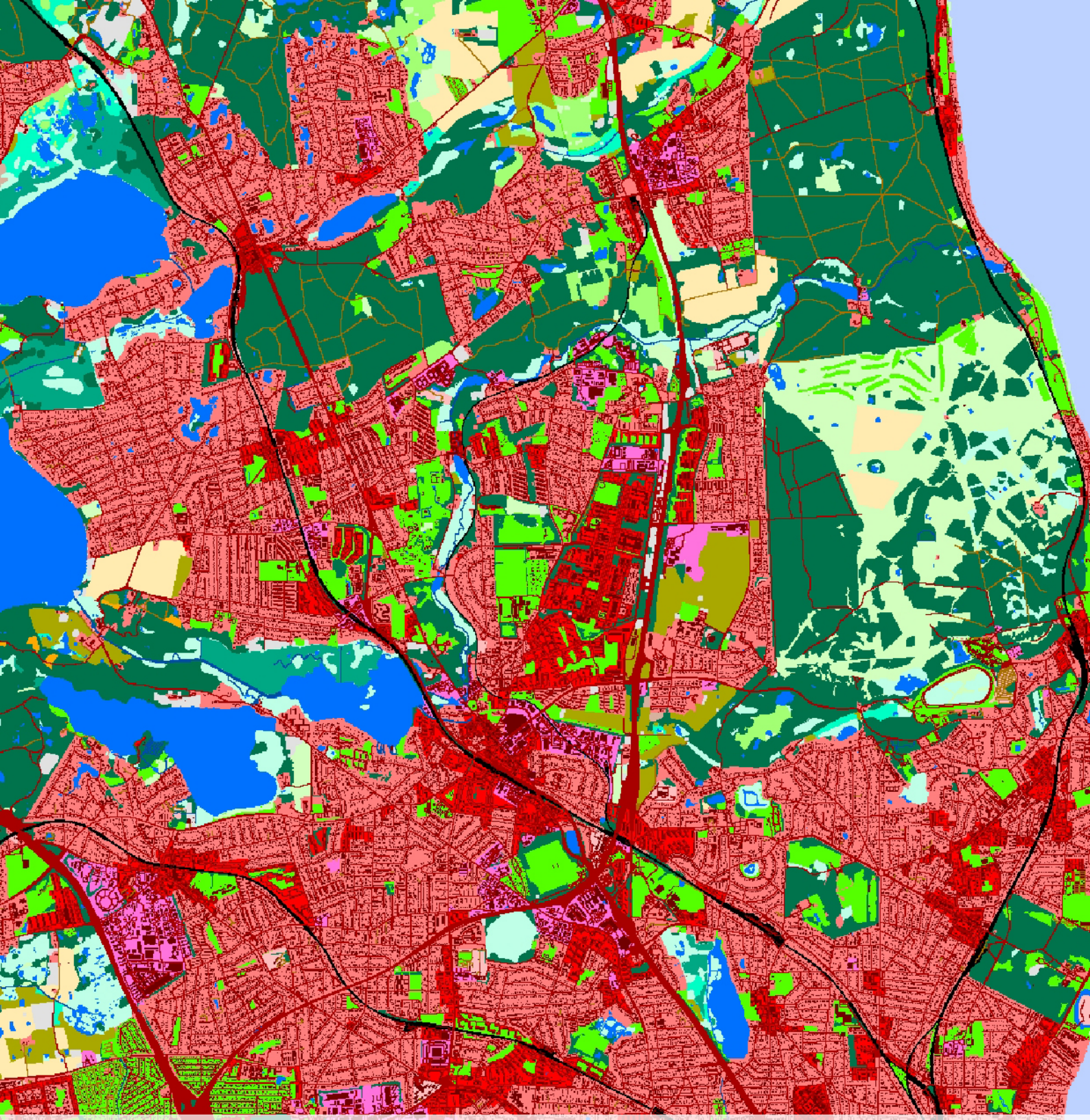


BASEMAP 04

Documentation of the data and method for the elaboration of a land use and land cover map for Denmark

Technical Report from DCE – Danish Centre for Environment and Energy No. 252 2022

AARHUS
UNIVERSITY
DCE – DANISH CENTRE FOR ENVIRONMENT AND ENERGY

BASEMAP 04

Documentation of the data and method for the elaboration of a land use and land cover map for Denmark

Technical Report from DCE – Danish Centre for Environment and Energy No. 252 2022

Gregor Levin

Aarhus University, Department of Environmental Science

AARHUS
UNIVERSITY
DCE – DANISH CENTRE FOR ENVIRONMENT AND ENERGY

Data sheet

Series title and no.:	Technical Report from DCE – Danish Centre for Environment and Energy No. 252
Category:	Scientific advisory report
Title:	Basemap04
Subtitle:	Documentation of the data and method for the elaboration of a land use and land cover map for Denmark
Author(s):	Gregor Levin
Institution(s):	Aarhus University, Department of Environmental Science
Publisher:	Aarhus University, DCE – Danish Centre for Environment and Energy ©
URL:	http://dce.au.dk/en
Year of publication:	September 2022
Editing completed:	September 2022
Referee:	Toke Panduro, Senior Research Aarhus University (fagfællebedømmer)
Quality assurance, DCE:	Jesper Fredshavn
External comments:	Danmarks Statistik (ingen kommentarer)
Financial support:	Danmarks Statistik
Please cite as:	Levin, G. 2022. Basemap04. Documentation of the data and method for elaboration of a land use and land cover map for Denmark. Aarhus University, DCE – Danish Centre for Environment and Energy, 77 pp. Technical Report No. 252 http://dce2.au.dk/pub/TR252.pdf

Abstract: As a response to a lack of an up-to-date nationwide map of land use and land cover for Denmark, Aarhus University and the University of Copenhagen produced the first version of Basemap in 2011. The novelty of Basemap was that it combined existing thematic geographic information into one land-use/land-cover map for Denmark. Furthermore, the map was dynamic in the sense that spatial modelling and input data could be adapted to different purposes and research needs. The first version of Basemap has been widely applied in research and advisory projects by research institutions, public agencies, and private companies. In 2016 and 2019, Statistics Denmark financed an updated version of Basemap for the years 2016 (Basemap02) and 2018 (Basemap03). These updated versions were different in the sense that more of the original input information was included in the final map. In 2022, Statistics Denmark financed the fourth version of Basemap. Basemap04 is based on spatial information for the year 2021 and largely follows the methodology of the previous versions, though with minor changes and additions. Furthermore, in order to enable comparison over time, Basemap04 also includes updated versions for the years 2011, 2016, and 2018.

Keywords:	Basemap, version 04, land use, land cover, map, spatial modelling, Denmark
Layout:	Ann-Katrine Holme Christoffersen
Front page photo:	Gregor Levin
ISBN:	978-87-7156-710-6
ISSN (electronic):	2244-999X
Number of pages:	77
Internet version:	The report is available in electronic format (pdf) at http://dce2.au.dk/pub/TR252.pdf

Contents

Preface

Statistics Denmark has requested Aarhus University, Department of Environmental Science, to elaborate an up to date nationwide map of land use/land cover for Denmark, called Basemap04. Basemap04 is based on publicly available data containing spatially explicit information about land use and land cover. Statistics Denmark uses Basemap04 to produce national land use/land cover statistics and Land Accounts, as part of Green National Accounts.

This report describes the applied data and documents the methodology developed to elaborate Basemap04.

By the end of 2022, Basemap04 will be made available to the public on the webpage of Aarhus University. Aarhus University, Department of Environmental Science disclaims all responsibility for how and for what purposes the map may be applied. The map is not legally binding and cannot stand alone in handling any case regarding land use and land cover.

For elaborating Basemap04, an advisory group, including representatives from different Danish universities and public authorities was compiled. During two meetings in 2022, members of the advisory group commented on and made suggestions for the choice of data and methods applied.

Sammenfatning

Som svar på en generel mangel på et nationalt kort over arealanvendelse / arealdække for Danmark, udarbejdede Aarhus og Københavns Universiteter i 2011 den første version af Basemap (Levin et al., 2012). Basemap var nyt i den forstand, at det kombinerede eksisterende geografisk information til et landsdækkede kort over arealanvendelse / arealdække. Derudover var Basemap dynamisk på den måde, at anvendte modeller og data kunne tilpasses forskellige formål og forskningsbehov. Den første version af Basemap er blevet anvendt meget bredt indenfor både forskning og rådgivning af forskningsinstitutioner, offentlige styrelser og private virksomheder. I 2016 og i 2019 finansierede Danmarks Statistik opdaterede versioner af Basemap for årene 2016 (Levin et al., 2017) og 2018 (Levin, 2019). De opdaterede versioner adskilte sig fra den første ved, at så meget som muligt af den oprindelige arealinformation fra de anvendte data er inkluderet i det endelige kort. Dette sikrer en større mulighed for at brugeren kan aggregere og kombinere arealklasser i forhold til specifikke formål og forskningsspørgsmål. I 2022 finansierede Danmarks Statistik en fjerde version af Basemap. Basemap04, som er baseret på geografisk information for året 2021, følger metoden fra de tidligere versioner med enkelte tilpasninger. For at muliggøre sammenligning over tid, omfatter Basemap04 også opdaterede versioner for 2011, 2016 og 2018, som er konsistente med 2021 kortet med hensyn til anvendte data og metoder.

Summary

In response to a lack of an up-to-date nationwide map of land use and land cover for Denmark, Aarhus University and Copenhagen University produced the first version of Basemap in 2011 (Levin et al., 2012). The novelty of Basemap was that it combined existing thematic geographic information into one land use/land cover map for Denmark. Furthermore, Basemap was dynamic in the sense that spatial modelling and input data could be adapted to different purposes and research needs. The first version of Basemap has been widely applied in research and advisory projects by research institutions, public agencies, and private companies. In 2016 and 2019, Statistics Denmark financed updated versions of Basemap for the years 2016 (Levin et al., 2017) and 2018 (Levin, 2019). These updated versions were differed from the first version in the sense that most of the original land use and land cover information is included in the final map. This ensures improved options for the user to aggregate and combine area categories for specific purposes and research questions. In 2022, Statistics Denmark financed a fourth version of Basemap. Basemap04 is based on spatial information for the year 2021 and follows the methodology of the previous version with minor adjustments. Furthermore, in order to enable comparison over time Basemap04 also includes updated versions for the years 2011, 2016 and 2018, which in terms of applied data and methodologies are consistent with Basemap04 for 2021.

1 Introduction

This report contains the technical documentation of Basemap04. The report is structured as follows: Chapter 2 contains a description of the applied data. In Chapter 3, the applied methods in terms of data processing and modelling are described. In Chapter 4, the main results are presented. A general discussion and conclusions are provided in Chapter 5.

In the report, the following terminology is applied:

- Land use refers to the use of a specific area of land, e.g., agriculture or recreation. Land cover refers to the biophysical characteristics of a specific area of land, e.g., sand or water. Since applied datasets for Basemap04 contain information about both land use and land cover, the term land use/land cover (LULC) is used in this report. For a more detailed discussion of land use and land cover, see Jepsen and Levin (2013).
- Land use/land cover (LULC) categories refer to a specific categorisation of LULC. For Basemap04, LULC categories are assigned a LULC code and a LULC name.
- An object is the smallest unit in a dataset. E.g., each field parcel in the field parcel map represents one individual object.
- The original object ID is the identification key for objects in applied datasets. Object IDs can be numbers or text strings.
- The Basemap Object ID is an individual number, assigned to each object, included in the map.
- Object types refer to groups of objects belonging to the same LULC category.
- The term dataset refers to data collections, originating from one source, produced, and supplied by one institutional body. One dataset can contain multiple objects and object types.
- A layer is one map layer with multiple objects and LULC categories, which can originate from different datasets.
- Vector data are spatial data, where objects are organised as either lines or polygon features.
- Raster data are spatial data, organised in raster cells.
- The term overlay refers to the spatial combination or two or more layers, into one layer, where each cell in a raster layer contains information from all applied layers.

2 Applied data

In the following sections, all datasets, which are applied to Basemap04 are presented. The applied datasets and object types, which are included in Basemap04, are listed in the appendix.

2.1 Topographical database

The Danish topographical database provides basic topographical data. Until 2017, the database was named Kort10, and since 2017, it is named GeoDanmark. For this report, topographical data are referred to as the *Topographical Database*. The method used to identify and categorise objects is a combination of in situ observation and air-photo interpretation. The Agency for Data Supply and Efficiency (SDFE) and Danish municipalities keep the topographical database up to date (GeoDanmark, 2021). Although data are updated continuously, present datasets can contain information up to four years old. From the topographical database, 75 object types are included in Basemap04. The version from December 2021 is applied. (SDFE, 2021a).

2.2 Management plans for state forests

Approximately 4.5 % of the Danish terrestrial area is composed of state forests managed by the Danish Nature Agency (NST). These areas consist primarily of forested land and other habitat types. For these areas, a census mapping has been conducted. From the map, which is based on in situ observations, 77 object types are included in Basemap04. The version from December 2021 is applied (Danish Nature Agency, 2021).

2.3 Management plans for defence holdings

Approximately 0.6 % of the Danish terrestrial area comprises of defence holdings, owned and managed by the Danish Defence. These areas consist primarily of a mixture of forest and other habitat types. As for state forests, a census mapping has been conducted for these areas. From the map, 63 object types are included in Basemap04. The version from January 2022 is applied (Danish Defence, 2022).

2.4 Map of protected habitat types

The map of protected habitats is a national registration of habitats, which, according to the §3 in the Danish Nature Protection Act (Danish Ministry of Environment, 2019), are protected against direct physical changes. The map contains six habitat types: freshwater meadows, dry grassland, coastal meadows, heather, bogs / mires, and lakes / ponds. Habitats are registered if they fulfill specific biophysical criteria (mainly soil conditions and vegetation composition) and if a single habitat patch or patches that are spatially connected have a total area of at least 2,500 m² (100 m² for ponds) (Danish Nature Agency, 2009). The Danish municipalities are responsible for the maintenance of the map. The methods used to identify and categorize habitat types vary across the country, but are generally a combination of in situ observation and air-photo interpretation. The version from december 2021 is applied (Arealinformation, 2021a).

2.5 Natura 2000 habitat types

This dataset is mapped by the Danish Environmental Agency (MST) and covers all habitat types included in the EU-habitat directive (Directive 1992/43/EC) and are located within Natura 2000 designated areas, which comprise Special Areas of conservation (SAC) and Special Protection areas (SPA), which comprise approximately 8.3 % of the Danish land area. The map is based on in-situ observations combined with air-photo interpretation. Fifty habitat types are included in Basemap04. The version from December 2018 is applied (Arealinformation, 2021b).

2.6 Field parcel map

The agricultural information applied to Basemap is based on data from the Integrated Administration and Control System (IACS) derived from the Danish agricultural register for 2021. The register is updated annually and, since 1998, Danish farmers have been obliged to provide detailed information on the area and the type of land use for each agricultural field. Data are reported with reference to the specific field parcel for which agricultural subsidy applications are made. Since 2011, nationwide digital field parcel maps have been available. For Basemap04 the field parcel map from May 2021 is applied (Danish Agricultural Agency, 2021a). The map contains around 580,000 individual field parcels and 304 land use categories.

2.7 Field block map

The field block map is used for the administration of EU subsidies. The field block map demarcates land within which farmers can apply for EU-subsidies. One field block can contain up to 10 individual field parcels. For Basemap, the field block map is applied as an addition to the field parcel map to represent agricultural land, where no field parcels are registered. For Basemap04, the field block map from May 2021 is applied (Danish Agricultural Agency, 2021b). The map contains around 458,000 individual field blocks.

2.8 Cadastre map

The cadastre map is administered by the Danish Geodata Agency and is supplied by the Agency for Data Supply and Efficiency (SDFE). The map contains approx. 2.5 million individual cadastres, which are legally binding property units. The map also contains some information on land use and land cover. From the cadastre map from December 2021 (SDFE, 2021b), road cadastres are extracted to delineate roads and railway cadastres to delineate railways. Furthermore, cadastres, which are designated for shore protection, are applied to delineate coastal shores.

2.9 Copernicus leaf type

The Copernicus Land Monitoring Service under the European Environmental agency provides public access to a variety of pan-European thematic map layers. For Basemap04, the leaf type map is applied. This raster map with a 10x10 meter cell size divides all tree cover into broad-leaved and coniferous trees and is based on radar- and multi-spectral data from Sentinel 1 and Sentinel 2 satellites from 2018 (Copernicus Land Monitoring Service 2021).

3 Method

The diagram in Figure 3.1 illustrates the different steps in the data processing. All input layers are converted to raster format. Next, the different input raster layers are overlaid and spatially adjusted in several steps, resulting in seven output raster layers. In the next sections, the single processing steps and output layers are described in more detail.

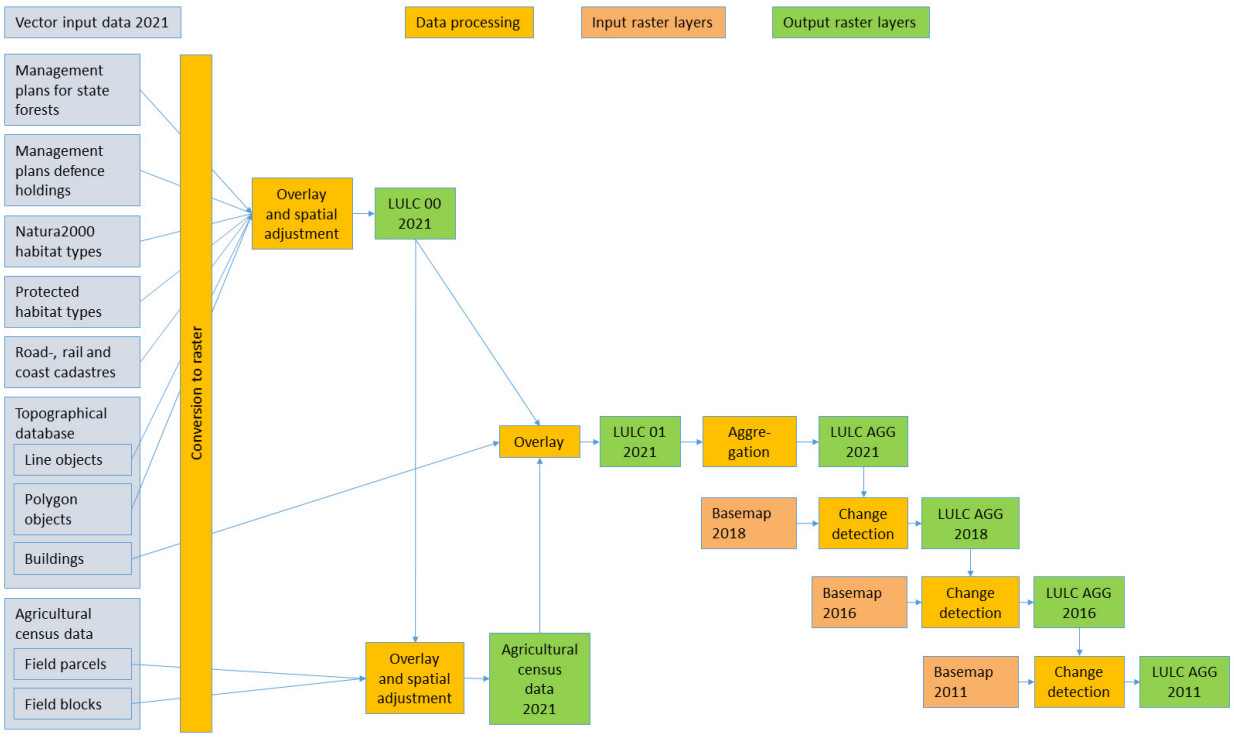


Figure 3.1 Illustration of data processing. Vector input data (blue boxes) are converted to raster format and subsequently processed (yellow boxes), resulting in seven final output raster layers (green boxes).

3.1 Assigning object codes

In the original input datasets, object IDs are diverse and range from text strings to numbers. In order to keep the original land use / land cover (LULC) information, for Basemap each object type from each input layer is assigned an individual Basemap object code and object name. The object code consists of a number with eight digits. The first two digits refer to the data source. The next four digits refer to the object type. For object types, which contain subtypes, the last two digits refer to the subtype. E.g., for the object type “50990204 Basin, wastewater treatment plant”, the first two digits “50” refer to the source dataset, in this case, the topographical database. The next four digits, “9902”, refer to the object type “basin”. The last two digits, 04, refer to the subtype “wastewater treatment plant”. The application of individual object codes implies that, for instance, lakes from the topographical database have a different object code than lakes from the map of protected habitat types or lakes from the management plans of state forests. In total, Basemap04 contains 867 unique object codes and names. Original LULC information, assigned object codes and object names appear in the table in the appendix.

For layers from agricultural census data, the unique object ID for each object is applied. E.g., for the field parcel layer, the object ID for each field parcel remains in the raster. This means that other farm-specific information, such as animal husbandry or subsidies for environmental schemes, contained in the agricultural registers, can be linked to Basemap. For all other input layers, rasterized layers only contain the object code.

3.2 Conversion from vector to raster

All vector input data are converted to raster format with a cell size of 10x10 meters. Figure 3.2 illustrates conversion to raster for an extract of the field parcel map. The conversion from vector to raster format entails spatial generalisation. However, considering the spatial accuracy of applied input layers, which is generally between 5 – 10 meters, a cell size of 10x10 meters is considered reasonable. Furthermore, compared to vector data processing, raster format processing is substantially faster, simpler, and more consistent.

Figure 3.2 Conversion from vector to raster, exemplified for an extract of the field parcel map.

3.3 Overlay

In the next step, all raster layers are overlaid, following a hierarchy, where an object type at the top of the hierarchy excludes object types placed lower in the hierarchy. Table 3.1 shows the applied hierarchy. Traffic infrastructure, such as roads and railways, are applied at the top of the hierarchy followed by lakes and streams. The next object types in the hierarchy originate from the management plans for state forests and management plans for defence holding, followed by Natura2000 habitat types and the registration of protected habitat types. Other object types than road infrastructure and lakes/stream, which originate from the topographical database, are placed lower in the hierarchy. Object types originating from the cadastre map are placed lowest in the hierarchy. In Figure 3.3, the overlay of object types is illustrated for an extract of the map.

