

Species protection rules under the Birds and Habitats Directives: how effectively are they integrated into sectoral policies?

TASK 1: Collection of country fiches

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COUNTRY FICHE – DENMARK

Denmark has a total area of **42 943 km²** and a plenty flat landscape covered with unique and valuable nature and around **26 000 km²** agricultural land. Denmark has a long coastline with many lagoons, gulfs, and inlets. No part of Denmark is more than 32 miles (67 kilometres) from the sea.

Altogether, Denmark has designated **937** protected areas covering **14.8 %** of land and **15.2 %** of ocean, including **350** Natura 2000 sites, **113** Special Protection Areas under the Birds Directive and **261** Sites of Community Importance under the Habitats Directive (EEA Natura 2000 Barometer, 2020). Additionally, Denmark has **587** sites designated under national Laws.

Of the total 2 500 species protected under the Annexes of the Habitats Directive, **261** are represented in Denmark and of the 500 wild bird species under the Birds Directive, **229** can be found in the country¹. Of these, **47** are listed under Annex IV.



The *Tachybaptus ruficollis* (little grebe) is breeding in Denmark and present in all Danish regions © Pixabay

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¹ Numbers taken from Member State reporting under the Nature Directives 2013-2018

1 Data availabilities

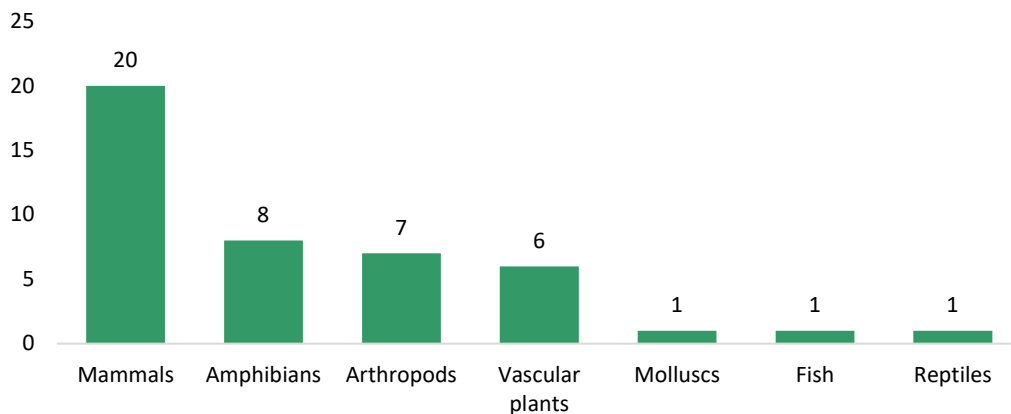
1.1 Data availability under Nature Directives' reporting 2013-2018

Annex IV species under the Habitats Directive

National **occurrence data** based on the Habitats Directive's reporting 2013-2018 is **present for 44 of 47 species** in Denmark protected under Annex IV. Most species for which data are available belong to the group of mammals (20) and to a smaller extent to the nearly equal sized groups of arthropods, amphibians, vascular plants and finally individual occurrences of reptiles, fish and molluscs. No additional confidential maps on sensitive species was provided.

Data has been submitted for all Annex IV species, except for the mammals. White beaked dolphin (*Lagrorhynchus albirostris*), Minke whale (*Balaenoptera acutorostrata*) and the vascular plant *Apium repens* (A perennial herb of damp meadows and shallow water in ditches and ponds – Krybende sumpskærm). This gap is due to the fact that whales and dolphins are not living permanently in the territory of the Danish ocean – but are only passing and observed randomly. The Minke Whale occurs in the Northern part of the North Sea, e.g. around oil drilling rigs (Naturbasen.dk, 2021), and the White beaked dolphin are sometimes present in the North Sea and the Western part of the Baltic Sea (Danish EPA, 2021a). The plant *Apium repens* has not been located in Denmark since 1998, where two locations at the Danish island Funen were identified (Danish EPA, 2021b; National Red List, 2021).

