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Programme

BIOSPHERE RESERVE NOMINATION FORM

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Moen Biosphere Reserve Application



MØN
BIOSFÆRE

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Vordingborg, September 2016.

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BIOSPHERE RESERVE NOMINATION FORM

[2016]

PART I

Moen Biosphere Reserve Application

1. PROPOSED NAME OF THE BIOSPHERE RESERVE:

Moen Biosphere Reserve

2. NAME OF THE COUNTRY:

Denmark

Introduction:

The aim of this application is to describe the vision of developing Møn, the surrounding water areas and islands as the first biosphere reserve in Denmark, since Northeast Greenland joined the UNESCO Biosphere Network in 1977.

Our vision is, that the proposed Moen Biosphere Reserve becomes a worldwide known example of sustainable managed coastal nature in the southern Baltic Sea, with the international Geosite Møns Klint as the primary nature mark. We want to test and demonstrate methods to reconcile the conservation of biodiversity with its sustainable use by developing the “wild” and the “quiet” nature. The foundation for the islands future economy will be based on its richness of species, unique nature and its valuable cultural heritage. Eco tourism with focus on accessibility and health, an efficient local community with all ages represented, education, training and new sustainable jobs will contribute to the future economy of Moen.

The proposed Moen Biosphere Reserve is a small enclave with connection to the international motorway, which stretches between the European cities of Copenhagen, Malmoe, Hamburg and Berlin. A group of small islands, where city people still can come close to the elements and forces of nature: the wide Baltic Sea, the white majestic cliffs and the magnificent starry sky.

The potential for Møn to be member of the UNESCO Biosphere Network can be demonstrated at several levels.

The proposed Biosphere Reserve Moen constitutes 450 square kilometres and includes most of all Danish types of nature. The white cliff of Møns Klint, with its spectacular glacial thrust flakes of chalk, has a natural potential of national and international importance. Its hinterland consists of woodlands, pastures, ponds and steep hills, including the Aborrebjerg, which, with a height of 143 m, is one of the highest points in Denmark. A variety of rare plants, up to 18 different orchid species, red-listed birds such as the Peregrine Falcon and the Red Kite and not less than 112 red-listed species of fungi, where 11 species has not been found elsewhere in Denmark, can be found. In the north west of Møn, the peninsula Ulvshale represents a constantly changing landscape type, built of beach riches of flint stone pebbles, driven by sea currents all the way from Møns Klint. On sea level the meadows of Nyord provide 400 hectare of tidal grassland, which comprises resting and breeding places for thousands of migratory and breeding birds. Stege Nor, a coastal lagoon is an EU priority, as it is one of the few places in Denmark that has a habitat for brackish water pikes. The stone reef Bøchers Grund, located in the South, is a habitat for a rich fish and seabed fauna. Moreover the candidate Moen Biosphere Reserve is also known as having the darkest night sky in the region, where one actually can see through the Milky Way, to the next galaxy.

The proposed biosphere area includes four Natura 2000 sites and parts of a fifth spread over both, the core areas and the buffer zones. Together they make up 19.299 hectare of the Moen Biosphere Reserve, corresponding to 42 %. The Nature 2000 sites include 6 EU-habitats, one only partial, an EF- bird protection area and parts of a Ramsar area. Furthermore, the area includes two nominations of international geological interest (GeoSites), four National Geologic Sites of Interest (NGI) and four National Coastal Landscapes (NK). Parts of two wildlife sanctuary areas are also included in the total biosphere.

The cultural heritage of diverse and exceptional cultural monuments is cherished and protected. The 119 megalithic tombs are preserved and date back from the prehistoric Denmark. Among the more than 60 megalithic tombs, known only in the Western part of Møn, three are of national importance: the passage graves "Klekkende Høj", "Kong Asgers Høj" and the long barrow "Grønsalen". Medieval life and heritage are preserved in Møn's beautiful churches, decorated with unique frescoes and the market town Stege with its ancient city gate, ramparts and the church. Liselund Park is one of Scandinavia's most famous romantic parks. Established in the Age of Enlightenment, the park is located directly next to the wild nature of the White Cliffs of Møns Klint. The Age of Industrialization has been the hallmark of nearly all the Danish islands in the last 100 years and it includes agriculture, sugar industry and fishing ports. Where previously agriculture and fisheries were able to feed the majority of islanders - today's modern society requires individual flexibility, commuter jobs, expanding Internet access and innovation in the labour market.

The population on Møn is known to be active and creative. They preserve and protect the nature and the cultural heritage. At the same time a broad scenery of modern contemporary art and culture is flowering, with an international exhibition hall, a yearly world literature festival and a Theatre High School. The community hosts many activities for both the youth and the elderly, and not least the elderly are very active to lend a hand where it is needed.

The proposed Moen Biosphere Reserve has the potential of becoming a national, as well as a Scandinavian model area. It documents life on the smaller islands, where people are moving closer together to create new forms of small-scale sustainable businesses, which thrives with the creation and preservation of a world-class nature. It is our belief, that life on the countryside close to the seasons creates important experiences that need to be protected. The wild ocean, the quiet inlets and the dark sky filled with stars should be conserved, as it is something that modern man needs to experience first hand. That "need" will be met by creating a green profile



with a sustainable economy on Møn and the surrounding islands by the proposed Moen Biosphere Reserve.

The background:

The Biosphere Programme is seen as the framework that is needed to kick-start the sustainable future project on Møn and the surrounding islands.

Denmark is a small country with a high proportion of intensively cultivated cultural landscapes, a long coastline and lots of islands, but only a few areas of pure and untouched nature. The proposed Moen Biosphere Reserve is a unique example of Denmark's coastal nature, where the forces of the Baltic Sea to this day form a nature and landscape along a various coastline. A couple of actions have been initiated during the last years in order to promote and protect the islands green profile, such as reserves of tidal meadows; untouched forests, founded on previous flint industrial areas; common forests, which operations are based on the rejuvenation of the forest; afforestation that creates corridors for wildlife and plants; nature management and grazing projects; preservation of wetlands with a certain protection of brackish water pike and restoration of streams; initiatives to the conservation of the dark sky and mitigation of light pollution. The wish is to gather and target this even further with the UNESCO Biosphere Reserve as the overall umbrella organization.

The green conversion contains the potential for new sustainable jobs. It will discourage immigration, which occurs due to the loss of traditional jobs. Good opportunities arise for entrepreneurship in local production combined with nature conservation, nature tourism and service industries. Moreover an opportunity to create new partnerships with the educational system such as schools and colleges is expected. Hopefully this will attract families with children to offset the demographic trend that is currently elderly dominated.

The proposed plan will meet people at eye level and implement projects in close cooperation with businesses and grassroots.

Furthermore the nomination as UNESCO Biosphere Reserve will generate interests for research projects on the islands within nature and biodiversity as well as rural development and sustainable tourism. It is therefore with certainty that the proposed Moen Biosphere Reserve will contribute knowledge and experiences to the national rural development.

Also some international cooperation steps have been taken. Two EU-projects focus on the experiences below the surface of the Baltic Sea and on sustainable tourism. Moreover Møn is designated as one of 20 national special resorts, which has led to the adoption of a local potential plan for coastal tourism on Møn, dealing with the natural resources that are unique to the island. Another group of local stakeholders is working on an application to get Moen and Nyord certified as an international Dark Sky Park and Community.

Public involvement and national anchoring

The status as a UNESCO Biosphere Reserve will support local involvement and create pride in the area. Therefore, a local interdisciplinary biosphere partnership has been developed, including representatives of authorities, organizations, businesses, associations and volunteers. The partnership will promote a "win- win" solution for people and nature.

In Vordingborg Municipality a particular method of citizen participation is being used, it is called Participatory Democracy. Local councils with citizen involvement have been elected, also concerning the proposed biosphere project areas. The four local councils of the proposed Moen Biosphere Reserve have already committed to the local partnership.

The Biosphere Reserve will offer young people and adults an extended knowledge of nature through environmental education, hands-on experience and establish support to projects that many of the grassroots work with today. This will be done through nature guidance and Outdoor school activities in close collaboration with private and public schools and institutions. In order to support these types of teaching targets, a demonstration project for nature preservation and local production will be developed on the island Nyord. The place may become the physical frame for scientific research, teaching, job training and the public mediation of UNESCO's Biosphere concept.

Furthermore there will be a certain focus on health and accessibility, led by a public ranger who uses nature as a room for prevention, rehabilitation and stress treatments.

The proposed Biosphere Reserve Moen will create sustainable quality experiences for nature and culture lovers, without destroying the natural resources used. This application will tell about tourism-related development projects with a focus on sustainability.

Already today the resources from the municipality are supporting many of the local grassroots activities, organized in various associations such as geology, astronomy, nature conservation, ornithology, medieval fauna, history, veteran ships and sport. The value of local society's contribution is of high importance and through this it will be ensured that the islands unique natural and cultural values will be preserved for future generations.

The proposed Moen Biosphere Reserve Moen is part of the Municipality of Vordingborg. The development of the islands green profile is a direct extension of the municipality's Vision 2030. The Region of Zealand supports the Biosphere project on Møn and looks forward to an exciting and interesting collaboration with other UNESCO initiatives in the region, as the Geopark Odsherred and World Natural Heritage Site Stevns Klint. The Danish government supports the candidacy of Moen as Biosphere Reserve by the Ministry of Children, Education and Equality. The Danish National Museum, who is the manager of the Liselund Park, supports the Moen Biosphere project, and the Nature Agency, the local unit of the Ministry of Environment and Food of Denmark, is responsible for the management of the national owned part of the designated core area.

The proposed Danish Moen Biosphere Reserve will support UNESCO's Man and the Biosphere (MAB) Programme and its World Network of Biosphere Reserves (2016-2025), through following initiatives, described in the "Lima Action Plan" (17 March 2016):

- A1.1. Promote the Moen Biosphere Reserve in Denmark as a site that actively contributes to achieving the Sustainable Development Goals (SDGs)
- A1.3. Establish alliances at local, regional, international levels for biodiversity conservation and benefits to local people
- A1.5. Promote green/sustainable/social economy initiatives inside the Moen Biosphere Reserve
- A1.6. Undertake research and ensure the long-term conservation of the socio-ecological systems of the Moen Biosphere Reserve
- A2.2 We will ensure the Moen Biosphere-Reserve is open and participatory, involving all concerned stakeholders, taking into account local practices, traditions and cultures.
- C3.2. The Moen Biosphere Reserve will promote partnerships to raise funds from external entities with objectives that are compatible with those of the MAB Programme, e.g. by applying for projects within the EUs Interreg and South Baltic funding programs.
- C4.2. Create opportunities for collaboration and partnerships with private sector which are open, accountable and sustainable
- C5.1. Create opportunities for projects and activities funded by national and regional funding
- C7.2. Use the brand in products and services in line with national guidelines
- C8.1. Encourage joint promotion and marketing of Biosphere reserve products and services among and beyond the biosphere network.

- D1.1. Implement the open access, established to MAB documents data, information and other materials
- D2.2. Implement the communication action plan, worked out by the MAB secretary
- D3.1. Use social media and other novel information and communication technologies

3. FULFILLMENT OF THE THREE FUNCTIONS OF BIOSPHERE RESERVES:

3.1 Conservation - contribution to the conservation of landscapes, ecosystems, species and genetic variation.

The proposed biosphere reserve is located in the southeast part of Denmark with the western part in the leeward side of Zealand and the eastern part facing The Baltic Sea. The candidate covers both terrestrial and marine areas. The total shoreline is 185 km indicating it is an important feature in the area. The total area is approx. 450,000 ha (450 km²) and contains landscapes and biological values of international, national, and regional significance.

At the same time, the long continuity of land use in some part of the area has created vital conditions for many species of plant, animal, and fungi and the result of man's continued land use from ancient time until today is seen in the cultural landscape.

The geomorphology and geology of the area and the diversity of the waters from fresh, brackish and saline water have created unique environments for a rich biological variety containing a large number of red-listed species. The land use has in some part of the area created conditions for many species of plant, animal, and fungi as well as influenced on the cultural landscape in the area. There are also environments however, that contain species that are not conditioned by human activities.

The range of landscapes can roughly be divided into five distinctive types:

- The up-thrusted parallel moraine ridges extending up to more than 100 m lying in a N-S stretching belt in the eastern part of the proposal i.e. Høje Møn. The area is famous for its bright green beech forest but even more famous is the white cliffs facing towards The Baltic Sea, Møns Klint.
- The landscapes in the western part of the proposed area is characterized by a more common but still diverse Ice Age landscape with forms as ground moraine, end moraines, kames, hat-shaped hills, eskers and tunnel valleys. This landscape is mostly occupied by agricultural land.
- The third major type of landscape is the postglacial landscape. Isostatic uplift together with erosion and transport of material has created extensive areas of marine foreland, by deposition of beach ridges and land spits sometimes with creation of lagoons and coastal lakes. The latter in some cases has evolved into freshwater wetland or bog. This landscape holds a regionally important wetland area and an internationally important area for migration of species (birds).
- The fourth "landscape" is the marine area surrounding the whole of the terrestrial part and constitutes the boarder.
- The fifth landscape, the coastal landscape, represents the meeting of the sea by the land and consists of the 185 km long coastline with a variety of landforms representing the ongoing geological processes acting upon the coast.

The range of ecosystems, species and genetic diversity in the area can be summarized as follows:

Forest. Two of the forests in the proposal contain the highest content of species and red listed species – in the area as a whole and also on national level. In the forest Klinteskoven there are areas of beech woods on chalk-rich soil, as well as small areas of dry grasslands on calcareous

substrates, that have not been cultivated for hundreds of years – if at all. This also count for parts of the forest at Ulvshale which is an old, open grazing forest that now lies as untouched forest. Klinteskoven and Ulvshaleskoven are without comparison in Denmark. The beech forest at Klinteskoven is unusual in that the beech leaves retain their springtime pale green colour throughout the summer due to the calcareous nature. Klinteskoven has a unique combination of herbs, insects and fungi. Of fungi is 15 registered as critically endangered on the national res list e.g. *Entoloma hirtum*, *Cortinarius nanceiensis*, *Sarcodon scabrosus*, *Hydnellum caeruleum*, and *Hygrophorus poetarum*. The forest Ulvshaleskoven is a unique deciduous mixed forest with a large population of small-leaved lime (*Tilia cordata*) and the rare wild service tree (*Sorbus torminalis*). Large areas of the two forests is protected. Other valuable forest habitats occur in several places along the northern coast of Møn and in Fanefjords Skov in western Møn.

Wet grassland

On Ulvshale and Nyord are some of the largest natural marsh and salt meadows in the eastern part of Denmark. The activity of grazing animals provides important breeding grounds for many birds, especially waders and ducks, and a wide variety of plant life thrives here. The meadows



The island Nyord and the peninsula Ulvshale and the adjacent shallow sea provide one of the most important sites in Europe for migrating and overwintering ducks. The grassland on Nyord is an important breeding area for ruff (*Philomachus pugnax*), dunlin (*Calidris alpina schinzii*) and pied avocet (*Recurvirostra avosetta*).

Dry grassland

Jydelejet and Høvblege on Høje Møn have areas of grassland with a rich variety of plants and insects that is incomparable in Denmark. The calcareous nature of the subsurface and the continuity of grazing provide special conditions for plants and animals. The Red Listed butterfly, Large Blue (*Maculinea arion*), whose life cycle is adapted to grasslands habitat, has its only

remaining Danish breeding population on Høvblege. The area is Denmark's main orchid locality with 18 recorded species, one of these occurs only here in Denmark, Pyramidal Orchid (*Anacamptis pyramidalis*). Dry grassland occurs at several places in the biosphere reserve but these areas are generally being reduced in both size and quality.

Freshwater wetland

Busemarke Mose is a representative for the freshwater wetland ecosystem and is the largest bog in the biosphere candidate, formed when beach ridges cut off a small cove of Hjelms Bugt (bay), forming a coastal lagoon in the hinterland. An area of 242 ha is designated as SAC; Busemarke Mose and Råby Sø (lake). The Desmoulin's whorl snail (*Vertigo moulinsiana*) constitute the basis for the designation of the area as SAC.

Of the nature types found in Busemarke Mose; alkaline fens and calcareous fens with *Cladium mariscus* are the first rare, the second are among habitats prioritized according to the Habitat Directive.



Busemarke Mose.

The area is known for a large number of bird species that breed or raster here throughout the year, such as Water rails (*Rallus aquaticus*), Bearded tit (*Panurus biarmicus*), Eurasian penduline tit (*Remiz pendulinus*), Crane (*Gruidae*) and Grasshopper warblers (*Locustella naevia*).