Table 3.1 Applied hierarchy for overlay of object types.

Data source	Object type code	Object type name	Hierarchy
Topographical database	50997001-50997003**	Runway	1
Topographical database	50996311-50996314**	Traffic road	2
Topographical database	50996315-50996320**	Local road	3
Topographical database	50996321-50996325**	Other road	4
Topographical database	50996401	Railway, visible	5
Topographical database	50994201-50994202**	Lake	6
Registration of protected habitat types	30000600	Lake	7
Topographical database	50990201-50990206**	Basin	8
Topographical database	50996502	Stream, >= 12 m width	9
Topographical database	50996501	Stream, 2.5 - 12 m width	10
Topographical database	50995701	Edge of stream >= 12 m width	11
Management plans for state forests	20110200-20710200*	_*	12
Management plans for defence holdings	10110200-10710200*	_*	13
Natura2000 habitat types	40121000-40999900*	_*	14
Registration of protected habitat types	30000100-30000500*	_*	15
Topographical database	50991700	Forest	16
Topographical database	50991800	Heather	17
Topographical database	50992100	Sand/dune	18
Topographical database	50991900	Wetland	19
Topographical database	50990101-50990118**	Technical area	20
Topographical database	50995300	Business	21
Topographical database	50997800	Burial ground	22
Topographical database	50311900	Recreation	23
Topographical database	50992200	Resource extraction	24
Topographical database	50995200	City centre	25
Topographical database	50995500	High built up	26
Topographical database	50995400	Low built up	27
Topographical database	50994400	Harbour	28
Topographical database	50700000	Sea	29
Topographical database	50600000	Land	30
Cadastre map	80000100	Cadastre, road	31
Cadastre map	80000200	Cadastre, rail	32
Cadastre map	80000300	Cadastre, beach protection	33

*Object types contained in management plans for state forests, in management plans for defence holdings, in Natura2000 habitat types and in the registration of protected habitats are exclusive. I.e. within these layers, there are no internal overlaps between object types and the whole layers are applied in the overlay.
**From the topographical database, the object types runway, traffic road, local road, other road, lake, basin and technical area contain several subtypes.

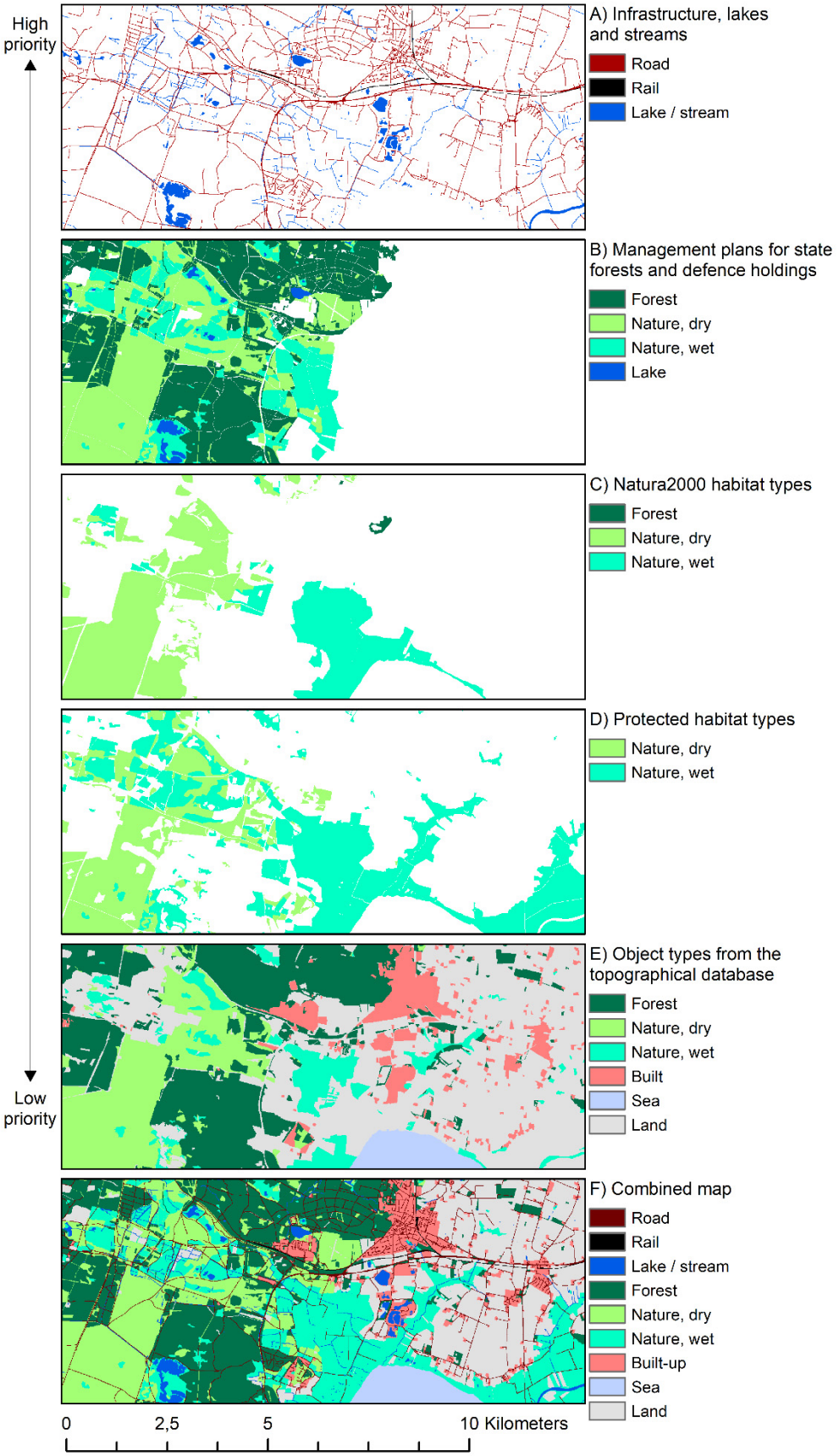


Figure 3.3 Illustration of applied method for overlay of input layers. Input layers are overlaid and object types from layers placed in the top of the hierarchy exclude object types placed lower in the hierarchy (A-E), resulting in the final combined map (F).

3.4 Elimination of unclassified cells

Roughly 26,000 km² or 60 % of the terrestrial area in the combined layer contains cells, which are only classified as land, and consequently do not contain any specific LULC information. The majority of this area is agricultural land, which is added in a later processing step (see Section 3.7). However, about 3,000 km² or roughly 1 % of the unclassified area are characterised by areas with a width less than or equal to 20 meters (two raster cells). These narrow unclassified areas are considered the consequence of inaccurate delineation of objects in the applied input datasets and are eliminated from the map following the method described in Figure 3.4.

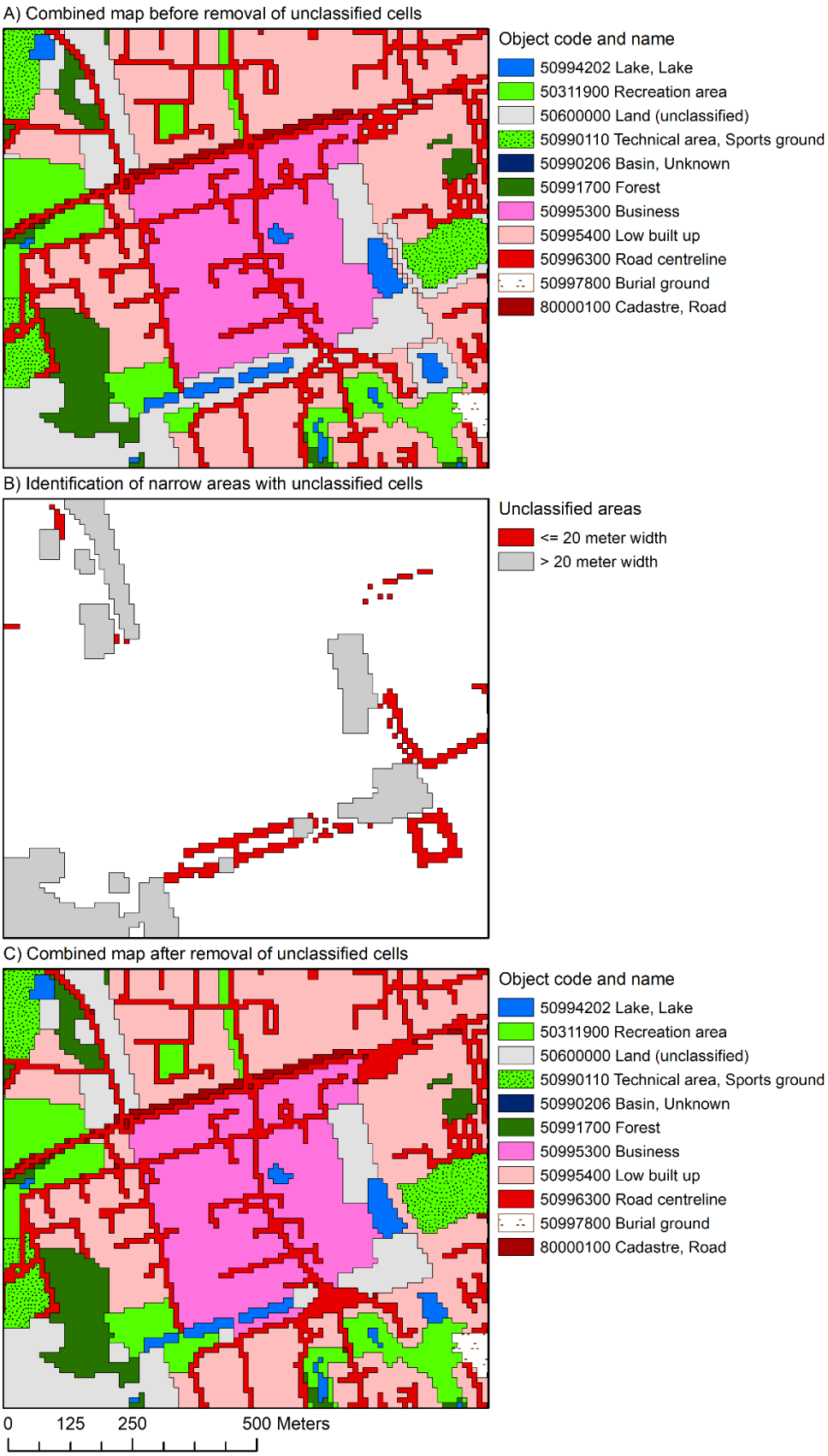


Figure 3.4 Applied method for elimination of narrow areas with unclassified cells. From the combined map (A), unclassified cells are extracted and areas with a width equal to or less than 20 meters are identified (B). These narrow unclassified areas are merged with adjacent object types (C). Unclassified areas are only merged with infrastructure, streams or lakes, if no other adjacent object types exist.

3.5 Elimination of slivers

As a consequence of the overlay of the different input layers, where layers highest in the hierarchy exclude layers lower in the hierarchy, objects originating from layers lower in the hierarchy are sometimes spatially cut off, resulting in small and narrow remnant areas. E.g., where the forest layer from the topographical database is overlaid with the management plans for state forests, narrow remnant areas of forest from the topographical database are located adjacent to forest objects from the management plans of state forests, which have a more detailed classification. These narrow remnant areas are considered so-called slivers, resulting from inaccuracies in the spatial delineation of object types in the management plans of state forests. These slivers are merged with object types from adjacent forest types from the other datasets. Figure 3.5 illustrates the method. The same methodology is applied to two other cases: 1) Slivers between the wetland layer from the topographical database and wet habitat object types originating from the map of Natura2000 habitats, from the management plans of state forests and defence holding or from the registration of protected habitats or. 2) Slivers between the heather and sand / dune layer from the topographical database and dry habitat object types originating from the map of Natura 2000 habitats, from the management plans of state forests and defence holding, or from the map of protected habitats. The final output layer of the combined and cleaned line and polygon object types is named LULC 00 2021.

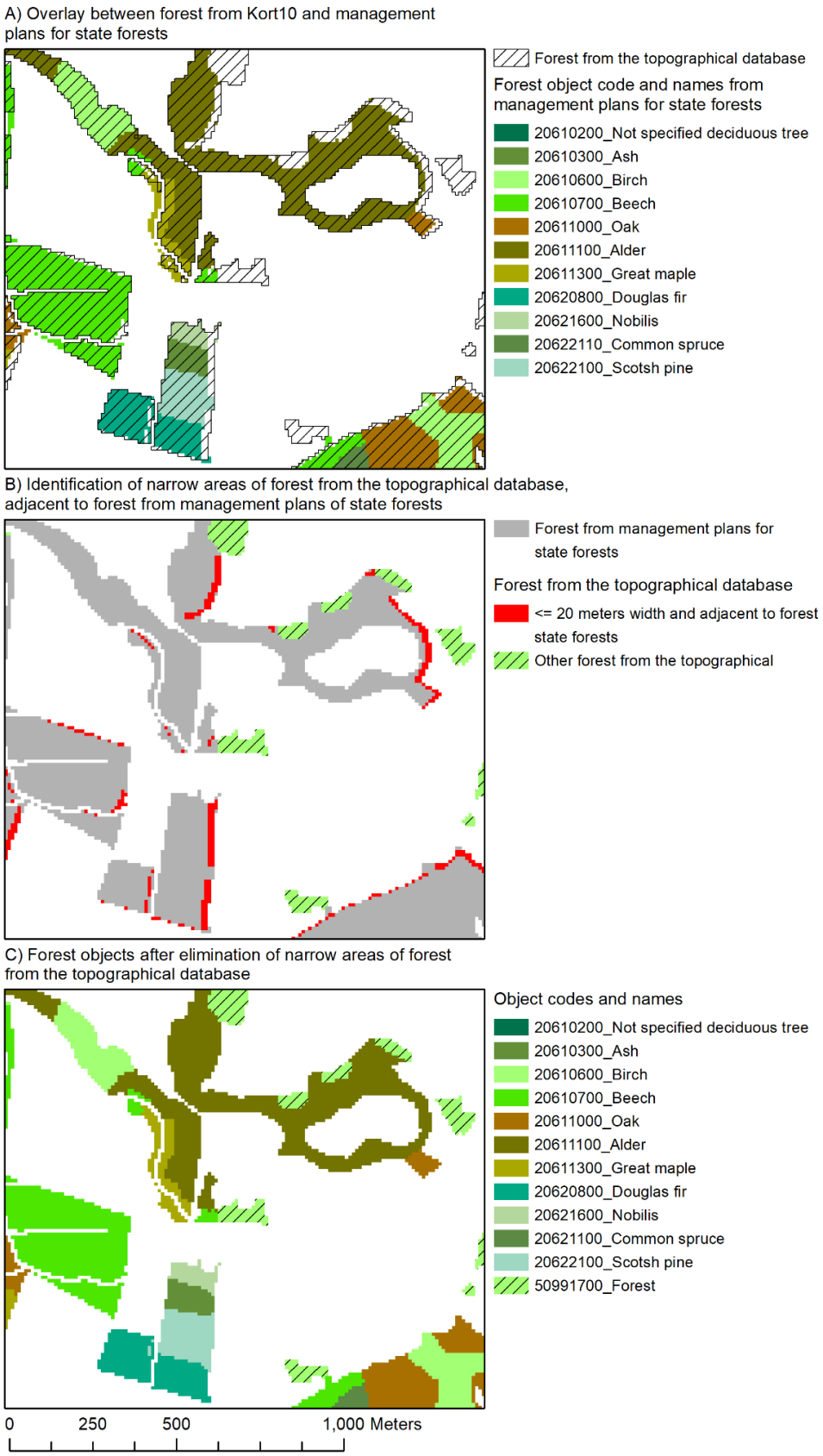


Figure 3.5 Applied method for elimination of narrow overlaps between forest from the topographical database and forest from management plans for state forests. Forest from the topographical database and from management plans for state forests is overlaid (A). Areas of forest from the topographical database, which do not overlap with forest from management plans are identified and divided into areas with a width <= 20 meters, located adjacent to forest from management plans and into other forest (B). The narrow areas are merged with adjacent forest object types from the management plan of state forests.

3.6 Agricultural census data

In order to allow for overlaps between agricultural LULC information and the other input layers, agricultural census data are processed independently. This ensures that e.g., an area, which according to the agricultural census data, is classified as agriculture extensive and overlaps with a habitat class from the map of protected habitat types, in the final Basemap does contain LULC information from both the agricultural data and from the habitat data.

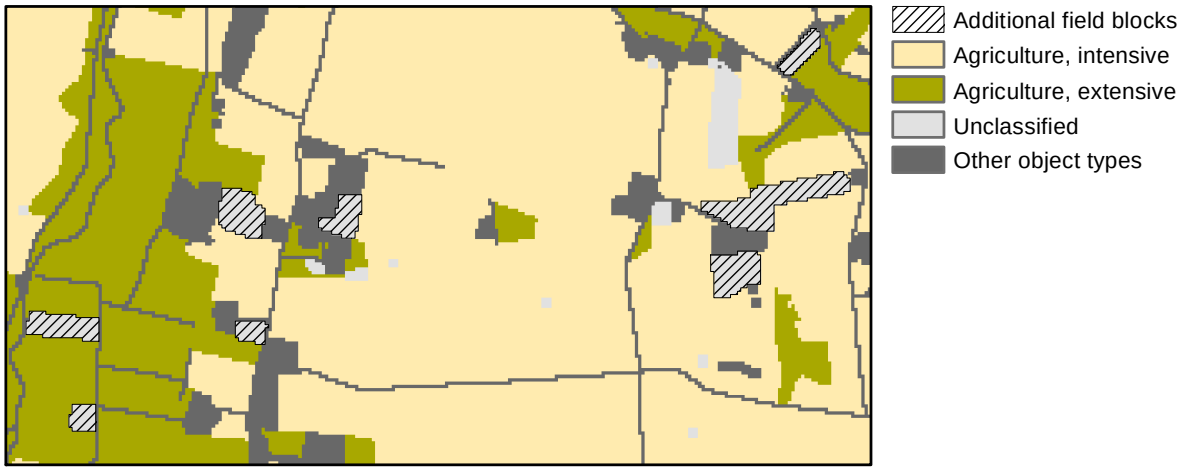
3.6.1 Overlay with other input data

In the first step, the rasterised field parcel layer is overlaid with the LULC 00 2021 layer. Roads, railways, streams, lakes and basins contained in the LULC 00 2021 layer are considered to exclude any agricultural land use, and are thus removed from the field parcel layer. In the next step, following the methodology described in Figure 3.4, narrow areas with unclassified cells are merged with adjacent field parcels.

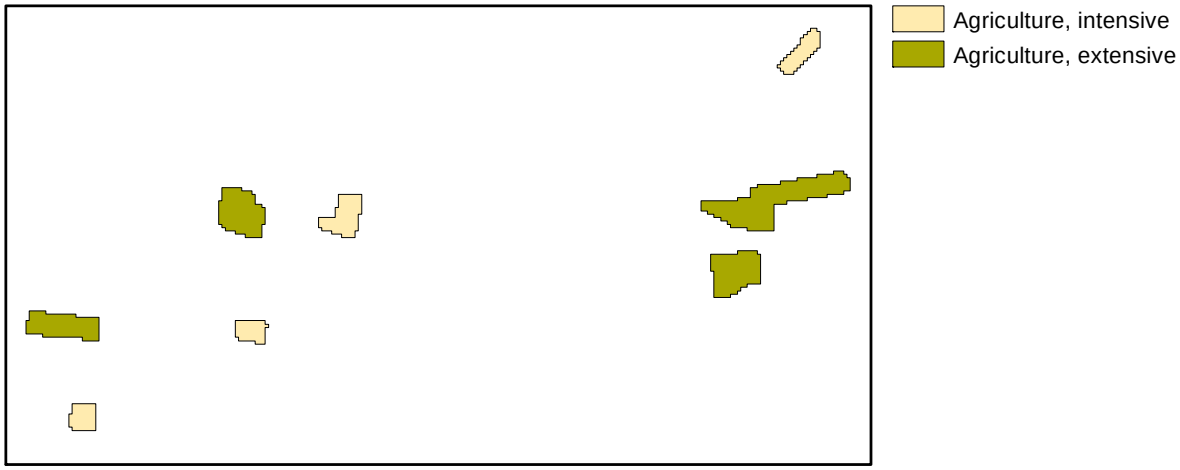
3.6.2 Embedment of field blocks

After overlaying the field parcel layer and the LULC 00 2021 layer, about 1,100 km² or 2.7 % of the terrestrial area does not contain any LULC information and are thus considered unclassified. Around 500 km² of these unclassified areas are contained in the field block map. As described in Section 2.7, the field block map is different from the field parcel map in the sense that one field block can contain up to 10 individual field parcels. I.e., it is not possible precisely to locate field parcels within a field block. However, the field block map contains an individual reference to the agricultural register with detailed information about land use types within each field block. The agricultural register for 2021 (Danish Agricultural Agency, 2021c) is applied to assign land use types to field blocks by calculating the total area of land use types within each field block and assigning the dominating land use type in terms of total area. Corresponding with the applied aggregation of LULC categories, in the final aggregated Basemap (Section 3.8), agricultural land use is aggregated into five major types: Agriculture, intensive, temporary crops; Agriculture, intensive, permanent crops; Agriculture, extensive; Forest; and Agriculture unclassified, where no land use information exists. The method for embedment of field block is described in Figure 3.6.