Figure 1 Number of species distribution maps per species group available from the Habitats Directive's reporting 2013-2018



Source: National reporting 2013-2018 to the Nature Directives

Wild birds under the Birds Directive

National **occurrence data** based on the Birds Directive's reporting 2013-2018 **are available for 180 of 226 wild bird species** protected under the Birds Directive in Denmark. Gaps in the data (lack of distribution maps) are present for the following taxa: *Gaviformes* (4 out of 4), *Anseriformes* (13 out of 32), *Charadriiformes* (16 out of 47), among others. No additional confidential maps on sensitive bird species was provided.

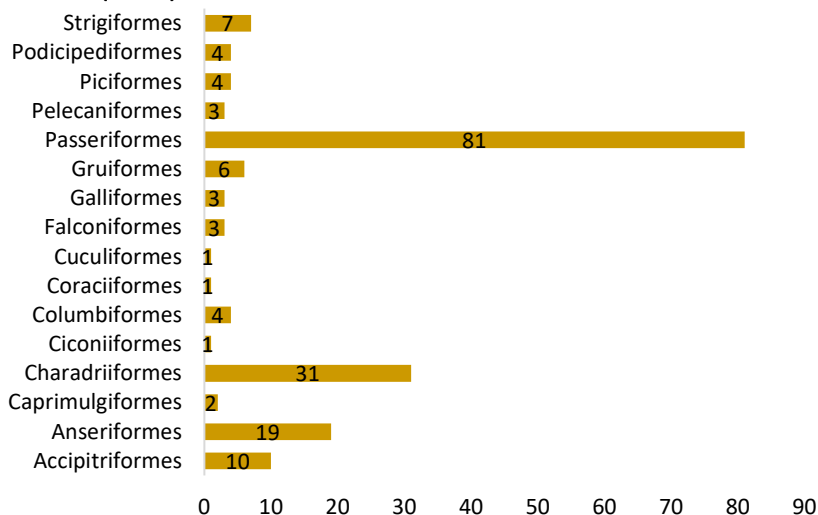
Data are available for most of the breeding species. Reasoning for the identified gaps may be linked to the setup of the national environmental monitoring program [NOVANA](#), which takes its point of departure in monitoring of birds inside Natura 2000 sites. This implies that data concerning bird populations passing and wintering in other places are generated/observed by other programs/sources.

From Fredshavn et al. 2019:

'...The existing NOVANA national environmental monitoring programme generates data for 45 Danish breeding bird species and 46 wintering species. The methods used to provide Article 12 reporting for these species are accessible

Online at www.novana.au.dk. For the remaining 166 bird species not covered by NOVANA monitoring, information has been derived from a variety sources, mostly accumulated by the Danish Ornithological Society/Birdlife Denmark (DOF). These include the recently completed Atlas III project (DOF 2019), the annual trends in winter and breeding bird abundance based on point counts (Moshøj et al. 2018), the DOF DATSY project, monitoring endangered and rare breeding birds (Nyegaard et al. 2014), their Caretaker project (Vikstrøm et al. 2015). Information from unsystematic but extremely abundant data from the DOF bird observation portal DOF basen were also incorporated in assessments. Population sizes for the most common species have been estimated from Jacobsen (1997), combined with the trends generated from the point counts...'

Figure 2 Number of species distribution maps per birds taxonomic group available from the Birds Directive's reporting 2013-2018 (n=180)



Source: National reporting 2013-2018 to the Nature Directives

1.2 Additional data availabilities

The aim of the Danish NOVANA monitoring program (established in 1998) is to generate data that along with other purposes can be used in reporting and compliance checking of Danish responsibilities according to EU environmental, nature and climate legislation. The responsibility for data collection is divided between several agencies under the Danish Ministry of Environment. The Danish Environmental Agency holds the overall responsibility for data management and reporting to the EU. The National Center for Environment and Energy (DCE) and Institute for Bioscience and Fauna Ecology located at University of Aarhus provide research based information to the Danish Environmental Agency regarding generation and processing of species and wild birds related data.