Coastal areas

Coastal cliffs can be recognized as one of few areas of undisturbed nature in Denmark. Møns Klint representing the abrasion coast has, because of its fundamental geological character and the action of the sea, a complete set of types of nature that have been, and still are, almost completely uninfluenced by human activity. The steep cliffs are subjected to erosion on both small and large scales, which provides its own dynamic environment.

Unspoiled woods and small, grassy areas are under constant erosion on the cliffs, and new opportunities for colonization develop when landslides expose new chalk or moraine surfaces. There are many small springs that contribute to this process. Not only Møns Klint have a unique symbolic status representing Danish nature's splendours, one species has been breeding here since 2001 which also represents national and local pride is the peregrine falcon (*Falco peregrinus*). The other main type of coast is predominantly in the western part of the proposed biosphere reserve. In the hinterland of this coast type some of the wetlands have evolved. Locally the beach plain may be with many fossils out washed from the Cretaceous chalk.

The coastal area is a dynamic area where transformation of the coastline is a continuous process having huge influence on the species living here.

Farmland

This is not a habitat of much interest regarding wild species as it is mostly comprised of intensive arable cultivation and extensive agriculturally improved fields. But scattered in the farmland minor nature areas exist. These areas involve hedges, small lakes, marl pits, small bogs, small areas of grassland and fallow fields that together provide a variation in the exploited land and a refuge for the wild species. The hare (*Lepus europaeus*) and partridge are examples of species foraging here even though they are also popular for hunting, why there is substantial breeding and release of e.g. partridges.

Green spaces

This includes recreational areas such as the preserved moat and ramparts in Stege and Jordbassinerne (basins), an artificial lake area of 16 ha constituting a major nature area close to the main city and functions as a recreational green area for the citizen. Jordbassinerne was dugged in connection with the processing of beet in Stege Sugar Factory. Dirt was flushed from the beets and deposited in Jordbassinerne. Because of the basins high nature value area is protected today.

By the basins (Jordbassinerne) breeds e.g. Little Grebe (*Tachybaptus ruficollis*) and Great Crested Grebe (*Podiceps cristatus*). The species associated with green spaces are much the same as for built-up areas e.g. flowers like Ground elder (*Aegopodium podagraria*) and Dandelion (*Taraxacum* sect. *Ruderalia*), Common daisy (*Bellis perennis*) enjoys a different status or the mammal's House mouse (*Mus musculus*), Brown rat (*Rattus norvegicus*), European mole (*Talpa europea*) or European hedgehog (*Erinaceus europaeus*).

Marine areas

There are numerous and varied nature forms in the marine environment. Malurtholm, Ægholm, Små Ægholme and Sækkesand are the final destinations for much of material eroded from the cliffs further east as well as including coastal lagoons and large, shallow bays and inlets with sand banks and mudflats that become exposed at low tide. In this environment the Harbour seals (*Phoca vitulina*) breed and the White-tailed eagle (*Haliaeetus albicilla*) and Peregrine falcon (*Falco peregrinus*) are new breeding birds in the area. Eelgrass (*Zostera*) is an important benthic fauna.

There are several reefs in the sea offshore from the cliffs. These have not all been studied, but the reef in Hjelm Bugt (bay) has been designated SAC, Bøchers Grund. The extensive shallow areas in the western part of the biosphere reserve are, the ending place for material eroded from the cliffs further east. This deposition has given rise to a variety of features, Stege Nor is a large coastal lagoon that is partly isolated from the sea; this has provided good condition for Pike (*Esox Lucius*) and Perch (*Perca*) which are characteristic species of the brackish water. Stege Nor is also designated as SAC due to the prioritized habitat.

Summary

The proposed biosphere reserve is unique in many ways. The many shallow waters are, as mentioned above, internationally significant for migration for several bird species. This has led to designation of Ramsar site according to the Ramsar Convention. The legally protected areas within the candidate area strongly contribute to the long-term preservation of the area which comprises of 5 Natura 2000 Sites which occupy > 19,000 ha. The Natura 2000 sites include, besides the Ramsar area, 6 Special Area of Conservation (SAC) defined in the European Union's Habitats Directive and 3 Special Protection Area (SPA) designated under the Birds Directive. 2 wildlife reserves are also included in the proposal.

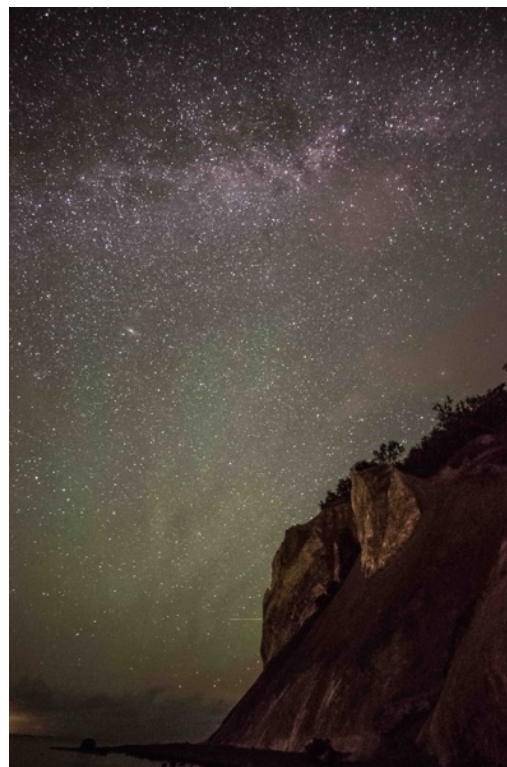
The cultural diversity and splendor is described in section 3.2.

Three themes are chosen to describe the proposed biosphere reserve: land, water and sky.

Land – is constituted by an archipelago with Møn as the largest island and the surrounding islands Bogø, Nyord, Farø, Tærø, Lindholm together with minor uninhabited islands and islets of approx. 250,000 ha (250 km²) and with around 10,000 inhabitants. The terrestrial area is for a large part farm land with smaller towns and scattered settlements. Two localities contain the majority of the area's diversity in species and habitats; Høje Møn and Ulvshale-Nyord.

Water – is the surrounding sea, characterized by shielded inner coastlines, with inlets and coves and bays facing towards Zealand and smoother, but unshielded and ever-changing coastlines facing the Baltic Sea. The water occur as fresh water in lakes and watercourses but the dominant part consists of shallow brackish coastal lagoon and bays and the more saline and deeper water in the Baltic Sea. The marine part accounts for nearly half of the proposed Biosphere Reserve by approximately 210,000 hectares (210 km²).

Sky – in academically terms, is not a part of the biosphere, but darkness is. The Biosphere candidate Møn applies for certification at the International Dark Sky Association as both Dark Sky Park and Dark Sky Community and want thereby to put the focus on the essence of also protecting darkness.



Current socio-economic activities

Møn and the surrounding islands are a part of Vordingborg Municipality. Besides the islands Møn, Bogø, Nyord, Farø and a number of islets, the municipality includes the southern part of Zealand, from the town Vordingborg down south to the town Præstø up north.

Several bridges provide access from the proposed biosphere area to the region of Zealand and the northern metropolis: the Farø bridges connect the proposed biosphere reserve to the motorway from Germany to Copenhagen and by the 'Øresund' bridge further on to Sweden. Queen Alexandrines bridge connects southern Zealand and Møn, while the Nyord bridge connects the small island with Møn and the Storstrøm bridge Zealand with Falster.



Vordingborg Municipality has, with its 385 km long stretch of coast, the longest littoral zone of all Danish municipalities. Møn, and the surrounding islands, is the municipality's tourism centre and attracts international visitors because of the white cliffs, one of Denmark's most important nature icons. The tourism revenue constitutes of approximately DKK 21 million per year with a estimated number of visitors about 550.000 million yearly, thereof approximately 350.000 overnight-stays.

Vordingborg Municipality contributes with 2,2 % of the overall national tourism turnover. The most important international markets are the neighbour countries: Germany, Sweden and the Netherlands.

Vordingborg Municipality is a so-called 'rural' municipality. The southern part of Zealand has got easy and fast access to the motorway and train connections – and offers therefore good opportunities for commuting. The municipality's islands, in particular the eastern part of Moen, have the same demographic development as the peripheral municipalities.

A study of the regional development in Denmark shows, that the population in these peripheral municipalities has decreased in the period between 2009-2013, and also that the population in the rural areas has dropped in this period. Therefore, in a relatively short historical run, it's safe to say that Denmark's peripheral areas have been struggling in the recent years. This is probably a result of the financial crisis, and the intensification of the relocation of big and intensive industrial companies abroad.

Big fluctuations are registered in the development of the population, distributed on different age groups. In the year 2026 Vordingborg Municipality can expect the number of inhabitants of the working-age (16-64) to fall with 9.6 %. In the same period does the number of people over 65 years of age rise with 26.8 %. Similar to the group of working people does the prognosis show a drop of children and youngsters. According to the forecast there will be a decrease with more than - 2,5 % in the area that is pointed out as the biosphere reserve: Bogø – 89 inhabitants (-7,3 %), Stege – 328 inhabitants (-6,5 %), West Møn – 154 inhabitants (-6,7 %), East Møn – 389 inhabitants (-19 %). The biggest decrease is expected to be on East Moen.

3.2 Current socio-economic activities

Bilag: Kort over befolkningstilbagegang i randdistrikterne samt alderssammensætning.
Kilde: <http://www.vordingborg.dk/media/2037996/befolkningsprognose-2016-2029.pdf>
tabelle side 12/ clf_rapport_29_-_landdistrikternes_befolknings-og_beskaeftigelsesudvikling_

Kilde: Turismens_oekonomiske_betydning_i_danmark_2011_revideret_udgave Side 58

	Turismeforbruget					Turismeandel af samlet udbud pct.
	Estimerede totale antal overnatninger og endagsrejsende 1.000	Kommercielle overnatningsformer mio. kr.	Ikke-kommercielle overnatningsformer og endagsrejsende mio. kr.	I alt	Samlet udbud mio. kr.	
Hele regionen	20.775	3.804	4.709	8.513	454.237	1,9
Faxe	762	170	131	302	16.613	1,8
Greve	458	58	139	198	23.085	0,9
Guldborgsund	2.558	559	388	947	30.099	3,1
Holbæk	1.075	110	294	405	33.010	1,2
Kalundborg	1.728	160	401	561	59.525	0,9
Køge	608	124	202	326	32.888	1,0
Lejre	482	44	119	163	14.965	1,1
Lolland	1.767	471	221	693	24.819	2,8
Næstved	1.379	223	353	576	37.530	1,5
Odsherred	4.329	334	907	1.241	18.741	6,6
Ringsted	372	146	155	301	20.967	1,4
Roskilde	1.233	645	338	983	51.874	1,9
Slagelse	1.561	375	509	885	41.710	2,1
Solrød	178	6	74	80	8.601	0,9
Sorø	321	77	124	201	11.229	1,8
Stevns	572	72	104	176	7.314	2,4
Vordingborg	1.391	229	240	478	21.268	2,2

Note: Kommercielle overnatningsformer: Hoteller, camping, vandrerhjem, feriecentre, lystbådehavne, festivaler, bondegårdsferie, krydstogt og lejjet feriehus.

The strategy of Vordingborg Municipality is to develop a good connection from its own location to the metropolis Copenhagen, Malmø and Hamborg. It is participating in the progress of the Fehmarn Belt Region, focusing on Vordingborgs industrial harbours and the construction of the Storstrøms bridge, which is essential for the train connections between the regions. With only one hour of driving from Copenhagen, the capital of Denmark, Vordingborg promotes itself as being the Capital's "front yard" (#storbyensforhave). New residential districts for commuters and industrial areas occur along the motorway in the southern part of the municipality.

Vordingborg Municipality expects a great development potential in UNESCO's biosphere-program, in direction of a sustainable and nature-based development on Møn and the surrounding islands. The action plan for the proposed biosphere reserve will become a development "engine", based on green transition, landscaping, local production and nature-based tourism. New exciting grassroots projects, attractive education and youth environments will be promoted. There will be focused on health in everyday life and accessibility for all. This increases the municipality's attractiveness for settlement and ensures the active social life.

Socio-economic potentials

Outdoor life, nature-based tourism, nature conservation and local productions, as well as cultural activities, are the main socioeconomic development-potentials in the proposed biosphere reserve. There are already pointed out some places of interest. Each has a special potential to be developed within the biosphere-concepts main features: the conservation of biodiversity and its sustainable use:

Farø: With its beautiful location, Farø has the potential to become "Denmark's most beautiful break" for the drivers on the international motorway. Farø is the entrance to the destination and the proposed Moen Biosphere Reserve, as well as a potential gateway for the dissemination of nature experiences, and centre for kite surfing. "Farø has gradually grown to become a legendary kite surfing spot because of its special wind conditions. It may sound like an urban legend that when the rest of Zealand is calm, the wind blows gaily on Farø. But Farø's geographical location in the middle of a so-called wind tunnel means that there will almost always be more wind to find there." (riders.dk)



Kitesurfer and the Farø Bridge.

Stege: The medieval town, with Møn museum's historical settings is the entrance to the historic mediation of the proposed biosphere reserve and the starting point for the Camøno hiking route. Two panorama-biking trails start in Stege and "sailing bicycle paths" on board of the veteran ships are based in Steges harbour. 'Aquapark Møn' is the name of a major, ambitious development project at the former sugar factory and the industrial port-area. On the other side of Stege bay, a public beach bath shall be established, to give the citizens and visitors new opportunities to enjoy the beautiful waterside. Modern accommodation and restaurants are located in historical buildings. There is considerable attention payed among the stakeholders in the conservation and dissemination of the historic buildings.

House of Moen: The Møn Trade Association, the Møn- and the Southern Zeelands Tourist Association and a number of tourism enterprises cooperate with Vordingborg Municipality to create a local communication centre for residents and visitors in the proposed Moen Biosphere Reserve and Dark Sky Park. A central located building in Stege will act as secretariat, development-house and gateway to the natural and cultural experiences. In addition to that, the house offers space for meetings and project workers. Hopefully the "House of Møn" is up and running by the designation of the proposed Moen Biosphere Reserve.

GeoCenter Møns Klint: From the modern experience and communication centre on top of the cliffs the dissemination of the proposed biosphere areas' geological history is headed.

Liselund Park on Eastern Møn is an equally important cultural attraction, as the cliff is for the nature. The National Museum, which manages the park, will contribute in the dissemination of the biosphere concept.

Klintholm harbour: The former major fishing harbour has in the recent years been transformed into a combined fishing, service and experience harbour. With support from RealDania the harbour is going to be restored towards better services for residents and visitors. Klintholm harbour has to regain its function as a business location on the eastern part of Møn. The biosphere project will support this with projects regarding the development of sustainable commercial fishing with sales of locally caught fish; facilities for boaters, kayaking, hiking and biking; local specialties at the ports restaurants and promoting of sustainable fishing. Vordingborg Municipality is coordinator of the development projects in Klintholm Harbour.



Klintholm Harbour Marina

Nyord: The small island combines cultural heritage and biological diversity in the biosphere area's northwest. At the islands only outlying farm, it is supposed to build up a biosphere demonstration-project, focusing on nature conservation, local production and mediation. It is supposed to create a workplace for a nature interpreter and an agricultural/ landscaping manager, an opportunity for Outdoor School education in nature, an educational and researching unit and a public biosphere-communication centre. A communication concept called 'eco-museum' will take its starting point from here and focus on the various habitats with simultaneous dissemination of cultural history for the hiking or biking visitors on Nyord and the peninsula Ulvshale.

Nyord visitors are now a day motorists. The number of boaters, kayakers, cyclists and hikers shall increase and the mail boat 'Røret' will sail passengers to Southern Zealand and Møn. In this way Nyord gets a new role – from being the 'dead end' to be 'a gateway' between Møn and Southern Zealand.

Ulvshale Nature Centre: Denmark has a tradition of so-called nature centres, simple buildings in the nature, established mediation with posters and flyers as well as space to eat a picnic lunch. Ulvshale Nature Centre is such a place, and it conveys the natural and cultural environment of the untouched forest, heath, marsh and bird-area along the coast. The centre is proposed to be part of the eco-museum concept as the central communication place for the Ulvshale peninsula.