A) Overlay between field block map, field parcel map and other object types



B) Assignment of dominant land use type to field blocks



C) Final map with embedded field blocks

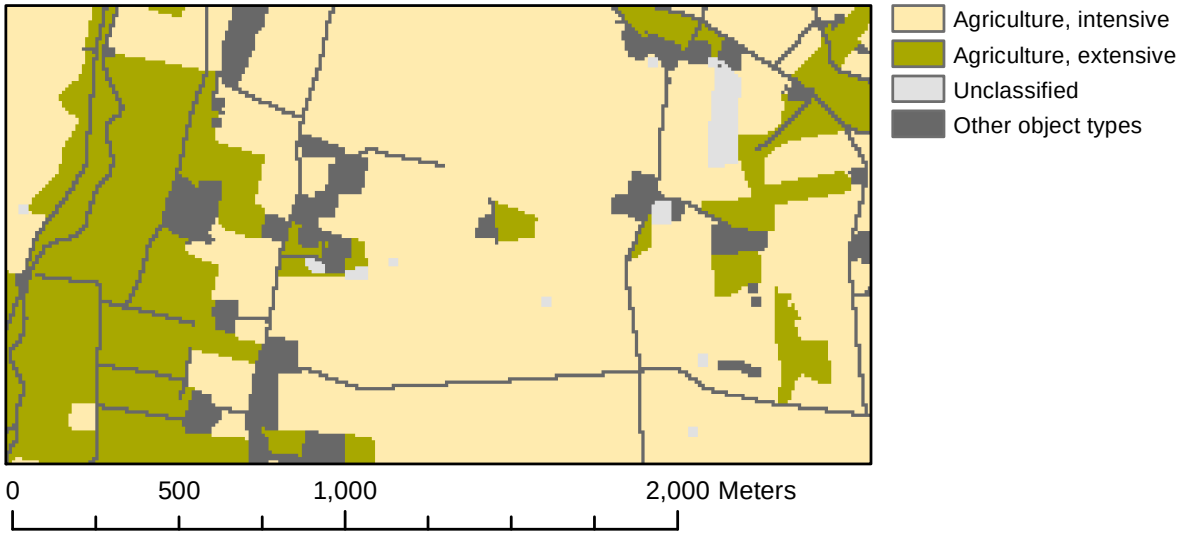
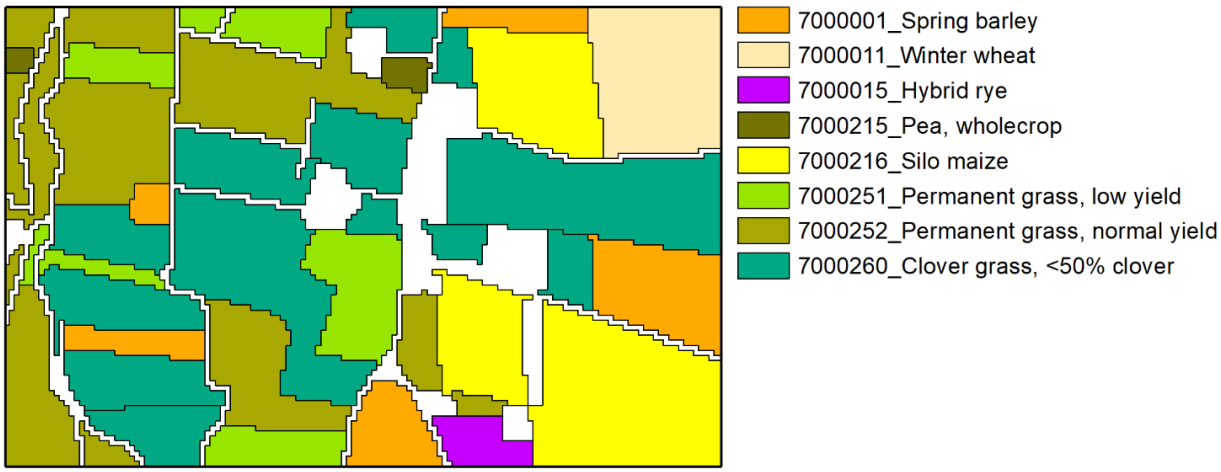


Figure 3.6 Applied method for embedment of field blocks. The field block map, the field parcels map and other types (from LULC 00) are overlaid and additional field blocks within yet unclassified areas are selected (A). Based on agricultural registers, the dominant land use type is assigned to each field block (B) and embedded into the final map (C).

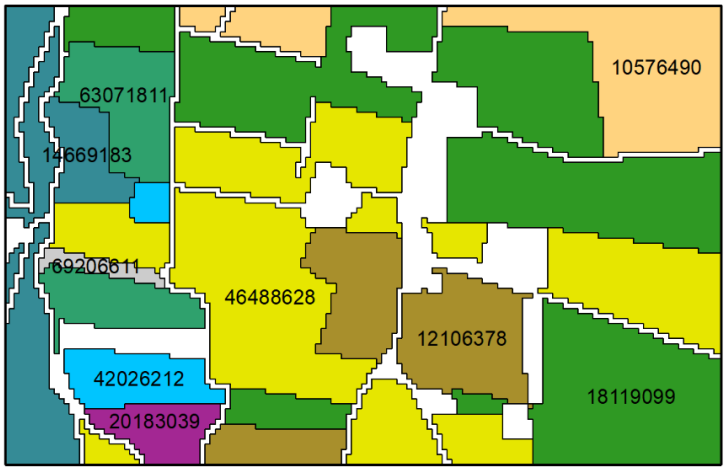
3.6.3 Final layer for agricultural census data

The final layer named the Agricultural Census Data 2021 layer, contains an individual object ID for each parcel or field block. This object ID can be linked to a variety of other information from agricultural registers. For the current version of Basemap, object IDs are assigned LULC categories, the company registration number (CVR-number), and the field block number (Figure 3.7).

A) Land use type



B) Company registration number (CVR-number)



C) Field block number

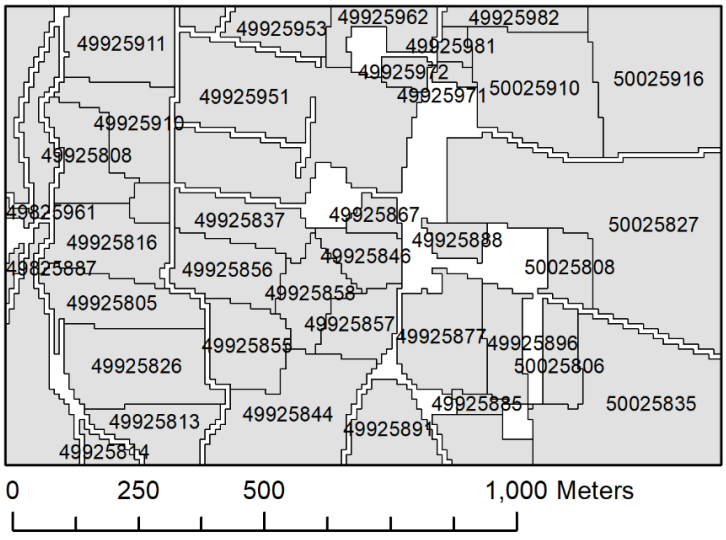


Figure 3.7 Illustration of aggregation of agricultural census data into land use categories (A), company registration number (B) and field block number (C).

3.7 Final overlay

In the next step, the LULC 00 2021 layer is overlaid with the Agricultural Census Data 2021 layer and the building layer from the topographical database. The resulting layer is called LULC 01 2021 and contains all input object codes and names from all applied datasets. Object codes from the agricultural census data and from the building layer replace object codes, which in the LULC 00 2021 layer are categorised as not classified. Where object codes from the Agricultural census layer do not exclude object codes from the LULC 00 2021 layer, e.g., where extensive land use overlaps with dry or wet nature the LULC information from both layers is kept. Where the building layer overlaps with built up object types in the LULC 00 layer, e.g., where a building is located in a technical area or a low built-up area, LULC information from both the building layer and the LULC 00 layer is kept.

3.8 Aggregation of land use/land cover categories

The LULC 01 2021 layer contains 1,610 possible combinations of object types and gives the possibility for numerous aggregations of land use and land cover categories. The choice of aggregation depends on the purpose of the study. If the focus is on agricultural land use, detailed information on agricultural land use categories (crop types) is relevant. Alternatively, if the focus is on urban land use, detailed information on urban land use categories is relevant.

In this report, an aggregation of object types into 34 broad LULC categories, which are relevant to the national accounting, elaborated by Statistics Denmark, is applied (see appendix for the applied aggregation of object types). Table 3.2 contains a list and description of these aggregated LULC categories. Figure 3.8 illustrates the applied method for aggregation of LULC categories. The aggregated LULC map for 2021 is named LU_AGG 2021.

Table 3.2 Aggregated land use/land cover categories.

Code	Name	Description
110000	Building	Buildings, which do not overlap with build-up categories
121000	Low built up	Areas with buildings up to two storeys
121110	Low built up; Building	Buildings located within low built-up areas
122000	High built up	Areas with buildings with more than two storeys
122110	High built up; Building	Buildings located within high built-up areas
123000	City centre	Areas with contiguous built-up areas in city centres
123110	City centre; Building	Buildings located within city centre
124000	Other built up	Other built-up areas, primarily technical areas from the topographical database
124110	Other built up; Building	Buildings located within other built-up areas
125000	Industry/business	Area with commercial or industrial use, such as industry and shopping malls
125110	Industry/business; Building	Buildings located within industry/business areas
126000	Airport/runway	Airports and airfields
126110	Airport/runway; Building	Buildings located within Airport/runway areas
130000	Recreation area/sports ground	Recreational areas and sport grounds. Includes allotment gardens
130110	Recreation area/sports ground; Building	Buildings located within recreational areas/sport grounds
141000	Road, paved	Paved roads
142000	Road, not paved	Not paved roads
150000	Railway	Railways and other areas related to railways
150110	Railway; Building	Buildings located within areas related to railways
160000	Resource extraction	Gravel pits
211000	Agriculture, intensive, temporary crops	Annual crops, including grassland in rotation
212000	Agriculture, intensive, permanent crops	Perennial crops, including Christmas trees, energy forest, orchards and nurseries/plantations
220000	Agriculture, extensive	Extensive land use, such as permanent grassland
230000	Agriculture, not classified	Field parcels or field blocks from the agricultural census data, which do not contain land use information
311000	Forest	Forested land
312000	Forest, wet	Forested land on wet ground
321000	Nature, dry	Habitat types on dry ground, which are not categorised as forest
321220	Nature, dry; Agriculture, extensive	Dry nature, which in the agricultural census data is categorised as extensive agriculture
322000	Nature, wet	Habitat types on wet ground, which are not categorised as forest
322220	Nature, wet; Agriculture, extensive	Wet nature, which in the agricultural census data is categorised as extensive agriculture
411000	Lake	Surface covered with freshwater, which is not part of a watercourse
412000	Stream	Surface covered with freshwater, which is part of a watercourse
420000	Sea	Surface covered with salt- or brackish water
800000	Unmapped	Area, where none of the applied input data contain land use/land cover information

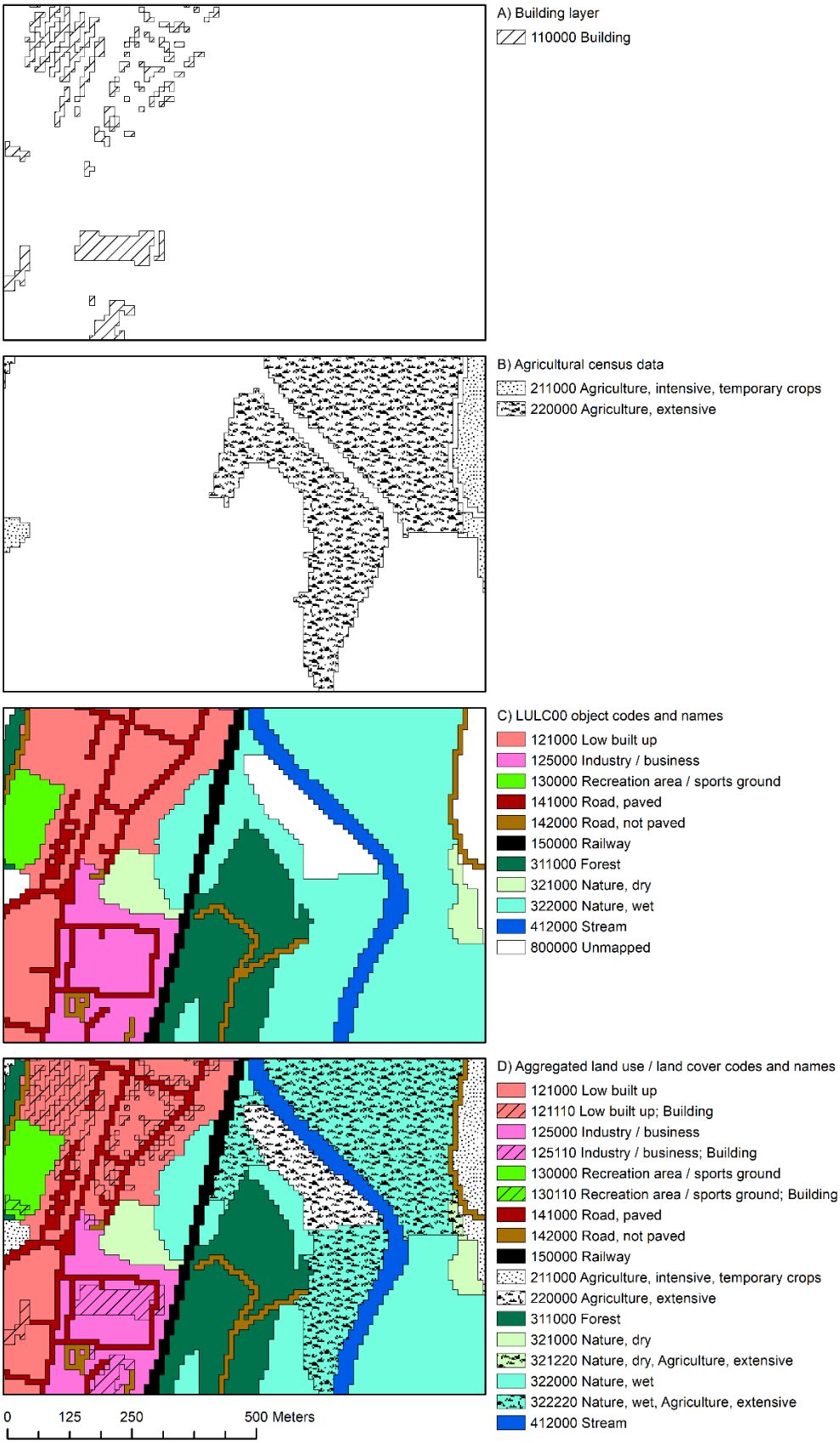


Figure 3.8 Applied method for aggregation land use/land cover categories. The building layer (A), Agricultural census data (B) and the LULC 00 layer are overlaid (C). Buildings, overlapping with build-up objects types are assigned a combined build up/building type. Parcels from the agricultural census data, containing extensive land use and overlapping with nature in the LULC 00 layer are assigned a combined nature/agriculture type (D).

3.9 Tree cover

A concern of the second version of Basemap was that the total area of forest contained in the map was considerably lower than reported in other official statistics, such as the Danish national forest inventory (NFI) (Nord-Larsen et al., 2019). This difference is partly a result of the applied methodology, where LULC types, such as dry and wet nature, rule out forest, which may be contained in other layers. Furthermore, in Basemap, Christmas trees, orchards, nurseries, plantations, and energy forests, such as willow and poplar plantations, are classified as temporary crops, while in the Danish NFI, these are considered forests. In order to include different categorisations of forest, a sub layer for tree cover is generated. The sublayer contains: 1) Tree cover, which is contained in input layers, such as the forest layer in the topographical database and which is located within areas, which in the LULC 01 2021 layer are characterised as wet nature, dry nature, extensive agriculture, not paved road, lake or stream. 2) Christmas trees / cut greenery, nurseries / plantations and energy forest, which is contained in the agricultural census data. The appendix contains detailed information about, where the tree cover is mapped. The appendix also contains information about which object types from applied input datasets are aggregated into tree cover categories. Tree cover categories in the tree cover layer are listed in Table 3.3. The applied method is illustrated in Figure 3.9.

Table 3.3 Object types, contained in the tree cover layer.

Object code	Object name	Description
1	Tree cover	Tree cover from the topographical database, located on LULC categories, which can contain tree cover
2	Forest/afforestation	Derived from management plans for state forest and defence holdings, from Natura2000 habitats, the topographical database or agricultural census data
3	Christmas trees/cut greenery	Derived from agricultural census data
4	Nursery/plantation	Derived from agricultural census data
5	Energy forestry	Derived from agricultural census data

Figure 3.9 Illustration of application of the tree cover layer. From the agricultural census data and the topographical database, areas categorised as tree cover are extracted (A) and overlaid with other land use/land cover categories (B) resulting in different categories of tree cover and combinations of land use/land cover types and tree cover (C)

3.10 Leaf type

Information on leaf type for tree cover is relevant for many purposes. E.g., broad-leaved trees provide better conditions for biodiversity than coniferous trees. Therefore, for Basemap04 information on leaf type has been added. Ob-

ject types derived from management plans for state forests and defence holdings, from Natura2000 habitat types, and from agricultural census data contain detailed information on tree types, which can be grouped into broadleaved and coniferous. However, these input layers only cover around 23 % of the total tree covered area. Therefore, for the remaining area, leaf type information is derived from the Copernicus leaf type map from 2018 (see Section 2.9). Table 3.4 contains information about from which input layers leaf type information was derived. The method for generating the leaf type map is illustrated in Figure 3.10.

Table 3.4 Origin of leaf type information in Basemap04.

	Area Km²	Proportion %
Management plans for state forests	1,099	15.9
Management plans for Defence sites	52	0.8
Natura2000 habitat types	97	1.4
Agricultural census data	375	5.4
Copernicus leaf type	4,823	69.6
No leaf type information	480	6.9
Total	6,926	100.0

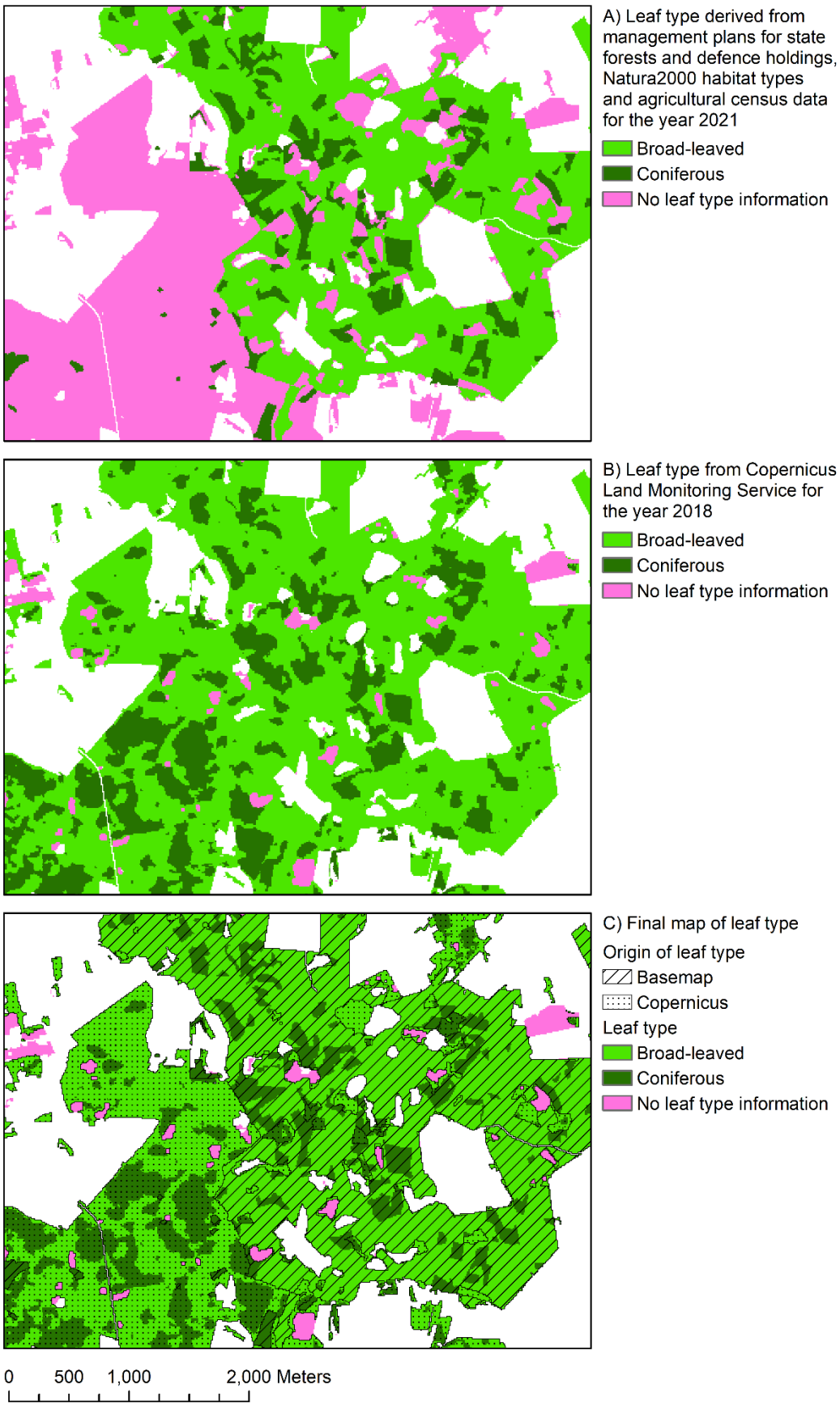


Figure 3.10 Illustration of applied method for mapping of leaf type. Within tree covered areas, leaf type derived from management plans for state forests and defence holdings, Natura2000 habitat types and agricultural census data (A) are overlaid with the Copernicus leaf type map (B). Where management plans for state forests and defence holdings, Natura2000 habitat types and agricultural census data do not contain leaf type information, the Copernicus leaf type layer is applied (C). Tree covered areas, where none of the input layers contain leaf type information are assigned “no leaf type information.

3.11 Solar panels

Solar panels are part of the sub-category energy supply under technical areas in the topographical database. However, solar panels are not registered specifically. In order to include areas with solar panels, all objects with the sub-category energy supply (1,061 objects) were assessed visually on aerial photos for the presence of solar panels and 178 objects were assigned the object code 50990104 Technical area, solar panels. Solar panels can overlap with areas, which in the aggregated layer are characterised as built up, recreational area, agriculture or nature. The applied method is illustrated in Figure 3.11.

Figure 3.11 Illustration of the mapping of solar panels. From the topographical database, the category solar panels is extracted (A) and overlaid with other land use/land cover categories (B) resulting in different combinations of solar panels and other land use/land cover categories (C).