Table 1 Relevant institutes and authorities for data generation and assessment in Denmark

Institution	Organisational structure	Short description
Danish Environment Agency	Public	Expertise and practical work in species occurrence data, e.g. regarding Nature Directives reporting Overall responsible for Art. 12 and Art. reporting
Other Agencies under the Ministry of Environment	Public	Provides data (generates and processes data via monitoring programs) to Nature Directives reporting Danish Forest and Nature Protection Agency and Geological Survey, Denmark and Greenland (GEUS) are examples of data responsible parties
BirdLife Denmark (Dansk Ornitologisk Forening)	NGO	Collects and accumulates data from various monitoring programs as well as on going birds data registering based on community reported observations

Natural History Museum, (self governing institution) Mols Laboratory, (University of Aarhus)	Public	Data generation and assessment for public awareness/citizens science activities The Natural History Museum cooperates with 'Naturbasen' and makes contributes to Atlas surveys. Furthermore, the institution is one of the governing partners at Arter.dk
Danish Society of Nature Conservation	NGO	Critical assessment of data and establishment of public awareness regarding various biodiversity issues
Agriculture and Food Council	Private Association (Agriculture and Food Sector)	The organisation includes a nature and water protection section that assesses species and birds related data
Naturbasen – 'The Portal of National Species'	Private organisation in close contact with public authorities	Data and observations are provided by everyone and citizen science projects governed by experts (Atlas surveys).
National Center for Environment and Energy (DCE),	Public, University of Aarhus hosts DCE	Research based advise to Danish Environmental Agency on e.g. species and wild birds status and conditions as well as contribution to data generation and processing in the field of biodiversity
DanBIF Danish Biodiversity Information Facility	Public – participation of Universities of Copenhagen, Aarhus, Southern Denmark, State Natural History Museum	Handles Danish participation in GBIF Overview of species Overview of Danish data owners Facilities for use and share of GBIF data
Arter.dk	Public – Ministry of Environment, State Natural History Museum, Natural History Museum, Aarhus. DanBIF	Registrations on species provided by everyone
https://naturdata.miljoeportal.dk/	Ministry of Environment and Danish Regions (5)	Search portal – special section on nature data – very comprehensive data set are available

As already mentioned in the previous section, the Danish reporting obligation according to Article 12 of the Birds Directive cannot be fulfilled on the basis of NOVANA generated data, implying that other data source must be included. In this respect, data accumulated by Danish Ornithological Society/Birdlife Denmark, (DoF) is crucial - e.g. DoF project ATLAS III 2014-2017, which updates the distribution of bird species in Denmark. Assessments of data for Art. 12 reporting purposes have been also been made on the basis of DoF database information gathered from and members/community reported observations.

Table 2 Relevant datasets on species occurrences in Denmark

Data / Map	Content (single species, species group)	Year of production	Spatial resolution	Scale	Other characteristics
Novana.au.dk	Flora and fauna (Nature types, water quality, marine sea monitoring)	1988	Diverse 10kmX10km grid Intensive/extensive observations	National	Has been re-designed /updated four times since establishment
https://dofbasen.dk/english/	Bird species	Analog version of database established more than 65 years ago	Point observations From air and land based	National	Collection and cumulation of data and registrations from person having signed up for access to registration. Very dynamic
https://www.naturbasen.dk/	Flora and fauna	Approx. 2000	Point observations 10mx10m	National	expert/citizens programs – 'atlas survey'

					certain data can be exported to Excel sheets (survey information)
https://DanBIF.dk/	Flora and fauna/Biodiversity Covering Denmark, Faroe Islands, Greenland	2001 Danish signing of MoU	Diverse	(International)/national	Hosted by state natural history museum, University of Cph.
Arter.dk (very large database)	Species	2009	Diverse	National	The portal combines data from DanBIF and contributions from other databases (knowledgebased part of the web) Citizens contributions/findings Very dynamic

‘Naturbasen’, the national portal on species (naturbasen.dk) forms a major database including all Danish species (20 000 species). According to participants the database includes more information on certain rare species (e.g dung beetles and butterflies) than any other database (Four survey respondents have mentioned ‘Naturbasen’ as additional data resource). Everybody can report observations to ‘Naturbasen’. Reported observations and provided data are going through quality assurance. ‘Naturbasen’ cooperates with ministries, municipalities, organisations, NGOs etc.

