

INSPIRE Directive (Annex III / 19: species distribution)



INSPIRE: Infrastructure for Spatial Information in Europe



INSPIRE

Infrastructure for Spatial Information in the European Community

European Commission > INSPIRE > Data Specifications



Directive 2007/2/EC of the European Parliament and Council

<http://inspire.jrc.ec.europa.eu>



INSPIRE - Aims and principles

Aim: to create a European spatial data infrastructure, enabling the sharing of environmental spatial information

INSPIRE is based on a number of common principles:

- Data should be collected only once and kept where it can be maintained most effectively.
- It should be possible to combine seamless spatial information from different sources across Europe and share it with many users and applications.
- It should be possible for information collected at one level/scale to be shared with all levels/scales; detailed for thorough investigations, general for strategic purposes.
- Geographic information needed for good governance at all levels should be readily and transparently available.
- Easy to find what geographic information is available, how it can be used to meet a particular need, and under which conditions it can be acquired and used.



INSPIRE creates no obligations for Member States to collect new data (no new burdens on MS, unlike with the Habitats directive)



INSPIRE – data specifications

Technical Guidelines Annex I

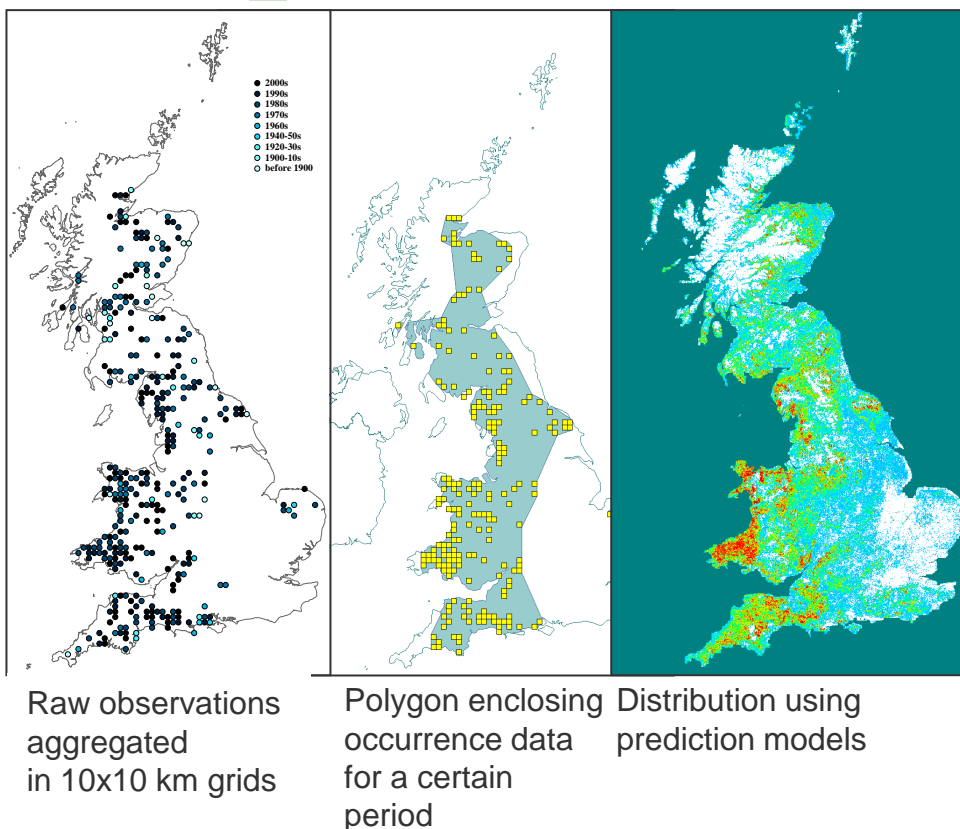
- ▶ [INSPIRE Data Specification on Administrative Units - Guidelines v3.0.1 03.05.2010](#)
- ▶ [INSPIRE Data Specification on Cadastral Parcels - Guidelines v 3.0.1 03.05.2010](#)
- ▶ [INSPIRE Data Specification on Geographical Names - Guidelines v 3.0.1 03.05.2010](#)
- ▶ [INSPIRE Data Specification on Hydrography - Guidelines v 3.0.1 03.05.2010](#)
- ▶ [INSPIRE Data Specification on Protected Sites - Guidelines v 3.1.0 03.05.2010](#)
- ▶ [INSPIRE Data Specification on Transport Networks - Guidelines v 3.1 03.05.2010](#)
- ▶ [INSPIRE Data Specifications on Addresses - Guidelines v 3.0.1 03.05.2010](#)
- ▶ [INSPIRE Specification on Coordinate Reference Systems - Guidelines v 3.1 03.05.2010](#)
- ▶ [INSPIRE Specification on Geographical Grid Systems - Guidelines v 3.0.1 03.05.2010](#)

