PRODUCT DESCRIPTION

Topography 100 Download, vector

DOCUMENT VERSION: 1.6

Figure 1 Selection from Topography 100 Download, vector

Innehåll

1 General description

1.1 Contents

This document describes how Topography 100 Download, vector is structured at delivery. The contents are well suited for graphical presentation in the scale area 1:30,000 – 1:100,000.

Topography 100 Download, vector is based on Lantmäteriet's basic geographic databases, where information has been collected with varying quality concerning positional uncertainty, contents, and update frequency. The information has then been generalised automatically to fit into the scale area for Topography 100 Download, vector.

Topography 100 Download, vector contains, among other things, buildings, land cover, roads, and hydrography.

Topography 100 Download, vector contains Lantmäteriet's reviewed and established names that are included in the Place Names Register.

1.2 Geographic coverage

Nationwide.

1.3 Coordinate system

Plane: SWEREF 99 TM

Height: RH 2000

For information on what other coordinate systems the product can be delivered in, refer to the document Avgifter och leveransinformation för Lantmäteriets geodata (pdf, in Swedish) about fees and delivery information for Lantmäteriet geodata on Lantmäteriet's website.

2 Quality description

2.1 Purpose and utility

Topography 100 Download, vector is aimed at users focused on relatively broad regional planning using maps as a basis. Examples of such use may include several types of transportation planning.

The product provides a good representation of terrain, height conditions, watercourses, infrastructure, and larger buildings. Mountain range information is also included.

The vector format allows you to tailor the map to customize the map to your own business needs.

You can:

- add and link your own information to objects on the map.
- integrate map information in your own system.
- display information as required using the layer division.

2.2 Data capture

2.2.1 LINEAGE

The predecessor to Topography 100 Download, vector was GSD Road map, which was initiated in 1985. The content of the Road Map was initially designed for a printed map, but the data was also used for other products in vector and raster formats.

In conjunction with a transition to a new automated production method, a review of the structure and content was conducted to suit new applications and enable automation. The content was simultaneously given a data model that harmonizes with Topography 10 Download, Vector and Topography 50 Download, Vector.

The content in Topography 100 Download, vector is produced through automatic generalization of the basic dataset included in Topography 10 Download, Vector. The automatic generalization process (AG-process) consists of a series of GIS operations that step by step process the data to be suitable for presentation in a general map scale. The content is partly restructured, some map objects are merged or removed and sometimes they are exaggerated in size or moved apart. This is done to create a dataset that is cartographically adjusted for screen display in scale 1:30,000 – 1:50,000 and for printing or print in scale 1:100,000.

The text consists of place names and informational text. Place names are decided by Lantmäteriet and has earlier been collected through field work. Today a significant part of the collection of place names is done through collaboration between authorities or municipalities. Place names can also be established by the government, county administrative board or municipality. These place names are reviewed by Lantmäteriet's place name section before publication.

Informational text aim to provide users with more information about phenomena of general interest. These texts were previously collected through fieldwork and later updated as needed through collaboration with municipalities.

Changes in administrative units occur based on decisions by authorities.

Contour lines are generated from the National Elevation Database.

The cultural-historical remains presented has been added through selection from the Swedish National Heritage Board (RAÄ).

2.3 Maintenance

The automatic generalization process runs in subareas that are square and in most cases with a side length of 10 km, known as index squares 10x10 km. The process is initiated when any changes occur in the basic data, which could be significant for Topography 100 Download, vector.

In the AG process, new data for Topography 100 Download, vector is generated within the relevant index square, i.e., the entire dataset in the subarea is updated, not just the changed objects. Input to the process is basic data, and the result is updated data for Topography 100 Download, vector. In a post-processing step, objects at the edges of adjacent index squares are adjusted to each other, and larger objects that touch multiple index squares are merged.

There are some exceptions from the automatic processing method. Text and Administrative units are updated manually. Contour lines are generated from the national elevation database. Cultural-historical remains are not updated.

2.3.1 MAINTENANCE FREQUENCY

Topography 100 Download, vector is updated once a week for the index squares that are affected by changes. For each object, the date of storage in the database is specified.

Text and Contour lines are updated regularly, at least once a year. Administrative unit is updated annually. Cultural-historical remains are not updated.

2.4 Data quality

2.4.1 COMPLETENESS

Completeness is related to the selection for each object type. The selection for each object type is described under the heading 'Comment' in Chapter 5. There are also certain generalization rules for the information, which means that not all objects are represented on the map.