The so called ‘Atlas’ projects/surveys (national country mapping/updating of data concerning certain species) are carried out as part of Naturbasen’s activities in order to strengthen ‘Citizens Science’ (participation/awareness). Various ‘Atlas’ surveys include data/ mapping of e.g amphibians, butterflies, dragon flies and nymphs. The data/results of such projects are – as pointed out by survey participants – not used in the Danish reporting to the EU although the persons responsible for atlas projects usually are researchers, heads of museums etc. The Atlas surveys carried out in the framework of ‘Naturbasen’ should not be confused with Birdlife Denmark/DoF ATLAS project mentioned in paragraph in this section 1.2 concerning birds data.

The portal Arter.dk (arter = species) is established in cooperation between Ministry of Environment, Nature History Museum, Aarhus and DanBIF (Danish Biodiversity Information Facility). The portal is partly funded by private sources. The facility is a community/open source portal where everybody can register species findings. However, the database is very comprehensive and is maintained in cooperation between Danish Environment Agency, Natural History Museum, Aarhus and DanBIF (Danish Biodiversity Information Facility).

New NOVANA Reports (Danish Environment Agency Annual Reports) have been published in January 2021. The reports include further assessments of data provided for 2013-2018 Art. 12 and Art. 17 reporting as well as new data covering 2018 and 2019 are included. The author of the new reports on ‘Migration Birds 2018-2019’, and ‘Species 2019’ is the Danish Environment and Energy Center, DCE in cooperation with relevant research entities.

<http://dce2.au.dk/pub/SR421.pdf> (Species 2019).

<http://dce2.au.dk/pub/SR420.pdf> (Birds 2018-2019)

Gaps in data concerning art. 12 reporting can for certain species be found in either in/and/or DoF, ‘Naturbasen’, ‘Artsportalen’ – cf. Extended data sheet on wild birds – Denmark.

1.3 Dependency on agricultural or forest management

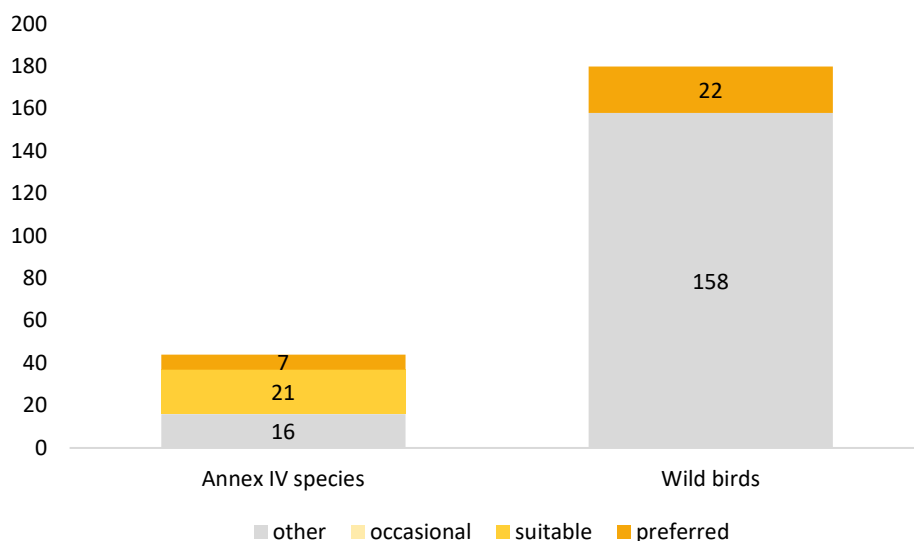
Agriculture

Since the founding of the European Union, Denmark has used a very high percentage of its total area for agricultural activities. The agricultural sector in Denmark makes up **1.3 %** of the Danish GDP (Woldbank, 2019). Agricultural land makes of **66 %** of the country's area (Worldbank, 2018). Denmark has a total area of **42 943 km²** and a plenty flat landscape covered with unique and valuable nature and around **26 000 km²** agricultural land.