3.12 Basemap for 2011, 2016 and 2018

Information about LULC changes over time is highly relevant. However, the methodology and to some extent the input data, which were applied for the elaboration of the earlier versions of Basemap differ from the current version

of the map. A LULC change assessment based on a direct overlay between earlier and the current version of Basemap would therefore result in a substantial overestimation of changes. Therefore, the updated version of Basemap for the years 2011, 2016 and 2018, consistent with Basemap for 2021, are elaborated. Within the rather short time sequences of five years (2011 – 2016), two years (2016 – 2018) and three years (2018 – 2021), changes in LULC can be assumed to be relatively small. According to Levin and Gyldenkærne (2022), recent changes in land use and land cover in Denmark are mainly characterised by urban expansion, expansion of road infrastructure, afforestation, habitat and wetland restoration. These changes occur primarily on the account of agricultural land use.

The 2011, 2016, and 2018 versions of Basemap are elaborated for aggregated LULC types (Section 3.8). Consequently, these versions do not contain detailed LULC information or the possibility to relate these to other register data. Furthermore, for the years 2011, 2016, and 2018 tree cover layers consistent with the methodology described in Section 3.9 are elaborated.

In order to reduce biases caused by inaccuracies in the delineation of object types in the applied input data, except for roads and railways, only changes with a width exceeding 20 meters are included. The applied method is illustrated in Figure 3.12. This method is first applied to elaborate the 2018 map and subsequently the 2016 and finally the 2011 map.

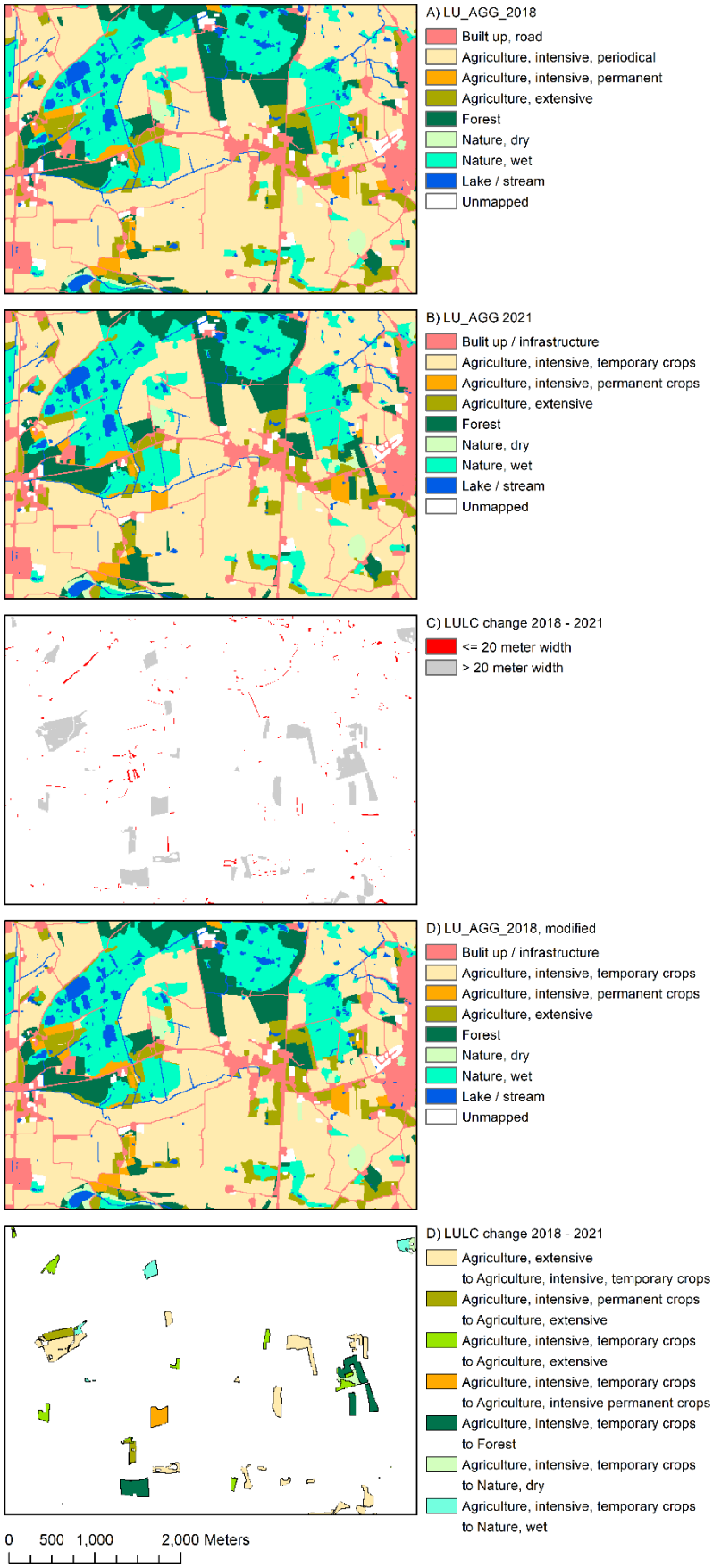


Figure 3.12. Illustration of the applied method for mapping of LULC changes from 2018 to 2021. The LULC map for 2018 (A) is overlaid with the LULC map for 2021 (B). Areas with LULC changes <= 20 meters width (C) are considered not to have changed and are in the modified LULC map for 2018 (D) assigned the LULC type for 2021. Mapped LULC changes only include areas with change > 20 meters width.

4 Results

4.1 Aggregated land use/land cover categories

Table 4.1 contains the total area and area proportion of the aggregated LULC categories for the years 2011, 2016, 2018, and 2021. In 2021, intensive agriculture is the largest LULC category (23,457.7 km²; 54.4 %) followed by built up and infrastructure (6,010.1 km²; 13.9 %), forest (5,713.6 km²; 13.3 %), nature areas (3,977.1 km²; 9.2 %), extensive agricultural land use (3,590.7 km²; 8.3 %) and streams and lakes (1,211.3 km², 2.8 %). Unclassified land, i.e. areas, where none of the applied input layers contains land use/land cover information, accounts for 684.2 km² (1.6 %).

Table 4.1 Area and proportion of land use/land cover in 2011, 2016, 2018 and 2021 and change from 2011 to 2021.

		2011		2016		2018		2021		Change 2011-2021	
Code	Name	Area (Km²)	% of terrestrial area	Area (Km²)	% of terrestrial area	Area (Km²)	% of terrestrial area	Area (Km²)	% of terrestrial area	Area (Km²)	% of 2011
100000	**All built up and infrastructure**	**5,730.3**	**13.3**	**5,869.8**	**13.6**	**5,924.2**	**13.7**	**6,010.1**	**13.9**	**279.8**	**4.9**
110000	Building	9.5	0.0	10.6	0.0	11.3	0.0	13.6	0.0	4.1	43.2
121000	Low built up	2,054.0	4.8	2,122.9	4.9	2,145.7	5.0	2,171.5	5.0	117.5	5.7
121110	Low built up; Building	513.9	1.2	526.6	1.2	530.4	1.2	546.8	1.3	32.9	6.4
122000	High built up	48.9	0.1	49.5	0.1	49.8	0.1	50.2	0.1	1.3	2.6
122110	High built up; Building	19.2	0.0	19.3	0.0	19.4	0.0	19.9	0.0	0.6	3.3
123000	City centre	14.4	0.0	14.4	0.0	14.4	0.0	14.3	0.0	-0.1	-0.6
123110	City centre; Building	13.4	0.0	13.4	0.0	13.4	0.0	13.5	0.0	0.1	0.9
124000	Other built up	47.0	0.1	50.1	0.1	55.1	0.1	59.2	0.1	12.2	26.0
124110	Other built up; Building	4.0	0.0	4.3	0.0	4.4	0.0	4.7	0.0	0.6	15.7
125000	Industry/business	213.5	0.5	232.8	0.5	240.0	0.6	250.6	0.6	37.2	17.4
125110	Industry/business; Building	90.4	0.2	94.1	0.2	95.1	0.2	99.7	0.2	9.3	10.3
126000	Airport/runway	22.9	0.1	23.1	0.1	23.1	0.1	23.3	0.1	0.4	1.9
126110	Airport/runway; Building	0.8	0.0	0.9	0.0	0.9	0.0	0.9	0.0	0.1	6.3
130000	Recreation area/sports ground	354.8	0.8	359.1	0.8	360.9	0.8	362.8	0.8	8.1	2.3
130110	Recreation area/sports ground; Building	10.2	0.0	10.2	0.0	10.3	0.0	11.1	0.0	0.9	9.1
141000	Road, paved	1,278.2	3.0	1,298.4	3.0	1,306.8	3.0	1,315.5	3.1	37.3	2.9
142000	Road, not paved	979.0	2.3	984.0	2.3	985.9	2.3	994.6	2.3	15.6	1.6
150000	Railway	55.3	0.1	55.3	0.1	56.4	0.1	56.8	0.1	1.5	2.6
150110	Railway; Building	0.9	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.1	7.9
160000	**Resource extraction**	**57.3**	**0.1**	**58.9**	**0.1**	**52.4**	**0.1**	**52.0**	**0.1**	**-5.3**	**-9.3**
200000	**Agriculture**	**27613.5**	**64.1**	**27508.3**	**63.8**	**27355.6**	**63.5**	**27135.0**	**63.0**	**-478.6**	**-1.7**
210000	**Agriculture, intensive**	**24,739.4**	**57.4**	**23,919.3**	**55.5**	**23,678.6**	**55.0**	**23,457.7**	**54.4**	**-1,281.7**	**-5.2**
211000	Agriculture, intensive, temporary crops	24,405.7	56.6	23,537.3	54.6	23,296.7	54.1	23,072.4	53.5	-1,333.3	-5.5
212000	Agriculture, intensive, permanent crops	333.7	0.8	382.0	0.9	381.9	0.9	385.2	0.9	51.5	15.4
220000	**Agriculture, extensive**	**2,784.8**	**6.5**	**3,447.3**	**8.0**	**3,504.2**	**8.1**	**3,590.7**	**8.3**	**806.0**	**28.9**
230000	Agriculture, extensive	1,320.7	3.1	1,769.3	4.1	1,892.9	4.4	1,897.5	4.4	576.9	43.7
230000	Agriculture, not classified	89.3	0.2	141.7	0.3	172.9	0.4	86.5	0.2	-2.8	-3.1
310000	**Forest**	**5,666.9**	**13.2**	**5,683.5**	**13.2**	**5,682.6**	**13.2**	**5,713.6**	**13.3**	**46.7**	**0.8**
311000	Forest	5,617.8	13.0	5,632.1	13.1	5,630.7	13.1	5,660.3	13.1	42.5	0.8
312000	Forest, wet	49.1	0.1	51.4	0.1	51.9	0.1	53.2	0.1	4.1	8.4
320000	**Nature**	**3,735.5**	**8.7**	**3,899.1**	**9.0**	**3,924.6**	**9.1**	**3,977.1**	**9.2**	**241.5**	**6.5**
321000	Nature, dry	1,132.8	2.6	1,084.3	2.5	1,114.2	2.6	1,097.3	2.5	-35.4	-3.1
321220	Nature, dry, Agriculture, extensive	360.8	0.8	445.6	1.0	427.0	1.0	452.8	1.1	92.1	25.5
322000	Nature, wet	1,138.7	2.6	1,136.8	2.6	1,199.2	2.8	1,186.5	2.8	47.8	4.2
322220	Nature, wet, Agriculture, extensive	1,103.3	2.6	1,232.3	2.9	1,184.3	2.7	1,240.4	2.9	137.0	12.4
410000	**Lake and Stream**	**1,154.8**	**2.7**	**1,179.5**	**2.7**	**1,190.4**	**2.8**	**1,211.3**	**2.8**	**56.5**	**4.9**
411000	Lake	745.0	1.7	768.3	1.8	781.0	1.8	802.0	1.9	57.0	7.7
412000	Stream	409.8	1.0	411.2	1.0	409.4	1.0	409.3	0.9	-0.6	-0.1
420000	**Sea**	**30,209.4**		**30,208.6**		**30,204.5**		**30,202.5**		**-6.9**	**0.0**
800000	**Unmapped**	**588.7**	**1.4**	**562.6**	**1.3**	**569.3**	**1.3**	**684.2**	**1.6**	**95.5**	**16.2**
	Terrestrial area	**43,083.1**	**100.0**	**43,083.9**	**100.0**	**43,088.0**	**100.0**	**43,090.0**	**100.0**	**6.9**	**0.0**

4.2 Land use and land cover changes

The two columns to the right in Table 4.1 show the change in area and proportion for the period from 2011 to 2021. Overall, changes are characterised by a decreasing area of intensive agricultural land use (-1,281.7 km²; -5.2 %) and an increasing area of built up and infrastructure (+279.8 km²; 4.9 %), of extensive agriculture (+806.0 km²; 28.9 %), of nature areas (+241.5 km², 6.5 %) and of lakes and streams (+56.5 km²; 4.9 %).

4.2.1 Built up and infrastructure

Between 2011 and 2021, build-up areas and infrastructure increased by 279.8 km² or 4.9 %. Table 4.2 shows LULC categories for the year 2011, which by 2021 had changed to build up and infrastructure. Around 44 % of the area, which changed to build up and infrastructure was in 2011 mapped as agriculture. A proportion of 8.5 % was mapped as forest, 2.1 % as nature, 0.6 % as lake / stream and 1.1 % as Sea. Around 43 % of the area was unmapped in 2011. I.e., in 2011, none of the applied input data contained any LULC information. As illustrated in Figure 4.1, in 2011, many of these areas were already partly build up or under construction. There are thus two principal explanations for changes from not classified to build up and infrastructure: 1) The area was already build up in 2011, but due to the four years registration interval for topographical data (see Chapter 2.1), was not yet registered as build up. 2) The area was under construction, which is not a LULC category in any of the applied input datasets.

Table 4.2 Land use/land cover categories in 2011, which by 2021 had changed to build up and infrastructure.

	Area Km²	Proportion %
Resource extraction	1.6	0.6
Agriculture	123.3	44.1
Forest	23.7	8.5
Nature	6.0	2.1
Lake/stream	1.6	0.6
Sea	3.1	1.1
Unmapped	120.5	43.1
Total	279.8	100.0

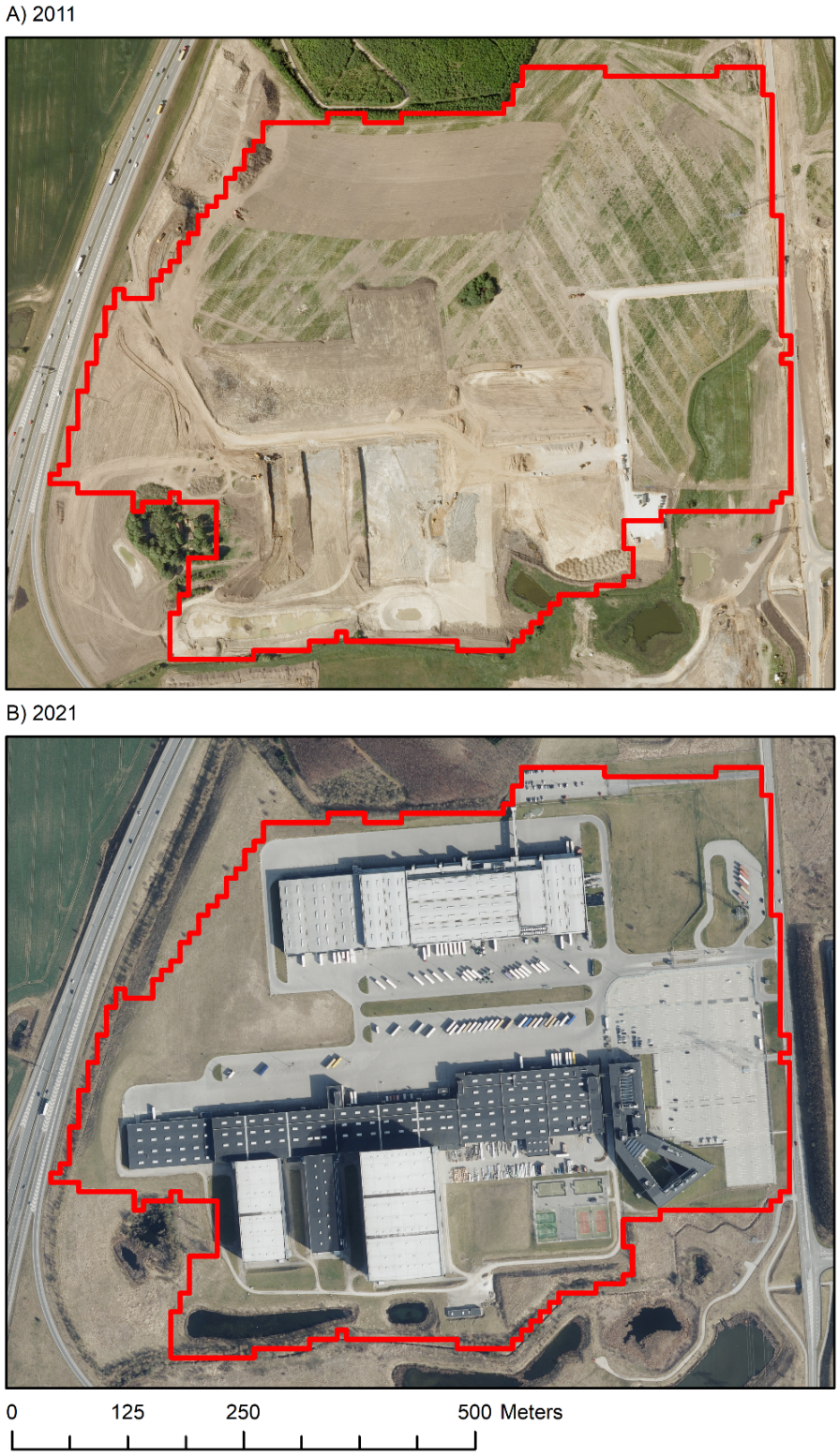


Figure 4.1 Illustration of an area, which in 2011, is categorised as “unmapped” (A) and in 2021 is mapped as “build up” (B). As can be seen, in 2011, some road infrastructure was already constructed and earth work had already started.

4.2.2 Solar energy

Although, in 2021, solar panels only covered 12.1 km², between 2011 and 2021, the area of solar panels increased by 11.5 km ² or 1.756 %. An example is shown in Figure 4.2.

Table 4.3 Area covered by solar panels in 2011, 2016, 2018 and 2021 and change from 2011 to 2021.

2011	2016	2018	2021	Change 2011 - 2021	
Area	Area	Area	Area	Area	Proportion of 2011
Km²	Km²	Km²	Km²	Km²	%
0.7	2.0	7.2	12.1	11.5	1,755.6

A) 2011

B) 2021

Figure 4.2 Example of an area, which in 2011 was cropland (A) and by 2021 was covered by solar panels (B).

4.2.3 Tree cover

According to the aggregated LULC categories (Table 4.1), in 2021, the total forest area was 5,713.6 km² or 13.3 % of the terrestrial area of Denmark. Between 2011 and 2021, the forest area increased by 46.7 km² or 0.8 %. Table 4.4 shows the total forest area for the different categories of tree cover, contained in the sub-layer for tree cover. In 2021, the sum of all types of tree cover was 6,927 km² or 16.2 % of the terrestrial area of Denmark. With 5,714 km², the largest area is tree cover, which in the aggregated map is categorised as forest. The amount of 855 km² is tree cover located on LULC categories, which in the aggregated LULC map are not mapped as forest. Furthermore, Christmas trees and cut greenery make up 223 km², nursery / plantation 47 km², and energy forest 88 km². Table 4.3 also shows that from 2011 to 2021, the area of all tree cover categories increased. The total area of all tree cover categories increased by 2.8 % from 6,741 km² in 2011 to 6,927 km² in 2021.

Table 4.4 Area and proportion of different types of tree cover in 2011, 2016, 2018 and 2021 and change from 2011 to 2021.

		2011		2016		2018		2021		Change 2011 – 2021	
		Area	Proportion of total tree cover	Area	Proportion of total tree cover	Area	Proportion of total tree cover	Area	Proportion of total tree cover	Area	Proportion of 2011
Code	Name	Km²	%	Km²	%	Km²	%	Km²	%	Km²	%
1	Tree cover on other land use/land cover	789.1	11.7	834.6	12.2	831.3	12.1	855.1	12.3	66.0	8.4
2	Forest/afforestation	5,666.9	84.1	5,683.5	82.8	5,682.6	82.7	5,713.6	82.5	46.7	0.8
3	Christmas trees/cut greenery	183.1	2.7	209.9	3.1	219.9	3.2	223.2	3.2	40.1	21.9
4	Nursery/plantation	41.1	0.6	48.9	0.7	47.4	0.7	46.7	0.7	5.6	13.6
5	Energy forestry	60.2	0.9	88.6	1.3	86.9	1.3	88.0	1.3	27.8	46.1
	Total tree cover	6,740.5	100.0	6,865.5	100.0	6,868.1	100.0	6,926.7	100.0	186.1	2.8

Table 4.5 shows the area and proportion of those LULC categories, within which the tree cover category "tree cover on other land use / land cover" was located in 2011, 2016, 2018, and 2021. In 2021, the largest proportion of tree cover was located within areas with wet nature (39 %), followed by unpaved roads (27.8 %), areas with dry nature (11.9 %), extensive agriculture (3.7 %), and lake / stream (1.9 %). The smallest proportion is located in areas for recreation / sports grounds (0.7 %).

Table 4.5 Area and proportion of tree cover, which is located within land use/land cover categories, which are not categorised as forest in 2011, 2016, 2018 and 2021 and change from 2011 to 2021.

	2011		2016		2018		2021		Change 2011 - 2021	
	Area	Proportion of total area with tree cover on other LULC categories	Area	Proportion of total area with tree cover on other LULC categories	Area	Proportion of total area with tree cover on other LULC categories	Area	Proportion of total area with tree cover on other LULC categories	Area	Proportion of 2011
Land use/land cover category	Km²	%	Km²	%	Km²	%	Km²	%	Km²	%
Recreation area/ sports ground	2.2	0.3	2.5	0.3	2.5	0.3	3.0	0.3	0.7	33.9
Road, not paved	234.9	29.8	231.5	27.7	233.5	28.1	238.1	27.8	3.2	1.4
Agriculture, extensive	31.4	4.0	32.5	3.9	31.5	3.8	35.1	4.1	3.7	11.9
Nature, dry	174.7	22.1	191.2	22.9	184.6	22.2	186.6	21.8	11.9	6.8
Nature, wet	289.2	36.7	320.2	38.4	321.9	38.7	333.8	39.0	44.6	15.4
Lake/stream	56.7	7.2	56.7	6.8	57.4	6.9	58.5	6.8	1.9	3.3
Total	789.1	100.0	834.6	100.0	831.3	100.0	855.1	100.0	66.0	8.4

4.2.4 Spatially explicit changes in tree cover

Between 2011 and 2021, the total area of tree cover increased by 186.1 km² or 2.8 %. However, this net-increase comprises both a gain and a loss in tree cover. Table 4.6 shows that over this period of 10 years, there was a loss of 250.2 km² and a gain of 436.4 km² of tree cover.

