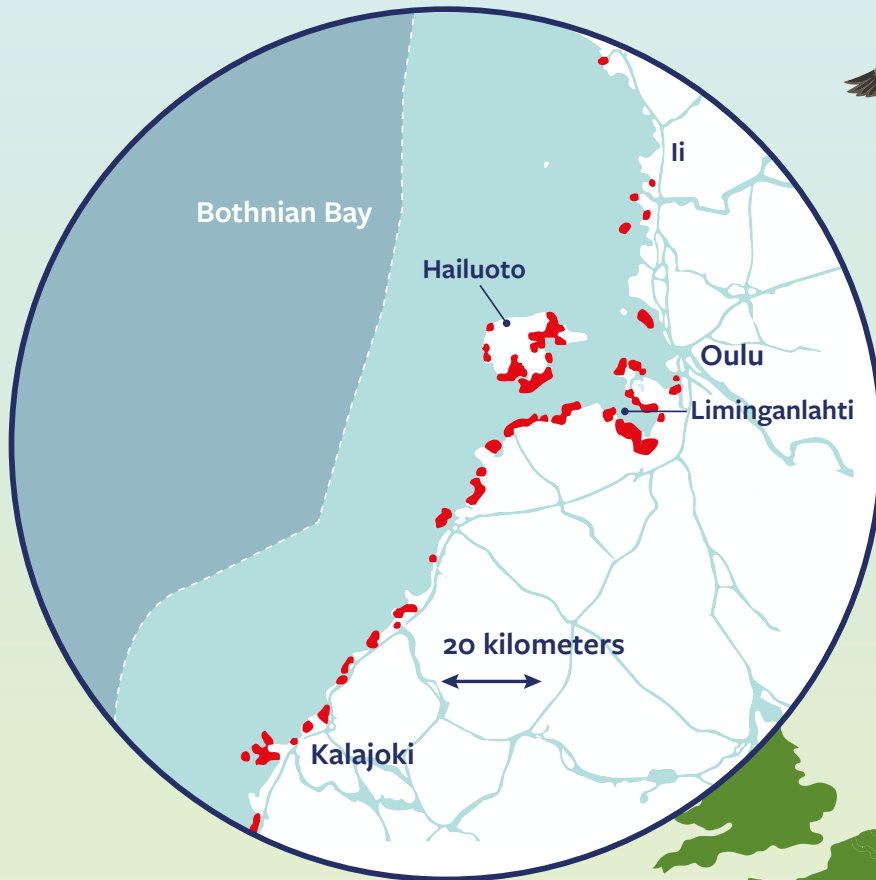
The coastal meadows around the Bothnian Bay, the northernmost part of the Baltic Sea, constitute a unique landscape dating back to the 15<sup>th</sup> century traditional agriculture. Traditional landscapes cannot be preserved without continuous management. As a consequence of the intensification of modern agricultural practices, grazing on coastal meadows stopped almost completely by the end of the 1960s. This led to the overgrowth of the coastal meadows, which previously extended as far as the eye could see.

The key objective of the project has been to restore and, through permanent management, maintain the landscape and biodiversity of these large, valuable coastal meadows. The project began in the early 1990s.

The operating model for the management of the nature and landscape of the coastal areas was developed at the beginning of the project. With the help of the pilot sites, the model has been expanded to cover the entire project area.

The successful management of the landscape and nature of coastal meadows in the Bothnian Bay is the result of long-term and extensive cooperation and a shared will. Over 4,000 hectares of coastal meadows are already being managed through the project. This management preserves the landscape as a whole, including the vulnerable habitat type and the areas of resident species.

Similar measures and procedures can also be applied elsewhere in Finland and the EU.



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*The project area covers approximately 250 km of coastline of the Bothnian Bay. Red dots indicate managed meadows.*

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# Project area

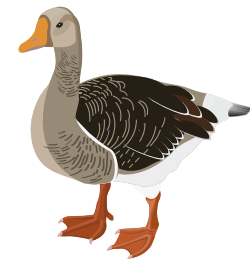
The project area covers 250 km of Bothnian Bay coastal land, from Kalajoki to Ii. At the heart of this series of coastal meadows lies the meadows of the Bay of Liminganlahti and Hailuoto Island. The expanse of Liminka and Hailuoto Island are nationally valuable landscape areas. Hailuoto Island has also been nominated as one of Finland's national landscapes.

Large and low growing sea shore meadows are a characteristic of the Bothnian Bay. Their landscape and nature values are linked to centuries of coastal peasant settlement and traditional agriculture, with the hay grown in the meadows being utilised as livestock feed both through mowing and grazing.

The landscapes and biodiversity of the area reflect the exceptional combination of ecological conditions found in the Bothnian Bay: post-glacial rebound, winter ice cover, and low-salt brackish water.