According to the agricultural classifications², **64 %** of the species protected under Annex IV of the Habitats Directive are either directly or indirectly dependent on agricultural management. For wild birds in Denmark, **12 %** of the wild bird species protected under the Birds Directive are classified as farmland birds – according to the Common Birds indicator for agriculture (CFaBI) (see Figure 3).

The Danish Environment Agency has established a support facility that allows farmers and private forestry owners to apply for grants for planting of various vegetation suitable for improvement of habitats for Annex IV species living in agricultural areas close to forest environments. The species in focus are *Muscardinus avellanarius* (dormouse – hasselmus – forest habitats (and agricultural habitats close to forest environment) are suitable for the mouse) and *Sicista betulina* (birch mouse – birkemus – prefers agricultural areas /occasional observed in forest environments) (Danish EPA, 2021c). Bat species support program has been terminated few years ago.

Figure 3 Distribution of available spatial data for agricultural Annex IV species and wild birds in Denmark



Note: Due to the different classification approaches, the categories occasional and suited are only available for the Article 17 reporting.

Source: National reporting 2013-2018 to the Nature Directives

Data gaps in Art. 12 reporting (49 out of 229) are especially significant for wintering and passing species expected to occur at sea territory or close to the coastline and certain common birds living in urban areas. However, data gaps for few bird species expected to occur in agricultural and forest environments can be filled by way of data/maps identified in either DoF database and/or Naturbasen.

Examples:

- *Acanthis flammea* (Big Common redpoll - Nordlig gråsisken) occurs in birch forest
- *Pluvialis apricaria* (European Golden Plover – Hjejle) occurs on grass fields and plowed fields

² Article 12 and Article 17 species classification is based on the current State of Nature Report 2020 (EEA 2020). While the classification for Annex species relies on the definition from Halada et al. 2013 (only available for Article 17), the birds classification refers to the classification from the Common Bird Indicator classification for birds with ecological preferences for agriculture (CFaBI).

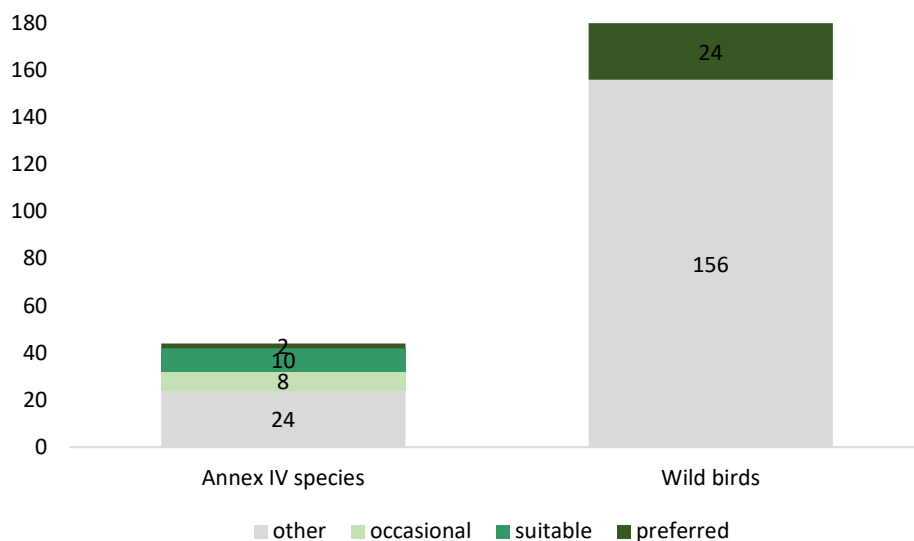
- *Picus viridis* s. str.(plaiçe grønspætte) intensified forestry and agricultural cultivation have decreased the stock of plaiçes in Cf. Extended data sheet on wild birds Denmark

Forestry

Forest area in Denmark was reported at close to a seventh part of the country’s area in 2016. Since the founding of the European Union, Denmark. The forestry sector in Denmark makes up only **0.02 %** of the Danish GDP (2018b). Forest land makes of **15.7 %** of the country’s area (Worldbank, 2018c).