Bogø Harbour: The island Bogø is the destinations entrance and gateway for biking visitors on the international cycling route Berlin-Copenhagen and on the international monk-route. Bogø has a long tradition as a maritime school island. Together with Farø, Bogø is on the main traffic artery, that connects the island and the biosphere area to the highway. It is supposed to develop the presentation of the islands nature and culture, thus creating interest in the area among the many visitors "passing by". The first step has been taken with the description of a local hiking and cycling route, starting from the harbour, where both boaters and cyclists disembark. In cooperation with the Association of the Dutch-type Windmill there are initiatives for dissemination activities around the mill and agricultural landscape entitled 'From grain to flour'. Collaboration with the islands boarding school could be established in the long term.



The old lighthouse on Bogø and the Farø bridge in the background

Koster peninsula is the entrance to the destination through Southern Zealand. Queen Alexandrine's Bridge is the main connection for drivers, bus-passengers, pedestrians and cyclists. Koster Færgesgård is a historic ferry place and family farm, which today includes organic farming, local production, camping and seaweed industry and serves as a gateway for cycling, kayaking, canoeing, hiking and motorists coming via the bridge. Koster Ferry Farm is one of the first farms that signed up for the support of the biosphere project.

People in the proposed Moen Biosphere Reserve: Socio-cultural activities bloom in the coming biosphere reserve. Møn is well known for its creative potential and many enthusiasts (grass roots) display their work in different settings.

Kunsthall 44 Møn: This hall of art is an international exhibition space, based on a longstanding relationship between the artists Bjørn Nørgaard and Ursula Reuter Christiansen, who both live on Møn. The late composer and FLUXUS artist Henning Christiansen, an international actor around the FLUXUS-movement, and the German curator and art collector René Block are in the lead. The exhibition hall was formed in 2007. Since the opening in 2008 the place, which was a former car repair shop, has been rebuilt and renovated. Today it stands as a super modern art centre of international standard with exhibitions of high quality. Last year the art hall received the 'Art Critics Prize' with the words "The amazing thing is, that there on this location in Askeby, far from the major metropolises, gambles big, and on a high international level, in a combination of different types of exhibitions, each time presented very rigorous. The art hall does not suffer from horror vacui, but balances accurately and without wavering between contemporary art forms and the architectural framework." For the architectural design that meets contemporary arts needs, the art hall was in 2010 awarded by the Association for Construction and Landscaping Møn. Vordingborg Municipality also recognized the place with the Culture Prize in 2010.



Kunsthall 44 Moen in Askeby

World Literature on Møn is a unique and traditional literary event. In 2016 it was held for the 17th time. Every year an international author, not necessarily known worldwide, is represented to a large audience. World Literature Møn gives the audience the opportunity to meet the author in a very special way. The event takes place in the middle of Fanefjord Forest on Møn and as the only literary event in Denmark where there is only one author on the program – but both interviewers and audience have three hours available with the author. That results in a better understanding of the authors work and enables a deeper conversation. The books are being raided, the themes that emerge get space and time, and the audience gets closer to the man/woman behind the many words. There is also time for book sales and signing and loose talk before finishing the day by dining with the author. Since Nobel Prize winner Günter Grass was the first guest in 2000, the World Literature on Møn has been visited by large number of award-winning storytellers like Mikhail Sjisjkin, Kim Leine, Fay Weldon, Haruki Murakami, Ben Okri, Amos Oz etc.

Independent schools and the 'Folk High Schools' tradition: Denmark has a tradition of so called folk high schools. N.F.S Grundtvig, a Danish priest, teacher and writer, was the man behind that way of schooling, started in 1830. His goal was to create a citizen school for life, while the universities were there to cultivate science, and the children's school should take care of the more practical skills. The folk high school should not be a school of Christianity, but teach what it would mean to be Danish and living in Denmark. In the beginning, the schools were only for young men, but from the 1860s the schools were expanded and available for girls as well. Many former students have described their stay as a time that completely changed their outlook. What they learned at the folk high school, could be brought home and used in the daily life. The folk high schools are still popular in Denmark. Today they focus on their own specific topics. At Møn students offers education at the 'Rødkilde Theatre High School', where young people are trained in the theatre profession. In Stege the plans are to set up for a summer folk high school focusing on biodiversity and dissemination of the biosphere concept. The initiators have for many years been engaged in sustainability and welcome the initiative of making Møn to af biosphere reserve.

Furthermore a number of public and private schools are available in the proposed biosphere area, there beyond a boarding school with long tradition on the island Bogø and three public schools, two private schools, including the new 'School of Life' on Møn. The School of Life focuses on a local green transformation that makes 'People, Møn and the World' more sustainable. The school's vision is to prepare the children to act actively and effective in a future with major changes.

The kindergartens at Møn expand their openness and interest in nature, creativity and development. There has been established a Dark Sky Kindergarten, and another kindergarten has on the occasion of the Biosphere project, build their own biotope, with help from the local nature interpreter. The Biosphere project will also develop an Outdoor School concept for all schools, kindergartens and institutions. The concept is to set up communication units with teaching materials for different age groups on exquisite places in nature and at cultural venues. The education can be moved out in the nature, and the sustainable way of thinking disseminated among students. The project is implemented in cooperation between a biosphere coordinator and the municipalities nature interpreter.

Markets and festivals: Throughout the year, residents and tourists are invited to several markets, festivals and events of cultural or sportive character. This includes the Herring Market and the Apple Day in Stege, the kite festival and the cliff-run on Høje Møn – just to name some of them. Some events attract up to thousands of visitors from the region and are an important contribution to the local economy. The Biosphere project will contribute to the green profile and sustainable development in the events.



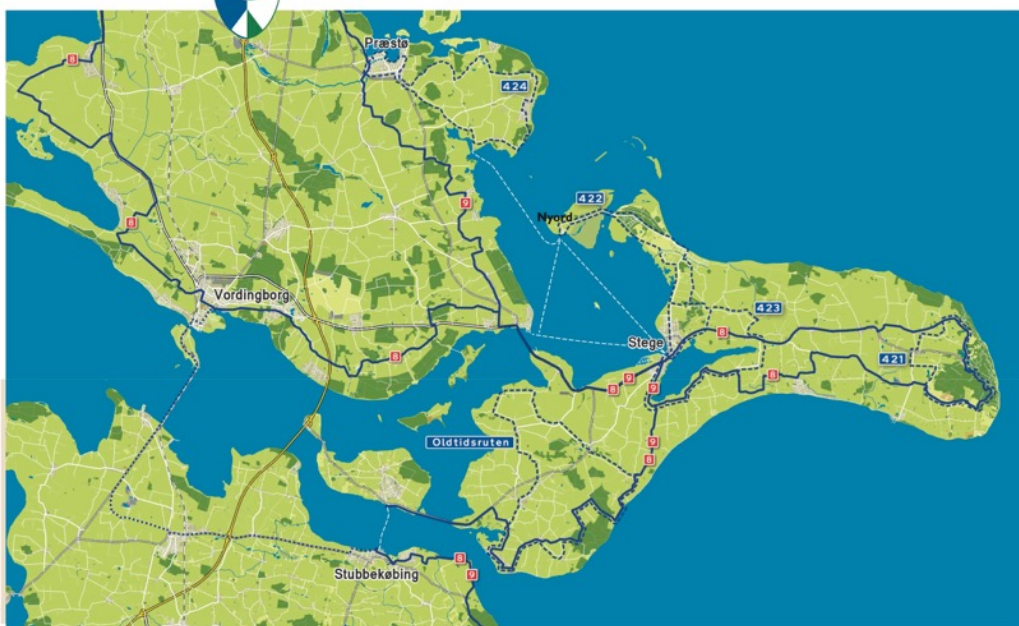
Galleries, artists, crafts, and local food producers: Creative entrepreneurs settle on Møn and are often the driving forces behind the "new life in old houses". They take over former agricultural properties or historic houses and they open galleries, workshops, grow apple-, vegetables- or wine plantations, produce cheese or handmade chocolates. In this way there has been evolved a living environment of 'Micro- enterprises' that create experiences for visitors and have high ambitions regarding the quality of their products. Other local products, made in the proposed Moen Biosphere Reserve, are beer from the local brewery, sweets and licorice from Møn-Bolcher and ice cream from the farm dairy Møn-Is. These major manufactures can help to 'brand' the biosphere concept beyond the municipalities' borders. Several companies have their markets in the capital Copenhagen, such as a stand in the Copenhagen Market Halls. This is a good communication platform for the future biosphere brands, and it is in line with Vordingborg Municipality's strategy to create visibility as 'the capitals front yard'.

How to move around in the proposed Moen Biosphere Reserve: The proposed biosphere area sets the stage for exploring by foot, by bike, on horseback, by kayak or sailboat. A look under the Baltic Sea's surface obtains by snorkelling or diving. Several projects that meet sustainable alternatives to car travel have already been launched, and will be developed further. Sustainable ways of public transportation, for example by small electrical buses with bike trailers, should be tested in the future.

Camønoen, the most pleasant walking trail in the kingdom: The Museum of Southeast Denmark re-launched, supported by RealDania funding, a hiking trail on Møn. The trail has a total length of 172 kilometres, divided into 9 stages. The hiking trail leads through the nature and different cultural environments with many interesting mediation points and promotes new ways to meet the locals.

Panorama cycling routes: Two international cycling routes are crossing Vordingborg Municipality: The N9-Berlin-Copenhagen Route and the N8- Baltic Sea Route. That was taken as an opportunity to create different local round trips, each with unique experiences, along the international routes. In Vordingborg Municipality there were in 2014 established 4 out of 10 national, so-called Panorama Biking Trails, 3 of them situated in the upcoming biosphere reserve. In addition to that, there is established an Ancient Monument Route on western Møn. 121 km local trails with different experiences and challenges, like trails for families with children, workouts for mountain bikers and wheelchair accessible trips.

The cycling trails on veteran vessels: Since all cycling trails are leading to the sea, the biosphere stakeholders have established cooperation with the volunteers of 3 three veteran ships associations, regarding the development of Vordingborg's 'Sailing cycling trails'. During summer 2016 it was for the first time possible to combine cycling on one of the Panorama Routes with boat trips on board of one the three veteran ships: the ferry Ida, the ferry Møn and Nyords old mail boat called 'Røret'. The three ships are connecting Bogø with Stubbekøbing, Stege with Kalvehave, and Røret offers connections between Nyord, Jungshoved, Kalvehave and Stege. The project has received support from several Danish Funds.



Cycling and sailing trails.

Parallel with the development of hiking and biking, the partners are working on kayak routes around Møn and the Bay of Stege. Several local initiators are developing services, events and describe routes. Vordingborg Municipality and the Danish Nature Agency have built a number of coastal shelters along the coast.

The biosphere coordinator is, together with the Geocenter Møn, participating in an application for a Danish-German Interreg VA project, focusing on the Baltic sea as a unique natural area and sustainable opportunity to experience life below the seas surface. The first guided snorkelling trips starting from Geocenter Møns Klint have been tested, and there has been established a snorkelling path for children and adults in Kalvehave harbour.

Historic/cultural background

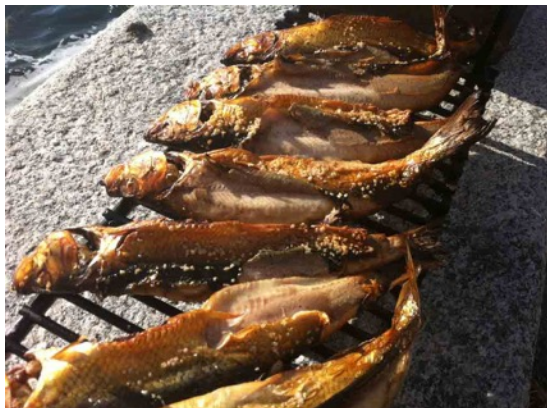
The archaeological and cultural values are important in the proposed Moen Biosphere Reserve. Both urban and rural environments, including settlements in the countryside, offer a rich cultural heritage, that is evident of human impact from prehistoric times to the present.

There is great public interest to preserve valuable cultural environments, and thereby to preserve the local identity. Cultural heritage helps retain the old artisan skills and is of great importance for authentic experiences.

It should be emphasized that this not means 'museum landscapes', but environments where old and new supplement each other. It is a central concern to maintain a business structure with room for different jobs on the islands. The Biosphere project will support development of new sustainable jobs within cultural conservation and mediation and redefines what has been characteristic for the historical life on the islands and Southern Zealand. It was the water that connected people, and the water was used to transport products.

Some of the historical events and methods are likely to find new life in stories told within the framework of the upcoming biosphere reserve, including for example following:

Herrings: In the Middle Ages Møn had its economic peak, when herrings were fished and transported from Stege to the major markets in the Swedish harbour Skanør. The herring is the symbol of Stege town arms. The church, one of the original four city gates and several old streets still tell the story of the medieval herring adventure. Visitors can follow the Herring Route, a historical city walk, by using a brochure or on a guided tour. Every year, the first weekend in September, the city hosts a herring market. Partly the medieval tales are kept alive with guided tours through the medieval environment and a medieval market, where the traditional specialty 'black herring' serves and many other fresh fish from the Baltic Sea can be tasted. But there is also focus on the marine environment through an aquarium with all of today's Baltic Sea fish present. The Biosphere project will support the historical narratives, the production and marketing of local quality foods from the upcoming Moen Biosphere Reserve.



Local specialty with a long tradition: the herrings.

Klintholm Harbour: Klintholm is one of the islands four harbours and the small town has got 200 permanent residents and a marina with 250 moorings. The traditional charming red fishing huts are part of the historical fishery storytelling. Klintholm Harbour, though, is challenged by its physical boundaries, that do not reflect the qualities. With the RealDania Fund's support the harbour will be developed to provide better opportunities for the locals and the visitors to enjoy the harbour and the nearby beaches. Furthermore there will be better opportunities to set up new small scale businesses and thus create more "Life" in the area.

Synergy strengthens the destination. Vordingborg Municipality has since 2011 worked with Klintholm Harbour as an important part of the municipality's tourism development and settlement strategy, supported by the East Møn Local Council's development-plan 'More Life On East Møn'. Klintholm harbour is in the progress to become service port in connection with the establishment of the offshore windmill farm Kriegers Flak. The development of a service harbour shall offer attractive jobs and offset the immigration from the eastern part of Møn. The Biosphere project will support the cooperation with the local population and the development of new sustainable initiatives and preserve both the historical and natural values of the area.

Conservation of local veteran ships: Denmark has a proud history as a seafaring nation. Most veteran ships in Denmark are sailing vessels. In the upcoming Biosphere area, the evidences of the maritime heritage is documented by two retained ferries and a mail boat, that demonstrate how the islands were connected to each other and the mainland, before the bridges were built.

The ferry 'IDA' (1959) was built for the Bogø-Stubbekøbing crossing, as one of the last Danish wooden motor boats, and has been sailing on the route ever since. The ferry 'Møn' (1938) is the last riveted steel boat and also Denmark's oldest preserved ferry. It was built as a link between Zealand and Møn, but after a few years cancelled due to the initiation of the Queen Alexandrine Bridge. The ferry Møn then sailed for many years to the National Serum Institute at Lindholm island. The mail boat 'Røret', from Nyord (1901), sailed from 1902 to 1967 as a freight and passenger ship with daily trips between Nyord and Stege. The three vessels secured transport of goods, cattle and people between the islands and Zealand for many years. The fact that they remain 'sailable' today is due to the great efforts of the local enthusiasts with an interest in the maritime cultural history, and the support through the National Marine Conservation Fund, who participated in the professional proper restoration. In the first development projects for the future Biosphere region, the stakeholders received support from the Danish Road Directorate, The Danish Outdoor Council and Vordingborg Municipality's Development Fund in order to test the concept of 'The sailing bicycle paths'. By that there will be created new life in the harbours; the maritime heritage will be preserved and a near nature tourism, connecting land and water, promoted.

Liselund: There are no such places in Denmark as Liselund on Møn, the well-kept romantic garden that serves a "time warp" in the area, with small buildings, monuments and above all the water in canals, lakes, waterfalls and cascades and the opening towards the Baltic Sea.

It was built in the late 1700's, as a bright place for Antoine and Lisa de la Calmette, cosmopolitans and nature romantics – who had travelled around the largest part of Europe before settling down as landlords at Marienborg Manor on Møn. "Calmette could, reasonably, had settled down many different places other than East Møn, but just in Liselund he found all the conditions for the romantic garden, which he had in mind. As a child of the pre romanticism, he had a sense of this wilderness, the steep cliffs, with some of Denmark's oldest beech forests and highest points, rich in antiquities with its many mounds; also the flora was incredible rich including many species of wild orchids. So it was not just landscape with a magnificent and varied nature, but also a landscape full of traces of ancient habitation, writes the author and art historian Bente Scavenius.