Draft Technical Guidelines Annex II & III

- ▶ [Data Specification on Agricultural and Aquaculture Facilities – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Area management / restriction / regulation zones and reporting units – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Atmospheric Conditions- Meteorological geographical features – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Bio-geographical regions – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Buildings – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Elevation – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Energy Resources – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Environmental monitoring Facilities – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Geology – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Habitats and biotopes – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Human health and safety – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Land cover – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Land use – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Mineral Resources – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Natural risk zones – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Oceanographic geographical features – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Orthoimagery– Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Population distribution - demography – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Production and Industrial Facilities – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Sea regions – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Soil – Draft Technical Guidelines 04.02.2013](#)
- ▶ [Data Specification on Species distribution – Draft Technical Guidelines 04.02.2013](#)



Definitions species distribution



Source: Steve Wilkinson, JNCC

Species Distribution is defined as geographical distribution of **occurrence** of animal and plant species **aggregated** by grid, region, administrative unit or other analytical unit [Directive 2007/2/EC]

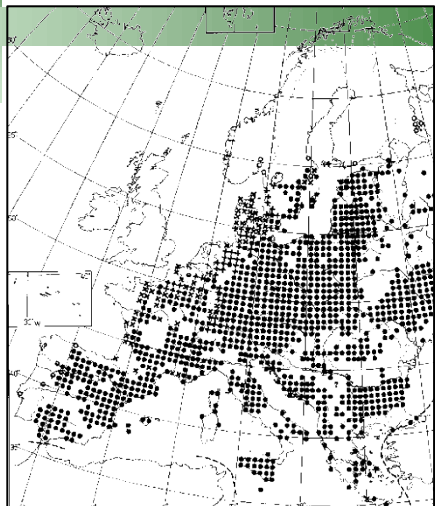
Occurrence is chosen to mean the spatial representation of a species at a specific location

Species is a human expert judgement or interpretation of a defined concept, debated and not consistent throughout the world, **names** need to refer to an authoritative list or register

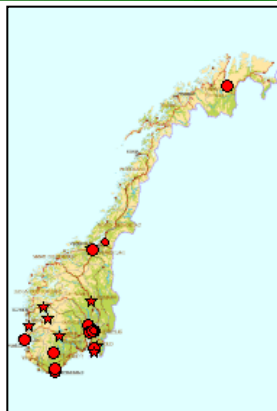
Aggregated means to form into a class or cluster. Closely related to, but not synonymous with the term **amalgamated**, which means to combine to form one structure. Both terms are used throughout the text of the data specification, as being suitable for describing the process of **converting raw observations into a distribution of occurrence**

From these definitions the distributions may be represented in a wide range of formats, such as **points**, **grid cells** at different scales or **polygons** of specific defined areas