45 % of the species protected under Annex IV of the Habitats Directive are either directly or indirectly dependent on forest habitats³. For wild birds in Denmark, **11 %** of the wild bird species protected under the Birds Directive are classified as forest birds in accordance with the Common Birds indicator for forest (CFoBI) (see Figure 4). For data gaps concerning birds expected to occur in forest environments – see above section on agriculture.

Figure 4 Distribution of available spatial data for forest dependent Annex IV species and wild birds in Denmark



Note: Due to the different classification approaches, the categories occasional and suited are only available for the Article 17 reporting.

Source: National reporting 2013-2018 to the Nature Directives

³ Article 12 and Article 17 species classification is based on the current State of Nature Report 2020 (EEA 2020). While the classification for Annex species relies on the definition from Halada et al. 2013 (only available for Article 17), the birds classification refers to the classification from the Common Bird Indicator classification for birds with ecological preferences for forest (CFoBI).

2 Data awareness

2.1 Data awareness in general

The general level of data awareness of species and birds occurrences differs between sectors and individual stakeholders.

Development of **constructions and large infrastructure projects** form frameworks in which developers, landowners, and the public/NGO's **direct their focus towards data availability**, including data on species and birds occurrences in specific geographical areas. Each group of stakeholders have different focus and interests – however, the role of data is important to all parties.

Denmark has implemented the renewed **Environmental Impact Directive** in physical planning legislation, nature protection legislation and sector legislation targeting large infrastructure projects such as transportation infrastructure and harbor constructions. The public interest and participation in planning and assessment processes has increased in previous years. However, planning processes applying to large projects are rather comprehensive and often require participation of 'professionalised' NGO's in order to establish (critical) insight into and assessments of nature data that can be compared by public/developer generated data.

The **main channels and actors** to raise awareness on data availabilities of species and birds occurrences in Denmark are NGO's such as the Danish Society of Nature Conservation (DSNC) and Birdlife Denmark as well as locally based NGO's.

Various developments and associated assessments in both urban environments and open land imply that **certain species receive special attention**. For instance amphibians such as the great crested newt (*triturus cristatus* or stor vandsalamander) that are disturbed through extraction of raw material and other activities that involve water holes. Reptiles such as the sand lizard (*Lacerta agilis* or markfirben) do also receive attention. Any of the annex IV species may get attention in specific environmental impact assessments if it supports avoidance of un-wanted project.

The **Covid19** lock-down period has implied that citizen's attention and use of urban parks, forests, open land hiking tracks have increased a lot and drawn **natural attention to national parks/Natura 2000 sites and their flora and fauna**. Data concerning occurrence vascular plant are often provided on posters as well as data concerning species and wild birds.

Citizen science initiatives have been initiated by municipalities and the natural history museum of Aarhus has for example utilised species data for a free download app for children covering 99 species.

A popular TV program called '24 hours, 2 teams and 3 animals' has been aired as series since 2017. One team includes the head of a natural history museum and a famous author of nature related publications and television host. The other team includes two professionals (biologists). The two competing teams are given 24 hours to locate three different (rare) species in three different location on the basis of few informations (e.g. amphibians, birds, mammals and otters). Insights into occurrence data is given throughout the program, and the winner team is awarded 20.000 Danish Kroners (approx. 3000 Euro) that are donated to a conservation project of the winner teams choice. The program has been awarded more prizes.

2.2 Data awareness in the agricultural and forest sectors

The **level of data awareness on species and birds occurrences** by agricultural practitioners in Denmark was deemed as two on the basis of a conducted survey. In Natura 2000 sites, however, it was deemed to be higher by survey participant.

Data on occurrence of Annex IV species and wild birds protected under the Nature directive are only available to farmers and forestry owners by way of general map information and Natura 2000 plans. The amphibian Great crested newt (*Triturus cristatus* or stor vandsalamander) and the reptile Sand lizard (*Lacerta agilis*) seem however to be well known and have attention throughout farmer communities.

It differs from **municipality** to municipality to which extent landowners are involved in development local action plans implementing state Natura 2000 plans covering municipal areas.