In their construction of the garden, the couple was inspired by Rousseau's philosophy of nature. During the 200 years there has been big changes. The most important of all is, that now the trees reached the size that the Calmettes must have imagined, but never managed to see. Liselund is a rare ensemble – from the large garden to the little furniture. Today Liselund Park is part of the Danish National Museum and offers the visitor an unique opportunity to convey culture and nature in the future biosphere area on the basis of a very rich and well-preserved cultural treasure.



The churches, neighbours of ancient historical monuments: Unique frescoes testify about life on the islands in the old days. Building houses today, a location by the waterfront is considered as an extra quality. The same thoughts were due in earlier times. By Fanefjord even two major monuments are located near the fjord: the long barrow Grønsalen and Fanefjord Church. Both facilities create a collection of cultural environment with the fjord and the hills as a natural collection force.

Grønsalen, “The Green Hunters Mound and Queen Fanes Hall” is one of the longest ancient barrows in Denmark, from the Neolithic period about 3500 B.C. The monumental mound is located beautifully, south of Fanefjord Church and east of the shallow Fanefjord. The 102 meter long, 13 meter wide and up to 2 meter high, east-west oriented long barrow contains three burial chambers, of which only the westernmost is intact and untouched, covered with a large light capstone. It is the legendary King Green or Green Hunter, who has given the long borrow its name. Fane was the Kings wife, who gave the name to Fanefjord.

Fanefjord Church is somewhat younger, from around 1300 A.D, and the youngest of the medieval stone churches on Møn. The church is decorated by frescoes from floor to ceiling, the oldest is from about 1350. The church is well known for its frescoes from the ‘Elmelunde Master’, from around 1500. Fanefjord and the surrounding fjord landscape is one of the upcoming biosphere core area and buffer zone and a good starting point for the dissemination of how humans took the nature’s conditions in use for their settlement.



A view at Fanefjord Church from the fjord.



The frescoes of the “Elmelunde Master” in the Fanefjord Church.

Sustainable development potential

The greatest potential of the proposed Biosphere Reserve lies in the preservation and mediation of the unique nature and culture within a prosper society, that will make Møn a national and international example of sustainable development. The biosphere concept will ensure, that the present values will maintain and be further developed with sustainable strategies and action plans. The following potentials are seen for the years to come:

Ecotourism: Ecotourism with experiences of the cliffs Møns Klint, bird watching, orchid walks, star watching, fossil hunting etc., as well as outdoor activities with opportunities for hiking, biking, horseback riding, kayaking, paragliding, wind- and kite-surfing and fishing, that provide numerous opportunities for the tourism industry. The local partnership is very aware that these experiences should be developed along with the nature's needs, so they do not toil the fields or harm animal and plant life. This is ensured by continuous good information for visitors related to the use of nature, continuous evaluation of management and if necessary limitations in areas, for example seasonal bans on access or the complete banning of drone flight on High Moen during the breeding season of the Peregrine Falcon. It is forbidden to tread Nyords meadows, but at the same time provided good views from several watchtowers. There are strict rules for fishing in brackish water areas, while professional guidance to good angling experiences is offered.

Made on Møn: Local quality products, made in the proposed Moen Biosphere Reserve, will be developed to create more and new jobs in the years to come. Projects, such as the development of grazing cooperations, for better and more coordinated landscaping of coastal areas, with simultaneous development of a common brand for organic meat from the upcoming biosphere reserve. Restoration of local commercial fishing, with a focus on seasonal locally caught fish to local consumers, is another focus area.

Seaweed recycling: We wish to kick-start a development project that combines beach cleaning with seaweed collection, which has a tradition in our area. Eelgrass, collected after the storm along the coastline, can be used as environmental-friendly insulation of houses, restoration of historic Danish seaweed roofs or other building remedies. Better opportunities for local collectors and processing of the raw material can give farmers additional income and create more local jobs in the long term. The project has great sustainable potential, focusing on both the marine environment and the recycling of natural materials.

Dark Sky: Parallel with the application for the admission in the biosphere network, there applies for appointment as a Dark Sky park and community. The combination is chosen because of the great potentials represented in the area that complement each other in the best way. The Dark Sky programme works with sustainable tourism experiences and at the same time reduction of light pollution. Vordingborg Municipality will renew the public lighting, so it helps to preserve the dark night sky.

Water and coastal care: Vordingborg Municipality has been co-founder of a regional cooperation for the development of sustainable fishing in the Region Zealand. The water areas on Møn belong to some of Scandinavia's best fishing waters with trout fishing in front of the cliffs, trolling from Klintholm Harbour and brackish water fishing for pikes and perch etc. 'Fishing Zealand' is a cooperation between 12 municipalities in the Region, the Danish Anglers Association, local anglers and the tourism industry, to ensure that the fishstock thrive, the quality of the water is improved and angling gets developed as local business potential. The project is based on sustainability throughout it all. Angling tourism will only work, if the conditions for fishing are met: namely ample access to fish in good waters. The project is described in details in section 3.3 and will be included as one of the key development projects

in the proposed Moen Biosphere Reserve.

Vordingborg Municipality's Climate Strategy

Vordingborg Municipality has prepared a climate strategy, which has been established to treat the climate issue as a natural part of daily life in Vordingborg Municipality, which must be reflected in plans and projects. The aims for reducing CO₂ emissions must reflect on the national objectives. This applies both to the municipality as a company and for the whole municipality's geographical area. Adaptation of the cities and the countryside in relation to climate change must take place through an on-going effort, in which work priorities focus on minimizing the impact of rising sea levels and increased rainfall. A part of the future Biosphere Reserve, the marshes, including Nyord's meadows, are at risk of flooding, and there will be special focus on the conservation of these areas.

3.3 Logistic support - support for demonstration projects, environmental education and training, research and monitoring related to local, regional, national and global issues of conservation and sustainable development.

The following activities, demonstration projects and trainings are already established and will be incorporated in the proposed Moen Biosphere Reserves management and action plan.

Fishing Zealand is a inter-municipality project and a successful example of how the region's municipalities cooperate with the volunteers on for example improvement of watercourses, release of small fish and the registration of fish population. The proposed Moen Biosphere Reserve is one of the important development areas in the project, and the Municipality of Vordingborg provides the secretariat function for the entire inter-municipal cooperation. The secretariat is situated in the department of Land and Environment that is a close collaborator in connection with this application and in the Moen Biosphere Reserve partnership.

Fishing Zealand works with diverse initiatives concerning aquatic environments in relation to demonstration projects, environmental teaching, public engagement, monitoring and research. Fishing Zealand is very engaged in creating sustainable angling, among others through:

- Improvements of habitats in streams. This includes laying of stone, gravel and removal of barriers.
- Increased focus on factors that limits fish stocks in the sea.
- Increased focus on the condition of lakes and inlets.
- Continuation of the serious breeding and restocking work, arranged by the Zealand Trout Association.
- Involvement of volunteers in environmental work.
- Preparation of information material about good angler morality.
- Course activities for anglers.
- organizing a network of certified guides.

Some examples Through this project a so-called "Gravel Gang" (Grusbande) has been established. The purpose of the gravel gang is to intensify the care of water and angling development on Zealand and the surrounding islands. Focus has primarily been the species trout (*Salmoninae*), but more specifically the sea trout (*Salmo trutta trutta*). The effort is currently focused on addressing the factors in fresh water, which are limiting the wild sea trout's opportunity to complete their life cycle.

The Gravel Gang is a network of volunteers, working in collaboration with municipalities and plot owners on Zealand and the surrounding islands, concerning water and fishing care. The Grusbande offers advice and gives inspiration to all anglers and other interested parties who find streams, fish stock and nature interesting. The Grusbande undertakes a lot of projects

concerning care of water and fish, thus the effort for trout stock is greater, healthier, purposive and visible.

“Ørredpatruljen” - the “Trout Patrol” is a new and different educational program for young people, in the age group 14-20 years. The education has focus on sea trout biology, stream management, stream restoration, sustainability and nature engagement. The teaching of the Ørredpatrulje education is based on equal theory and practice. During the education period, the students will be thoroughly introduced to the sea trout’s biology and life cycle, and they will acquire practical knowledge concerning maintenance of streams and care for fish stocks. Specially trained instructors with a background in pedagogy will be responsible for the lectures, which consists of 3 x 3 hours, split equally between theory in the classroom and practical work by different streams. The students and the schools or institutions will plan all lectures. Follow up courses by the streams will also be a possibility.

Fishing Zealands “angling guides” It has been an appreciative fact that there is money in recreational fishing. Trough projects like Fishing Zealand, it has become equally important to address the challenge of communicating not only fishing waters in Denmark, but also address the Danish recreational fishing culture. The first step will be a short educational guide-training programme that can provide the necessary background for the certification standard that Dansk Sportsfiskerforbund (Danish Fishing Association) consider requisite. This is a necessary action, in order to not only secure the quality of the fishing experience offered to tourists, but also to secure the knowledge that a fishing guide must be in possession of, when facilitating memorable fishing experiences in the Danish fishing waters with the local sports anglers and local associations. Currently, there are four educated guides in the proposed biosphere area.

Reports and publication: Fishing Zealand is continuously working with preparations of research and reports, which can support the work of implementing sustainable principles of angling tourism on Zealand. Without substantial data it would not be possible to raise a debate, support arguments or gain a hearing in the political decision making process. One example of a publication is a report about “Sea trout stock on Moen, Lolland and Falster”.

A marking project in collaboration with DTU Aqua (Technical University of Denmark, National Institute of Aquatic Resources). The important project in Stege Nor and Jungshoved Nor began in March 2016. The reason was to gain more knowledge about the Brackish Water Pike, who have received a lot of attention during the past few years. The know how will provide the proposed Biosphere Reserve Moen with much more accurate information, and thus more precise advice will be given in how to take more care of them. It will not only benefit the Brackish Water Pike, but also those who love to angel pikes.



CATCH - International project concerning the development of sustainable angling tourism under EU's South Baltic Programme

Fishing Zealand is a partner in an EU Baltic Sea development project, which includes several nations such as Germany, Poland, Lithuania and Denmark. The project aims to promote sustainability and create greater awareness concerning angling in nature, with focus on the participating countries. The Fishing Zealand project is part of the previously mentioned secretariat and collaborating with the Municipality of Vordingborg. The proposed Biosphere coordinator will act as the local coordinator together with the Danish project manager. The project will start in late summer 2016 and last three years. Among several development issues, the proposed Biosphere Reserve Moen, will carry out one demonstration project that focuses on the Brackish Water Pike in Stege bay and lagoon. CATCH is a good help to promote the local partnerships in the biosphere area and create a useful window to the outside for promotion of the overall Biosphere concept on Moen.

Outdoor education is about working towards a targeted education that varies between indoor and outdoor activities and a broad selection of subjects and different stages. It can e.g. be a school that works with the Stone Age, in which students work with tools from the Stone Age, and for example examine the benefits and limitations of flint axes relative to other tools. It may also be a school that has classrooms in the local forest, where students can learn about forest ecology, height measurement of trees or writing poems from special places in the forest. Research shows that outdoor education strengthens students' academic development, well-being and general development, if a course has a clear academic focus. Outdoor education also strengthens teamwork and social cohesion in the class. It is a central part of the Danish school reforming, and has resulted in, that 33 new schools spread across the country have chosen to integrate outdoor education into the learning plan. In Vordingborg, one school is enrolled in this reform. However, it is planned that the biosphere project's auspices will work with a local concept that allows all local schools and institutions, access to outdoor education activities. See also "future activities".

Nature-guidance. Nature interpreters in Denmark are working on promoting nature in many municipalities. In the Municipality of Vordingborg and in the proposed biosphere area, interpreters are working with among others health, coastal nature and bird life and furthermore the geology at Geocenter Møns Klint. Another interpreter is hired by the municipality's department of Land and Environment. They are communicating in a broad setting and will take part in the realization of the concept for the outdoor education.

The Association Nyord Island has through the Danish Outdoor Council, applied for wage subsidies to the first Biosphere interpreter/ ranger in Denmark. It is a wish that the future biosphere ranger can have a base on Nyord and has the ability to guide and teach the locals in nature care, biodiversity and conservation of nature.

Forest helper - a social work place in the centre of nature. A collaborative project between Vordingborg Municipalities Social Enterprise and the Nature Agency, Storstrøm. The arrangement of a forest helper is a broad workplace, which offers a diverse set of tasks, resource clarification and teaching. All tasks are adapted to the individual need and its purpose is to help the development of professional and social skills. The tasks are primarily outdoor and concern maintenance of outdoor areas on Hyldevang Naturecentre at Nyord and Ulvshale. Beside the practical work tasks, there is a focus on nature experiences, good service and contact to those who visit Hyldevang. It is a great desire from all the partners in the application, to establish a demonstration project with the purpose of nature care and local production at Hyldevang estate on Nyord, where the Forrest Helpers have their residence. Together with locals and hopefully the coming ranger, it is desired to develop a practical nature preservation and dissemination of the biosphere area, all starting on Nyord.

Accessibility. The proposed Moen Biosphere Reserve has a close collaboration with the Council of the Disabled in Municipality of Vordingborg. Availability is an important subject and it should also be one of the characteristics of the Moen Biosphere Reserve. During the past few years, audio induction loops were established in public facilities, such as libraries and churches. In regards to the physical availability, a boardwalk has been established at GeoCenter Møns Klint. Now it is possible to experience the unique nature area from a wheelchair. Multiple places have been adapted to assist the availability of a wheelchair, among others bird lookouts on both Nyord and Ulvshale. Furthermore bike routes have been made accessible for hand bikes and also places for angling have been made available for wheelchairs. Availability will be an on-going project throughout the biosphere concept with for example a disabled-friendly bathing jetty in Stege and gardens that can stimulate the senses.



Boardwalk Møns Klint

UNDINE - EU Interreg VA Project Once again a focus on the Baltic Sea in the UNDINE (UNderwater Discovery and Nature Experiences) project. After the first ended project in 2015, a new project, with a broader range of participants, is on its way. The Municipality of Vordingborg will be represented through the biosphere-coordinator in collaboration with GeoCenter Møns Klint. The project activities will take place in the future biosphere area with focus on the communication of the “Baltic species and habitats” for the public. Provided in the annex is a link with information of the first project.

DARK SKY In connection with the application of certification as Dark Sky area, a measurement of the sky's darkness for a year, has been completed. The collaboration with the international Dark Sky Association has already created international contacts to other Dark Sky areas. These contacts create the opportunity for a future cooperation in development and research projects regarding miniaturization of light pollution. The measurements show that Møn and Nyord has an unique night sky that is very dark and with minimal light pollution. The best values was in March and April, it was measured up to 21.96 mag/arcsec², however the more normal values are between 21.80 and 21.85 mag/arcsec².

The streetlight has been scrutinized and today, 77% of them fulfills the requirement of Full-Cut-Off (FCO). The remaining 108 streetlights who are in worst condition will be replaced in 2017 to FCO and a Color Corrected Temperature of 3000K. The Municipality of Vordingborg owns and administers 29 buildings on Møn, and it is the plan to adjust the outdoor light in 2017, in order to live up to a Light Management Plan. The public information work began officially with a concert: “On the dark side of the Moon” with the Pink Floyd Project, in Klintholm Harbour. A concert that put the town and harbour on the other end with nearly 3000 guests. This concert made it possible to make people remember the topic “Dark Sky Moen and Nyord”. More informative meetings have been held since, with a participation of more then 220 people.

The Local Certification Programme has succeeded to involve approximately 50% of all accommodations on Moen and Nyord, so that the messages of taking care of the night sky and the starry sky appears to the tourists that visit Møn and Nyord. Actually, the whole idea, taking care of the darkness and the starry sky, has created a solid grip in the local community, which is seen by the local ideas that arise more and more in the area. The ideas range from the creation of a public financed observatory, run by volunteers, local products, such as snaps, ice and crochet patterns to decorate the main street in Stege with planters inspired by Dark Sky.

Public engagement - The local councils and volunteers

Local democracy, the modern citizen involvement: This local democracy model was phased in, when the Municipality of Vordingborg was founded in 2007 from the four previous municipalities Møn, Langebæk, Vordingborg and Præstø. The model describes how citizens, companies and/or associations can have influence in their local community by dialogue meetings with local politicians, in the local council or by running as candidate for the local council. In total there are 15 local councils that cover the municipality. Furthermore the municipal council has appointed five dialogue committees, consisting of local politicians across parties and unions that facilitate the dialogue with 2-3 local councils.

