

**GENERAL DESCRIPTION OF THE SITE****Name:** Nordby Bakker (H182)**Total site surface area (ha):** 628 **NUTS region code:** DK00D
Project site surface area (ha): 628**Community protection status:** SPA¹ ○ **NATURA 2000 Code**
pSCI ⊕ **NATURA 2000 Code:** DK00DX263**Other protection status:**

Partly protected under the general provision for nature types of the Act on Nature Conservation (§ 3);

Specific protection measures according to six different Conservation Orders apply to 88% (553 ha) of the pSCI. The primary aim is to conserve the landscape and biological values by preventing or restricting summer cottage areas, afforestation and cultivation.

Scientific description of site:

Site Nordby Bakker is situated on the northeastern part of the Island of Samsø, which lies in the Southern part of Kattegat. The site is thus situated in the sub-continental vegetation zone with low precipitation and a high number of sun hours.

The site consists of a hilly moraine terrain with sea cliffs and erosion valleys on the west and north side of the island. It is covered with one of the largest areas of commons or dry grasslands in Denmark and holds almost half of the area of habitat type 6120* Xeric sand calcareous grasslands within NATURA 2000 areas of Denmark and large areas of 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites). Major parts of the site has never been cultivated.

Importance of the site for the conservation of the species/habitat types targeted at regional, national and EU level (give quantifiable information wherever possible):

The site is of national and community importance because of the large proportions of priority habitat types in this site, especially 6120*. The dry grassland areas of the site are among the finest examples of these habitat types in Denmark

¹ SPA= special protected area pSCI= potential sites for community interest



MAP OF THE SITE OR SITES

The map or, where relevant, maps, at a scale of 1:100.000 (or more precise if necessary).

They must show the following information :

- for Member States - the boundaries of the area proposed by the Member State under the Habitats Directive or classified under the Birds Directive. Always verify with the competent national authorities, that the boundaries you have are the official one for the sites targeted
- for 2004 accession countries and candidate countries – the boundaries of the protected area
- the boundaries of the project area
- the location of the principal actions listed in section C of the form

 *This map can be presented on a format larger than A4, if necessary.*

Map no:

7.1: Project area and pSCI.

7.2: Current distribution of targeted habitats.

7.3: Ownership.

7.4: Location of management and restoration.

7.5: Areas grazed; currently and foreseen at end of project.

THESE MAPS ARE CONSIDERED AS BEING AN ESSENTIAL PART OF THE APPLI-
CATION.

THEY MUST BE OF GOOD QUALITY, SHOWING THE SCALE, AND CONTAIN ALL THE
REQUISITE INFORMATION LISTED ABOVE.



HABITATS DIRECTIVE ANNEX I {AND BERN CONVENTION RESOLUTION N° 4 (1996)} HABITAT TYPES PRESENT IN THE SITE AND DIRECTLY TARGETED BY THE PROJECT

- Priority ? :** *Tick if the habitat type is a priority one according to Annex I of the Habitats Directive.*
- Code :** *Use only the NATURA 2000 codes (for habitats only listed in the Bern Convention resolution use the corresponding code)*
- Name :** *Name of the habitat type according to the Habitats Directive (or the Bern Convention resolution).*
- % :** *% cover of the habitat type over the whole project site.*

Priority	Code	Name	%	Comments (conservation status, etc.)
DIRECTLY TARGETED HABITATS DIRECTIVE ANNEX I HABITAT TYPES				
X	6120	* Xeric sand calcareous grasslands	2*	Cover: 15 ha Representativity: A, Relative surface: A, Conservation status: A, Global assessment: A Inside project area 24 ha.
	6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	15*	Cover: 94,2 ha Representativity: A, Relative surface: B, Conservation status: A, Global assessment: A Inside project area 135 ha.
X	6230	* Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	1*	Cover: 5 ha Representativity: B, Relative surface: C, Conservation status: B, Global assessment: B Inside project area 2 ha.
CANDIDATE COUNTRIES: DIRECTLY TARGETED HABITAT TYPES ACCORDING TO THE BERN CONVENTION RESOLUTION N° 4 (1996)				

* The percentages given is relative to the **total** area of the pSCI. Information of the FFH representation inside the project area is listed in the "comments" column.