Farmers have not been target group for occurrence data customised in context of species and wild bird living on or close to arable land. However, back in 2010 the organisation SEGES (Under Danish Agriculture and Food Council) developed a **pamphlet to farmers** focusing on farm management and **protection of species breeding and resting sites**. The pamphlet is still available on the Danish Environment Agency website. In the survey it was suggested that the Ministry of Environments, the Danish Agricultural and Food Council and municipalities should **cooperate in data collection and processing** in order to establish valid occurrence data.

According to one survey participant, it is complicated for farmers to determine whether they **comply with legislation on species protection**, inasmuch as the individual farmer may not be familiar with specific occurrence of Annex IV species at his/her property. Farmers may only be supplied with such information regarding protected species **when applying for permit or approval** for certain activities on their farm. The survey participant further mentions that it is not always in the interest of the farmer to achieve knowledge and information about the presence of species with conservation status on his/her farm. **No incentives** motivating the farmer to do special efforts in terms of species protection seem to exist, **constraining the level of uptake of awareness raising measures**.

There is a **need for direct advice to farmers**, and according to the results of the survey, such advice should be the task of public authorities. The above mentioned SEGES organisation currently publishes [on-line professional guidance](#) to farmer on various nature protection issues. A new and user friendly guidance for farmers has been published on 22 January 2021. The guidance focuses on nature and biodiversity and how farmers can protect nature values and promote biodiversity on their particular farm.

The Danish Environment Agency, as already mentioned in section 1.3, has established a **support facility** that allows farmers and private forestry owners to apply for grants for planting of various vegetation suitable for improvement of habitats for Annex IV species living in agricultural areas close to forest environments (*Muscardinus avellanarius* (dormouse – *hasselmus*) and *Sicista betulina* (birch mouse – *birkemus*)). Applicants have access to GIS data in order to identify their property and it's location in context of occurrence data for the mentioned species.

The Danish Forestry Association is the trade organisation representing forestry in Denmark. The aim of the association is to promote the commercial and professional interests of Danish forestry and to promote conservation of nature values in the Danish forests. Advice on Natura 2000 issues are given for free to members.

Awareness of occurrence data for forest species and wild birds are provided to the broad public by way of 170 nature guides zooming in on state forests and data on species and birds observed in a particular forest. Maps are included and link to the species encyclopedia of Ministry of Environment.



3) New ambitious initiative – Multifunctional distribution of land

In 2020-2021, municipalities and Nature Agency can apply for free multifunctional land distribution scheme for multifunctional land distribution. The purpose of the scheme is, primarily through the purchase and sale of land, to implement multifunctional land distribution as a tool to enable multifunctional projects. These projects must combine agricultural production with, for example, a clean aquatic environment, clean drinking water, greenhouse gas reduction, Natura 2000 and Annex IV species, climate adaptation, afforestation, biodiversity and nature, organic farming, outdoor life, rural development and zoning of agricultural properties.

<https://naturstyrelsen.dk/naturbeskyttelse/naturprojekter/multifunktionel-jordfordeling-mufjo/>

3 Use of occurrence data by relevant authorities

Table 3 Exemplary usage cases by relevant authorities

	Authority	Concrete usage
1	Municipalities	Occurrence data are used in local Natura 2000 action planes
2	Example	https://www.rudersdal.dk/files/media/2017/13/natura_2000-handleplan_2016-2021.pdf
3	Example	https://www.aarhus.dk/media/21466/giber-aa-enemaerket-og-skaade-havbakker.pdf

4 References

EEA 2020. State of nature in the EU, Results from reporting under the nature directives 2013-2018.

EEA Natura 2000 Barometer, 2020. Barometer statistics per country. (<https://www.eea.europa.eu/data-and-maps/dashboards/natura-2000-barometer>, accessed 26/01/2021)

Halada, L., Evans, D., Romão, C., Petersen, J. E. 2011. Which habitats of European importance depend on agricultural practices? *Biodiversity and Conservation*, 20(11), 2365-2378.