A local council consist of local citizens, and it is an open forum where all meetings are made public for the locals. In this way, it is assured that everyone has the chance of speaking and creating the agenda. The task of the executive committee of the local council is, to create an open forum for initiatives, dialogue and collaboration between the municipality and its citizens. The local council communicates, organizes, plans and initiates meetings and activities between the municipality and the citizens.

The local council board has some extent liberty to plan and organize its work, however as the local forums are made public, the agenda and summary also are public. The local council can create initiatives that strengthen the cooperation between associations and grassroots with the local development plan (also called LUP). A fund has been set aside that supports local projects related to LUP, this fund can support a project with up to 50% of the total amount. In the forthcoming biosphere area, four local councils have been informed about the proposed Biosphere Reserve Moen, and the have agreed to put forward a representative in the cooperation. Local Council members contribute in various local development projects and will through that become a part of the future biosphere cooperation.



The volunteers Efforts from associations and volunteers constitutes for a lot of the human resource in the modern Denmark. The Municipality of Vordingborg has a volunteer operation that helps the volunteers to get a good start. Already now, volunteers manage many activities that are relevant in the future biosphere cooperation; this includes tasks within practical nature management, observations, measures and communication.

Associations Several local associations have already now expressed a wish of cooperation concerning the biosphere project . Among these are amateur geologists, ornithologists, vintage ship associations, nature conservation associations, disabled organizations, astronomers and other cultural unions. The associations are an important link when it comes to care of areas, conservation of a diverse nature and preservation of cultural custom.

Citizen's nature care Any citizen can assist in nature conservation in the municipality and have a great and fun time, experiencing nature together with other volunteers. Nature care contributes to a more varied nature and is preserving habitats for wild animals and plants, among others very rare and vulnerable species. This can happen through for example enrollment in associations of grazing in order to preserve areas. Another example is giving the rare plants and orchids a helping hand by cooperating with the municipality interpreter in a mowing project or help with practical tasks in green areas of the city and village ponds. Multiple ideas can be implemented in order to assist nature for example adopting an ancient burial mount or cleaning beaches for waste. However, this biosphere project would not be possible if there were no volunteers to help with activities and projects that offer social opportunities at the same time.

Research and training

Different research projects and international collaborations form the foundation of the Moen Biosphere Reserve, and new projects in multiple areas of action will complement this. Some of the previously mentioned development projects consist of research assignments and training perspectives. Here is a short summary:

DTU Aqua are investigating Brackish Water Pikes and has started a marking project, where a large part of the Brackish Water Pikes in Jungshoved Nor and Stege Nor will be marked with a so-called “Floytag”, a fish tagging and marking technique. The goal is to gather new knowledge of the unique stock of Brackish Water Pikes. The project cooperates with Fishing Zealand. When enough pikes have been gathered, both unmarked and marked, the researchers can begin the measurements of density and gradually describe the development in stock. Important knowledge will be gathered to estimate the effect of the current protection of pikes in the areas. The catch of the marked pikes will moreover give a lot of interesting knowledge about other biological aspects of for example migration and growth. The EU Baltic Project “CATCH” will support the current work with a demonstration project, mentioned previously.

Plans for Nature Care -Through an EU Interreg project with the title Baltic Flyway an opportunity has risen to develop a nature care and management plan for the core area Ulvshale-Nyord. The plan is interesting as it has been drawn up by the national authorities and the NGOs working together in the area. Nature care is a central part of the future Moen Biosphere Reserve and it will be an essential element in the overall development. All partners will cooperate regarding research in line with the establishments of nature care initiatives. There is a need of more knowledge within the topics of species descriptions and well-being, but also in methods of care, as well as models of how functions of nature management can be started. A holistic description of individual habitats will be promoted and the further work with demonstration projects in which research results can be used for the benefit of nature and species.

Focus on the Baltic Sea will be discussed in the two previously mentioned Interreg and South Baltic projects. They will have focus on its various species and habitats beneath sea level. Both projects look at the Baltic Sea and the adjacent water areas. The participants in the Interreg and the South Baltic projects are municipalities, universities, environmental organizations, tourism agencies and intermediaries. They will work together in order to obtain a better understanding of the well-being and needs that the species have, together with developing new communication concepts.

Monitoring of birdlife is a great effort of the volunteers and NGOs that are involved the nature care projects on both the cliffs and Høje Møn and the peninsula Ulvshale and Nyord. The Municipality of Vordingborg is publishing a yearly report of the bird counting. The Nature Agency is another partner in monitoring of flora and fauna.

Future activities within environmental education, research and training, public engagement.

The proposed Moen Biosphere Reserve will gather and unite the individual initiatives and create a common framework for nature conservation and development of a sustainable society.

Training by social enterprises and projects like the Forest Helpers and the Practical Services. In connection with the launch of the biosphere project, an interdisciplinary collaboration has been created on the island Nyord, which includes residents, the Nature Agency,

Fugleværnsfonden (ornithologists) and the Vordingborg Social Enterprise, a public social project. It is a common goal to develop the Nature Centre Hyldevang on Nyord into a demonstration centre for nature care and local production with an attached room for research, training and education. Hyldevang is already today the islands home for a organic stock of cattle, which is branded under the name "Nyord Ø-Kød", a local nature care product launched by the residents on Nyord. The place furthermore houses the Forest Helper project, where retarded people work in a protected environment. Hopefully in future Hyldevang will become a centre with space for trainees from different countries and work facilities for scientists. From here the previously mentioned biosphere interpreter/ ranger should mediate and communicate the nature of Nyord and Ulvshale. Furthermore a supported establishment for the outdoor education is desired, focusing e.g. on migrating and breeding birds and the cultural history of Nyord. In the barns, visitors should be offered facilities for an overnight stay in the open, in order to experience the Dark Sky fully and further see exhibitions about the biosphere project. These initiatives will create many good possibilities to communicate and facilitate trainings and meetings with both colleagues and visitors.

A database of knowledge: During the work on this application the need for a holistic mediation of habitats and species acknowledged was identified. The basis for this shall be a database of all species and habitats registered in the proposed biosphere reserve. Monitoring has to be organized and specialized knowledge about species has to be collected and compared with for example The Nature Agency's national archives of listed species.

One of the plans for the biosphere project on Møn is to create unifying descriptions of habitats and special areas with nature and culture values; both for monitoring purposes and research. This will also give residents and visitors an understanding of the relationship between landscapes, nature and species, which can be combined with the area's historical and cultural significance.

At the same time an understanding of how humans throughout time have marked the landscape will be provided and furthermore knowledge about the modern challenges and how they will be solved in the forthcoming of the biosphere project. Examples of such site descriptions are, beyond others:

- The island Nyord included the tidal meadows (birds, vegetation, life on the high grounds and historical meadow farming, modern nature conservation and local production initiatives, cultural influence)
- The peninsula Ulvshale with beach ridges of flint (flint industry, nature restoration, untouched forest, heathland, mires, insect and bird life, rare trees, juniper moor, Ulvshale stream and the scone fortification)
- The Fanefjord with a natural harbour (ancient and medieval times represented, Brackish Water Pike and tidal meadow vegetation, legends and myths)
- Busene Have (beach forest, flint coast, prehistoric monuments and medieval entrenchment, silted port etc.)
- The Forrest Klinteskoven (Prehistoric Denmark, trees, chalk, vegetation, history, legends and myths, the Peregrine Falcon etc.)

Several others can be identified over time.

A good tool to work with in field is a "BioBlitz", where volunteers cooperate with specialists and provide an overview of the species in the area. Afterwards the cultural environment can be tested and all knowledge will be gathered in order to provide a broad-based communication of local areas to residents and visitors. It is a wish to present the results on the Biosphere website as well as on the site. The project could culminate into a small series of booklets for e.g. excursions to the different biosphere spots. These more specifically descriptions of the natural

and cultural environments will complement the presents general publications about hiking, cycling and kayaking routes.

Outdoor schools offer education in nature for all schools and institutions in Vordingborg Municipality. The Biosphere project will develop the overall dissemination of the Outdoor education concept, as previously described. Starting point is the establishing of communication spots in the countryside and a range of preparatory training materials for different age groups on the web. Each communication post will be based on a particular theme. The following topics have already been established and will be included in an expanded and coherent communication concept:

- Water posts with equipment to communicate the life in the shallow waters (Stege, Avnø, Præstø and Kalvehave)
- Stargazing (Nyord and Avnø)
- Migratory birds with equipment to communication (Nyord)
- From grain to flour (Bogø Mill)
- From tree to boat (Bådelaug Udsigten, Viemose)
- The pilot station on Nyord
- The snorkelling path in Kalvehave
- Snorkelling trailer with equipment to place different places; in summertime at the GeoCenter Møns Klint

The plan is to gather a preliminary document on the Internet that includes a good description for a day in the wild. In this way, schools etc. can prepare before going on a field trip. The development project is in collaboration with the Biosphere Coordinator and the municipal ranger.

4. CRITERIA FOR DESIGNATION AS A BIOSPHERE RESERVE:

4.1 The mosaic of ecological systems representative of major biogeographic region(s), including a gradation of human interventions.

The proposed Moen Biosphere Reserve is located in biogeographic terms within the temperate broad-leaf forests or woodlands, and subpolar deciduous thickets in the Palearctic realm (based on the Udvardy 1975 classification system). In a more local Danish terminology the biogeography can be further subdivided into two biogeographic regions on land, the Atlantic and the Continental and the Baltic and the Atlantic region at sea. The proposed biosphere reserve thus covers both the Continental (on land) and the Baltic region (at sea).

The proposed area comprises characteristic types of nature and soil usage that are typical for this part of Denmark, as well as types of nature that are unique, such as Møns Klint. The candidate area covers the entire biosphere by including land, sea and sky (by sky means darkness at night). The proposed biosphere reserve is more or less equally divided into terrestrial and marine environments.

In the terrestrial environment the area is characterized by extensive agricultural land with many small nature areas - bogs, meadows and lakes – spread throughout the area. The largest centre of population is Stege on Møn with about 3.000 inhabitants. Otherwise the area is characterized by small villages and individual houses. The marine environment includes areas of

brackish water and the (relatively) saline Baltic Sea. The 185 km long coastline is an important type of nature representing the meeting of land and sea. The small scale of the landscape contributes to the area comprising a mosaic of different ecosystems. These ecosystems are described below in a sequence based on an increasing degree of human intervention.

Undisturbed nature

This category comprises areas that have not been influenced by human activity so that the environment has developed completely naturally.

Undisturbed terrestrial nature

Coastal cliffs. Møns Klint has, because of its fundamental geological character and the action of the sea, a complete set of types of nature that have been, and still are, almost completely uninfluenced by human activity. The steep cliffs are subjected to erosion on both small and large scales, which provides its own dynamic environment. Unspoiled woods and small, grassy areas are under constant erosion on the cliffs, and new opportunities for colonisation develop when landslides expose new chalk or moraine surfaces. There are many small springs that contribute to this process. Other types of cliffs with a very different geological background occur south and north of Møns Klint, such as both east and west of Klintholm harbour, but also elsewhere in the candidate area. At the foot of all the cliffs the sea washes and sorts the fallen material and forms, depending on the strength of wave activity, pebble, gravel or sand beaches, locally with many fossils.

Untouched woodland. Behind the steep cliffs at Møns Klint there is a region of woodland; Klinteskov (forest) that has areas of beech woods on chalk-rich soil, as well as small areas of dry grasslands on calcareous substrates, that have not been cultivated for hundreds of years – if at all. This also counts for parts of the forest at Ulvshale which is an old, open grazing forest that now lies as untouched forest. The forest at Ulvshale is therefore described under slightly disturbed nature.

Beach ridges and – grassland. The material that is broken down at the foot of the cliffs is transported away from the area by sea currents and is deposited when it can no longer be held in suspension. This results in the construction of interesting and valuable coastal landscape features including beach ridges and sandplain grassland, as, for example in northern Møn. The development of this type of landscape is an ongoing process.

Small areas of untouched nature. The Ulvshale peninsula, Nyord island and the islets Malurholm, Ægholm, Små Ægholme and Sækkensand are the final destinations for much of material eroded from the cliffs, and form the basis for the area's special character, variety and natural content. On Ulvshale there are only local areas of unspoiled nature, but these are, however, numerous and varied: *calcareous* fens with *Cladium mariscus*, fixed coastal dunes with herbaceous vegetation e.g. *Hippophae rhamnoides*, grass and lichen heath, humid dune hollows, foreshore, coastal lakes and tidal flats.

Undisturbed marine nature

Reefs. There are several reefs in the sea offshore from the cliffs. These have not all been studied, but the reef in the bay Hjelm Bugt has been nominated as a Habitat area: Bøchers Grund. Fishing with bottom-trawling equipment is forbidden in the entire area and the sea floor is now protected against any interference. In the past, stony reefs in Denmark have been exploited to provide raw materials, but this activity is no longer permitted.

Shallow areas. The extensive shallow areas in the western part of the biosphere reserve are, in the same way as Nyord and Ulvshale, the ending place for material eroded from the cliffs. This deposition has given rise to a variety of features, including coastal lagoons and large, shallow bays and inlets with sand banks and mudflats that become exposed at low tide. These very shallow marine areas and low-lying islands are essentially untouched by mankind.

Coastal lagoons. Stege Nor is a large coastal lagoon that is partly isolated from the sea; this has provided good conditions for perch and pikes typical of brackish waters. Even though this lagoon can be considered to be undisturbed in that it has not been physically modified by man, it has been influenced by the addition of fertilizer etc. from agricultural activity that has affected the fauna in the lagoon.

Slightly disturbed nature

By slightly disturbed nature we mean types of nature that have been created and/or maintained by man. These areas commonly have a broad biological diversity.

Marshes and salt meadows. On Ulvshale and Nyord there are some of the largest natural marsh and salt meadows in eastern Denmark. The activity of grazing animals provides important breeding grounds for many birds, especially waders and ducks, and a wide variety of plant life thrives here. The meadows and the adjacent shallow sea provide one of the most important sites in Europe for migrating and overwintering ducks.

Dry grasslands. Jydelejjet and Høvblege on Høje Møn have areas of grassland with a rich variety of plants and insects that is incomparable in Denmark. The calcareous nature of the subsurface and the continuity of grazing provide special conditions for plants and animals. Dry grassland occurs at several places in the biosphere reserve but these areas are generally being reduced in both size and quality.

Other natural habitats in open landscapes. Other open natural and semi-natural habitats that depend on grazing and mowing without the use of fertilizers include heaths, alkaline fens (rich-fens) with orchids and poor-fens. The heath on Ulvshale is noteworthy because they have characteristic junipers in several places. Heaths are rare elsewhere in eastern Denmark. Rich-fens, that also occurs in a special variety, calcareous rich fen (fen with particularly high chalk content) occurs on Ulvshale, Høje Møn and in the bog at Busemarke Mose. Calcareous rich fens are typically developed in small areas and are a very sensitive nature type and rarely developed in Denmark.

Woodlands. The forests Klinteskoven and Ulvshaleskoven are without comparison in Denmark. The beech forest at Klinteskoven is unusual in that the beech leaves retain their springtime pale green colour throughout the summer. This is because of the calcareous nature of the soil that has developed by the breakdown of chalk. The calcium restricts the ability of the trees to absorb iron and manganese that are necessary for the leaves to develop the darker green colour. Klinteskoven has a unique combination of herbs, insects and fungi. The forest Ulvshaleskoven, that earlier has been used as woodland pastures, has developed on beach ridges. It is a unique deciduous mixed forest with a large population of lime trees and today the forest is conserved. Other valuable forest habitats occur in several places along the northern coast of Møn and in Fanefjords Skov in western Møn.

Sinkholes. There are several sinkholes in eastern Møn that are occupied by deep lakes: Hunosø, Store Geddesø and Aborresø.

Disturbed nature

As in the rest of Denmark, the agricultural landscape in the biosphere reserve has evolved in keeping with the development of agricultural activity. During the last couple of centuries, many wetlands and marshy areas have been enclosed and/or drained. Agricultural activity has become more and more intense and carried out by fewer and fewer people. The landscape can be defined as an agricultural landscape: “An agricultural landscape is characterised by the intensive exploitation of large areas, whose development is held in ecological balance by artificial means, and which is characterized by uniformity as a result of the smoothing intervention of mankind, and removal of boundary elements” (Briemle, 1978).