HABITATS DIRECTIVE ANNEX II {AND BERN CONVENTION RESOLUTION N° 6 (1998)} SPECIES PRESENT IN THE SITE AND DIRECTLY TARGETED BY THE PROJECT

G : *GROUP: M=Mammals, A=Amphibians, R=Reptiles, F= Fish, I=Invertebrates, P=Plants*

Priority ? : *Tick if the species is a priority one according to Annex II of the Habitats Directive*

DIRECTLY TARGETED HABITATS DIRECTIVE ANNEX II SPECIES						
G	Priority	SCIENTIFIC NAME (IN LATIN)	POPULATION SIZE FOR THE SITE (quantitative estimates)			
			RESIDENT	MIGRATORY		
				BREEDING	WINTERING	STAGING
CANDIDATE COUNTRIES: DIRECTLY TARGETED SPECIES ACCORDING TO						
Comments (conservation status if known, other listed species that will benefit ,etc) :						



**BIRDS DIRECTIVE ANNEX I {OR BERN CONVENTION RESOLUTION N° 6 (1998)}
SPECIES PRESENT IN THE SITE AND DIRECTLY TARGETED BY THE PROJECT**

Priority : *Tick if the species is a "priority for funding under LIFE" according to the ORNIS Committee (see list in Annex 2 of this brochure).*

Priority	SCIENTIFIC NAME (IN LATIN)	POPULATION SIZE FOR THE SITE (quantitative estimates)			
		RESIDENT	MIGRATORY		
			BREEDING	WINTERING	STAGING
DIRECTLY TARGETED ANNEX I SPECIES OF THE BIRDS DIRECTIVE					
CANDIATE COUNTRIES: DIRECTLY TARGETED SPECIES ACCORDING TO THE BERN CONVENTION RESOLUTION N° 6 (1998)					
OTHER MIGRATORY SPECIES DIRECTLY TARGETED BY THE PROJECT					
<p>Comments (conservation status if known, other listed species that will benefit etc) :</p>					



MAIN THREATS TO THE HABITATS/SPECIES TARGETED WITHIN THE SITES INVOLVED IN THE PROJECT

Threat 1:

Name of the threat:

Lack of grazing or inappropriate grazing regimes.

Description:

Traditional husbandry grazing has almost ceased in dry grasslands in Denmark. Most semi-natural grassland fragments are less attractive for grazing as they represent small distant places with relatively high cost of fencing and water supply for the livestock. On dry grasslands with lack of grazing or insufficient grazing pressure an overgrowth will take place, initially with tall grasses and herbal species invading from nearby areas including non-native species but also an initial overgrowth with scrubs and trees such as *Rosa sp.*, *Prunus spinosa* and *Abies alba*.

The microclimate will change resulting in unfavourable changes to the composition of the plant community and especially to the abundance of key plant species as well as insect species associated with the vegetation of open dry grassland. Summer grazing at a very high grazing pressure may be detrimental too. Although it may help controlling for potentially dominant herbs and grasses, this will often be at the expense of sensitive plant species and invertebrate species depending on flowering vegetation.

Location: (if relevant)

Impact on habitat/species (quantify if possible)

Grazing are needed for 130 ha of dry grassland at this site

Characteristic plant species of the present dry grassland habitat types and belonging to the sub-continental vegetation as *Orchis morio*, *Lathyrus sphaericus*, *Medicago minima* and *Petrorhagia prolifera*, are in danger of local extinction.

Threat 2:

Name of the threat:

Encroachment with woody species (shrubs and trees)

Description:

As a result of the influence of threat 1 'Lack of grazing or insufficient grazing pressure' overgrowth with shrubs and trees over a maximum acceptable threshold have taken place. As a consequence of reduced grass cover, grazing has ceased completely and a succession towards closed forest proceeds rapidly.

Overgrowth has been categorised into four degrees of overgrowth:

Overgrowth degree I: 5-25% cover of shrubs and trees

Overgrowth degree II: 25-50% cover of shrubs and trees

Overgrowth degree III: 50-75% cover of shrubs and trees

Overgrowth degree IV: > 75% cover of shrubs and trees

Location (if relevant)

The location of areas with overgrowth is show on the site map



Impact on habitat/species (quantify if possible):

Impact on at this site from overgrowth:

Overgrowth degree I: 211 ha

Overgrowth degree II: 0 ha

Overgrowth degree III: 16 ha

Overgrowth degree IV: 13 ha

Threat 3:

Name of the threat:

Invasion of non-native woody species into grassland vegetation, deriving from plantations or naturalised populations adjacent to areas of dry grassland

Description:

Throughout the country and especially on land less favourable for intensive agricultural use (i.e. dry grassland, heath-land or infertile sandy soils) plantations mostly consisting of non-native coniferous tree species have been established through the last 50-100 years. The plantations were established with the purpose of providing shelter for game species, protection from strong winds and shifting sand and to a lesser degree for timber and wood production.

These plantations are a permanent source of seeds from non-native tree species that due to their location is a permanent threat to nearby dry grasslands. In addition, a number of invasive woody species have been particularly successful invaders of dry grassland localities, most notably *Sarothamnus scoparius* and *Rosa rugosa*, but also, on calcareous soils, *Berberis vulgaris*.