Fredshavn, J.R., Holm, T.E., Sterup, J., Pedersen, C.L., Nielsen, R.D., Clausen, P., Eskildsen, D.P. & Flensted, K.N. 2019. Størrelse og udvikling af fuglebestande i Danmark – 2019. Artikel 12-rapportering til Fuglebeskyttelsesdirektivet. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi, 46 s. – Videnskabelig rapport nr. 363 <http://dce2.au.dk/pub/SR363.pdf>

Christian Kjær. Bettina Nygaard, Ole Roland Terkildsen, Morten Elmeros, Jesper Bladt og Peter Mikkelsen. 2021. Arter 2019. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi, 40 s. - Videnskabelig rapport nr. 421 <http://dce2.au.dk/pub/TR421.pdf> og på <https://novana.au.dk/>

Holm, T.E., Nielsen, R.D., Clausen, P., Bregnballe, T., Clausen, K.K., Petersen, I.K., Sterup, J., Balsby, T.J.S., Pedersen, C.L., Mikkelsen, P. & Bladt, J. 2021. Fugle 2018-2019. NOVANA. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi, 196 s. - Videnskabelig rapport nr. 420 <http://dce2.au.dk/pub/SR420.pdf>

The Danish Environmental Protection Agency, 2021b. Hvidnæse - *Lagenorhynchus albirostris*. (<https://mst.dk/natur-vand/natur/artsleksikon/pattedyr/hvidnaese/>, accessed 26/01/2021)

Naturbasen.dk, 2021. Vågehal - *Balaenoptera acutorostrata*. (<https://www.naturbasen.dk/art/956/vaagehal>, accessed 26/01/2021)

National Red List, 2021. Krybende sumpskærm *Apium repens* (Jacq.) Rchb. f.. (<https://roedliste.au.dk/data.asp?ID=6075&gruppeID=67>, accessed 26/01/2021)

The Danish Environmental Protection Agency, 2021b. Krybende sumpskærm. (<https://mst.dk/natur-vand/natur/artsleksikon/froeplanter/krybende-sumpskaerm/>, accessed 26/01/2021)

Holm, T.E., Nielsen, R.D., Clausen, P., Bregnballe, T., Clausen, K.K., Petersen, I.K., Sterup, J., Balsby, T.J.S., Pedersen, C.L., Mikkelsen, P. & Bladt, J. 2021. Birds 2018-2019. p. 8. Videnskabelig rapport nr. 420. (<http://dce2.au.dk/pub/SR420.pdf>, accessed 26/01/2021)

Fredshavn, J.R., Holm, T.E., Sterup, J., Pedersen, C.L., Nielsen, R.D., Clausen, P., Eskildsen, D.P. & Flensted, K.N. 2019. Størrelse og udvikling af fuglebestande i Danmark - 2019. Artikel 12-rapportering til Fuglebeskyttelsesdirektivet. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi, 46 s. - Videnskabelig rapport nr. 363. (<http://dce2.au.dk/pub/SR363.pdf>, accessed 27/01/2021)

Woldbank, 2019. Agriculture, forestry, and fishing, value added (% of GDP) - Denmark. (https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=DK&name_desc=true, accessed 26/01/2021)

Woldbank, 2018. Agricultural land (% of land area) – Denmark. (https://data.worldbank.org/indicator/AG.LND.AGRI.ZS?most_recent_value_desc=true&locations=DK, accessed 26/01/2021)

The Danish Environmental Protection Agency, 2021c. Tilskud til beskyttelse af bilag IV-arter. (<https://mst.dk/natur-vand/natur/international-naturbeskyttelse/eu-direktiver/naturbeskyttelsesdirektiver/tilskud-bilag-iv-arter/>, accessed 26/01/2021)

Woldbank, 2018b. Forest rents (% of GDP) – Denmark. (https://data.worldbank.org/indicator/NY.GDP.FRST.RT.ZS?most_recent_value_desc=true&locations=DK, accessed 26/01/2021)

Woldbank, 2018c. Forest area (% of land area) – Denmark. (<https://data.worldbank.org/indicator/AG.LND.FRST.ZS?locations=DK>, accessed 27/01/2021)

