Ibex (*Capra ibex*) distribution (EUSALP)

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Summary Distribution of Ibex (*Capra ibex*) in the EUSALP perimeter.

Legend

Ibex distribution

1 Data

Knowledge about species distribution is vital for planning in wildlife management. This layer shows the available distribution data for ibex in the EUSALP perimeter.

Species distribution data were collected from appropriate state agencies and (hunting) organizations. As there is no consistent methodology and legal requirement in the different countries on how species distribution is mapped, the available distribution data differed greatly.

Some regions provided distribution data (e.g. France), some provided habitat distribution data (e.g. South Tyrol), and in some regions data on ibex distribution was not available or is not collected.

1.1 Distribution data

The complete list of datasets used for the distribution layer of ibex is provided in Table 1. As some datasets overlap, the applied dataset is indicated in the column 'Country / Region applied' as country/region code or as '<<' when the original extend of the dataset was used.

Table 1: Ibex distribution data

Dataset	Country / Region covered	Country / Region applied	Year created	Year updated	Source	Type
Tirol Steinbock Sommerlebensraum	Tirol	AT33			Amt der Tiroler Landesregierung	Habitat
Schweiz Steinbock Kolonien	Switzerland	CH	2011	2015	Bundesamt für Umwelt Schweiz	Distribution
IUCN ibex distribution	EU	DE		2008	IUCN Red List	IUCN
IUCN ibex distribution	EU	CH		2008	IUCN Red List	IUCN
IUCN ibex distribution	EU	AT		2008	IUCN Red List	IUCN
France ibex distribution	France	FR		2010	ONCFS France	Distribution

Dataset	Country / Region covered	Country / Region applied	Year created	Year updated	Source	Type
Haute-Savoie ibex distribution	Haute-Savoie	FR718		2016	FDC Haute-Savoie (FDC74)	Distribution
Italy ibex presence	Italy	IT			Institute for Environmental Protection and Research	Distribution grid
Südtirol Steinbock Kolonien	Südtirol	ITH1	2011	2015	Südtiroler Landesverwaltung	Distribution
Südtirol Steinbock Kolonien Winter	Südtirol	ITH1	2011	2015	Südtiroler Landesverwaltung	Distribution
Sütirol Steinbock Kolonien Sommer	Südtirol	ITH1	2011	2015	Südtiroler Landesverwaltung	Distribution
Liechtenstein Steinbock Verbreitung	Liechtenstein	LI			Amt für Umwelt Liechtenstein	Distribution
Hunting statistics Slovenia	Slovenia	SI			Slovenian Forest Service	Hunting bag

1.2 Data on species absence

Species absence was derived from layers of urban areas for the countries and for some species, elevation data was used to exclude areas where distribution is unlikely (conservative assessment). If used, the elevation parameter can be found in Table 3.

Table 2: Ibex absence data

Dataset	Country / Region covered	Country / Region applied	Year created	Year updated	Source
TLM Siedlungen Schweiz	Switzerland	CH			Bundesamt für Landestopografie swisstopo
Ortslage Berchtesgaden	Berchtesgaden	DE215		2014	AdV Deutschland
Corine Landcover	EU	EUSALP		2012	Copernicus Land Monitoring Service
Landnutzungsplan Südtirol	Südtirol	ITH1		2018	Autonome Provinz Bozen - Südtirol

2 Methods

The respective layers were imported into a PostgreSQL database (Version 9.6, PostgreSQL Global Development Group) and processed using PostGIS (Version 2.4.3, Refractions Research).

The distribution data was patched together from different sources: (fine to coarse)

1. Distribution data
2. Species habitat data
3. Hunting bag data (quality differs)
4. IUCN distribution data (intersected with NUTS community data)

When distribution or habitat data were not available, an approximate distribution derived from hunting bag data (years 2008 – 2018, depending on availability) was used by intersecting hunting bag data with the NUTS community layer.

When no other data were available, either an intersect of the NUTS community layer with the IUCN ibex distribution layer was used, or, in case the IUCN distribution layer overlapped the NUTS layer, the NUTS community layer was used as is.

The layers were simplified to 10m, validated, dissolved and intersected with the National Administrations layer (EuroGlobalMap). Afterwards, occurring spatial gaps, due to varying scales and spatial precision of the input layers, were manually cleaned in QGIS (Version 3.4).

The distribution layer was then clipped with settlement data where the distribution of ibex can be ruled out with relative certainty.

2.1 Special parameters

For some datasets, additional parameters were used to filter relevant information (see Table 3).

Table 3: Ibex data special parameters

Dataset	Distribution / Absence	Parameters
France ibex distribution	distribution	nuts3_id != FR718
Hunting statistics Slovenia	distribution	intersect with community NUTS
Italy ibex presence	distribution	nuts3_id not in (ITH33 , ITH10 , ITH20), point layer 80 km buffer intersect with community NUTS
IUCN ibex distribution	distribution	cntr = CH
IUCN ibex distribution	distribution	cntr = AT AND nuts2_id != AT33, intersect with community NUTS
IUCN ibex distribution	distribution	cntr = DE, intersect with community NUTS
Corine Landcover	absence	legend_lab ~* artificial

Dataset	Distribution / Absence	Parameters
Landnutzungsplan Südtirol	absence	bez_d ~* gewerbe, spielplatz, wohn, parkplatz, verkehrsinsel, zone

3 References

QGIS Development Team (2019). QGIS Geographic Information System. Open Source Geospatial Foundation Project. http://qgis.osgeo.org.