The coastal meadows located in the project area are the largest in Finland and unique in terms of their landscape and biodiversity. Almost all vegetation types of sea shore meadows can be found in the large pastures of the project area. Adjacent to the meadows there are wooded coastal pastures dominated by deciduous tree species.

The project area has several pastures of more than 100 hectares, the largest of which is the Pitkänokka pasture at the municipality of Lumijoki with its impressive 600 hectares. The largest meadows are all included in the Natura 2000 network, and all of them are protected nature reserves.



# Operating model

The goal was to include as many of the coastal meadow sites as possible in the management project. An operating model for the management of the coastal areas was developed in order to effectively replicate the measures between each of the project sites.

**Inventories of the meadow sites.** In the beginning it is important to identify valuable coastal meadow sites or sites suitable for restoration. The Bothnian Bay coastal meadows were originally surveyed as part of the national inventory of traditional rural biotopes, which began in 1992. Inventories have been continued and supplemented until the present day.

**Exploring landowner interest.** Extensive marketing was carried out during the early stages of the project in cooperation with the North Ostrobothnia Regional Environment Centre, rural authorities, and the rural advisory organisation.

**Finding a farmer.** Local farmers carry out the majority of management measures in their own or leased coastal land, with funding via agri-environmental support.

**Planning the management measures** that support the preservation of the landscape and nature management objectives of the site. In most of the areas, the management plans are prepared either by the farmers themselves or by consultants contracted by the farmers.

**Let the management begin.** The management contract for the site is being drawn up for a period of 5 years at a time.

# Operating model for Coastal Meadow Management



**The site-specific process is repeated at five-year intervals**





## Positive experiences as an incentive

Once the poor status of the coastal meadows was noted in the early 1990s, farmers' interest in their management was surveyed and management pilots were implemented with separate funding from the Ministry of the Environment. The management planning began with the support of extensive stakeholder work in the Bay of Liminganlahti. Through this work, it became clear that there was a mutual aim regarding the large-scale management of the coastal areas. The planned coastal meadow management got underway in the nationally valuable landscape areas in the Bay of Liminganlahti and Hailuoto Island between 1995 and 1998, with the support of the EU LIFE Fund.

The pilot sites implemented at the beginning of the project played a key role in the success and expansion of the project. As traditional agriculture mainly ceased with the previous generations of farmers, coastal grazing was an unfamiliar prospect for many of the livestock

farmers. With the help of these pilots, farmers were able to familiarise themselves with and become interested in the management of coastal meadows through the positive experiences of others.

In the early stages, in addition to the landscape management objectives, one of the key objectives was in fact to establish coastal pastures as widely as possible throughout the whole coastal area. These pilot areas serve as attractive examples and encourage farmers and agricultural entrepreneurs to establish new pastures.







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*The project relies on the local livestock farmers and their suckler cows. Photo: Saara Pouta*

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*A key objective of the project has been to secure and manage the landscape and its biodiversity through the direct input of local farmers. Photo: Marika Laurila*

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## Cooperation leads to impressive outcomes

In practice, approximately 50 local farmers are responsible for the management of the coastal meadows. The farmers are very committed and motivated to managing the land for which they are contracted. The agri-environmental support has been absolutely crucial. Without an attractive and effective compensation system, the management could not be implemented on the current scale. Agri-environmental support for nature and landscape management is economically important to the agricultural entrepreneurs involved in the project and has a positive effect on the regional economy.

In specific areas in which management has not been possible through agri-environmental support, the measures are instead carried out by local nature conservationist NGO's, hunting associations or the environmental authorities.

In addition to the landowners and farmers, central to the success of the project are the nature conservation authorities and agricultural authorities of the ELY Centre (Centre for Economic Development, Transport and the Environment). Their role as experts and funders is to set targets for site-specific management. Another key actor is ProAgria, an organization providing expert rural advisory services. The organization has a grass root level role in the planning of the measures but also in providing advice which helps to market the meadow management.



# Site-specifics in mind

Management is planned for each meadow site individually, taking into account the respective characteristics of each area. In practice, the farmer responsible for the site in question sends a management plan as an appendix to the application for agri-environmental support. The ELY Centre evaluates the management plans and, where necessary, suggests changes to the proposed measures and practices. A visit at the site is usually carried out in connection with the evaluation of the application, during which the adequacy and appropriateness of the proposed measures and any needs of change are determined.

The coastal meadows are managed both through grazing and through use of machinery. Grazing is often the best management method for areas with valuable biodiversity. Grazing also promotes the welfare of the grazing animals, as they are able to express their species-typical behaviour.

