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Updated biodiversity country profile

Biodiversity facts

Status and trends of biodiversity, including benefits from biodiversity and ecosystem services and functions

Nature and biodiversity in Denmark are the results of landscape development since the ice age as well as of centuries of human impact from agriculture, fisheries, forestry and urban and infrastructural development. According to Statistics Denmark 61,1 % of the total area is agricultural land; 12,7 % is forest and woodland; open habitats cover 8,6 %; buildings etc. and other artificial surfaces cover 8 %; roads, railroads and runways are 5,8 %; lakes and streams cover 2,2 % and 1,7 % is unclassified (data from 2016).

Status and trends for biodiversity in Denmark are regularly reported in national reports. In accordance with the Habitat and Bird Directives status and trends of EU-protected nature areas and species is reported every sixth year. The last reporting was in 2013.

The forest is the natural habitat which is home to most of the endangered species. Many forests are cultivated and their conservation status was in 2013 reported unfavourable bad. However, there are some signs of positive development due to new forests with less intensive forestry and a transition to more natural stewardship and an increase in areas of natural forests.

The area of open, natural habitats as meadows, heaths and commons has remained stable (approximately 10 %), and 31 out of 34 types of habitats were in 2013 reported either unfavourable inadequate, unfavourable bad or unknown.

The proportion of watercourses in at least good status (approx. 50%) based on the appearance of invertebrates has been stable during the past five years, which is a significant improvement compared to 20 years ago (approx. 20%).

In lakes there has been a slightly positive development in central parameters such as chlorophyll during the period 1990-2016 – most significantly in lakes in which the pollution was most severe in 1990.

When looking at the latest 10 years there seem to be diverse signals from various marine parameters. The appearance of higher plants (eelgrass and macro algae) has increased significantly during the past 10 years. Oxygen depletion has varied over the past 10 years, which is mainly explained by meteorological conditions, but nutrients are also an important issue. The amount of algae in coastal waters measured as chlorophyll was higher in 2016 compared to the previous years and reached a level comparable to the level in the 1990'ies and the mid 2000's.

The latest Danish Red List goes back to 2010 and an update is expected in 2019. In the last report from 2010 more than 8.000 species had been evaluated. Approximately 65 % of these species were of least concern, approximately 19 % were near threatened, vulnerable or endangered and around 9 % were critically endangered or regional extinct.

To sum up, biodiversity in Denmark continues to decline in many spheres but there are also some areas in which the speed of decline has slowed and, for some natural habitats and species, there are signs of improvements.

A national mapping of ecosystems has been made and the knowledge on 16 ecosystem services and their value has been assessed. A model to map and assess the value of ecosystem services based on existing data has been developed to analyse synergies and trade-offs among different ecosystems and biodiversity indicators.

Main pressures on and drivers of change to biodiversity (direct and indirect)

Many habitats in Denmark are small and separated, which make them vulnerable and the possibilities for dispersal of species to other suitable habitats could be difficult. Structural changes in agriculture mean that some grassland habitats by succession become scrub/forest. Many agricultural areas are drained and natural hydrology in wet habitats is lacking in many places. Effects of nutrients are seen in flora and in lakes, rivers and coastal waters but nutrient emissions have been reduced the last 30 years: nitrogen content in surface water has been reduced with approximately 50 % since 1990 and atmospheric depositions of nitrogen have been reduced by 35 % since 1990. Danish forests are characterized by forestry e.g. quite young and the amount of big, old trees and dead wood, which are important habitats for many endangered species, is low but the amount of dead wood in forests owned by the state is increasing.

Climate change is expected to have considerable impacts on food webs, plant and animal compositions in habitats and it will impose future threat to coastal biodiversity due to sea level rise.

Measures to enhance implementation of the Convention

Implementation of the NBSAP (National Strategy and Biodiversity Action Plan)

Denmark adopted its first strategy in 1996 and the first Action Plan for Biodiversity and Nature Conservation in 2004. The Danish Biodiversity Strategy from 2014 is currently being revised.

Overall actions taken to contribute to the implementation of the Strategic Plan for Biodiversity 2011-2020

Denmark contributes to the implementation of the Strategic Plan for Biodiversity 2011-2020 mainly through the EU Biodiversity Strategy to 2020. Legislation and implementation are described in the next chapter.

Several political agreements – e.g. Naturpakken from 2016- have contributed to further biodiversity and nature protection by actions to promote e.g. an aquatic environment of high quality; reduction in pesticide effects; reduction in green-house gasses; more biodiversity in forests and improved environmental monitoring.

In 2018 45 forests owned by the state were designated as forests with biodiversity as the main management objective. The new designation means that the area of such forests owned by the state is just about doubled to 22.800 hectares. The new management regime for designated areas will be phased in over a time frame of up to 50 years.

In 2018 approximately 30.000 hectares new nature areas were included as Natura 2000 protected area and approximately the same area of agricultural land and urban areas was removed from Natura 2000 protection.

A new national forest programme was launched in 2018. It sets out the long term goal that towards 2040 at least 10 pct. of the combined Danish forest cover has nature and biodiversity as the primary management objective. Another long term goal is that forest landscapes cover 20 - 25 pct. of the Danish area before end

the 21st century. It further sets out a range of strategic orientation lines and concrete actions to underpin a multifunctional and sustainable development of Danish forest. The strategic orientation lines focuses both on the conservation and enhancement of forest biological diversity on key designated locations as well as promoting general mainstreaming of regards for nature as an integral part of sustainable forest management.