Challenges and possibilities

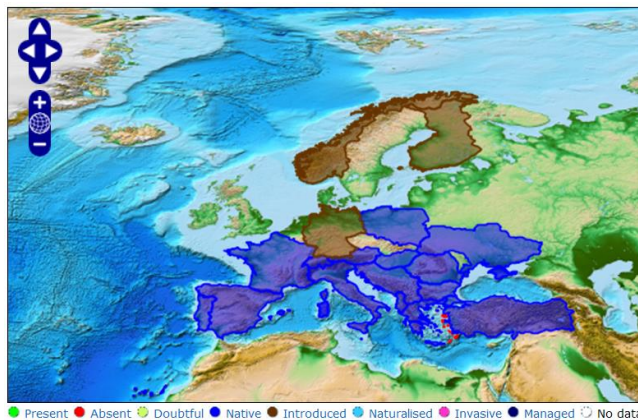


Distribution map in
Atlas Florae Europaeae
<http://www.luomus.fi/english/botany/afe/publishing/sample.htm>



Occurrence map in
<http://artskart.artsdatabanken.no/>

**Neslia paniculata (L.) Desv.
Ballmustard**



Distribution map in <http://www.eu-nomen.eu/portal/>

Overwhelming number of species, potentially
150 000 -200 000 species in Europe

Data of species occurrence is extremely
fragmented in institutions and
organisations in and between
memberstates

Numerous worldwide, european and national
initiatives to collect and present species
distribution data, most of them by
environmental or scientific institutions or
networks.

Generally each species group initiative uses
specific **datamodels, aggregation
methods**, representations and dataportals

INSPIRE Dataspecification of *Species
distribution* provides an **unique
possibility** to share harmonized spatial
data across country borders and species
groups in an interoperable webmap
service and thus enable maximum data
distribution between various sources

Challenges and possibilities

Species presence and absence

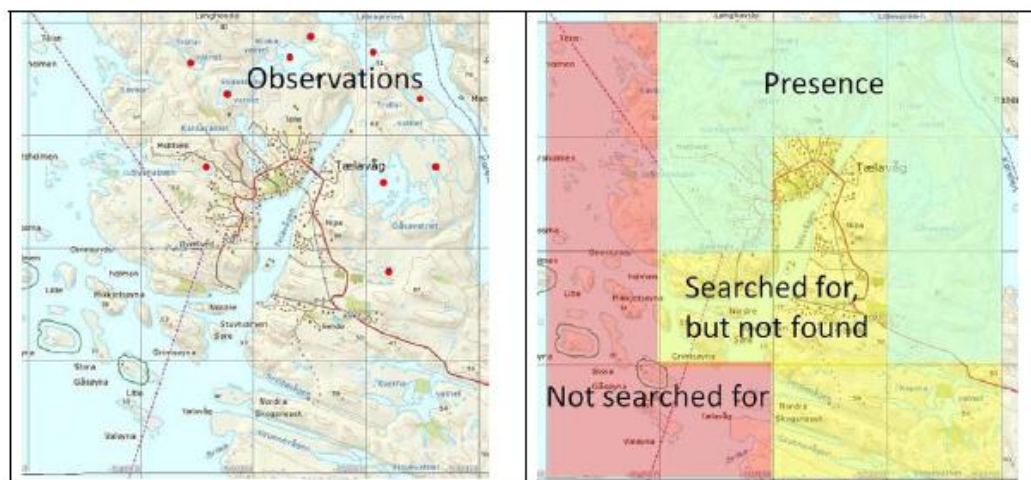
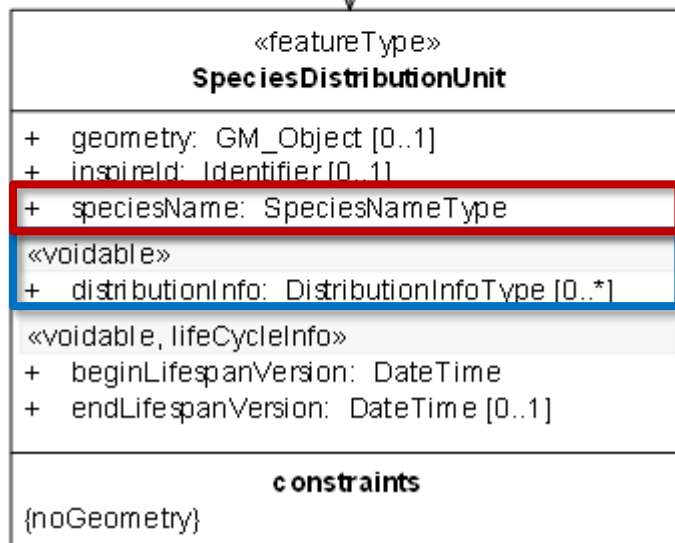
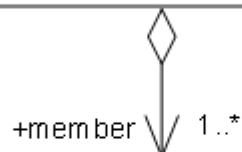
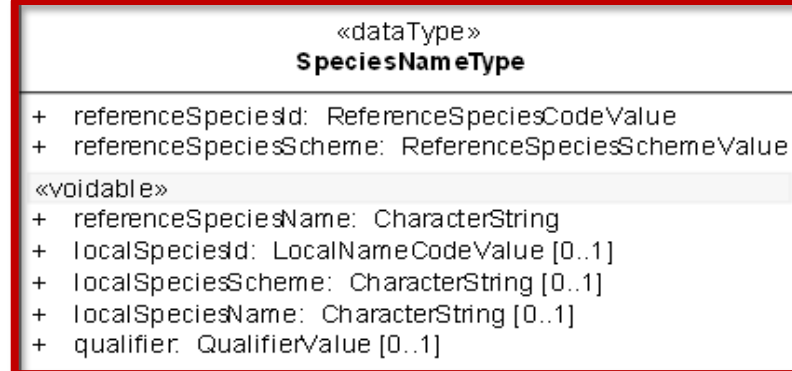
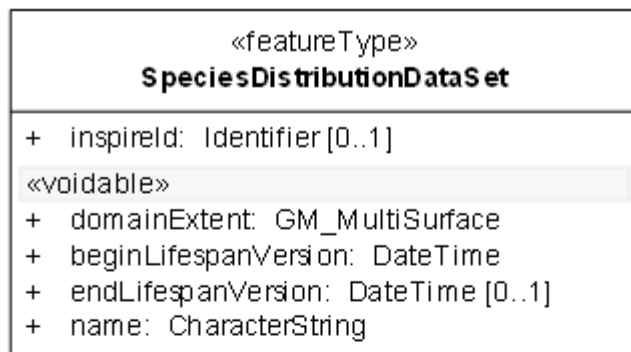