Location: (if relevant)

The location of plantations to be removed is show on the site map

Impact on habitat/species (quantify if possible)

Plantations of non-native tree species of the size 5 ha located adjacent to the dry grassland.

Threat 4:

Name of the threat:

Fragmentation of dry grasslands

Description:

In Denmark remnant patches with natural and semi-natural dry grasslands habitats are mostly located as long narrow strips on the slopes of river valleys, along the coast or on hill ridges. This characteristic has made dry grasslands especially vulnerable to fragmentation caused by conversion of segments hereof into arable land, use for plantations, unintended loss of fertiliser or pesticides from adjacent rotational fields or intensification of the use for grazing by application of fertilisers and/or pesticides.

Fragmentation causes one ore more of the following effects:

Populations of characteristic species (key species) becomes smaller and are in risk or local extinction

Re-colonisation of locally extinct species is prevented by increased distance to the closest remnant population.

The unfavourable borderline/area ratio gives rise to greater impact from adjacent areas of arable land where pesticides and fertilisers are applied.



The dispersal of seeds by grazing animals becomes restricted as the movement of these animals becomes more and more restricted.

Location: (if relevant)

The location of areas to be restored into dry grassland are show on the site map

Impact on habitat/species (quantify if possible):

Former dry grassland located adjacent to the dry grassland habitat areas.

5 ha of presently plantation

Threat 5:

Name of the threat:

Low or no support for the conservation of dry grassland among landowners and the public

Description:

There is among landowners and their professional organisations as well as among the public in general a low level of understanding of the crucial importance of the unique qualities of dry grasslands. That goes both for their characteristics as habitat types as well as for their contribution to the conservation of biodiversity in Denmark and Europe. Dry grasslands does not have such spectacular appearances as other habitat types, and there is thus a need for promotion of the assets of dry grasslands among landowners and in the local communities in order to gain support for their conservation.

Location: (if relevant)

Not relevant

Impact on habitat/species (quantify if possible):

The future protection of dry grassland habitats in Denmark will depend to a large degree on the cooperation between nature managers, experts and local landowners. The valuable grassland area is divided on a very large number of small remnant grassland fragments, and conservation efforts can thus not be focused in a few large reserves. The limited knowledge basis of local landowners is considered a serious constraint to a successful future conservation of grassland habitats.

Threat 6:

Name of the threat:

Insufficient management capacity

Description:

There are shortcomings in the capacity of staff of the counties nature conservation departments responsible for managing privately owned land and of the state forest districts of the Danish Forest and Nature Agency responsible for government owned land concerning management of dry grasslands. There is a need for training in the range of adequate management techniques and up-to-date knowledge on the latest research results as well as an exchange of experience between managers.

Location: (if relevant)

National level

Impact on habitat/species (quantify if possible):



Insufficient capacity concerning management methods will lead to delays in implementation of adequate conservation measures and possibly introduction of inappropriate management measures.

Threat 7:

Name of the threat:

Adverse impacts from visitors (tourists)

Description:

At sites known to be visited by large number of people, either local or tourists, due to their natural beauty or proximity to major tourist attractions, deterioration is a threat to the favourable conservation status. Potential conflicts with visitors and grazing cattle, sheep or horses and the wear and tear from visitors might de-motivate farmers from providing livestock for an appropriate grazing of the grasslands or from entering into management agreements at all.

Location: (if relevant)

Impact on habitat/species (quantify if possible):

Large number of tourists will damage the sensitive vegetation by the tear imposed by their movements on the ground. Key plant species may be subject of illegal picking. Litter will be thrown. Grazing will not be optimal.



PREVIOUS CONSERVATION EFFORTS ON THE SITES IN QUESTION

The conservation orders for Nordby Bakker provides the County of Aarhus only with limited rights to perform nature management on privately owned land. In the northern part fences for sheep has been established at a 47 ha dry grassland area and some clearings of *Sarothamnus scoparius* has been made.

Parts of the areas of the site (143 ha) was acquired by the Danish Forest and Nature Agency in 1976. Today the Danish Forest and Nature Agency owns 250 ha of the site. The management of the government owned land aims to re-establish grazing regimes. Agreements on grazing are made with local tenants. The local State forest district prepares the areas for grazing by clearing of bushes and trees provision of water supply and gates.

THE SOCIO-ECONOMIC CONTEXT OF THE PROJECT

The pSCI and the project area is both publicly and privately owned. Aarhus County is managing the privately owned land. The government owned land is managed by the local Silkeborg forest district. The two authorities have and will cooperate closely on the management of the site. The local State forest district has regular consultations with local municipalities, NGO's and landowner's organisations in an Advisory Board concerning the management of all areas under its responsibility. The Advisory Board will be consulted during implementation of the project.