When municipalities review their local planning next time, they are required to map existing and potential new nature areas and corridors to intensify the effort to create less fragmented and larger nature areas (A Green Map of Denmark).

Support mechanisms for national implementation (legislation, funding, capacity-building, coordination, mainstreaming etc.)

National legislation etc

Denmark benefits from a large national legislative framework for biodiversity protection, e.g. Nature Protection Act, Forest Act and the Hunting and Game Management Act. These acts are not described in details here but important rules are that some nature areas are protected when they have a certain size, that most forests cannot be converted to another land use and that Danes have access to large natural areas, such as forests and uncultivated land, and not least to the coasts and state-owned natural areas. Furthermore, the public has access to roads and paths in the countryside, on both privately and publicly owned land, giving people the opportunity to experience nature. Moreover, recreational facilities such as walking and cycling trails, bird towers and shelters are constantly being developed and improved.

All areas protected by specific Nature Conservation Orders have been reviewed by IUCN in 2018. Following the IUCN Protected Area Management Categories Denmark have 378 areas protected as nature conservation areas. Other areas protected by Nature Conservations Orders include e.g. landscapes, historical environments and burial mounds.

There are five national parks in Denmark. These parks hold some of the most unique and valuable nature areas and landscapes in Denmark. The legislative framework on nature protection in the parks is the same as outside.

All wild mammals and birds are protected unless hunting is allowed. All amphibians, reptiles and 10 insect species are protected and the same applies for several endangered plant species, e.g. all orchids, along with some fish species e.g. Fresh Water Lamprey. In approximately 100 wildlife sanctuaries special rules for access are set to protect seals and birdlife.

More than 20 species (e.g. Otter and Cormorant) have special management plans which describe actual status and how the species should be managed in a sustainable way.

EU-regulations

Much legislation in Denmark on nature protection is implementation of EU-regulation. Most important in this context is the Habitats Directive, the Birds Directive, the Water Framework Directive and the Marine Strategy Framework Directive and the Regulation on Invasive Species. Denmark contributes to the EU Biodiversity Strategy to 2020 by implementation and active management of the nature directives.

257 areas in Denmark are protected as part of the Nature 2000 network of most valuable and threatened species and habitats in Europe. These areas cover approximately 8 % of the land area and 18 % of the marine territory. Each area has a specific plan with goals and a management plan. These plans are reviewed every sixth year. Next review is in 2020.

Four national river basin management plans from 2016 together comprise a plan which should lead to cleaner water in lakes, watercourses, coastal waters, seas and groundwater in compliance with the Water Framework Directive. Next review is in 2020.

The Danish Marine Strategy from 2012 illustrates the condition and importance of the Danish marine areas and it sets benchmarks for a good and healthy marine environment for the future. Denmark is planning to update the environmental targets in 2019 in an updated Marine Strategy II.

In 2017 a plan with 36 actions on invasive species was released as part of implementation of the Regulation on Invasive Species.

International

At international level Denmark has ratified several international conventions concerning nature and biodiversity, e.g. Bern, Bonn and Ramsar.

Denmark has ratified the International Treaty for Plant Genetic Resources for Food and Agriculture.

Denmark has signed the Convention on Biological Diversity, The Global Action Plan on Animal Genetic Resources and the Interlaken Declaration on Animal Genetic Resources.

Funding

Funding goes partly to larger projects which restore nature (e.g. raised bogs and river valleys) and partly to management subsidies to nature areas (e.g. grazing, sustainable agriculture and forestry and more flowering species in windbreaks).

On the common EU agricultural policy (CAP) 100 billion euro is assigned for actions in the Danish program for rural development for the period 2014-2020 by the European Agricultural Fund for Rural Development (EAFRD). These financial resources is payed out (including both area based and nonarea based schemes) partly for supporting biodiversity.

“Den Danske Naturfond” was founded in 2015 by the Danish state and two large private conservation foundations. It is the aim and purpose of the fund to promote the protection of nature and water environment in Denmark by implementing measures for the creation and development of natural biotopes as well as for the promotion of the habitats of the animal and plant world.

In addition to this there are a number of organizations and private conservations funds which are major actors in nature protection through land purchase and management.

Mainstreaming

Mainstreaming is provided for in various sectors. For instance Danish policies aim to reduce the environmental impact and the climate gas emission from agriculture by promoting organic farming, re-establishment of wetlands, raising forest on agricultural land, peatland restoration and reduced use of pesticides and nutrients. The common Fisheries Policy in the EU aims at a progressive implementation of an ecosystem-based approach to fisheries management. Fisheries regulations have been established in marine Nature 2000-protected areas. Integration of conservation values in spatial planning is strong and municipalities are obliged to establish “A Green Map of Denmark” for development and management of nature areas.

Mechanisms for monitoring and reviewing implementation

In 1987 a national monitoring program on groundwater and air pollution was established, and from 2004 it includes nature. The program (NOVANA) provides data on e.g. actual environmental status and development in both aquatic and terrestrial nature to fulfil obligations in EU-regulations and conventions. In total more

than 250.000 surveys are done in more than 35.000 places during the program 2017-21. Data from the monitoring program is available for everyone in public databases (Danish Environment Portal) when quality is assured. Results are also published in printed reports or as web publications.

In addition to the NOVANA program, there is an independent national program which monitors Danish forests and woodlands. An overall report is published for each five-year measurement period.

A new species information centre (“Artsportalen”) is under development in collaboration between The National Natural History Museum and The Environmental Protection Agency and partly funded from private conservation foundations. Planned release for some species is in 2020.