Typical of the area are avenues of trees along the road.

About 70% of the area of the proposed biosphere reserve is agricultural land. The natural part of these areas involves hedges, small lakes, marl pits, small bogs, small areas of grassland and fallow fields that together provide a variation in the exploited land. Characteristic features in the area are the impressive avenues, roadside trees and ditches along many major and minor roads. Many villages are aware of the importance of local nature as expressed by, for example, village ponds and green areas.

4.2 Of significance for biological diversity conservation

Because of Denmark's small size (43.000 km²) and location in the temperate zone in the northern hemisphere, unique diversity is limited. This may be because the ice-free period since the last ice age (the last 16.000 – 14.500 years) has been too short for the generation of new species to take place. There are therefore very few endemic species or subspecies in Denmark – if any, and there are none in the candidate area.

In connection with an earlier project in the area, in developing a National Park on the island of Møn, a count was made in 2004 of the number of threatened species in the area. The following is based on these data that are considered to be representative for the proposed biosphere reserve since the areas that hosts the threatened species are coinciding with the national park project. Vordingborg municipality is currently updating the data on threatened species in order to get more recent data. Based on the data from 2004 and some of the updated data available now, it can be concluded that 386 nationally red-listed and 138 yellow-listed species occur the core- and buffer-areas of the proposed biosphere reserve. 32 of the species are in the category of critical (CR), and thereby facing an extremely high risk of extinction in the wild. This count e.g. for the birds: Plover (*Pluvialis apricaria*), Barred Warbler (*Sylvia nisoria*) and Oriole (*Oriolus oriolus*), the eel (*Anguilla Anguilla*) and a number of fungi and insects and the Ghost Orchid (*Epipogium aphyllum Sw.*).

Ten species are on the global red list of IUCN in the categories critical (CR), vulnerable (VU) and near threatened (NT). I.e. Cod (*Gadus morhua*) and Eel (*Anguilla Anguilla*), two species of bats (*Barbastella barbastellus* and *Myotis dasycneme*), five species of birds (*Somateria mollissima*, *Milvus milvus*, *Numenius arquata*, *Haematopus ostralegus*, *Vanellus vanellus*) and yet an orchid (*Liparis loeselii*).

The Habitat Directive holds 25 species on different appendixes that can be found in the area (10 species on app. II, 22 species on app. IV where nine are overlapping II and two species on app. V). Seven of the species are the basis for designation of Special Areas of Conservation (SACs), e.g. a bat (*Barbastella barbastellus*), two molluscs (*Vertigo angustior* and *Vertigo moulinsiana*) and the orchid (*Liparis loeselii*).

In total, the proposed biosphere area includes four Natura 2000 sites and part of a fifth spread over both core areas and buffer areas, which together represent 19,299 ha of the total area amounting to 42%. The Natura 2000 sites include 6 SACs, one of which is only partial included in the proposed area, one fully Special Protection Area (SPA) and part of two and one Ramsar Site. Parts of two wildlife reserves are also included in the total biosphere proposal.

28 species of birds are basis of designation of the three SPAs that are incorporated in the proposal e.g. birds of prey; European honey-buzzard (*Pernis apivorus*) and Sea Eagle (*Haliaeetus albicilla*) and the wading bird: European golden plover (*Pluvialis apricaria*) and Spotted Crake (*Porzana porzana*) from the waterhens family.

The yellow list is a Danish register of common species that are undergoing a marked retreat and species for which Denmark has particular responsibility.

The yellow list is divided into two categories:

1. Species requiring attention – relatively abundant species showing a marked retreat in numbers or existing in restricted areas that risk becoming red-listed in the near future.
2. Species of national responsibility – where municipalities or the country as a whole contain such a large proportion of a particular species that it imposes a national responsibility to protect it.



Vordingborg municipality has national responsibility for the Peregrine Falcon (*Falco Peregrinus*).

The Høje Møn area clearly has the greatest concentration of threatened species - there are 200 red-listed and 65 yellow-listed species. There are 69 red-listed and 27 yellow-listed species on Ulvshale and 7 of each category on Nyord. There is a total of 6 red- and yellow-listed species in Busene Have, and a total of 14 in Fanefjord. It is clear that the overall tendency is for most threatened species to belong to the woodland type of nature. This is consistent with the national picture where 54% of the red-listed species are woodland species. The local conditions in the biosphere reserve candidate area also reflect the national tendency regarding the next most-threatened type of nature with regard to red-listed species which is grassland.

The overall picture is for most occurrences of threatened species to occur on Høj Møn, Ulvshale, Nyord and at Fanefjord with 83% of the total red- and yellow-listed species for the entire area. 282 species are in the category of Critically Endangered (CR), Endangered (EN) or Vulnerable(VU).

An inventory of species shows that for:

Birds – There are a total of 22 red listed species. Three of these are critically endangered as mentioned above e.g. Plover (*Pluvialis apricaria*), Barred Warbler (*Sylvia nisoria*) and Oriole (*Oriolus oriolus*)

Plants – There are a total of 24 red plant species. The Ghost Orchid (*Epipogium aphyllum*) is critically endangered. The wild service tree (*Sorbus torminalis*) that is present in large numbers in Ulvshale forest is near threatened and is rare elsewhere in Denmark.

Orchids – 18 different species occur in the area. Most of them are growing on the calcareous grasslands on Høje Møn, but also in other places where the chalk has been mixed into the soil e.g. at Fanefjord. 11 orchids are nationally red listed: *Anacamptis pyramidalis*, *Epipactis atrorubens*, *Epipactis leptochila*, *Platanthera bifolia*, *Cephalanthera damasonium*, *Corallorhiza trifida*, *Orchis purpurea*, *Liparis loeselii*, *Herminium monorchis*, *Cephalanthera rubra*, *Epipogium aphyllum*.

Insects – There is a total of 172 red listed species of insects (beetles, butterflies and (one) dragonfly). Eight beetles and three butterflies are critically endangered e.g. the butterflies: Large Blue (*Maculinea arion*) and Transparent Burnet (*Zygaena purpuralis*) and a species of ground beetle (*Harpalus hirtipes*).



Fungi – There is a total of 159 red listed species of fungi. Of these, 16 species are critically threatened.

Some species are very rare and only has less than 10 findings e.g. Blue-green Hydnellum (*Hydnellum caeruleum*) which have come to Denmark with the conifer plantations.

Mammals – Threatened species include three species of bats (*Barbastella barbastellus*, *Myotis dasycneme*, *Myotis nattereri*), hare (*Lepus europaeus*) and the marine species of harbour porpoise (*Phocoena phocoena*).

Amphibians and reptiles – these groups of animals was not included in the national park project since observational information was not available at that time. This remains unavailable today but the frogs agile frog (*Rana dalmatina*) and the edible frog (*Rana esculenta*) are local species and respectively listed as vulnerable and endangered on the national red list.

Fish – To species of fish ar red listed: salmon (*Salmo salar*) and eel (*Anguilla Anguilla*).

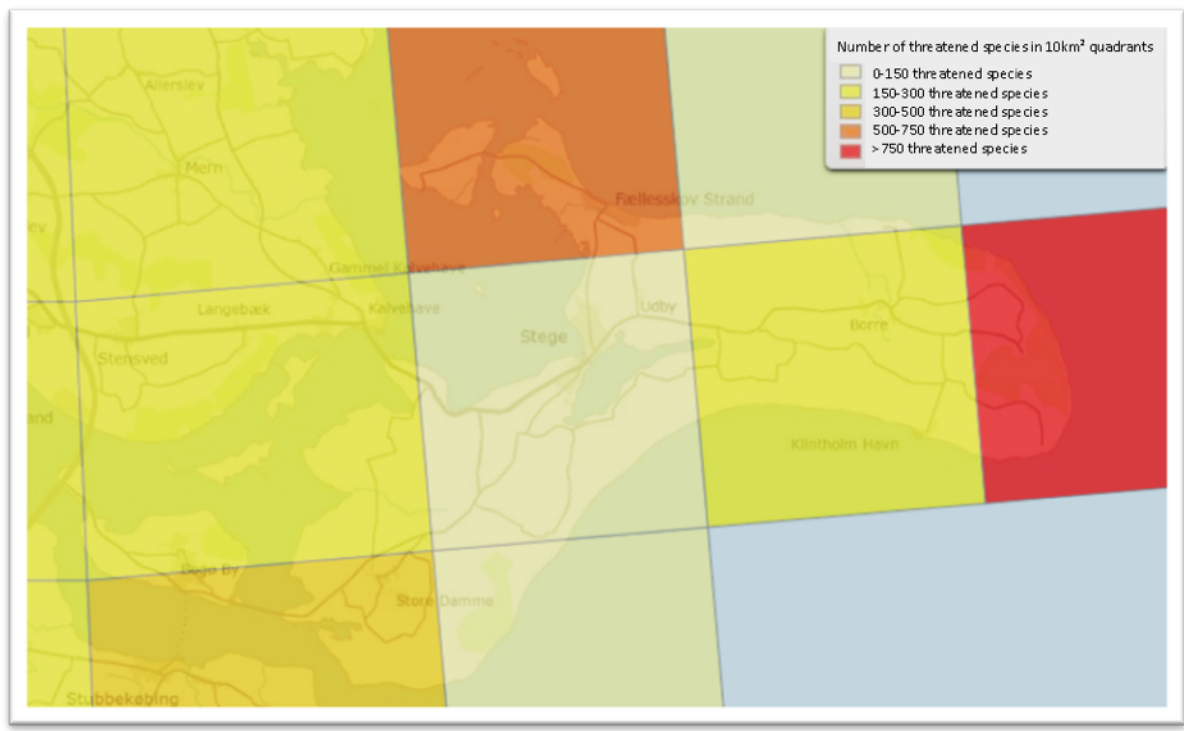
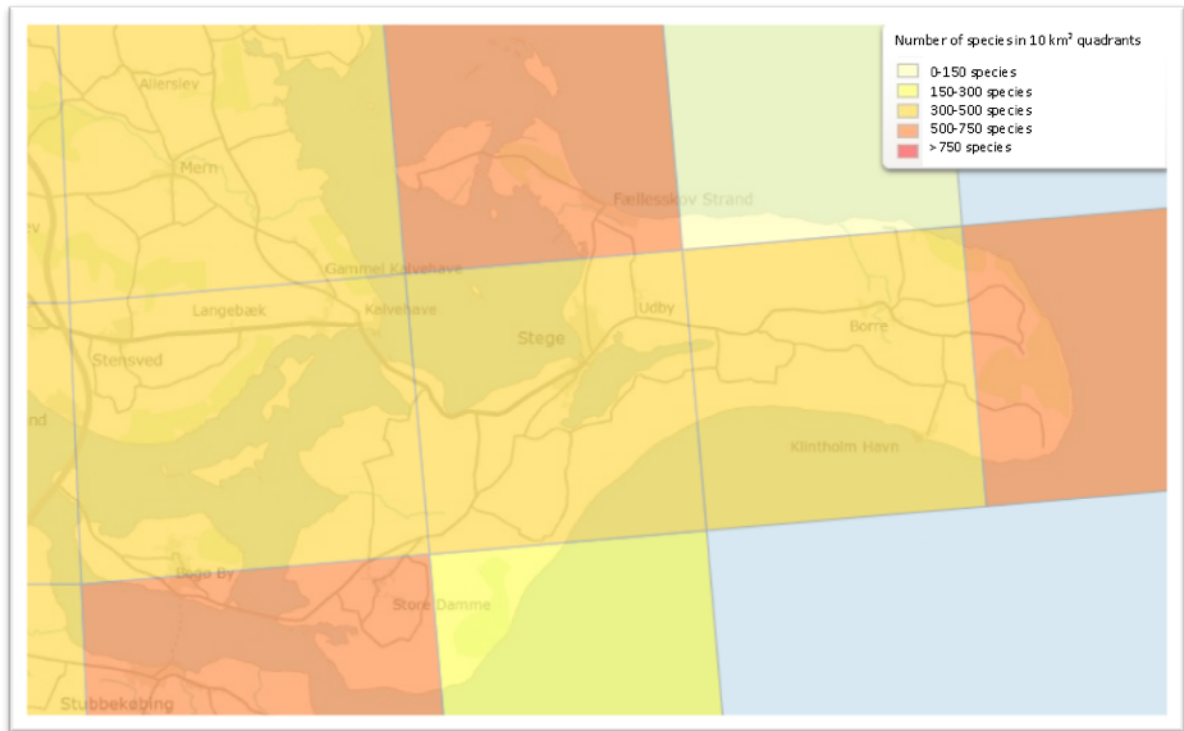
A list of all registered species and their conservation status is enclose in appendix I.1.1.

The variety of species can in some cases be said to be connected to the variety of nature types. Within a relatively small area this can be seen to be reflected in e.g. Ulvshale and Nyord which contain up to 33 different nature types and at the same time it is the area with second most species both in number and in threatened species.

Of the various types of nature that are considered to be especially threatened in Europe today, 9 occurs in the candidate area are included in the Natura 2000 network by being designated nature types in the Natura 2000 site and/or SAC. The nature types are e.g.: Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*, Semi-natural dry grasslands and scrubland facies on calcareous substrates and coastal lagoon. For a full list of EU nature types including the priority see Appendix 1.

Researchers from Danish universities have described the biodiversity in Denmark in the report "Biodiversitetskort for Danmark" (Biodiversity Map of Denmark). In this report biodiversity is assessed on the basis of data from DOF (Danish Ornithological Society), Naturbasen (fugleognatur.dk) (database with nature data), Danmarks Svampeatlas (electronic atlas of fungi), the atlas Flora Danica, The Danish Natural Environment Portal and many experts with knowledge of the habitats of red-listed species. The report operates with a "bioscore" for the number of species in different areas of the country. It is clear from the figure below that the proposed biosphere reserve area has a very high bioscore in three quadrants with scores between 500 and 750. The areas are: Høje Møn, Ulvshale-Nyord and Fanefjord. The second figure shows that there are many threatened species in the first two quadrants, > 750 species and between 500 and 750 species respectively.

The maps at the same time demonstrate that, as mentioned in the beginning of this section, that the most important habitats are in localities that include woodland. This is particularly apparent for Høje Møn and Ulvshale-Nyord. This does not mean that this is the only type of nature in these areas. Høje Møn, for example, is characterised by both woodland and open natural habitat areas, amongst others, but a feature in common is the calcareous nature of the soil and that many species are adapted to thrive in this environment. Ulvshale-Nyord is also host of a large variety of nature types, up to 33 different types.



Figures showing quadrants with bioscore (see text) of number of species (on top) and number of threatened species.

4.3 The opportunity to explore and demonstrate approaches to sustainable development on a regional scale.

The proposed Moen Biosphere Reserve can fall back on a strong regional, as well as national network, and it has great ambitions to promote sustainable development in Denmark as the first UNESCO Biosphere Reserve since 1977.

It will be obvious to start cooperation with other UNESCO designations in the region, such as the Geopark Odsherred, the World Heritage Site Stevns Klint or the Roskilde Cathedral. A number of interesting common themes from geology, history via local participation to tourism storytelling could be processed. Moreover, the cooperation can contribute to a new presentation of the region as a whole, both from a tourism point of view, as well as from socio-economic aspects and topics of sustainability that will offer interesting regional prospects.

Through a number of cooperation projects, a close collaboration with partners in the region already exists. Among these the cooperation "Fishing Zealand" and the development of cycling tourism should be mentioned. The latter is regarding local cycling initiatives connected to the national and international cycling routes that cross the region and the forthcoming biosphere area, including three national and international routes: the Baltic Sea Route (N8), The Monk Route (R 88) and the Berlin-Copenhagen Cycling Route (N9).

The Region Zealand supports this application, and it is the goal to share experiences from demonstration projects with the Danish Nature Interpreter's Network. The Danish Outdoor Council has previously supported a number of development projects in the upcoming biosphere area, and it will continue to be a sparring partner in development and promotion of nature mediation and outdoor life.

The Ministry of Environment and Food of Denmark, represented by its regional unit, the Nature Agency Storstrøm, is the authority and manager of the core areas and bufferzones in the proposed Moen Biosphere Reserve, and they will be coordinator for cooperation with other nature areas of interest in the region and on national plan.

Furthermore a collaboration with neighboring countries is established by projects within the EU Interreg and South Baltic programmes. A number of projects with a green profile have been carried out during a couple of years and further cooperations are planned. Especially collaboration projects with other biosphere reserves will there be applied for, also including other programmes and areas, as far there is a possibility of entering into a partnership.