Table 4.6 Net-change and loss and gain in tree cover from 2011 to 2021.

2011	2021	2011-2021		
		Net-change	Loss	Gain
Area	Area	Area	Area	Area
Km²	Km²	Km²	Km²	Km²
6,740.5	6,926.7	186.1	-250.2	436.4

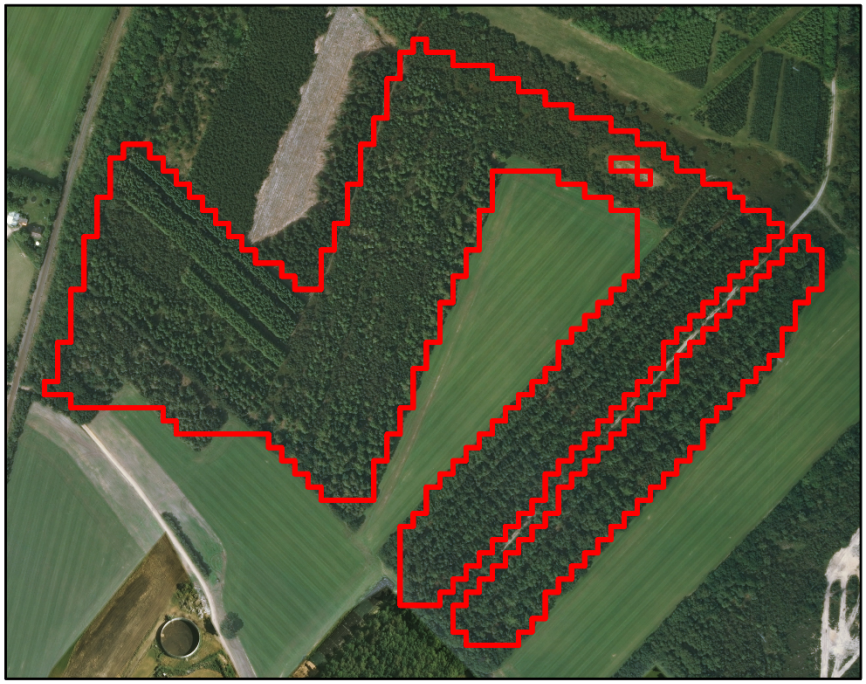
Table 4.7 shows the distribution of loss and gain in tree cover from 2011 to 2021 distributed over the different tree cover types. For both losses and gains, forest / afforestation makes up the largest proportion, followed by tree cover on other land use / land cover categories and Christmas trees / cut greenery. Nursery / plantation and energy forests comprise smaller proportions of loss and gain in tree cover.

Table 4.7 Loss and gain in tree cover from 2011 to 2021 distributed over tree cover types.

	Loss		Gain	
	Area	Proportion	Area	Proportion
Tree cover type	Km²	%	Km²	%
Tree cover on other land use/land cover	77.5	31.0	106.0	24.3
Forrest/afforestation	121.7	48.6	200.2	45.9
Christmas trees/cut greenery	18.2	7.3	61.6	14.1
Nursery/plantation	17.2	6.9	23.0	5.3
Energy forest	15.7	6.3	45.5	10.4
Total	250.2	100.0	436.4	100.0

Figures 4.3 to 4.5 show examples of areas, where tree cover was lost. Loss in tree cover is either associated with conversion to other LULC categories, such as agriculture (Figure 4.3) or urban land use (Figure 4.4) or with the clearing of tree cover in relation to nature management (Figure 4.5).

A) 2011



B) 2021

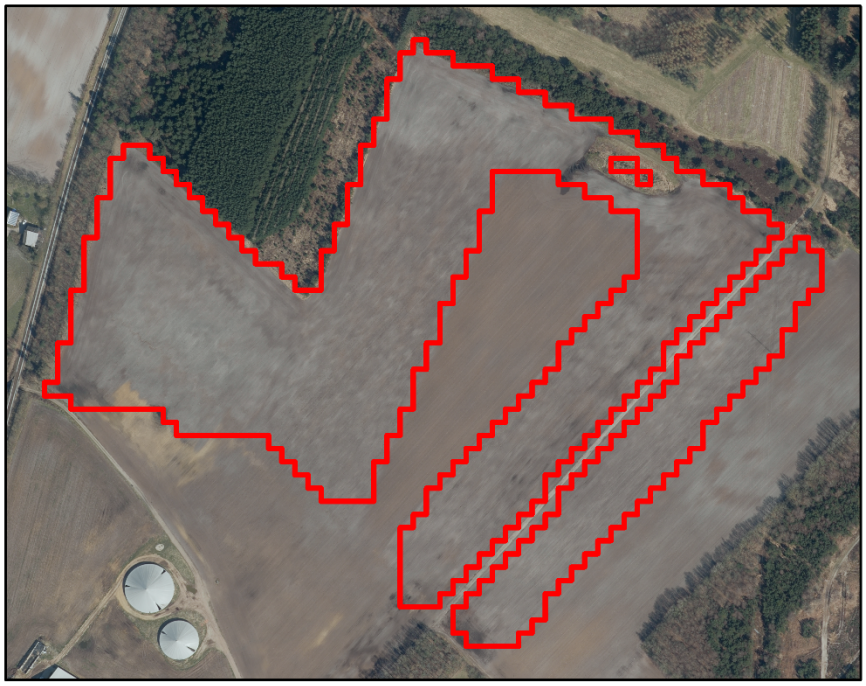


Figure 4.3 Example of an area, which in 2011 was covered by forest and in 2021, was used for agriculture.

A) 2011

B) 2021

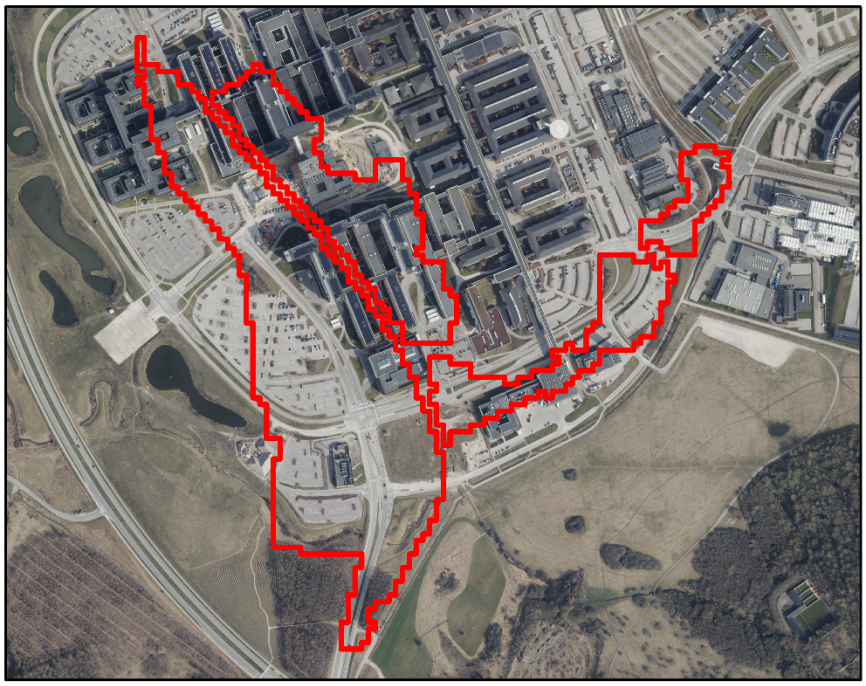
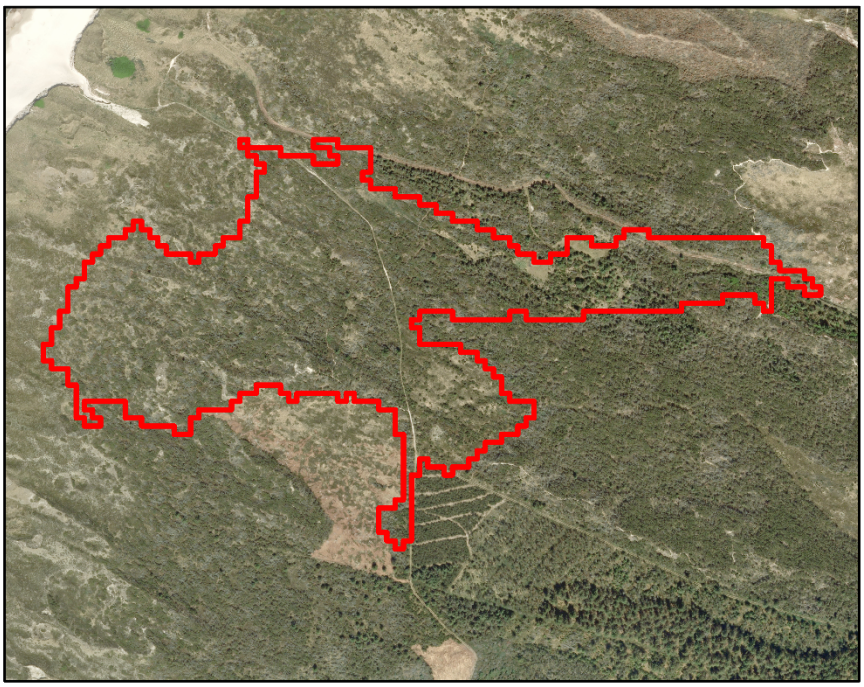
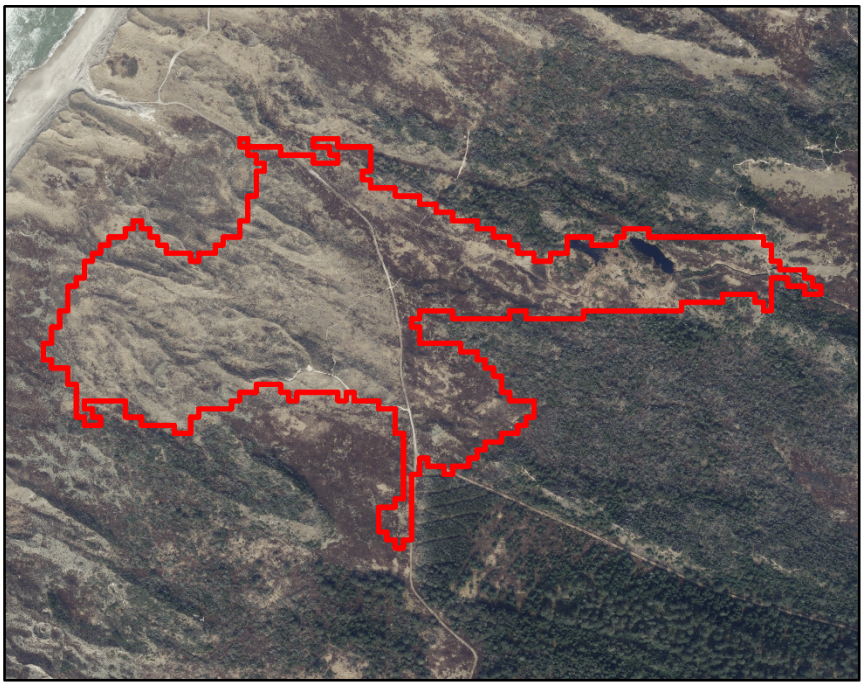


Figure 4.4 Example of an area, which in 2011 was covered by forest and by 2021, was converted to urban land.

A) 2011



B) 2021



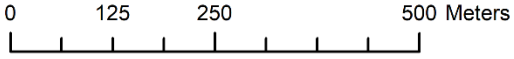
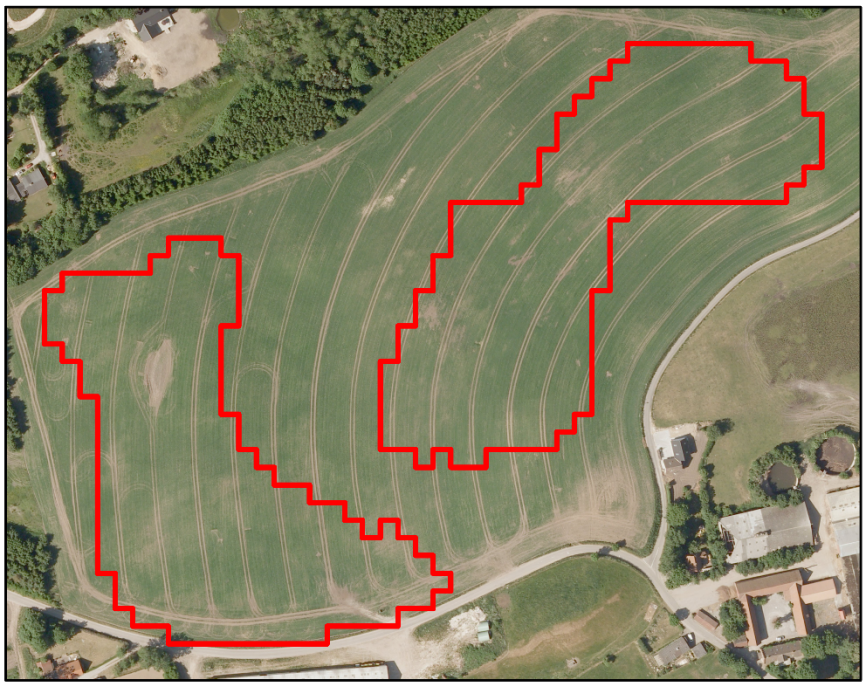


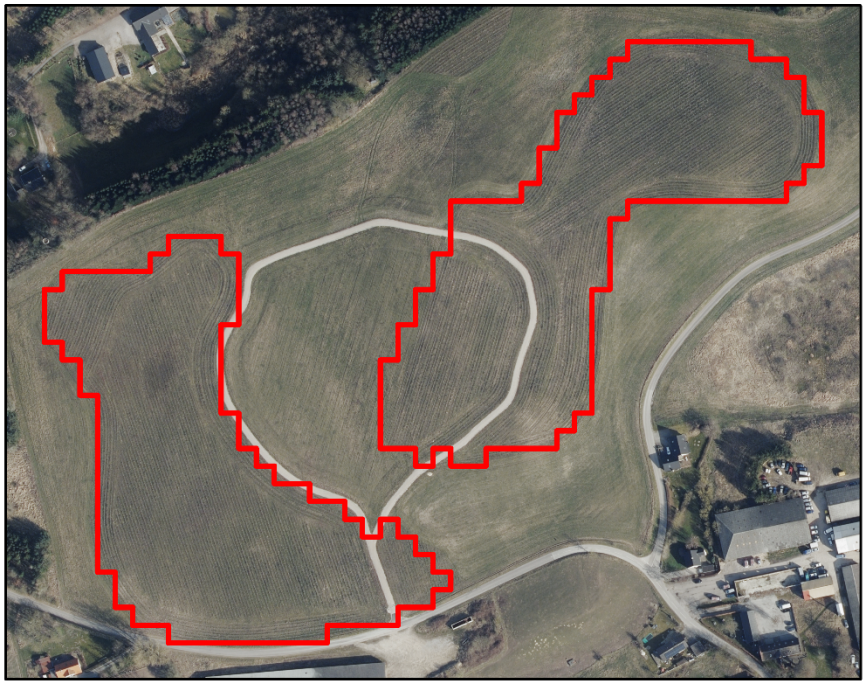
Figure 4.5 Example of a nature area, which in 2011 was covered by trees. By 2021, tree cover was cleared.

Figures 4.6 and 4.7 show examples of areas with gain in tree cover.

A) 2011



B) 2021



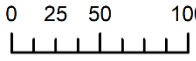
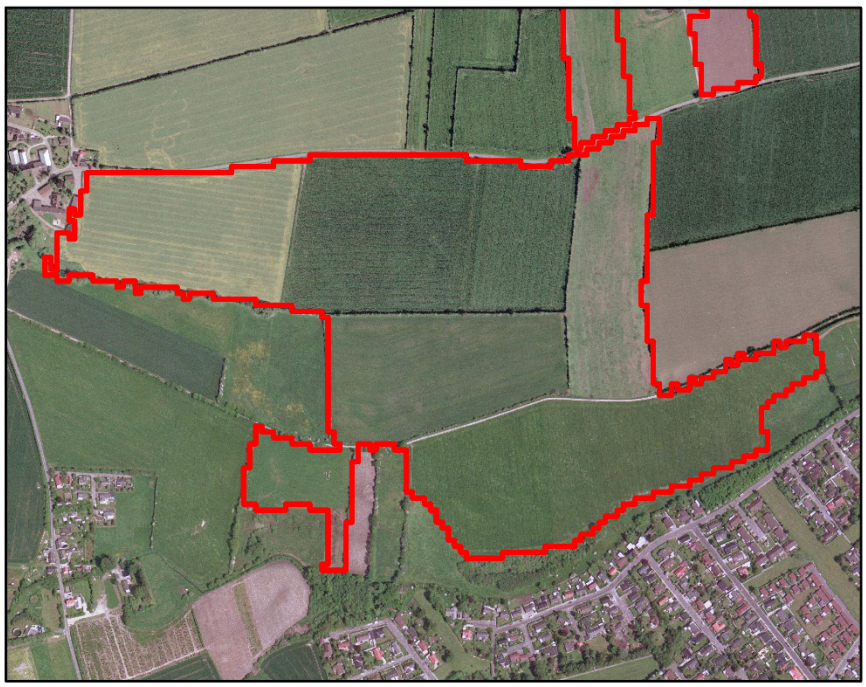
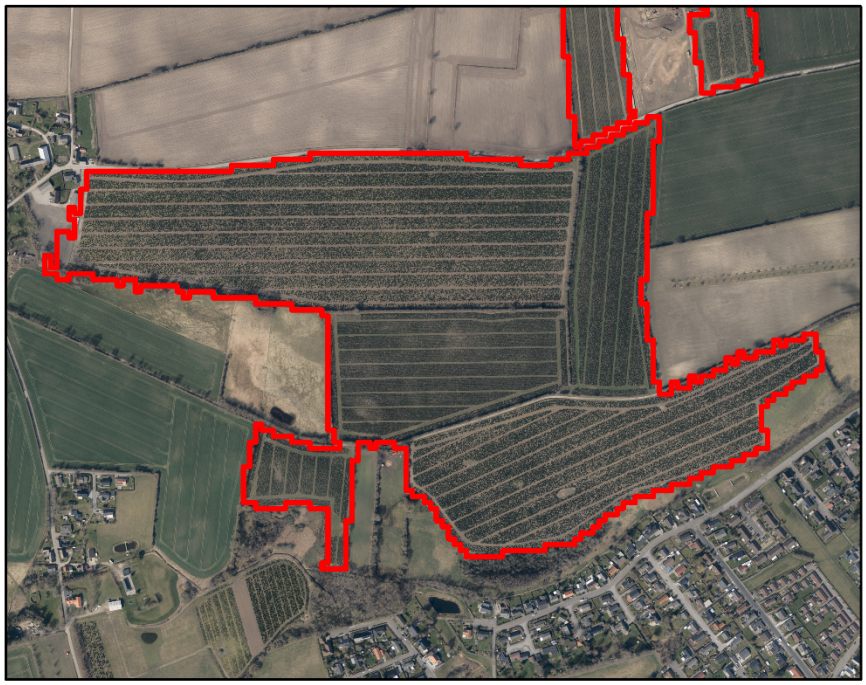


Figure 4.6 Example of an area, which in 2011 was used for agriculture and by 2021, was used for afforestation.

A) 2011



B) 2021



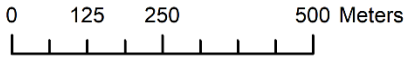


Figure 4.7 Example of and area, which in 2011 was used for agriculture and in 2021 for Christmas trees.

4.2.5 Leaf type

For the year 2021, Table 4.8 summarises the area and proportions of leaf types for the different types of tree cover. Of the total area with tree cover, about 58.8 % was mapped as broad-leaf and 34.2 % as coniferous, while 6.9 % could not be classified. The majority of broad-leafed tree cover was forest / afforestation (81.6 %), followed by tree cover on other land use / land cover (15.1 %), energy forest (2.2 %), and nursery / plantation (1.1 %). For coniferous tree

cover, the largest proportion was located on forest / afforestation (83.3 %), followed by Christmas trees / cut greenery (9.4 %) and tree cover on other land use / land cover (7.3 %). The largest proportion of the area, where leaf type could not be classified as forest / afforestation (85.8 %) followed by tree cover on other land use / land cover (14.2 %).

Table 4.8 Leaf type in 2021, distributed over different tree cover types.

	Leaf type					
	Broad-leaf		Coniferous		Not classified	
Tree cover type	Area Km²	Proportion of leaf type %	Area Km²	Proportion of leaf type %	Area Km²	Proportion of leaf type %
Tree cover on other land use/land cover	613.5	15.1	173.5	7.3	68.0	14.2
Forest/afforestation	3,327.9	81.6	1,973.9	83.3	411.8	85.8
Christmas trees/cut greenery	-	-	223.2	9.4	-	-
Nursery/plantation	46.7	1.1	-	-	-	-
Energy forest	88.0	2.2	-	-	-	-
All	4,076.4	100.0	2,370.7	100.0	479.8	100.0
Proportion of all tree cover (%)	58.8		34.2		6.9	

For areas, which between 2011 and 2021, have changed from other LULC categories to tree cover, Table 4.9 summarises area and proportion of leaf types for the different tree cover types. Of the total area of gained tree cover, 51.3 % was mapped as broad-leaf and 20.1 % as coniferous, while 28.6 % leaf types could not be classified. The high proportion of not classified leaf type is likely due to areas, where tree cover was too young to be captured by the 2018 Copernicus leaf type map. The largest proportion of new broad-leafed tree cover was on tree cover on other land use / land cover (36.6 %), followed by forest / afforestation (32.8 %), energy forest (20.3 %), and nursery / plantation (10.3 %). For new coniferous tree cover, the largest proportion was on Christmas trees / cut greenery (70.2 %), followed by forest / afforestation (17.3 %) and tree cover on other land use / land cover (12.5 %). For areas, where leaf type could not be classified, the largest proportion was on forest / afforestation (89.6 %), followed by tree cover on other land use / land cover (10.4 %).