Approximately 90% of the total area to be grazed in the project area is managed by suckler cows and their calves. Sheep are also used in the management of the coastal meadows. They are particularly suitable for grazing low-yielding and erosion-sensitive sandy beaches, moors, and dunes.





*Grazing is often the best way to manage coastal meadows. Photo: Jorma Pessa*



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*The landscape and nature have been managed through long-term and extensive cooperation. Photo: Kalle Hellström*

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# Management and protection

Management of the coastal meadows is planned alongside the establishment of protected nature reserves. In fact, the majority of managed coastal meadows are also protected areas. The decisions to establish protected nature reserves have directly included the possibility of grazing and mowing the areas, as well as carrying out the necessary basic restoration measures in accordance with the approved plan. Solving management and conservation issues in the same context has often made it easier for both landowners and authorities to make potentially difficult conservation decisions.

The coastal meadow landscapes and their natural values are also safeguarded by other official measures like the regulation and supervision of ditch drainage and dredging projects.

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*The area is home to many endangered species that have benefited from the management of the coastal meadows. Photo: Kari Koivula*

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*The success of the project means that the traditional and uniquely extensive coastal meadows have been restored to their former glory. Photo: Jorma Pessa*

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# Magnificent 4 000 hectares of coastal meadows under management

At the start of the project in the early 1990s, there were only about 200 hectares of coastal meadows managed by grazing or mowing.

After the basic restoration work carried out with LIFE funding at the beginning of the project, two grazing pastures with a total area of 170 hectares were established in the pilot area of Pitkänokka in the municipality of Lumijoki. The success of these pilot areas inspired more and more farmers to become interested in coastal grazing, and the pasture volume increased rapidly. By the early 2000s, there were already more than 1,000 hectares of coastal pastures in the core areas of the Bothnian Bay. Since then, the volume has increased steadily and demand for suitable pasture areas has sometimes exceeded the supply.

The objective of the Centre for Economic Development, Transport and the Environment has been to systematically increase the size of the managed area. Currently, there are over 4,000 hectares of managed coastal meadows.

Both the regional coverage and the connectivity of the managed areas have increased significantly during the project. The different sites in the project area have become significant functional and diverse management entities, in which different types of natural habitats and diverse wetland organisms form unique ecological combinations.



# Landscape management benefits everyone

The benefits of the Bothnian Bay Coastal Meadows Management Project have not only been felt within the landscape and nature of the region. The project has benefitted also the tens of thousands of citizens who visit the sites each year, the local residents, hunters, nature enthusiasts, and researchers. The Liminganlahti Visitor Centre for nature tourists is located at the heart of the managed coastal meadows, at the Liminka expanse's nationally valuable landscape area. At the Visitor Centre a wealth of Finnish and international visitors (more than 50,000 visitors per year) have access to the Bay of Liminganlahti landscape and the nature of the grazing areas itself, as well as to information on the multidimensional significance of the management of the coastal meadows.

The Bothnian Bay coastal meadows are included in the habitat categorisation of the European Union's Habitats Directive for boreal coastal meadows in the Baltic Sea. 60% of the habitats total area in Finland is located at the project area. Thanks to the project's

restoration and management measures, the status of the habitat type has been improved from unfavourable-bad to favourable.

The importance of the project area for wetland birds is very high due to the extensive coastal meadows, low growing and high-yielding avian wetland habitats, and the large agricultural areas associated with them. For several wetland bird species, many of which are endangered, the project area is Finland's most important breeding or migratory staging area.

The distinctive plant communities of the coastal meadows reflect the exceptional combination of ecological conditions in the Bothnian Bay. Plant species found on the shores of the Arctic Ocean and the White Sea, native plants in the Gulf of Bothnia, and rarities found in salt marshes continue to be species typical to the coastal meadows. Many of these are categorized as threatened.



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*Every year, tens of thousands of visitors engage with the landscapes of the project area and their management.  
Photo: Jorma Pessa*

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*In the Bothnian Bay Coastal Meadows Management Project, the landscape and nature have been managed through long-term and extensive cooperation. At the beginning of the project, an operating model for the management of coastal areas was developed. With the help of the pilot sites, the model has been expanded to cover the entire project area.*

*At the start of the project, the area of valuable coastal meadows covered by the management was only 200 hectares. Thanks to the project and the farmers, a total of 4,000 hectares of overgrown areas have already been restored and returned to grazing.*

*The project shows that far-reaching results can be achieved in nature management through cooperation between environmental and rural authorities and local livestock farms and rural entrepreneurs. The ongoing project will serve as an example for other landscape and nature management measures.*



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Miljöministeriet  
Ministry of the Environment



Centre for Economic Development,  
Transport and the Environment

Cover photo: Mika Kastell. Visual layout: Niina Silvasti, Visual Monkey.