Vordingborg Municipality applies for admission as Dark Sky Community and Park and through that obtains contacts to the network of Dark Sky areas in Europe. Areas in Germany are known for being certified as both Dark Sky Park and Biosphere Reserve, and it could be interesting to establish exchange of experiences.

Contacts have been made with other biosphere reserves situated partly in Denmark's direct neighborhood or others who are working with similar issues as the proposed Moen Biosphere Reserve. Among these are the Biosphere Reserve Southeast Rügen in Germany, the Biosphere Reserve Vattenriket in Sweden and the Biosphere Reserve Brighton & Howe in Great Britain. In April 2015 a study tour was organized to the Biosphere Reserve Southeast Rügen, and in September 2015 the locals coordinators participated in the annual meeting of the North MAB network in Sweden.

In 2016, several contacts and visits to the Biosphere Reserve Vattenriket in Kristianstad and the Regional Administration of Blekinge in Sweden have been arranged. It is expected that this will lead to permanent connections through the Biosphere Network. These contacts were of great importance for this application, and it is our hope to assist in strengthening the Baltic Biosphere Reserves, for example by transnational development projects under the South Baltic Programme.

4.4 The appropriate size to serve the three functions of biosphere reserves

The area designated as the proposed biosphere reserve comprises the main island of Møn and the smaller islands of Nyord, Bogø, Farø, Tærø and Lindholm, together with several islets with areas of less than 5-6 ha, as well as the surrounding sea. The sea therefore comprises the border around the entire area of the proposed biosphere reserve. The marine area includes part of the eastern portion of Østersøen where it is linked to the Kattegat via Øresund. The northern boundary of the biosphere reserve lies in the bay Faxe Bugt and follows the 6 m depth contour along the northern coast of Møn.

Around the islands of Sækkesand and Nyord towards the coast of Zealand the border of the proposed biosphere reserve are following the mapped marine nature types within the Natura 2000 Site (Klinteskov og Klintskov Kalkgrund, N171). The border then follows the main channel in Bøgestrømmen in Stege Bugt and further through Ulvsund, around the island of Farø in the west and continues south of the islands in Grønsund and Hjelm Bugt south of Møn. The border is demarcated by a combination of the natural boundaries that are defined by the topography of the sea floor and the types of nature that have been identified in the sea between Bøgestrømmen and Grønsund (N171), and an interpolation between the two. The surrounding sea, that broadly represents the shallow part of Østersøen close to the coast, therefore encloses the proposed biosphere reserve and links the multitude of islands.

Most of the islands in the proposed biosphere reserve are linked to each other by bridges and dams, and via Ulvsund and Farø there are bridge connections with Zealand and Falster. There are about 10.000 permanent residents in the area, together with about 3.000 summer house visitors; the area is visited by a total of about 1.2 million Danish and foreign tourists each year.

The proposed biosphere reserve covers an area of 45,118 ha (about 45 km²) that comprises roughly equal proportions of land (24,013 ha) and sea (21,105 ha). The total length of coastline of the islands is about 185 km, which illustrates that coastal environments are very important in the proposal. The core area comprises 6,165 ha, which is 13.6 % of the total area, and the buffer zone covers 15,414 ha, 34.2 % of the total.

The size of the core area is considered to be suitable to fulfil the long-term preservation aims for the area, and, together with the buffer zone, it reflects a large part of the biological diversity that exists in the proposed biosphere reserve. The transition area comprises 52% of the proposed area is dominantly on land and is broadly characterised as an agricultural area.

The buffer zones and the transition areas are areas that are suitable to demonstrate sustainable development (both terrestrial and marine) by, for example:

- the promotion of more sustainable "ecotourism", such as cycling and walking (e.g. Camønoen, walking route)
- supporting the production and processing of local food
- the promotion of grazing for the maintenance of natural areas
- promoting sustainable angling (Fishing Zealand)
- possibility of exploitation of detached eelgrass.

The size of the proposed biosphere reserve and the distribution of the various zones are believed to be sufficient to support the possibility of completing functions concerning preservation, development and support of research and education.

4.5 Through appropriate zonation:

(a) Legally constituted core area or areas devoted to long term protection, according to the conservation objectives of the biosphere reserve, and of sufficient size to meet these objectives.

Core areas are based on those parts of two wildlife reserves Fanefjord-Grønsund Wildlife Reserve and Ulvshale-Nyord Wildlife Reserve that have the most severe restrictions as regards human activity. In addition two EU-Habitat areas (H208 and H179), all the mapped habitat nature types in SACs (dominantly of the types open natural habitats and forest), as well as most of the §3-registered areas (biotope protected areas) are included in core areas. In total the core areas cover 6,165 ha, equivalent to 13.6% of the proposed biosphere area of which 2,767 ha are terrestrial and the remaining 3,397 ha are marine.

The different kind of designations are in terms of area coinciding and also covers other types of designations not having the kind of restrictions sufficient for core areas e.g. Geosites. The following designations from a) –d) is the basis for the core areas, where e) – h) lists some additional designations which happens to fall within the core areas but having main conservation objectives which meet the requirements for core area.

- a) Wildlife reserve 2,371 ha
- b) Mapped habitat nature type in SACs 2,496 ha
- c) Biotope protected areas (§3 areas) 2,095 ha
- d) Protected areas 2,200 ha
- e) Natura 2000 Site according to the Habitat directive 5,749 ha
- f) Natura 2000 Site according to the Bird protection directive 3,927 ha
- g) Ramsar Sites 2,722 ha
- h) Geosites 644 ha

The main conservation objectives of the core areas are largely linked the legislations for the two wildlife reserves which aims to ensure the areas as breeding, resting and foraging area for water birds and in general to the Danish nature-conservation and environmental-protection legislation. The area designated according to the habitat directive (Council Directive on the conservation of natural habitats and of wild fauna and flora 92/43/EEG). This protection also extends to the habitats for marine nature, coastal lagoons and types of nature that are related to these, both marine and terrestrial (e.g. springs and alkaline fen). There is also focus on protection of chalk enriched nature because of its rarity, particularly threatened status or limited distribution in the area.

Activities in the core areas are limited to those that are permitted according to regulations covering the above-mentioned protection areas.

(b) Buffer zone or zones clearly identified and surrounding or contiguous to the core area or areas, where only activities compatible with the conservation objectives can take place.

Buffer zones are covered by the remaining parts of Fanefjord-Grønsund Wildlife Reserve and Ulvshale-Nyord Wildlife Reserve where more human activity is permitted than in the core areas. They also include those sections of the five Natura 2000 Sites that do not fall within the core areas. Again, there is some overlap between the wildlife reserve areas and the Natura 2000 Sites. The buffer zones comprise 15,414 ha which correspond to 34.2 % of the total area. Marine areas dominate the buffer zone and cover 13,100 ha; the remaining 2,314 ha are on land.

The buffer zones are based on following designations:

- i) Wildlife reserve 6,221 ha
- j) Natura 2000 Site according to the Bird protection directive 11,878 ha
- k) Natura 2000 Site according to the Habitat directive 13,962 ha
- l) Ramsar Sites 7,661 ha
- m) Geosites/NGI/NK 644 ha
- n) Protected areas 1,077 ha
- o) HNV (High Nature Value) forest (score > 7 ¹⁾) 669 ha
- p) Areas of cultural heritage ²⁾ 680 ha

¹⁾ HNV-forest is forest areas with indications of high biodiversity potential. Forests are rated based on the categories coastal proximity, altitude variation, richness in woody plants, large trees, forest structure, forest continuity, habitat, finds of species etc. 22% of the national forest area has a score > 7.

²⁾ Areas of cultural heritage indicate that there are significant archaeological sites in the mapped area. 1.9% of the area in Denmark is designated area of cultural heritage. Activities like forestry, agriculture and, to a lesser extent, fishing, take place in the buffer zones. There are also activities involving tourism and recreation, teaching, research and environmental monitoring. Danish nature-conservation and environmental-protection legislation, as well as the Planning Act, regulate activities in agreement with preservation targets for the different designations.



The Møn Bridge (Queen Alexandrine's Bridge) that connects Møn with Zealand passes through the buffer zone.

(c) Outer transition area where sustainable resource management practices are promoted and developed.

Transition area comprises slightly more than half of the proposed biosphere reserve, covering an area of 23,539 ha (about 52%). Most of the transition areas is on land (42% of the biosphere candidate), gives that the remaining 10% is marine. The transition area consists dominantly of agricultural land with widespread buildings and near-shore areas of

the sea. The transition area has a considerable potential for the development of projects that promote sustainable development. These include environmental projects that are regularly initiated by Vordingborg municipality that typically involve research, information and education, such as the Fishing Zealand project.

Since several initiatives for the sustainable development of the area have already been taken, it is now a matter of ensuring that they are carried out. The aim is for the biosphere reserve area, as a model for sustainable development, to be able to strengthen projects in the application for joint financing. Another goal is to develop interdisciplinary and interdepartmental projects between, for example, Vordingborg municipality's social activity and managing within nature and environment and the state-run Agency for *Water and Nature Management*. A sustainable foundation for agriculture, fishery, local food and ecotourism are examples of fields that have been developed or can potentially be developed and which the establishment of the proposed biosphere reserve will have a great potential to develop further.

The values that exist in the transition areas will be used to strengthen the economic and practical aspects for businesses in the area.

(d) Additional information about the interaction between the three areas.

The three zones in the proposed biosphere reserve are intimately connected, given its compact size and close dependency of human populations on the natural environment. The biodiversity is highly concentrated within two to three areas and it is a key issue to work on the development of corridors for the future protection of species gene exchange etc. Water is also a key element, as it surrounds the entire proposed area. The marine environment is insufficiently known and it is desirable to obtain more knowledge. At the same time the marine environment is recipient of leaching from agricultural areas which therefore has a very large impact on the fauna in the surrounding seas.

The Vordingborg Municipality has agreed upon following objectives on nature and environment, which demonstrate the priority of working with the biosphere concept.

A main focus in the coming years within nature, trade and tourism is to establish a basis for identifying Møn and the area around Bøgestrømmen as an UNESCO Biosphere Reserve - with preservation of unique nature in close connection with the development of the area's tourism and sustainable local businesses. Taking into account the protected natural focus simultaneously on developing the nature-oriented tourism such as Fishing Zealand and Dark Sky, which make a link between tourism, nature experiences and active leisure life.

Within nature conservation and climate protection coherent nature network, that includes valuable landscapes and large natural areas, should be strengthened through the establishment of corridors with large natural content. Through a holistic watercourse planning a sustainable and climate-proof balance between improving water quality and the need for drainage is sought.

For resources and pesticides should it be sought to promote the recycling of local resources including by promoting local recycling soil from building - and construction projects, as well as strengthening local recycling reusable products. In addition, efforts to minimize the use of pesticides, and seek to use happens as gently as possible on the natural environment.

Coproduction and involvement of the locals' should be strengthened by supporting local nature and outdoor projects. The focus is on creating citizen related nature activities and

communication, which, based on the municipality's historical and natural qualities help to support tourism, settlement, learning and quality of life.

4.6 Involvement and participation of a suitable range of inter alia public authorities, local communities and private interests in the design and the carrying out of the functions of a biosphere reserve

4.6.1 The arrangements in place or foreseen.

The Moen Biosphere Reserve partnership consists of representatives of national and local authorities, responsible for both, the core and buffer nature areas in the proposed biosphere reserve; NGOs and private stakeholders who own and manage parts of nature areas; representatives of volunteers and bodies, who are active in the different zones; representatives of culture, tourism and business, as well as representatives for learning and training.

Several democratic setup bodies will ensure, that the proposed Moen Biosphere Reserve is managed professionally competent, broadly anchored and developed professionally. A secretariat will be established, based on a sound economy and placed in physical representative environment.

During the preparation of this application, there has been set up an Advisory Board with representatives for all activities in the 3 zones, including the national and local authorities, NGOs, volunteers, agriculture and business. Vordingborg Municipality has recruited a biosphere project coordinator. They build the operational organization for the coming Moen Biosphere Reserve on this foundation. See the local cooperation structure on the next page.



The local cooperations structure within the proposed biosphere reserve

Cooperation structure on local level

The proposed biosphere reserve is characterized by a diverse and active partnership of organisations with responsibilities and/or interests in the local environment and promoting sustainable development along with a history of working co-operatively. The

Advisory Board

Leader: Vordingborg Municipality.
Chairman, the director of development

The area managers (Core- and Bufferzones):
The Nature Agency Storstrøm
NGO, The Bird Protection Foundation
The Department of Land and Environment, Vordingborg
Municipality

Learning and training, the voluntary bodies and the
private sector (transitionzone):
Representative for training / education
Representative for business

4 annual meetings and one
annual event or field trip
together with the biosphere-
presidency.

Secretariat

Development and implementation of the biosphere project in
practise; information and marketing national and
international, networking on local, regional and national
level, contacts to the UNESCO Biosphere Reserves
Network.

All year round open
secretariat,
in cooperation with the
House of Moen cooperation,
the local visitor centre.

Vordingborg Municipality's environmental and climate committee.

Broad cooperation, the "green council" on local level. The
biosphere-project will be represented permanent in these

4 annual meetings and one
study trip.

Biosphere - Ambassador network and presidency

New network to be built, representing a broad range of
volunteers and residents. Changing thematic content,
discussion of strategy on local level and small scale

1 annual event or field trip
for the network and
meetings regarding projects

The local nature interpreter's network

Meeting on local level. The Biosphere-coordinator will
participate in the planning, coordination and implementation

1 annual evaluation and
planning meeting with all

Endorsement Letters, provided by the partners and other bodies - see Appendix.

Cooperation structure on national, regional and local level

National

The danish UNESCO national
Commission

The Ministry of Environment and
Food in Denmark, the Nature
Agency Storstrøm

Regional

The Region of Zealand

The Fishing Zealand Cooperation

Local

Vordingborg Municipality, leader

The area managers (Core- and Bufferzones):

The Nature Agency Storstrøm
The Bird Protection Foundation
Vordingborg Municipality
The National Museum, regarding Liselund Park

**Learning and training, culture and voluntary bodies
(transitionzone):**

The Museum Southeast Denmark
The Local Councils representative
Vordingborg Social Entreprises
Schools and education institutions
GeoCenter Møns Klint
Local associations
Nature interpreters

Private sector bodies (transitionzone)

The process until now

The plan to apply UNESCO for inclusion of Møn and the surrounding islands in the Biosphere Network has matured for a couple of years, before the political decision was aimed to engage Vordingborg Municipality in this application process.

In the year 2005 a comprehensive application process - concerning making parts of Møn and Nyord to one of the first nationalparks in Denmark - ended with a refusal by the current Minister of the Environment. "Møn and Nyord became initially not a national park. To much uncertainty about the project, including doubts about the future opportunities to grow the business, made, among other things, certain parts of the agricultural industry to say no (to a nationalpark on Moen - editors note)", concluded the Bird Protection Foundation in 2008, in a review about the process.

The process among citizens did not end with this refusal. Especially the local cooperation on the small island Nyord shows how the pilot project National Park Møn has created a common basis for future work. "... The Nationalpark idea, dialogue and cooperation is far from being stalled, and paints a promising future perspective of how nature can become a key driver for boosting development at Moen" (continues the article; editors note).

In the years 2012-2014 participated the Coastal Destination Moens Klint in a national project about the development of 20 special coastal tourism resorts in Denmark, coordinated by the Research Centre for Coastal Tourism. The projects' outcome is a report, which forms the basis for the further work on the applications for Dark Sky Park and Community and this one regarding the proposed Moen Biosphere Reserve.

In 2015 Vordingborg Municipality funded a pilot project to verify the potential for a Biosphere Reserve application. There was established the first interdisciplinary working group with representatives from all actors involved, including the Nature Agency Storstrøm, the municipality, land managers, social projects, citizens and NGOs. Many of the players had already participated in the national park project. They could draw on their experience regarding appointment of potentials, proposals for areas and zones, identification of potential conflicts and involvement of the public. This process culminated in a draft of a proposed Moen Biosphere Reserve, discussed and evaluated during a visit of a UNESCO representative on Møn in May 2015. Contact was created with the Danish UNESCO National Commission in order to ensure national support. Subsequently Vordingborg municipality engaged the political decision to provide DKK 3 million available for the application and implementation of the Moen Biosphere Reserve. There was employed a coordinator and launched the design of this application. In this process the results of the Pilot Project Nationalpark Møn repeatedly had great significance.