Table 4.9 Leaf type for areas, which from 2011 to 2021 had changed to tree cover.

	Leaf type					
	Broad-leaf		Coniferous		Not classified	
Tree cover type	Area Km²	Proportion of leaf type %	Area Km²	Proportion of leaf type %	Area Km²	Proportion of leaf type %
Tree cover on other land use/land cover	82.0	36.6	11.0	12.5	13.0	10.4
Forest/afforestation	73.4	32.8	15.1	17.3	111.7	89.6
Christmas trees/cut greenery	-	-	61.6	70.2	-	-
Nursery/plantation	23.0	10.3	-	-	-	-
Energy forest	45.5	20.3	-	-	-	-
All	224.0	100.0	87.7	100.0	124.7	100.0
Proportion of all tree cover (%)	51.3		20.1		28.6	

5 Discussion and conclusion

This report describes how the fourth version of Basemap is created. Applied input data are described, and the applied methodology is documented in detail. All applied input data are categorical. I.e. these data have been registered, and objects have been categorised and spatially delineated by various institutions and persons. The precision and quality of these categorical input data can be affected by registration errors.

The applied methodology for Basemap takes input data's varying spatial and thematic precision into account. However, it is unavoidable that some errors in input data are inherited in Basemap and do affect the results. Therefore, LULC information in Basemap is not legally binding, and the map cannot stand alone in handling any case regarding land use and land cover.

The applied input data can contain different LULC information for the same locations. The overlay between different input layers and the elaborated sublayers allows users to develop their own aggregations of LULC categories for other purposes.

By the end of 2022, Basemap04 will be made publicly available on the webpage of Aarhus University https://envs.au.dk/en/research-areas/society-environment-and-resources/land-use-and-gis/basemap. Here it will be possible to download all elaborated layers described in this report.

6 References and data sources

Arealinformation, 2021a: Map of protected habitat types. Copenhagen: Arealinformation. Accessed December 31, 2021 at: https://arealdata.miljoeportal.dk/

Arealinformation, 2021b: Map of habitat types within Natura2000 designations. Copenhagen: Arealinformation. Accessed December 31, 2021 at: https://arealdata.miljoeportal.dk/

Copernicus Land Monitoring Service, 2021: User manual for tree-cover / forest and change 2015-2018. Copernicus Land Monitoring Service, European Environment Agency (EEA), European Union. Available at: https://land.copernicus.eu/user-corner/technical-library/forest-2018-user-manual.pdf

Danish Agricultural Agency, 2021a: Field parcel map 2021. Danish Agricultural Agency. Received January 31, 2022.

Danish Agricultural Agency, 2021b: Field block map 2021. Danish Agricultural Agency. Received January 31, 2022.

Danish Agricultural Agency, 2021c: Agricultural register 2021. Danish Agricultural Agency. Received January 31, 2022.

Danish Defence, 2012: Management plans for defence holdings. Copenhagen: Danish Defence. Received January 4, 2022.

Danish Ministry of Environment, 2019: Lov om naturbeskyttelse, jf. Lovbekendtgørelse nr. 1217. Copenhagen, Ministry of Environment and Food. Available at: https://www.retsinformation.dk/Forms/R0710.aspx?id=186418

Danish Nature Agency, 2009: Vejledning om naturbeskyttelsesloven § 3 beskyttede naturtyper. Copenhagen: Danish Nature Agency. Available at: https://naturstyrelsen.dk/publikationer/2009/jun/vejledning-om-naturbeskyttelseslovens-3/

Danish Nature Agency, 2018: Management plans for state forests. Copenhagen: Danish Nature Agency. Accessed December 31, 2021. Available at: https://miljoegis.mim.dk/spatialmap?profile=miljoegis-skovdrift

GeoDanmark, 2021: Specifikation 6.0.1 Copenhangen, GeoDanmark. Available at: http://www.geodanmark.nu/Spec6/HTML5/DK/601/StartHer.htm

Jepsen, M. R. & Levin, G., 2013: Semantically based reclassification of Danish land-use and land-cover information. International Journal of Geographical Information Science. 27 (12), 2375-2390

Levin, G., 2019: Basemap03. Technical documentation of the method for elaboration of a land-use and land-cover map for Denmark. Aarhus University,

DCE – Danish Centre for Environment and Energy, 86 pp. Technical Report No. 159. Available at: http://dce2.au.dk/pub/TR159.pdf

Levin, G., Gyldenkærne, S., 2022: Estimating Land Use/Land Cover and Changes in Denmark. Technical documentation for the assessment of annual land use/land cover and changes since 2011. Aarhus University, DCE – Danish Centre for Environment and Energy, pp 39. Technical Report No. 227. Available at: http://dce2.au.dk/pub/TR227.pdf

Levin, G., Iosub, C.-I. & Jepsen, M.R., 2017: Basemap02. Technical documentation of a model for elaboration of a land-use and land-cover map for Denmark. Aarhus University, DCE – Danish Centre for Environment and Energy, 64 pp. Technical Report from DCE – Danish Centre for Environment and Energy No. 95. Available at: https://dce2.au.dk/pub/TR95.pdf

Levin, G., Jepsen, M. R. & Blemmer, M. K., 2012: Basemap: Technical documentation of a model for elaboration of a land-use and land-cover map for Denmark. Aarhus University, DCE – Danish Centre for Environment and Energy, 47 pp. Technical Report from DCE - Danish Centre for Environment and Energy, No. 11. Available at: http://www2.dmu.dk/pub/tr11.pdf

Nord-Larsen, T., Johannsen, V. K., Riis-Nielsen, T., Thomsen, I.M. & Jørgensen, B.B., 2019: Skovstatistik 2018. Frederiksberg: Department of Geosciences and Natural Resource Management. University of Copenhagen. Available at: https://static-curis.ku.dk/portal/files/253402451/Rapport_Skovstatistik_2019.pdf

SDFE, 2021a: Danish topographical database (GeoDanmark) 2018. Copenhagen: Agency for Data Supply and Efficiency. Accessed December 31 at: http://kortforsyningen.dk/

SDFE, 2021b: Danish Cadastre map. Copenhagen: Agency for Data Supply and Efficiency. Accessed December 31, 2021 at: https://dataforsyningen.dk/