Fig.1 Example of presence/absence in 1x1 km grid cells aggregated from observations.

- Not searched for (*distributionInfo void, reason unknown*)
- Searched for, but not found (*occurrenceCategory absent*)
- Presence

Challenges and possibilities









IR Requirement 2 → referenceSpeciesId and referenceSpeciesScheme shall have assigned values. ¶



Recommendation 1: EU-Nomen is the preferred reference list to be used.

Recommendation 2: If localSpeciesScheme is identical to the referenceSpeciesScheme, localSpeciesId, localSpeciesScheme, localSpeciesName and qualifierValue can be unpopulated.

INSPIRE roadmap 2020

 <p>04-Feb-2013</p>	<p>Implementation of Commission Regulation (EU) No 102/2011 of 4 February 2011 amending Regulation (EU) No 1089/2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services for newly collected and extensively restructured Annex I spatial data sets</p>
 <p>19-Apr-2013</p>	<p>Implementation of Regulation as regards the access to spatial data sets and services of the Member States by Community institutions and bodies under harmonised conditions for existing arrangements</p>
<p>03-Dec-2013</p>	<p>Metadata available for spatial data sets and services corresponding to Annex III</p>
 <p>October 2015³</p>	<p>Newly collected and extensively restructured Annex II and III spatial data sets available</p>
 <p>23-Nov-2017</p>	<p>Implementation of Commission Regulation (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services for other Annex I spatial data sets still in use at the date of adoption</p>
 <p>04-Feb-2018</p>	<p>Implementation of Commission Regulation (EU) No 102/2011 of 4 February 2011 amending Regulation (EU) No 1089/2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services for other Annex I spatial data sets still in use at the date of adoption</p>
 <p>October 2020³</p>	<p>Other Annex II and III spatial data sets available in accordance with IRs for Annex II and III</p>

INSPIRE Directive

(Annex III / 19: species distribution)

Thank you for your attention!

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