Public participation is of great importance. From June 2015 to the submission of this application there has been held a series of information meetings with various local stakeholders and grassroots; including a number of public events with a total of approximately 250 participants. A website was created, a flyer published and there has been worked with applications to development projects that support sustainable and nature-related processes.

In June 2016 opened a Facebook group, which currently has about 120 members. At present, 38 local associations, companies and participants expressed their interest in supporting the biosphere project. There was written about the biosphere project in local and

national newspapers and brought a broadcast by TV2, the regional TV station. Public awareness was created in summer 2016 through the "sailing cycling trails", which is the first project where the Biosphere Coordinator actively included the dissemination of the biosphere idea in sustainable ways to experience the nature and the cultural heritage. The work with communication and public involvement continues after submission of this application. Next important topic is the management and action plan for the upcoming biosphere reserve.

4.6.2 Cultural and social impact assessments or guidelines

The proposed biosphere reserve will base its work on the model of participatory democracy and citizen participation, established by the Municipality of Vordingborg in 2008. The model will involve representatives for the four local councils in the proposed biosphere reserve and the Environment and Climate council, the Disabled Council and further the Nature Interpreters Network. It is planned to organize an Ambassador Network of volunteers and to strengthen the relationship with the social and educational actors in the Municipality of Vordingborg concerning training and the Outdoor School concept.

4.7 Mechanisms for implementation:

"(a) Mechanisms to manage human use and activities in the buffer zone or zones"

The management of the proposed biosphere reserve will, within each zone, continue to follow the current management models that form the basis of this application.

The Nature Agency Storstrøm, under the Ministry of Environment and Food of Denmark, is the highest authority compared to the national owned areas. During 2016 the action plans concerning the management of the Natura 2000 areas in the designed core areas and buffer zones of the forthcoming biosphere reserve, have been revised.

The Municipality of Vordingborg determinate in their policy how the areas in the municipality develops. Further long-term goals for both the environment and nature climate initiatives are described. "The long term goal is to ensure and restore a favourable conservation status of habitats and species, as international nature protection areas are selected to protect".

Concerning human activities, clear regulations have been stated. This is in regard to how areas of the municipality can be developed to either business activity, settlement or tourism purposes and how natural and climate risk zones manages. The environmental assessment of the municipal plan includes the following phases, resulting in an environmental report.

- Consultation of relevant authorities regarding assessment of the topics in the sketch of the municipal management plan
- Assessment of significant environmental factors concerning conflicts of interest
- Revisions to the draft regarding minimizing environmental impacts
- Preparation of the [environmental report](#)

"(b) A management policy or plan for the area as a biosphere reserve"

The management plan for the forthcoming biosphere reserve will be based on the knowledge and the existing nature management plans that are underlying this application. The management plan will be drawn up in the months between the hand in of the application and a nomination.

It will cover a periode of 5 years with a follow up for the next 5 years, so it will cover the period until the UNESCO evaluation procedure. The plan will demonstrate the development of the Moen Biosphere Reserve, based on the biosphere programs main goals:

Conservation:

- Planned nature care activities and methods in the core and buffer areas
- On land (for example deforestation of pine (*Pinus sylvestris* L) and warty birch (*Betula pendula*), untouched forest; grazing cooperation projects and coastal protection)
- In the water (brackish water pike and perch, eel grass meadows,...)
- Building the Dark Sky Park
- Cultural heritage (for example support of sustainable development aspects in the masterplans of Stege City and Klintholm Harbour)

Development:

- Building a Moen Biosphere reserve ambassador corps
- Building the management and cooperation structure of the Moen Biosphere Reserve
- Building the House of Moen Visitor Centre and the Biosphere Project Secretariat
- Building the Biosphere Demonstration Project "Hyldevang"
- Developing activities and infra structure for the Dark Sky Park
- Collecting new ideas for the development of the Moen Biosphere Reserve
- Projects with regional and international partners: Fishing Zealand, Catch, Undine, environmental recycling of seaweed project and others
- Infra structure projects: coastal path, shelters, completing hiking and cycling trails
- Local food from the Moen Biosphere Reserve: nature care meat and others
- "High Nature Value" subsidy

Learning and Training:

- Outdoor school
- Modern sustainable farming, visiting the farms and learn about farming
- Guide courses (sustainable angling, starry sky guides, biosphere rangers)
- Volunteer program
- A Biosphere interpreter/ranger
- Social jobs
- The Biosphere Ambassadors Networks activities and a yearly public programme

Logistic support, research

- Monitoring of a species system
- Database of species and habitats
- DTU Aqua (brackish water pikes)
- Darkness Measurements
- EU projects: CATCH, UNDINE II
- Monitoring in the core and buffer zones
- Biosphere partnership with the Biosphere Reserve Vattenriket in Sweden
- Exchange of experiences and projects with other biosphere reserves
- Participation in and support of the UNESCO biosphere network

"(c) The designated authority or mechanism to implement this policy or plan

It is not the plan to design a new authority that can implement the management plan for the biosphere project. All necessary players are presented through the Biosphere Partnership, among others in the Advisory Board, the Environmental council, the local councils and the representative committee.

The execution of the nature management measures and/ or demonstration projects will be based on the initiatives of the authorities involved, such as the Municipality of Vordingborg and the Nature Agency. They will have the responsibility to comply with relevant regulations and assure that the activities are carried out in close cooperation with local actors such as

farmers, grazing associations or fishermen. The biosphere project will at all times lean on the existing national and international laws and existing regulations. The Biosphere Secretariat will be the unifying party and having a facilitating role. The Secretariat will mediate the Moen

The Biosphere Demonstration Project at the Naturcentre Hyldevang on Nyord

Sketches of a function program, designed by Nørrøn Architects.

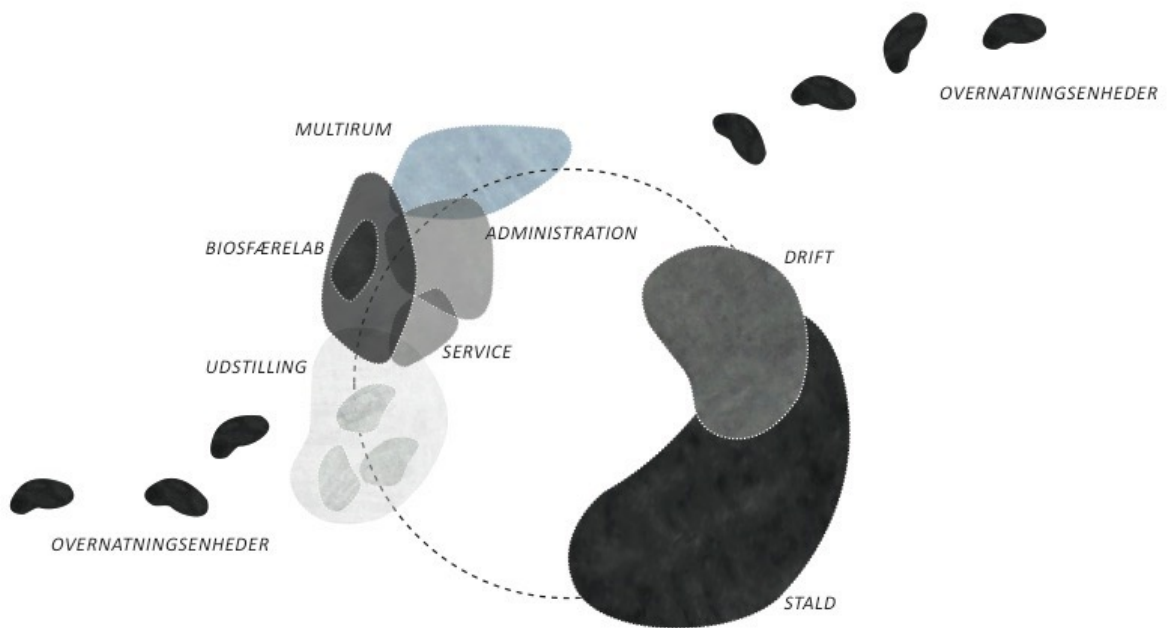


Diagram: Samling af rum

Biosphere Reserve both to locals and visitors and be in close contact with the biosphere network.



Vision for the future activities at the Hyldevang Nature Centre

The centre shall become the starting point and framework for nature care, social and research functions for several audiences, here inter children and adults, social jobs, volunteers, local producers, research workers and the public.

The Forest Helpers

The centre shall offer modern facilities for the social enterprise of the Forest Helpers, so they can facilitate the project with nature care projects and services for the school classes and kindergartens.

Outdoor School

The centre shall offer facilities for learning in nature for a broad audience from kindergartens to students and teacher trainees. Seminars and events organized by the local actors for special audiences and the public.

The Biosphere interpreter and ranger

The centre shall offer modern facilities for mediating and nature interpretation by a Biosphere Ranger, who is facilitating nature care activities carried out by children and adults, volunteers and the Forest Helpers. The Biosphere Ranger is also responsible for public interpretation activities.

Nature Care and local production

The centre offers facilities for the organic cattle herd, grazing the Nyord meadows and for other activities regarding development and testing of local production on the island. Mediating and communication facilities for the nature interpreter, like a nature kitchen.

Volunteers, monitoring and research

The centre shall offer facilities for volunteers who can support monitoring, nature care and mediation projects and facilities for research workers in the field.

Health and Outdoor activities

The centre shall become a base for treatment and convalescence and the starting point for experiences of the nature and culture, described in the Eco Museum concept for Ulvshale/ Nyord.

Mediation of the Biosphere and Dark Sky project

The centre is the pendant to the GeoCenter Møns Klint, which is communicating the "wild nature" of the cliffs. The Hyldevang Nature Centre is in the centre of the core and buffer zones and the Dark Sky Park on the south western part of the biosphere reserve and communicating the "quite" nature of the Ulvshale peninsula and the island Nyord.

“(d) Programmes for research, monitoring, education and training

For some of the projects described, monitoring and to a lesser extent research already is undertaken. Establishing and coordinating of monitoring and research activities is the greatest challenge in this biosphere project and central topic in the coming management- and action plan.

In the core area Ulvshale/Nyord there will be worked with the establishing of a Biosphere Demonstration Project that accommodates physical facilities for research, monitoring, learning and training, local production and nature acre. From here the three themes: land, water and the starry sky will be communicated to the public. This will keep focus and interest on the new biosphere reserve in Denmark. It is a hope that universities and research centres in Denmark and Europe will appoint new research fields together with the proposed Moen Biosphere reserve and thereby support the process of green transition. Finally, it is a great desire to convey an exciting example to the surrounding neighbours in the region, in Denmark and the Baltic of sustainable development with nature and people in focus and further to share our experiences with other Biosphere areas.

5. ENDORSEMENTS:

5.1/ 5.2/ 5.3

Biosfære-kandidaten Møn er del af Vordingborg Kommune, og udviklingen af områdets grønne profil ligger i direkte forlængelse af kommunens Vision 2030 og potentialeplanen for Kystdestination Møns Klint.

Med venlig hilsen


Jan Michelsen
Udviklingsdirektør


Signed by the National (or State or Provincial) administration and authorities in charge of the management of the core area(s) and of the buffer (zones):

E-mail: cje@nst.dk

Web site: <http://naturstyrelsen.dk> <http://naturstyrelsen.dk/lokale-enheder/storstrom/>

Signature :

3/8-2016



Claus Jespersen
Skovrider
Miljøministeriet
Naturstyrelsen Storstrøm
Hannemøvej 22
4800 Nykøbing F.

Contact address, regarding Liselund Park

Name: National Museum of Denmark

Web site: <http://en.natmus.dk/>

Signature: Camilla Mordhorst, Director of Research and Communication



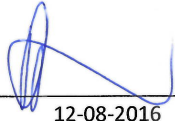
Date: 13 September 2016



© National Museum of Denmark

Country: Denmark
Telephone: +45 21 34 33 56
E-mail: dajm@regionsjaelland.dk
Web site: www.regionsjaelland.dk

Signature



12-08-2016

David Jens Meink
Sjælland
Regional Udvikling
Alleen 15
4180 Sorø

Contact address, regarding the DN, Vordingborg:

Name: Martin Vestergaard

Street or P.O. Box: Svinøvej 23

City with postal code: 4750 Lundby

Country: Denmark

Telephone: +45 25 14 15 89

E-mail: martin@naturatlas.dk

Web site: <http://www.dn.dk/Default.aspx?ID=2299>



Signature

Contact address, regarding the Fishing Zealand network

Name: Fishing Zealand, Paul Debois, secretary

Web site: <http://fishingzealand.dk>

Signature: 

Lokalrådene i det kommende biosfære område på Møn støtter op omkring Vordingborg Kommunes ansøgning til UNESCO. Vi understøtter at biosfæreprjektet fokuserer på bevarelse af naturens mangfoldighed og vores rige kulturarv. I særdeleshed understøtter vi at borgerne vil have en vigtig rolle i det kommende biosfæreområde med fokus på uddannelse, arbejdspladser og en bæredygtig udvikling.

5.4

Bogø Lokalråd:

23/8-2016

Dato

Signature

Stege og Omegns Lokalråd:

18-8-2016

Dato

Signature

Vestmøn Lokalråd:

1/9-2016

Dato

09 Rendsby Forman.
Signatør
Signature

Østmøns Lokalråd: Et flertal støtter op om ansøgning, et mindretal er kraftigt imod

1.sep. 2016

Dato

Torben Nielsen

Signature

Signature

Signed by the authorities or spokespersons representative of the actors, located in the transition area(s).

E-mail: esther.malmborg@gmail.com



Web site: _____



Signature: 21. August 2016

Esther Malmborg



Signature

19 August 2016, Nyord, Sten Scheibye, CEO

København, 15. august 2016

Web site: www.moensklint.dk

Møns Klint, August 29th 2016


Nils Natorp
CEO
GeoCenter Møns Klint

Web site: www.museerne.dk

Signature ^{24/8-2016}





Museum Sydøstdanmark
Museum Southeast Denmark

Signature



MØNS HANDELSSTANDSFORENING



5.5 Signed on behalf of the MAB National Committee or focal point:

Ms Irina Bokova
Director-General
UNESCO
7, place de Fontenoy
75352 Paris 07 SP, France



**The Danish National
Commission for UNESCO**

The Danish National
Commission for UNESCO

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1220 København K
Tlf. +45 2273 9708
E-mail unesco@uvm.dk
CVR nr. 20-45-30-44

**Endorsement of application by the Municipality of Vordingborg for Mon
(Moen) as a UNESCO Biosphere Reserve**

On behalf of the Danish National Commission for UNESCO I am pleased hereby to express our whole-hearted support and recommendation of the application for Mon as a UNESCO Biosphere Reserve proposed by the Municipality of Vordingborg.

29th of September 2016

Sags nr.: 16/10007-3

The visions and overall aims of Mon Biosphere Reserve are perfectly in line with the three core inter-connected functions of a UNESCO Biosphere Reserve. Mon Biosphere Reserve achieves conservation, development and logistic support, as underlined and documented in the application.

Mon Biosphere Reserve protects ecosystems, cultural and historical values, and landscapes such as the Mons Klint. Moreover, Mon Biosphere Reserve fosters sustainable development through different activities that will contribute to sustainable economic and socio-cultural development, and as such it is an integrated part of the development strategy of the Municipality of Vordingborg. The Biosphere Reserve project is developed in a multi-stakeholder approach with strong involvement and support from local communities, as recommended by the MAB-programme. This includes individuals, associations, organisations, GeoCenter Mons Klint, local agriculture and local producers.

The project of Mon as a UNESCO Biosphere Reserve is in line with and a perfect example of our national UNESCO priorities and strategy about conserving and transmitting natural heritage and cultural heritage for sustainable development.

Furthermore, Mon Biosphere Reserve is convincingly aiming to make relevant contributions to UNESCO's Man and the Biosphere (MAB) Programme, its World Network of Biosphere Reserves and to the Lima Action Plan (2016-2025), as described and documented in the application.

For all of these reasons the Danish National Commission for UNESCO reiterates and reinforces its recommendation of the Mon Biosphere Reserve project and application before you.

Yours Sincerely

A handwritten signature in blue ink, appearing to read "Jens Dalsgaard".

Jens Dalsgaard
Secretary-General of the Danish National Commission for UNESCO

**The Danish National Commission
for UNESCO**
Frederiksholms Kanal 26
DK-1220 Copenhagen K, Denmark
Phone: (+45) 33 92 52 16

A handwritten signature in blue ink is written over the stamp.