Appendix

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
10110200	Management plans for Defence sites	Sø	Lake	411000	Sø	Lake	N	-	Yes
10200200	Management plans for Defence sites	Areal omkring bebyggelse	Area surrounding buildings	124000	Andet bebyggelse	Other built up	N	-	No
10200700	Management plans for Defence sites	Øvelsesareal	Practice ground	124000	Andet bebyggelse	Other built up	N	-	No
10200800	Management plans for Defence sites	Militære anlæg	Military installation	124000	Andet bebyggelse	Other built up	N	-	No
10200900	Management plans for Defence sites	Øvelsesareal (ubevokset_bar)	Practice ground (bare)	124000	Andet bebyggelse	Other built up	N	-	No
10201100	Management plans for Defence sites	Publikumsareal	Public area	130000	Rekreativt område/ sportsanlæg	Recreation areal/ sports ground	N	-	Yes
10201400	Management plans for Defence sites	Skydebane	Shooting range	124000	Andet bebyggelse	Other built up	N	-	No
10201700	Management plans for Defence sites	Grusgrav	Gravel pit	160000	Råstofudvinding	Resource extraction	N	-	No
10220200	Management plans for Defence sites	Bæltevej	Tank track	321000	Natur, tør	Nature, dry	N	-	No
10230000	Management plans for Defence sites	Brandbaelte	Fire break	321000	Natur, tør	Nature, dry	N	-	No
10310100	Management plans for Defence sites	Eng	Wet meadow	322000	Natur, våd	Nature, wet	N	-	Yes
10310200	Management plans for Defence sites	Strandsump	Coastal swamp	322000	Natur, våd	Nature, wet	N	-	Yes
10310300	Management plans for Defence sites	Mose	Mire / bog	322000	Natur, våd	Nature, wet	N	-	Yes
10310400	Management plans for Defence sites	Strandeng	Coastal meadow	322000	Natur, våd	Nature, wet	N	-	Yes
10320100	Management plans for Defence sites	Hede	Heather	321000	Natur, tør	Nature, dry	N	-	Yes
10320200	Management plans for Defence sites	Frit areal (overdrev)	Open area	321000	Natur, tør	Nature, dry	N	-	Yes
10320400	Management plans for Defence sites	Slette, Overdrev (Slette)	Plain	321000	Natur, tør	Nature, dry	N	-	Yes
10320500	Management plans for Defence sites	Slette, Overdrev (overdrev)	Dry meadow	321000	Natur, tør	Nature, dry	N	-	Yes
10320600	Management plans for Defence sites	Klit	Dune	321000	Natur, tør	Nature, dry	N	-	Yes
10320700	Management plans for Defence sites	Hede	Heather	321000	Natur, tør	Nature, dry	N	-	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
10320800	Management plans for Defence sites	Strandbred	Beach	321000	Natur, tør	Nature, dry	N	-	Yes
10600200	Management plans for Defence sites	Ukultiveret areal	Uncultivated area	321000	Natur, tør	Nature, dry	N	-	Yes
10610100	Management plans for Defence sites	Hvidel	Grey alder	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10610200	Management plans for Defence sites	Løvtræ uden særlig kode	Not specified deciduous tree	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10610300	Management plans for Defence sites	Ask	Ash	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10610400	Management plans for Defence sites	Bævreasp	Aspen	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10610600	Management plans for Defence sites	Birk	Birch	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10610700	Management plans for Defence sites	Bøg	Beech	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10610900	Management plans for Defence sites	Contorta	Contorta	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10611000	Management plans for Defence sites	Eg	Oak	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10611100	Management plans for Defence sites	El	Alder	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10611200	Management plans for Defence sites	Elm	Elm	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10611300	Management plans for Defence sites	Ær	Great maple	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10611700	Management plans for Defence sites	Kirsebær	Cherry	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10612000	Management plans for Defence sites	Lind	Lime	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10612200	Management plans for Defence sites	Pil	Willow	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10612300	Management plans for Defence sites	Poppel	Poplar	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10612400	Management plans for Defence sites	Rødeg	Red oak	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10612500	Management plans for Defence sites	Rødel	Common alder	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10612600	Management plans for Defence sites	Røn	Mountain ash	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10612800	Management plans for Defence sites	Krat	Scrub	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
10620100	Management plans for Defence sites	Japansk lærk	Japanese larch	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10620200	Management plans for Defence sites	Grandis	Grandis	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
10620300	Management plans for Defence sites	Nåletræ uden særlig kode	Not specified coniferous tree	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10620500	Management plans for Defence sites	Bjergfyr	Mountain pine	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10620700	Management plans for Defence sites	Cypres	Cypress	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10620800	Management plans for Defence sites	Douglas	Douglas fir	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10620900	Management plans for Defence sites	Europæisk lærk	European larch	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10621000	Management plans for Defence sites	Fransk bjergfyr	French mountain pine	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10621100	Management plans for Defence sites	Almindelig ædelgran	Common silver fir	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10621400	Management plans for Defence sites	Lærk	Larch	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10621500	Management plans for Defence sites	Nordmannsgran	Norman spruce	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10621600	Management plans for Defence sites	Nobilis	Nobilis	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10621700	Management plans for Defence sites	Omorika	Omorika	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10621800	Management plans for Defence sites	Østrigsk fyr	Austrian pine	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10621900	Management plans for Defence sites	Rødgran	Common spruce	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10622000	Management plans for Defence sites	Sitagran	Sita spruce	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10622100	Management plans for Defence sites	Skovfyr	Scotsh pine	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10622400	Management plans for Defence sites	Hvidgran	White spruce	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
10700100	Management plans for Defence sites	Ager	Field	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
10710100	Management plans for Defence sites	Slette, Overdrev (græsset)	Grazed plain	321000	Natur, tør	Nature, dry	N	-	Yes
10710200	Management plans for Defence sites	Vildtager	Gaming area	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
20110200	Management plans for state forests	Sø	Lake	411000	Sø	Lake	N	-	Yes
20200400	Management plans for state forests	Campingplads	Camping site	130000	Rekreativt område/ sportsanlæg	Recreation area/ sports ground	N	-	Yes
20200600	Management plans for state forests	Golfbane	Golf course	130000	Rekreativt område/ sportsanlæg	Recreation area/ sports ground	N	-	Yes
20201000	Management plans for state forests	Park	Park / recreation ground	130000	Rekreativt område/ sportsanlæg	Recreation area/ sports ground	N	-	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
20201100	Management plans for state forests	Publikumsareal	Public area	130000	Rekreativt område/ sportsanlæg	Recreation area/ sports ground	N	-	Yes
20201200	Management plans for state forests	Ruin, gravhøj	Ruin / barrow	130000	Rekreativt område/ sportsanlæg	Recreation area/ sports ground	N	-	Yes
20201300	Management plans for state forests	Råstofgrav	Ressource extraction	160000	Råstofudvinding	Resource extraction	N	-	No
20201500	Management plans for state forests	Brændeplads	Wood storage	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
20201600	Management plans for state forests	Grusgrav	Gravel pit	160000	Råstofudvinding	Resource extraction	N	-	No
20220200	Management plans for state forests	Bæltevej	Tank track	321000	Natur, tør	Nature, dry	N	-	No
20230000	Management plans for state forests	Brandbaelte	Fire break	321000	Natur, tør	Nature, dry	N	-	No
20310100	Management plans for state forests	Eng	Wet meadow	322000	Natur, våd	Nature, wet	N	-	Yes
20310200	Management plans for state forests	Strandsump	Coastal swamp	322000	Natur, våd	Nature, wet	N	-	Yes
20310300	Management plans for state forests	Mose	Mire / bog	322000	Natur, våd	Nature, wet	N	-	Yes
20310400	Management plans for state forests	Strandeng	Coastal meadow	322000	Natur, våd	Nature, wet	N	-	Yes
20310500	Management plans for state forests	Marsk	Coastal marsh	322000	Natur, våd	Nature, wet	N	-	Yes
20320100	Management plans for state forests	Hede	Heather	321000	Natur, tør	Nature, dry	N	-	Yes
20320300	Management plans for state forests	Klippe	Rock	321000	Natur, tør	Nature, dry	N	-	Yes
20320400	Management plans for state forests	Slette, Overdrev (Slette)	Plain	321000	Natur, tør	Nature, dry	N	-	Yes
20320500	Management plans for state forests	Slette, Overdrev (overdrev)	Dry meadow	321000	Natur, tør	Nature, dry	N	-	Yes
20320600	Management plans for state forests	Klit	Dune	321000	Natur, tør	Nature, dry	N	-	Yes
20320800	Management plans for state forests	Strandbred	Beach	321000	Natur, tør	Nature, dry	N	-	Yes
20600200	Management plans for state forests	Ukultiveret areal	Uncultivated area	321000	Natur, tør	Nature, dry	N	-	Yes
20600300	Management plans for state forests	Skrænt	Hillside	321000	Natur, tør	Nature, dry	N	-	Yes
20610100	Management plans for state forests	Hvidel	Grey alder	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20610200	Management plans for state forests	Løvtræ uden særlig kode	Not specified deciduous tree	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20610300	Management plans for state forests	Ask	Ash	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
20610400	Management plans for state forests	Bævreasp	Aspen	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20610500	Management plans for state forests	Avnbøg	Hornbeam	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20610600	Management plans for state forests	Birk	Birch	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20610700	Management plans for state forests	Bøg	Beech	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20610800	Management plans for state forests	Ægte kastanie	Sweet Chestnut	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20610900	Management plans for state forests	Contorta	Contorta	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20611000	Management plans for state forests	Eg	Oak	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20611100	Management plans for state forests	El	Alder	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20611200	Management plans for state forests	Elm	Elm	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20611300	Management plans for state forests	Ær	Great maple	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20611400	Management plans for state forests	Hassel	Hazel	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20611600	Management plans for state forests	Hestekastanie	Horse Chestnut	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20611700	Management plans for state forests	Kirsebær	Cherry	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20611900	Management plans for state forests	Kristtorn	Holly	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20612000	Management plans for state forests	Lind	Lime	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20612100	Management plans for state forests	Spidsløn	Norway maple	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20612200	Management plans for state forests	Pil	Willow	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20612300	Management plans for state forests	Poppel	Poplar	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20612400	Management plans for state forests	Rødeg	Red oak	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20612500	Management plans for state forests	Rødel	Common alder	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20612600	Management plans for state forests	Røn	Mountain ash	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20612800	Management plans for state forests	Krat	Scrub	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20620100	Management plans for state forests	Japansk lærk	Japanese larch	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
20620200	Management plans for state forests	Grandis	Grandis	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20620300	Management plans for state forests	Nåletræ uden særlig kode	Not specified coniferous tree	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20620400	Management plans for state forests	Veitchii	Veitchii	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
20620500	Management plans for state forests	Bjergfyr	Mountain pine	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20620600	Management plans for state forests	Cryptomeria	Cryptomeria	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20620700	Management plans for state forests	Cypres	Cypress	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20620800	Management plans for state forests	Douglas	Douglas fir	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20620900	Management plans for state forests	Europæisk lærk	European larch	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20621000	Management plans for state forests	Fransk bjergfyr	French mountain pine	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20621100	Management plans for state forests	Almindelig ædelgran	Common silver fir	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20621200	Management plans for state forests	Hybridlærk	Hybrid larch	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20621300	Management plans for state forests	Weymouthsfyr	Weymouth pine	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20621400	Management plans for state forests	Lærk	Larch	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20621500	Management plans for state forests	Nordmannsgran	Norman spruce	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20621600	Management plans for state forests	Nobilis	Nobilis	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20621700	Management plans for state forests	Omorika	Omorika	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20621800	Management plans for state forests	Østrigsk fyr	Austrian pine	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20621900	Management plans for state forests	Rødgran	Common spruce	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20622000	Management plans for state forests	Sitagran	Sita spruce	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20622100	Management plans for state forests	Skovfyr	Scotch pine	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20622200	Management plans for state forests	Thuja	Thuja	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20622300	Management plans for state forests	Tsuga	Hemlock	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes
20622400	Management plans for state forests	Hvidgran	White spruce	311000	Skov	Forest	Forest/ afforestation	Coniferous	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
20700100	Management plans for state forests	Ager	Field	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
20700200	Management plans for state forests	Planteskole	Forest nursery	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	not defined	Yes
20710200	Management plans for state forests	Vildtager	Gaming area	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
30000100	Protected habitat types (§ 3-registration)	Eng	Wet meadow	322000	Natur, våd	Nature, wet	N	-	Yes
30000200	Protected habitat types (§ 3-registration)	Hede	Heather	321000	Natur, tør	Nature, dry	N	-	Yes
30000300	Protected habitat types (§ 3-registration)	Mose	Mire / bog	322000	Natur, våd	Nature, wet	N	-	Yes
30000400	Protected habitat types (§ 3-registration)	Overdrev	Dry meadow	321000	Natur, tør	Nature, dry	N	-	Yes
30000500	Protected habitat types (§ 3-registration)	Strandeng	Coastal meadow	322000	Natur, våd	Nature, wet	N	-	Yes
30000600	Protected habitat types (§ 3-registration)	Sø	Lake	411000	Sø	Lake	N	-	Yes
40121000	Natura2000 habitat types	Strandvold med en-årig vegetation	Annual vegetation of drift lines	321000	Natur, tør	Nature, dry	N	-	Yes
40122000	Natura2000 habitat types	Strandvold med flerårig vegetation	Perennial vegetation of stony banks	321000	Natur, tør	Nature, dry	N	-	Yes
40123000	Natura2000 habitat types	Kystklint/klippe	Vegetated sea cliffs of the Atlantic and Baltic coasts	321000	Natur, tør	Nature, dry	N	-	Yes
40131000	Natura2000 habitat types	Enårig strandengsve-getation	Salicornia and other annuals colonising mud and sand	322000	Natur, våd	Nature, wet	N	-	Yes
40132000	Natura2000 habitat types	Vadegræssamfund	Spartina swards	322000	Natur, våd	Nature, wet	N	-	Yes
40133000	Natura2000 habitat types	Strandeng	Atlantic salt meadows	322000	Natur, våd	Nature, wet	N	-	Yes
40134000	Natura2000 habitat types	Indlandssalteng	Inland salt meadows	322000	Natur, våd	Nature, wet	N	-	Yes
40211000	Natura2000 habitat types	Forklit	Embryonic shifting dunes	321000	Natur, tør	Nature, dry	N	-	Yes
40212000	Natura2000 habitat types	Hvid klit	Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	321000	Natur, tør	Nature, dry	N	-	Yes
40213000	Natura2000 habitat types	Grå/grøn klit	Fixed coastal dunes with herba-ceous vegetation (grey dunes)	321000	Natur, tør	Nature, dry	N	-	Yes
40214000	Natura2000 habitat types	Klithede	Decalcified fixed dunes with Empetrum nigrum	321000	Natur, tør	Nature, dry	N	-	Yes
40216000	Natura2000 habitat types	Havtornklit	Dunes with Hippophae rhamnoides	321000	Natur, tør	Nature, dry	N	-	Yes
40217000	Natura2000 habitat types	Gråriskklit	Dunes with Salix repens ssp. argentea (Salicion arenariea)	321000	Natur, tør	Nature, dry	N	-	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
40218000	Natura2000 habitat types	Skovklit	Wooded dunes of the Atlantic, Continental and Boreal region	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
40219000	Natura2000 habitat types	Klitlavning	Humid dune slacks	321000	Natur, tør	Nature, dry	N	-	Yes
40225000	Natura2000 habitat types	Enebærklit	Coastal dunes with Juniperus spp.	321000	Natur, tør	Nature, dry	N	-	Yes
40231000	Natura2000 habitat types	Visse-indlandsklit	Dry sand heaths with Calluna and Genista	321000	Natur, tør	Nature, dry	N	-	Yes
40232000	Natura2000 habitat types	Revling-indlandsklit	Dry sand heaths with Calluna and Empetrum nigrum	321000	Natur, tør	Nature, dry	N	-	Yes
40233000	Natura2000 habitat types	Græs-indlandsklit	Inland dunes with open Corynephorus and Agrostis grasslands	321000	Natur, tør	Nature, dry	N	-	Yes
40401000	Natura2000 habitat types	Våd hede	Northern Atlantic wet heaths with Erica tetralix	322000	Natur, våd	Nature, wet	N	-	Yes
40403000	Natura2000 habitat types	Tør hede	European dry heaths	321000	Natur, tør	Nature, dry	N	-	Yes
40513000	Natura2000 habitat types	Enekrat	Juniperus communis formations on heaths or calcareous grasslands	321000	Natur, tør	Nature, dry	N	-	Yes
40612000	Natura2000 habitat types	Tør overdrev på kalkholdigt sand	Xeric sand calcareous grasslands	321000	Natur, tør	Nature, dry	N	-	Yes
40621000	Natura2000 habitat types	Kalkoverdrev	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)	321000	Natur, tør	Nature, dry	N	-	Yes
40623000	Natura2000 habitat types	Surt overdrev	Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)	321000	Natur, tør	Nature, dry	N	-	Yes
40641000	Natura2000 habitat types	Tidvis våd eng	Molinia meadows on calcareous, peaty or clayey-silt laden soils (Molinion caeruleae)	322000	Natur, våd	Nature, wet	N	-	Yes
40643000	Natura2000 habitat types	Bræmmer m/ høje urter langs vandløb eller skyggende skovbryn	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	321000	Natur, tør	Nature, dry	N	-	Yes
40711000	Natura2000 habitat types	Højmose	Active raised bogs	322000	Natur, våd	Nature, wet	N	-	Yes
40712000	Natura2000 habitat types	Nedbrudt højmose	Degraded raised bogs still capable of natural regeneration	322000	Natur, våd	Nature, wet	N	-	Yes
40714000	Natura2000 habitat types	Hængesæk	Transition mires and quaking bogs	322000	Natur, våd	Nature, wet	N	-	Yes
40715000	Natura2000 habitat types	Tørvelavning	Depressions on peat substrates of the Rhynchosporion	322000	Natur, våd	Nature, wet	N	-	Yes
40721000	Natura2000 habitat types	Avneknippemose	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	322000	Natur, våd	Nature, wet	N	-	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
40722000	Natura2000 habitat types	Kildevæld	Petrifying springs with tufa formation (Cratoneurion)	322000	Natur, våd	Nature, wet	N	-	Yes
40723000	Natura2000 habitat types	Rigkær	Alkaline fens	322000	Natur, våd	Nature, wet	N	-	Yes
40822000	Natura2000 habitat types	Indlandsklippe	Siliceous rocky slopes with chasmophytic vegetation	321000	Natur, tør	Nature, dry	N	-	Yes
40911000	Natura2000 habitat types	Bøg på mor	Luzulo-Fagetum beech forests	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
40912000	Natura2000 habitat types	Bøg på mor med kristtorn	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercinion robori-petraeae or Ilici-Fagenion)	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
40913000	Natura2000 habitat types	Bøg på muld	Asperulo-Fagetum beech forests	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
40915000	Natura2000 habitat types	Bøg på kalk	Medio-European limestone beech forests of the Cephalanthero-Fagion	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
40916000	Natura2000 habitat types	Ege-blandskov	Sub-Atlantic and medio-European oak or oakhornbeam forests of the Carpinion betuli	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
40917000	Natura2000 habitat types	Vinteregeskov	Galio-Carpinetum oak-hornbeam forests	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
40919000	Natura2000 habitat types	Stilkege-krat	Old acidophilous oak woods with Quercus robur on sandy plains	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
40999800	Natura2000 habitat types	Skovbevoksede tør-vemoser	Bog woodland	312000	Skov, våd	Forest, wet	Forest/ afforestation	not defined	Yes
40999900	Natura2000 habitat types	Elle- og askeskov ved vandløb, søer og væld	Alluvial forests with Alnus gluti-nosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	312000	Skov, våd	Forest, wet	Forest/ afforestation	Broad leaf	Yes
50311900	Topographical database	Rekreativt område	Recreation area	130000	Rekreativt område/ sportsanlæg	Recreation area/ sports ground	N	-	Yes
50600000	Topographical database	Land	Land	800000	Ikke kortlagt	Unmapped	N	-	No
50700000	Topographical database	Hav	Sea	420000	Hav	Sea	N	-	No
50990101	Topographical database	Teknisk areal, Affaldsanlæg	Technical area, Waste plant	124000	Andet bebyggelse	Other built up	N	-	No
50990102	Topographical database	Teknisk areal, Genbrugsplads	Technical area, Recycling depot	124000	Andet bebyggelse	Other built up	N	-	No
50990103	Topographical database	Teknisk areal, Ener-giforsyningsanlæg	Technical area, Energy supply plant	124000	Andet bebyggelse	Other built up	N	-	No
50990104	Topographical database	Teknisk areal, Solenergi	Technical area, Solar power	124000	Andet bebyggelse	Other built up	N	-	No
50990105	Topographical database	Teknisk areal, Vindmøllepark	Technical area, Wind turbine park	124000	Andet bebyggelse	Other built up	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
50990106	Topographical database	Teknisk areal, Tog-station/rangéranlæg	Technical area, Train station/rail area	150000	Jernbane	Railway	N	-	No
50990107	Topographical database	Teknisk areal, Vand-rensningsanlæg	Technical area, Water purifying plant	124000	Andet bebyggelse	Other built up	N	-	No
50990108	Topographical database	Teknisk areal, Vandværk	Technical area, Water board	124000	Andet bebyggelse	Other built up	N	-	No
50990109	Topographical database	Teknisk areal, Rekreativt anlæg	Technical area, Recreation area	130000	Rekreativt område/ sportsanlæg	Recreation area / sports ground	N	-	Yes
50990110	Topographical database	Teknisk areal, Sportsanlæg	Technical area, Sports ground	130000	Rekreativt område/ sportsanlæg	Recreation area / sports ground	N	-	Yes
50990111	Topographical database	Teknisk areal, Golfplads	Technical area, Golf course	130000	Rekreativt område/ sportsanlæg	Recreation area / sports ground	N	-	Yes
50990112	Topographical database	Teknisk areal, Landingsbane	Technical area, Runway	126000	Lufthavn/landingsbane	Airport / runway	N	-	No
50990113	Topographical database	Teknisk areal, Lufthavn	Technical area, Airport	126000	Lufthavn/landingsbane	Airport / runway	N	-	No
50990114	Topographical database	Teknisk areal, Materielgård	Technical area, Equipment yard	124000	Andet bebyggelse	Other built up	N	-	No
50990115	Topographical database	Teknisk areal, Militært anlæg	Technical area, Military site	124000	Andet bebyggelse	Other built up	N	-	No
50990116	Topographical database	Teknisk areal, Parkeringsanlæg	Technical area, Car park	124000	Andet bebyggelse	Other built up	N	-	No
50990117	Topographical database	Teknisk areal, Ikke tildelt	Technical area, Not specified	124000	Andet bebyggelse	Other built up	N	-	No
50990118	Topographical database	Teknisk areal, Ukendt	Technical area, Unknown	124000	Andet bebyggelse	Other built up	N	-	No
50990119	Topographical database	Teknisk areal, Baneterræn	Technical area, Railway site	150000	Jernbane	Railway	N	-	No
50990201	Topographical database	Bassin, Andet	Basin, Other	124000	Andet bebyggelse	Other built up	N	-	No
50990202	Topographical database	Bassin, Ikke tildelt	Basin, Not specified	124000	Andet bebyggelse	Other built up	N	-	No
50990203	Topographical database	Bassin, Overløbsbassin	Basin, Overflow basin	124000	Andet bebyggelse	Other built up	N	-	No
50990204	Topographical database	Bassin, Rensningsanlæg	Basin, Wastewater treatment plant	124000	Andet bebyggelse	Other built up	N	-	No
50990205	Topographical database	Bassin, Svømmebassin	Basin, Swimming pool	124000	Andet bebyggelse	Other built up	N	-	No
50990206	Topographical database	Bassin, Ukendt	Basin, Unknown	124000	Andet bebyggelse	Other built up	N	-	No
50991700	Topographical database	Skov	Forest	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
50991800	Topographical database	Hede	Heather	321000	Natur, tør	Nature, dry	N	-	Yes
50991900	Topographical database	Vådområde	Wetland	322000	Natur, våd	Nature, wet	N	-	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
50992100	Topographical database	Sand / klit	Sand / dune	321000	Natur, tør	Nature, dry	N	-	Yes
50992200	Topographical database	Råstofgrav	Ressource extraction	160000	Råstofudvinding	Resource extraction	N	-	No
50994201	Topographical database	Sø, Fiskedam	Lake, Fishpond	411000	Sø	Lake	N	-	Yes
50994202	Topographical database	Sø, Sø	Lake, Lake	411000	Sø	Lake	N	-	Yes
50994400	Topographical database	Havn	Harbour	124000	Andet bebyggelse	Other built up	N	-	No
50994601	Topographical database	Bygning, Bygning	Building, Building	110000	Bygning	Building	N	-	No
50994602	Topographical database	Bygning, Tank/Silo	Building, Tank/silo	110000	Bygning	Building	N	-	No
50994603	Topographical database	Bygning, Husbåd	Building, Houseboat	110000	Bygning	Building	N	-	No
50994604	Topographical database	Bygning, Drivhus	Building, Greenhouse	110000	Bygning	Building	N	-	No
50994605	Topographical database	Bygning, Solpanel	Building, Solar panel	110000	Bygning	Building	N	-	No
50995200	Topographical database	Bykerne	City centre	123000	Bykerne	City centre	N	-	No
50995300	Topographical database	Erhverv	Buisness	125000	Erhverv	Industry / business	N	-	No
50995400	Topographical database	Lav bebyggelse	Low built up	121000	Lav bebyggelse	Low built up	N	-	No
50995500	Topographical database	Høj bebyggelse	High built up	122000	Høj bebyggelse	High built up	N	-	No
50995701	Topographical database	Vandløbskant, >=12 m bredde	Edge of stream, >= 12 m width	412000	Vandløb	Stream	N	-	Yes
50996311	Topographical database	Vejmidte, Trafikvej-Gennemfart, Befæstet, Motorvej	Road centreline, Traffic road - thoroughfare, Paved, Highway	141000	Vej, befæstet	Road, paved	N	-	No
50996312	Topographical database	Vejmidte, Trafikvej-Gennemfart, Befæstet, Motortrafikvej	Road centreline, Traffic road - thoroughfare, Paved, Secondary highway	141000	Vej, befæstet	Road, paved	N	-	No
50996313	Topographical database	Vejmidte, Trafikvej-Gennemfart, Befæstet, Al færdsel	Road centreline, Traffic road - thoroughfare, Paved, All traffic	141000	Vej, befæstet	Road, paved	N	-	No
50996314	Topographical database	Vejmidte, Trafikvej-Fordeling, Befæstet	Road centreline, Traffic road - distribution, Paved	141000	Vej, befæstet	Road, paved	N	-	No
50996315	Topographical database	Vejmidte, Lokalvej-Primær, Befæstet	Road centreline, Local road - primary, Paved	141000	Vej, befæstet	Road, paved	N	-	No
50996316	Topographical database	Vejmidte, Lokalvej-Sekundær, Befæstet	Road centreline, Local road - secondary, Paved	141000	Vej, befæstet	Road, paved	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
50996317	Topographical database	Vejmidte, Lokalvej-Sekundær, Ubefæstet	Road centreline, Local road - secondary, Unpaved	142000	Vej, ikke befæstet	Road, not paved	N	-	Yes
50996318	Topographical database	Vejmidte, Lokalvej-Tertiær, Befæstet	Road centreline, Local road - tertiary, Paved	141000	Vej, befæstet	Road, paved	N	-	No
50996319	Topographical database	Vejmidte, Lokalvej-Tertiær, Befæstet, Gågade	Road centreline, Local road - tertiary, Paved, Pedestrian street	141000	Vej, befæstet	Road, paved	N	-	No
50996320	Topographical database	Vejmidte, Lokalvej-Tertiær, Ubefæstet	Road centreline, Local road - tertiary, Not paved	142000	Vej, ikke befæstet	Road, not paved	N	-	Yes
50996321	Topographical database	Vejmidte, Anden vej, Befæstet	Road centreline, Other road, paved	141000	Vej, befæstet	Road, paved	N	-	No
50996322	Topographical database	Vejmidte, Anden vej, Befæstet, Gågade	Road centreline, Other road, paved, Pedestrian street	141000	Vej, befæstet	Road, paved	N	-	No
50996323	Topographical database	Vejmidte, Anden vej, Ubefæstet	Road centreline, Other road, Not paved	142000	Vej, ikke befæstet	Road, not paved	N	-	Yes
50996324	Topographical database	Vejmidte, Indkørselsvej, Befæstet	Road centreline, Driveway, Paved	141000	Vej, befæstet	Road, paved	N	-	No
50996325	Topographical database	Vejmidte, Indkørselsvej, Ubefæstet	Road centreline, Driveway, Not paved	142000	Vej, ikke befæstet	Road, not paved	N	-	Yes
50996401	Topographical database	Jernbane, Synlig	Railway, Visible	150000	Jernbane	Railway	N	-	No
50996501	Topographical database	Vandløbsmidte, 2,5 - 12 m bredde	Stream centreline, 2.5 - 12 m width	412000	Vandløb	Stream	N	-	Yes
50996502	Topographical database	Vandløbsmidte, >=12 m bredde	Stream centreline, <= 12 m width	412000	Vandløb	Stream	N	-	Yes
50997001	Topographical database	Startbane, Start/landing	Runway, Take off/landing	126000	Lufthavn/landingsbane	Airport / runway	N	-	No
50997002	Topographical database	Startbane, Taxivej	Runway, Taxi way	126000	Lufthavn/landingsbane	Airport / runway	N	-	No
50997003	Topographical database	Startbane, Plads	Runway, Parking	126000	Lufthavn/landingsbane	Airport / runway	N	-	No
50997800	Topographical database	Begravelsesområde	Burial ground	130000	Rekreativt område/ sportsanlæg	Recreation area / sports ground	N	-	Yes
61000000	Field block map, aggregated crop code	Markblok, ikke klassificeret	Field block, not classified	230000	Landbrug, ikke klassificeret	Agriculture, not classified	N	-	Yes
61000100	Field block map, aggregated crop code	Markblok, skov	Field block, forest	311000	Skov	Forest	Forest/ afforestation	Broad leaf	Yes
61000200	Field block map, aggregated crop code	Markblok, intensiv, midlertidige afgrøder	Field block, periodical crop	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
61000300	Field block map, aggregated crop code	Markblok, intensiv, permanente afgrøder	Field block, permanent crop	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
61000400	Field block map, aggregated crop code	Markblok, ekstensiv	Field block, extensive	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
61000500	Field block map, aggregated crop code	Markblok, væksthus	Field block, greenhouse	110000	Bygning	Building	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70000100	Field parcel map	Vårbyg	Spring barley	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70000200	Field parcel map	Vårhvede	Spring wheat	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70000300	Field parcel map	Vårhavre	Oat	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70000400	Field parcel map	Blanding af vårsåede kornarter	Other spring cereal	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70000500	Field parcel map	Majs til modenhed	Maize to maturity	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70000600	Field parcel map	Vårhvede, brødhvede	Spring wheat, near cereal	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70000700	Field parcel map	Korn + bælgsæd under 50% bælgsæd	Cereal/pulse, max. 50% pulse	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70000800	Field parcel map	Vårspelt	Spring spelt	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70000900	Field parcel map	Vinterspelt	Wither spelt	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70001000	Field parcel map	Vinterbyg	Winter barley	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70001100	Field parcel map	Vinterhvede	Winter wheat	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70001300	Field parcel map	Vinterhvede, brødhvede	Wither wheat, near cereal	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70001400	Field parcel map	Vinterrug	Winter rye	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70001500	Field parcel map	Vinterhybridrug	Hybrid rye	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70001600	Field parcel map	Vintertriticale	Winter triticale	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70001700	Field parcel map	Blanding af efterårs-såede kornarter	Other winter cereals	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70001800	Field parcel map	Korn og bælgsæd (over 50 % bælgsæd)	Cereal and pulse seed (> 50 % pulse seed)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70002100	Field parcel map	Vårraps	Spring rape	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70002200	Field parcel map	Vinterraps	Winter rape	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70002400	Field parcel map	Solsikke	Sunflower	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70002500	Field parcel map	Sojabønner	Soy bean	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70003000	Field parcel map	Ærter	Pea	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70003100	Field parcel map	Hestebønner	Broad bean	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70003200	Field parcel map	Sødlupin	Lupine	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70003600	Field parcel map	Bælgsæd, andre typer til modenhed blanding	Other pulse seed to maturity	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70004000	Field parcel map	Oliehør	Flax grown as an oilseed crop	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70004200	Field parcel map	Hamp	Hemp	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70005100	Field parcel map	Blanding bredbladet afgrøde, frø/kerne	Mixture of wide-leaf crops	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70005200	Field parcel map	Quinoa	Quinoa	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70005300	Field parcel map	Boghvede	Buckwheat	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70005400	Field parcel map	Bælgsæd blanding	Pulse seed, mixture	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70005500	Field parcel map	Vårrug	Spring rye	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70005600	Field parcel map	Vårtriticale	Spring triticale	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70005700	Field parcel map	Vinterhavre	Winter oat	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70005800	Field parcel map	Sorghum	Sorghum	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70010100	Field parcel map	Rajgræsfrø, alm.	Rai grass seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70010200	Field parcel map	Rajgræsfrø, alm. 1. år, efterårsudlagt	Rai grass seed, fall planted	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70010300	Field parcel map	Rajgræsfrø, ital.	Italian rai grass seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70010400	Field parcel map	Rajgræsfrø, ital. 1. år efterårsudlagt	Italian rai grass seed, fall planted	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70010500	Field parcel map	Timothefrø	Timothy seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70010600	Field parcel map	Hundegræsfrø	Orchard grass seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70010700	Field parcel map	Engsvingelfrø	Fescue grass seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70010800	Field parcel map	Rødsvingelfrø	Red fescue seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70010900	Field parcel map	Rajsvingelfrø	Festulolium	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70011000	Field parcel map	Svingelfrø, stivbladet	Stiff-leaved festuca seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70011100	Field parcel map	Svingelfrø, strand	Festuca littorea seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70011200	Field parcel map	Engrapgræsfrø (marktype)	Smooth meadow grass seed (field type)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70011300	Field parcel map	Engrapsgræsfrø (plænetype)	Smooth meadow grass seed (lawn type)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70011400	Field parcel map	Rapgræsfrø, alm.	Meadow grass seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70011500	Field parcel map	Hvenefrø, alm. og krybende	Brown top/bent grass seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70011600	Field parcel map	Rajgræs, hybrid	Rai grass, hybrid	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70011700	Field parcel map	Rajgræs, efterårsudl. hybrid	Rai grass seed, fall planted, hybrid	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70011800	Field parcel map	Rajsvingelfrø, efterårsudlagt	Festulolium, autumn planted	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70012000	Field parcel map	Kløverfrø	Clover seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70012100	Field parcel map	Græsmarks-bælgplanter	Grass field pulses	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70012200	Field parcel map	Kommenfrø	Caraway seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70012300	Field parcel map	Valmuefrø	Poppy seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70012400	Field parcel map	Spinatfrø	Spinach seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70012500	Field parcel map	Bederoefrø	Beet seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70012600	Field parcel map	Blanding af markfrø til udsæd	Other seed for sowing	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70014900	Field parcel map	Kartofler, lægge- (certificerede)	Seed potato (certified)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70015000	Field parcel map	Kartofler, lægge- (egen opformering)	Seed potato (own generation)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70015100	Field parcel map	Kartofler, stivelses-	Starch potato	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70015200	Field parcel map	Kartofler, spise-	Potato for consumption	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70015400	Field parcel map	Kartofler, spise- (proces, skrællet kogte)	Potato for consumption (process, peeled boiled)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70015500	Field parcel map	Kartofler, pulver/granules-	Potato for consumption (powder/granules)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70015600	Field parcel map	Kartofler, friteret/chips/pommes frites	Potato for consumption (fried/chips)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70016000	Field parcel map	Sukerroer til fabrik	Beet for industry	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70016100	Field parcel map	Cikorierødder	Chicory root	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70016200	Field parcel map	Blanding, andre industriafgr.	Other crop/root crop for industry	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70017000	Field parcel map	Græs til fabrik (omdrift)	Grass/clover for industry	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70017100	Field parcel map	Lucerne, slæt	Lucerne for harvest and own fodder	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70017200	Field parcel map	Lucernegræs, over 25% græs til slæt inkl. eget foder	Lucerne for harvest and own fodder, min. 25% grass	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70017300	Field parcel map	Kløver til slæt	Clover for harvest	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70017400	Field parcel map	Kløvergræs til fabrik	Clover for industry	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70018000	Field parcel map	Gul sennep	White mustard	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70018200	Field parcel map	Blanding af oliearter	Mixture of oil seeds	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70021000	Field parcel map	Vårbyg, helsæd	Spring barley, whole crop	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70021100	Field parcel map	Vårhvede, helsæd	Spring wheat, whole crop	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70021200	Field parcel map	Vårhavre, helsæd	Oat, whole crop	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70021300	Field parcel map	Blandkorn, vårsået, helsæd	Dredge corn, spring planted	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70021400	Field parcel map	Korn og bælgsæd, helsæd, under 50% bælgsæd	Cereal, pulse, whole crop max. 50% pulse	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70021500	Field parcel map	Ærtehelsæd	Pea, whole crop	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70021600	Field parcel map	Silomajs	Silo maize	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70021700	Field parcel map	Korn og bælgsæd, helsæd (over 50 % bælgsæd)	Cereal and pulse seed, whole crop (> 50 % pulse seed)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70022000	Field parcel map	Vinterbyg, helsæd	Winter barley, whole crop	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70022100	Field parcel map	Vinterhvede, helsæd	Winter wheat, whole crop	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70022200	Field parcel map	Vinterrug, helsæd	Winter rye, whole crop	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70022300	Field parcel map	Vintertriticale, helsæd	Winter triticale, whole crop	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70023000	Field parcel map	Blanding af vårkorn, grønkorn	Spring cereal, green grain	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70023400	Field parcel map	Korn og bælgsæd, grønkorn, under 50% bælgsæd	Cereal/pulse, green grain. max. 50% pulse	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70023500	Field parcel map	Blanding af vinter-korn, grønkorn	Winter cereal, green grain	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70024700	Field parcel map	Miljøgræs MVJ-til-sagn (0 N), omdrift	Environmental grass (0 N), in rota-tion	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70025000	Field parcel map	Permanent græs, meget lavt udbytte	Permanent grass, very low yield	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70025100	Field parcel map	Permanent græs, lavt udbytte	Permanent grass, low yield	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70025200	Field parcel map	Permanent græs, normalt udbytte	Permanent grass, normal yield	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70025300	Field parcel map	Miljøgræs MVJ-til-sagn (80 N), omdrift	Environmental grass (max 80 ton N)	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70025400	Field parcel map	Miljøgræs MVJ-til-sagn (0 N), perma-nent	Environmental grass (0 N)	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70025500	Field parcel map	Permanent græs, under 50% kløver/ lucerne	Permanent grass, <50% clover	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70025600	Field parcel map	Permanent kløver-græs, over 50% kløver/lucerne	Permanent grass, >50% clover	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70025700	Field parcel map	Permanent græs, uden kløver	Permanent grass, no clover	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70025900	Field parcel map	Permanent græs, fabrik, over 6 tons	Permanent grass for industry, min. 6 tons yield	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70026000	Field parcel map	Græs med kløver/ lucerne, under 50 % bælgpl. (omdrift)	Clover grass, <50% clover	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70026100	Field parcel map	Kløvergræs, over 50% kløver (omdrift)	Clover grass, >50% clover	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70026200	Field parcel map	Lucerne, lucerne-græs, over 50% lucerne (omdrift)	Lucerne, lucerne grass >50% lu-cerne	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70026300	Field parcel map	Græs uden kløver-græs (omdrift)	Grass without clover	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70026400	Field parcel map	Græs og kløvergræs uden norm, under 50 % kløver (omdrift)	Grass and clover grass without N-norm	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70026600	Field parcel map	Græs under 50% klø-ver/lucerne, ekstremt lavt udbytte (omdrift)	Grass <50% clover, extremely low yield	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70026700	Field parcel map	Græs under 50% kløver/lucerne, meget lavt udbytte (omdrift)	Grass <50% clover, very low yield	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70026800	Field parcel map	Græs under 50% kløver/lucerne, lavt udbytte (omdrift)	Grass <50% clover, low yield	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70026900	Field parcel map	Græs, rullegræs	Turf	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70027000	Field parcel map	Græs til udegrise, omdrift	Grass for outdoor pigs, in rotation	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70027100	Field parcel map	Rekreative formål	Areas for recreation purposes	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70027200	Field parcel map	Permanent græs til fabrik	Permanent grass for industry	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70027300	Field parcel map	Permanent lucerne til fabrik	Permanent lucerne for industry	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70027400	Field parcel map	Permanent lucerne-græs over 25% græs, til fabrik	Permanent lucerne, min 25% for industry	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70027600	Field parcel map	Permanent græs og kløvergræs uden norm, under 50 % kløver	Permanent grass/clover grass without N-norm, <50% clover	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70027700	Field parcel map	Permanent kløver til fabrik	Permanent clover for industry	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70027800	Field parcel map	Permanent lucerne og lucernegræs over 50% lucerne	Permanent grass and lycerne grass >50% lucerne	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70027900	Field parcel map	Permanent græs til fabrik	Permanent grass for industry	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70028000	Field parcel map	Fodersukkerroer	Sugar cane, fodder	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70028100	Field parcel map	Kålroer	Swede	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70028200	Field parcel map	Fodermarvkål	Marrow-stem kale	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70028400	Field parcel map	Græs med vikke og andre bælgplanter, under 50 % bælgpl.	Grass with pulses, >50 % pulses	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70028500	Field parcel map	Græs og kløvergræs uden norm, over 50 % kløver (omdrift)	Grass and clover without N-norm, >50 % clover (in rotation)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70028600	Field parcel map	Permanent græs og kløvergræs uden norm, over 50 % kløver	Permanent grass and clover grass wihtout N-norm, >50 % clover	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70028700	Field parcel map	Græs til udegrise, permanent	Grass for outdoor pigs, permanent	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70030500	Field parcel map	Permanent græs, uden udbetaling af økologi-tilskud	Permanent grass without payment of subsidies for organic management	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70030600	Field parcel map	Græs i omdrift, uden udbetaling af økologi-tilskud	Rotational grass without payment of subsidies for organic management	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70030800	Field parcel map	MFO-Slåningsbrak	Environmental focus area with fallow for mowing	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70031000	Field parcel map	Slåningsbrak	Fallow for mowing	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70031100	Field parcel map	Skovrejsning på tidl. landbrugsjord 1	Afforestation on former agricultural land	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70031200	Field parcel map	20-årig udtagning	20 years set-aside	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70031300	Field parcel map	20-årig udtagning af agerjord med frivillig skovrejsning	20 years set-aside with voluntary afforestation	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70031600	Field parcel map	Vådområder eller lavbundsjorde med udtagning	Wetland or low-lying areas with set-aside	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70031700	Field parcel map	Vådområder med udtagning	Wetland for set-aside	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70031800	Field parcel map	MVJ ej udtagning, ej landbrugsjord	Agri-envrionmental scheme, not agricultural land	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70031900	Field parcel map	MFO Vådområder eller lavbundsjorde med udtagning	Agri-envrionmental scheme, not agricultural land	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70032100	Field parcel map	Miljøtiltag, ej landbrugsarealer	Environmental initiative, not agricultural land	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70032200	Field parcel map	Minivådområder, projekttilsagn	Mini wetland, approved	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70032400	Field parcel map	Blomsterbrak	Flower fallow	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70032500	Field parcel map	MFO-Blomsterbrak	Environmental focus area with flower fallow	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70032700	Field parcel map	MFO-bræmme, sommerslåning	Environmental focus area, fringe with summer mowing	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70032800	Field parcel map	MFO-bræmme med blomsterblanding	Environmental focus area, fringe with flower mix	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70032900	Field parcel map	MFO-bræmme, miljøtilsagn	Environmental focus area, fringe with environmental approval	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70033400	Field parcel map	MFO-bræmme, forårsslåning	Environmental focus area, fringe with spring mowing	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70033500	Field parcel map	MFO-bræmme, permanent græs, forårsslåning	Environmental focus area, fringe with with permanent grass, spring mowing	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70033600	Field parcel map	MFO-bræmme, permanent græs, sommerslåning	Environmental focus area, fringe with with permanent grass, summer mowing	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70033700	Field parcel map	MFO-bræmme, permanent græs, miljøtilsagn	Environmental focus area, fringe with with permanent grass, environmental approval	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70033800	Field parcel map	Brak, forårsslåning	Fallow, spring mowing	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70033900	Field parcel map	MFO-brak, forårsslåning	Environmental focus area, fallow, spring mowing	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70034200	Field parcel map	Bestøverbrak	Pollinator fallow	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70034300	Field parcel map	MFO-bestøverbrak	Environmental focus area, pollinator fallow	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70034400	Field parcel map	Brak langs vandløb og søer, forårsslåning (alternativ til efterafgrøder)	Fallow along water courses and lakes, spring mowing (altenative to catch crops)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70034500	Field parcel map	Brak langs vandløb og søer, sommerslåning (alternativ til efterafgrøder)	Fallow along water courses and lakes, summer mowing (altenative to catch crops)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70034600	Field parcel map	Brak, sommerslåning (til målrettet kvælstofregulering)	Fallow, summer mowing (altenative to catch crops)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70034700	Field parcel map	Brak, forårsslåning (til målrettet kvælstofregulering)	Fallow, spring mowing (altenative to catch crops)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70034800	Field parcel map	Brak langs vandløb og søer, forårsslåning (til målrettet kvælstofregulering)	Fallow along water courses and lakes, spring mowing (for targeted nitrogen regulation)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70034900	Field parcel map	Brak langs vandløb og søer, sommerslåning (til målrettet kvælstofregulering)	Fallow along water courses and lakes, summer mowing (for targeted nitrogen regulation)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70036100	Field parcel map	Ikke støtteberettiget landbrugsareal	Agricultural land, not eligible for subsidies	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70040000	Field parcel map	Asier	Gherkins	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70040100	Field parcel map	Asparges	Asparagus	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70040200	Field parcel map	Bladselleri	Celery	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70040300	Field parcel map	Blomkål	Cauliflower	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70040400	Field parcel map	Broccoli	Broccoli	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70040500	Field parcel map	Courgette, squash	Courgette, squash	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70040600	Field parcel map	Grønkål	Borecole	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70040700	Field parcel map	Gulerod	Carrot	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70040800	Field parcel map	Hvidkål	Cabbage	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70040900	Field parcel map	Kinakål	Chinese cabbage	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70041000	Field parcel map	Knoldselleri	Celeriac, turnip-rooted celery	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70041100	Field parcel map	Løg	Onion	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70041200	Field parcel map	Pastinak	Parsnip	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70041300	Field parcel map	Rodpersille	Hamburg parsley	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70041500	Field parcel map	Porre	Leek	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70041600	Field parcel map	Rosenkål	Sprouts	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70041700	Field parcel map	Rødbede	Beetroot	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70041800	Field parcel map	Rødkål	Red cabbage	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70042000	Field parcel map	Salat (friland)	Salad, outdoors	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70042100	Field parcel map	Savoykål, spidskål	Savoy cabbage, pointed cabbage	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70042200	Field parcel map	Spinat	Spinach	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70042300	Field parcel map	Sukkermajs	Sweet corn	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70042400	Field parcel map	Ærter, konsum	Peas for consumption	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70042900	Field parcel map	Jordskokker, konsum	Jerusalem artichoke for consumption	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70043000	Field parcel map	Bladpersille	Leaf parsley	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70043100	Field parcel map	Purløg	Chive	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70043200	Field parcel map	Krydderurter (undtagen persille og purløg)	Herb, aromatic plant, with subsidy	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70043400	Field parcel map	Grøntsager, andre (friland)	Vegetable, other, outdoors	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70044800	Field parcel map	Medicinplanter, en- og toårige	Medicine plant, annual and biennial	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70044900	Field parcel map	Medicinplanter, stauder	Medicine plant, perennial	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70045000	Field parcel map	Grøntsager, blandinger	Vegetable, other	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70048600	Field parcel map	Hønsegård uden plantedække	Chicken yard without vegetation cover	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70048700	Field parcel map	Skovlandbrug	Agroforestry	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70048800	Field parcel map	Hønsegård, permanent græs	Chicken yard, permanent grass	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70048900	Field parcel map	Havtorn	Buckthorn	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70049000	Field parcel map	Hassel, træ (Corylus avellana)	Hazel, tree (Corylus avellana)	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70049300	Field parcel map	Surbær	Chokeberry	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70049600	Field parcel map	Medicinplanter, vedplanter	Medicine plants woody	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70049700	Field parcel map	Planteskolekulturer, vedplanter, til videresalg	Nursery, woody plants for sale	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70049900	Field parcel map	Lukket system 3, vedplanter	Closed system 3, woody plants	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70050100	Field parcel map	Stauder	Herbaceous perennial	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70050200	Field parcel map	Blomsterløg	Bulb	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70050300	Field parcel map	En- og to-årige planter	Annual and biennial plants	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70050400	Field parcel map	Solbær, stiklingeop-formering	Blackcurrant, cuttings	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70050600	Field parcel map	Stikkelsbær, stiklin-geopformering	Gooseberry, cuttings	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70050900	Field parcel map	Trækvæde	Quince	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70051000	Field parcel map	Melon	Melon	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70051200	Field parcel map	Rabarber	Rhubarb	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70051300	Field parcel map	Jordbær	Strawberry	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70051400	Field parcel map	Solbær	Blackcurrant	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70051500	Field parcel map	Ribs	Redcurrant	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70051600	Field parcel map	Stikkelsbær	Gooseberry	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70051700	Field parcel map	Brombær	Blackberry	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70051800	Field parcel map	Hindbær	Raspberry	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70051900	Field parcel map	Blåbær	Blueberry	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70052000	Field parcel map	Surkirsebær uden undervækst af græs	Cherry without undergrowth	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70052100	Field parcel map	Surkirsebær med undervækst af græs	Cherry with undergrowth	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70052200	Field parcel map	Blomme uden undervækst af græs	Plum without undergrowth	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70052300	Field parcel map	Blomme med undervækst af græs	Plum with undergrowth	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70052400	Field parcel map	Sødkirsebær uden undervækst af græs	Sweet cherry without undergrowth	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70052500	Field parcel map	Sødkirsebær med undervækst af græs	Sweet cherry with undergrowth	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70052600	Field parcel map	Hyld	Elder	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70052700	Field parcel map	Hassel	Hazel	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70052800	Field parcel map	Æbler	Apple	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70052900	Field parcel map	Pærer	Pear	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70053000	Field parcel map	Vindrue	Grape	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70053100	Field parcel map	Anden træfrugt	Other tree fruit	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70053200	Field parcel map	Anden buskfrugt	Other bush fruit	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70053300	Field parcel map	Rønnebær	Rowanberry	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70053400	Field parcel map	Hyben	Hip	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70053500	Field parcel map	Bærmispel	Berry medlar	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70053600	Field parcel map	Spisedruer	Grapes for consumption	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70053700	Field parcel map	Valnød (almindelig)	Walnut	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70053800	Field parcel map	Kastanje (ægte)	Chestnut	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Nursery/ plantation	Broad leaf	Yes
70053900	Field parcel map	Blandet frugt	Mixed fruits	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70054000	Field parcel map	Tomater	Tomatoes	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70054100	Field parcel map	Agurker	Cucumber	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70054200	Field parcel map	Salat (drivhus)	Lettuce (greenhouse)	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70054300	Field parcel map	Grøntsager, andre (drivhus)	Other vegetables	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70054400	Field parcel map	Snitblomster og snit-grønt	Cut flower/sprigs	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70054500	Field parcel map	Potteplanter	Pot plants	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70054700	Field parcel map	Planteskolekulturer, stauder	Nursery, perennial/woody plants	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70054800	Field parcel map	Småplanter, en-årige	Minor plants, annual	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70055100	Field parcel map	Moskusgræskar	Musk pumpkin	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70055200	Field parcel map	Mandelgræskar	Almond pumpkin	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70055300	Field parcel map	Centnergræskar	Bitter pumpkin	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70056300	Field parcel map	Svampe, champignon	Mushroom	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70056400	Field parcel map	Containerplads	Container	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70057000	Field parcel map	Humle	Hop	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	N	-	No
70057500	Field parcel map	Skovrejsning (privat) – kulstofbinding og grundvands-beskyt-telse	Afforestation (private) - carbon sequestration and groundwater protection	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70057600	Field parcel map	skovrejsning (statslig) - forbedring af vand-miljø og grundvands-beskyttelse	Afforestation (state) - improvement of aquatic environment and groundwater protection	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70057700	Field parcel map	Skov med biodiversi-tetsformål	Forest for biodiversity protection	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70057800	Field parcel map	Skovrejsning, forbedring af vand-miljø og grundvands-beskyttelse	Afforestation- improvement of aquatic environment and groundwater protection	311000	Skov	Forest	Forest/ afforestation	not defined	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70057900	Field parcel map	Tagetes, sygdoms-sanerende plante	Tagetes	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70058000	Field parcel map	Skovdrift, alm.	Forestry, common	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70058100	Field parcel map	Skovdrift med fjernelse af ved	Forestry with removal of wood	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70058200	Field parcel map	Pyntegrønt, økologisk jordbrug	Decorative greenery, organic	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Christmas trees/ cut greenery	Coniferous	Yes
70058300	Field parcel map	Juletræer og pynte-grønt på landbrugs-jord	Christmas tree, decorative greenery	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Christmas trees/ cut greenery	Coniferous	Yes
70058500	Field parcel map	Skovrejsning i pro-jektområde, som ikke er omfattet af tilsagn	Afforestation inside project area	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70058600	Field parcel map	Offentlig skovrejsning	Public afforestation	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70058700	Field parcel map	Skovrejsning på tidl. landbrugsjord 3	Afforestation on former agricultural land	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70058900	Field parcel map	Bæredygtig skovdrift	Sustainable afforestation	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70059000	Field parcel map	Bæredygtig skovdrift i Natura 2000-område	Sustainable afforestation within Natura2000 designation	311000	Skov	Forest	Forest/ afforestation	not defined	Yes
70059100	Field parcel map	Lavskov	Coppice forest	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Energy forestry	Broad leaf	Yes
70059200	Field parcel map	Pil	Willow	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Energy forestry	Broad leaf	Yes
70059300	Field parcel map	Poppel	Poplar	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Energy forestry	Broad leaf	Yes
70059400	Field parcel map	El	Alder	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Energy forestry	Broad leaf	Yes
70059600	Field parcel map	Elefantgræs	Elephant grass	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70059700	Field parcel map	Rørgræs	Reed grass	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70059900	Field parcel map	Poppel (100-400 an-dre træer pr. ha)	Poplar (100-400 other tree species pr. Ha)	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Energy forestry	Broad leaf	Yes
70060200	Field parcel map	MFO - Pil	Willow on environmental focus sites	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Energy forestry	Broad leaf	Yes
70060300	Field parcel map	MFO - Poppel	Poplar on environmental focus sites	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Energy forestry	Broad leaf	Yes
70060500	Field parcel map	MFO - Lavskov	Coppice on environmental focus sites	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Energy forestry	Broad leaf	Yes
70060600	Field parcel map	MFO - Poppel (100-400 andre træer pr. ha)	Poplar on environmental focus sites (100-400 other tree species pr. Ha)	212000	Landbrug, intensivt, permanente afgrøder	Agriculture, intensive, permanent crops	Energy forestry	Broad leaf	Yes