Some of the private landowners has been contacted by the county and are positive towards removal of overgrowth and re-establishing of grazing. Please refer to form 25 note concerning possible constraints on the project due to socio – economic matters.

Samsø is visited by approx. 500.000 tourists a year. According to the local tourist office almost all of them visits the pSCI Nordby Bakker - one or more times. The State forest district, the County of Aarhus and the Municipality of Samsø cooperates on providing access facilities at the site as paths, information, parking lots and picnic areas.

The site holds large quantities of ground water suitable for drinking and the competent authorities in that respect Aarhus County and Samsø Municipality seeks to protect this resource by promoting environmental friendly agricultural practices thus creating synergy with efforts to conserve the dry grassland habitat types.

In a cooperation between the County of Aarhus, Ministry of Food, Samsø Municipality and Farmers organizations the Danish Forest and Nature Agency elaborated in 1990 a plan for acquisition of land on Northern Samsø. The purpose was to provide for an efficient nature management and public access to the area. The plan concerned some 100 ha of land and was approved by the Parliament financial committee in 1990.

Purchase of land is not a part of this application. However should the project be co-funded by LIFE-Nature, the Danish Forest and Nature Agency will give high priority to a number of land purchases that supports the same objectives as this project for Restoration of Dry Grasslands of Denmark along the following guidelines:



Acquisition of land for the purpose of reducing the impact from intensified agricultural practices, improving of public access and possibilities for enjoyment of nature and landscape at Samsø.

The following principles will be used in selection of areas to be bought:

Establishment of adequate grazing and clearing of larger or biologically valuable areas

- Establishment of coherence from a biological and landscape perspective between nature areas already under proper nature management
- Clearing of coniferous plantations located near the coast, which disturbs the larger structures of the landscape and deteriorate the visual experience of the moraine landscape
- To provide public access in the area
- To protect the ground water for use as drinking water

On the basis of these principles the possibilities for acquisition in the following localities will be subject of special attention

a. Busdal locality

Acquisition shall assist in the adequate management of valuable dry grasslands and connect Møgelskår with the Busdal/Mårup locality by way of common grazing and extensification of cultivated areas.

The dry grasslands under a grazing regime in the southern part are overgrown and under varying grazing pressures. This locality has a very high botanical diversity and holds some very valuable hillsides. A few intensively near-shore cultivated areas exists in the the northern part. The coherence of the landscape and nature is disturbed by a unsightly elongated coniferous plantation, which should be cleared for the sake of landscape and nature. The locality should be enlarged relative to the existing plan for acquisition by adding some connecting grassland areas.

b. Ballebjerg locality

acquisition can assist in the establishment of a better coherence of nature and in particular landscape north and westwards Ballebjerg. The locality consists of a number of narrow parcels under different management. Some parcels are covered with coniferous plantations, some are overgrown others are grazed. The government already owns multiple separated parcels in the northern part and close to Ballebjerg proper, which attract many visitors.

The locality is highly valuable from a recreational and landscape point of view. Clearing of near shore plantations and common grazing regimes have a high priority.

c. Thomasmindel locality

Acquisition can assist in creation of a coherent nature by extensification and well controlled grazing. The major part of the locality is permanent grassland. A couple of cultivated parcels exists and should be made extensive.

d. Issehoved locality

Acquisition can assist in establishment of a better coherence in nature between the localities of Issehoved and Thomasmindel. The locality hosts a population of *Orchis morio*, showing fluctuating numbers. Acquisition can assist the maintenance of an adequate management of the incl. common grazing of the cliffs thus securing the habitat of the species and its dispersal.



The heavily unsightly triangular pine plantation in the northern part should be cleared in the case of acquisition. The northern part of the locality has the highest priority. The areas for acquisition should preferably be enlarged with the southern part of Kragemosen locality, where the government already owns the northern part plus the grasslands and cultivated parcels on both sides of the Issehoved Road.

RELATION BETWEEN THE PROPOSAL AND OTHER EU FUNDS

See Form 26 Complementary of other EU Funds



GENERAL DESCRIPTION OF THE SPECIES TARGETED

Name of the species:

Ecology of the species:

General distribution of the species at European and national level and population trends:

Size of the population target by the project (e.g. n° of individuals, % of European and/or national population):

Main threats to the population targeted:

Threat 1:

Name of the threat:

Description:

Impact on species:

Threat 2

Etc.

Conservation measures already taken or proposed for the species at Community or national level :



PROJECT AREA AND SOCIO-ECONOMIC CONTEXT

Brief description of the project area:

Socio-economic context:

Relation between the proposal and other EU funds