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70065000	Field parcel map	Chrysanthemum Garland, frø	Chrysanthemum Garland	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70065100	Field parcel map	Dildfrø	Dill seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70065200	Field parcel map	Kinesisk kålfrø	Chinese kale seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70065300	Field parcel map	Karsefrø	Cress seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70065400	Field parcel map	Rucolafrø	Rocket seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70065500	Field parcel map	Radisefrø (inklusiv olieræddikefrø)	Radish seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70065600	Field parcel map	Bladbedefrø, rødbedefrø	Leaf beet seed, beetroot seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70065900	Field parcel map	Kålfrø (hvid- og rødkål)	Cabbage seed, red and white cabbage seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70066000	Field parcel map	Persillefrø	Parsley seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70066100	Field parcel map	Kørvelfrø	Chervil seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70066200	Field parcel map	Majroefrø	Early garden turnip seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70066300	Field parcel map	Pastinakfrø	Parsnip seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70066400	Field parcel map	Skorzonerrodfrø	Viper's grass seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70066600	Field parcel map	Purløgsfrø	Chive seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70066700	Field parcel map	Timianfrø	Thyme seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70066800	Field parcel map	Blomsterfrø	Flower seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70070100	Field parcel map	Grønkorn af vårbyg	Green grain from spring barley	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70070200	Field parcel map	Grønkron af vårhvede	Green grain from spring wheat	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70070300	Field parcel map	Grønkorn af vårhavre	Green grain from spring oat	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70070400	Field parcel map	Grønkorn af vårrug	Green grain from spring rye	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70070600	Field parcel map	Grønkorn af vinterbyg	Green grain from winter barley	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70070700	Field parcel map	Grønkorn af vinterhvede	Green grain from winter wheat	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70070800	Field parcel map	Grønkorn af vinterhavre	Green grain from winter oat	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No

Basemap Object Code	Source	Basemap Object Name, Danish	Basemap Object Name, English	Aggregated LULC Code	Aggregated LULC Name, Danish	Aggregated LULC Name, English	Sub-category tree cover	Leaf type	Tree cover allowed
70070900	Field parcel map	Grønkorn af vinterrug	Green grain from winter rye	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70071000	Field parcel map	Grønkorn af hybridrug	Green grain from hybrid seed	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70071100	Field parcel map	Grønkorn af vintertriticale	Green grain from wintertriticale	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70090000	Field parcel map	Øvrige afgrøder	Other cop	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
70090300	Field parcel map	Lysåbne arealer i skov	Open nature in protected forest	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70090700	Field parcel map	Naturarealer, økologisk jordbrug	Organic nature area	220000	Landbrug, ekstensivt	Agriculture, extensive	N	-	Yes
70092100	Field parcel map	Bar jord	Bare soil	211000	Landbrug, intensivt, midlertidige afgrøder	Agriculture, intensive, temporary crops	N	-	No
80000100	Cadastre map	Matrikel, vej	Cadastre, road	141000	Vej, befæstet	Road, paved	N	-	No
80000200	Cadastre map	Matrikel, jernbane	Cadastre, rail	150000	Jernbane	Railway	N	-	No
80000300	Cadastre map	Matrikel, strandbeskyttelse	Cadastre, beach protection	321000	Natur, tør	Nature, dry	N	-	Yes

BASEMAP 04

Documentation of the data and method for the elaboration of a land use and land cover map for Denmark

As a response to a lack of an up-to-date nationwide map of land use and land cover for Denmark, Aarhus University and the University of Copenhagen produced the first version of Basemap in 2011. The novelty of Basemap was that it combined existing thematic geographic information into one land-use/land-cover map for Denmark. Furthermore, the map was dynamic in the sense that spatial modelling and input data could be adapted to different purposes and research needs. The first version of Basemap has been widely applied in research and advisory projects by research institutions, public agencies, and private companies. In 2016 and 2019, Statistics Denmark financed an updated version of Basemap for the years 2016 (Basemap02) and 2018 (Basemap03). These updated versions were different in the sense that more of the original input information was included in the final map. In 2022, Statistics Denmark financed the fourth version of Basemap. Basemap04 is based on spatial information for the year 2021 and largely follows the methodology of the previous versions, though with minor changes and additions. Furthermore, in order to enable comparison over time, Basemap04 also includes updated versions for the years 2011, 2016, and 2018.

ISBN: 978-87-7156-710-6
ISSN: 2244-999X