2.4.2 LOGICAL CONSISTENCY

For point, line, and polygon object structure the goal is to enable easy topology creation. However, deviations can occur.

Checks are performed to ensure that only valid value ranges and object types are inserted into the database.

2.4.3 THEMATIC ACCURACY

The thematic classification of topographic data is based on the classification in basic data for Topography 10 Download, vector.

2.4.4 POSITIONAL UNCERTAINTY

Positional uncertainty describes how well a given position corresponds to the actual position in the terrain. Information on positional uncertainty depends on the measurement method, generalization and how distinct the object is. Concrete objects normally have lower positional uncertainty than diffuse objects.

Most of the content in Topography 100 Download, vector is generated based on basic data collected for Topography 10 Download, vector and therefore there is a certain relationship between positional uncertainty for

different object types in basic data and Topography 100 Download, vector. The generalization applied to Topography 100 Download, vector results in increased positional uncertainty. For example, objects can be moved in position due to limited space in the map image. Objects with too detailed geometry is simplified and multiple closely spaced line objects can be represented as a single line (e.g., centre line for roads with separate lanes or double track for rail traffic).

Shorelines and watercourses are objects that generally are not significantly affected by the cartographic generalization and therefore have low positional uncertainty.

Point symbols are generally more affected by cartographic generalization and therefore have a higher positional uncertainty. For example, facility area points, building points, mountain point of interest, nature conservation points and road points.

Administrative units have a low positional uncertainty.

Cultural-historical remains have a high positional uncertainty.

3   Contents of the delivery

3.1   Folder structure at delivery

The files delivered are Geopackage files with containing data, and a JSON-file with a description of the contents of the data file.

The Geopackage files can be ordered from Geotorget.

Other files for styling and symbols are available for download on the [product page](#).

3.2   Delivery format

The information is delivered in the [Geopackage](#) format.

3.3   File sets

The information is delivered in a gpkg file, and a description of the data content is delivered in a json file.

A LYR file is used for styling in ArcGIS/ArcMap. In ArcGIS/ArcMap, data should be saved in a geodatabase to achieve full functionality. A LYRX file is also available for styling in ArcGIS Pro.

For QGIS, a QLR file is used for styling.

Symbols specific to Lantmäteriet's data are provided in a symbol file, LMTopografisymboler.ttf.

The styling file and symbol file are available for download on the [product page.](#)

3.4   Layering

In the delivery of Topography 100 Download, vector, the information is divided into different themes, where each theme is delivered in a Geopackage file, containing several layers. The layer names are based on the theme, object, and geometry type.

The layer names begin with the theme and extent before the layer name when imported into software.

Example: **kommunikation_ln21 ralstrafik** for county-level extraction

Exempel: **kommunikation_sverige ralstrafik** for national-level extraction

The attribute set varies between the different layers and is described in detail in Chapter 5.

4   Layout and plotting of data

4.1   Distribution

The theme for land is divided into 10 km grids to improve the drawing performance, when plotting the data.

4.2   On-screen presentation

The styling of the vector product has been performed in scale 1:50,000 Therefore, this scale can be considered suitable for the on-screen presentation of vector styling.

For styling, a LYR file is provided for ArcGIS/ArcMap and a LYRX file for ArcGIS Pro. In ArcGIS/ArcMap, data should be saved in a geodatabase to achieve full functionality.

For QGIS, a QLR file is provided for styling.

The styling files contain a proposed drawing order for the layers.

Symbols specific to Lantmäteriet's data are provided in a symbol file, LMTopografisymboler.ttf.

The styling file and symbol file are available for download on the <u>product page.</u>

4.2.1   TEXT

When plotting text, the attribute **textkategori** determines the style and colour, while **textstorleksklass** determines the size. Other attributes used are **textriktning** (orientation). Text strings are not drawn with spaced characters. This is only indicated in the attribute **textsparrning** as a percentage of how much the delivered text represents in relation to the original text. Refer to table 112 for recommended font size of the text.

4.3   Installation of fonts

The text in the styling file uses the Window's standard font, Arial.

4.3.1   SYMBOLS

Regardless of which software is being used, the included font in the file LMTopografisymboler.ttf must be installed in the Windows font catalogue (c:\\Windows\Fonts), to obtain a correct symbol presentation.

During symbol styling, the attribute rotation has been used to obtain a correct symbol orientation.

5 Layer description and code list

5.1 Administrative unit

Table 1 Layers part of Administrative unit

Administrative unit	Layer name
Administrative boundary	administrativ_grans
National boundary marker	riksrose

5.1.1 ADMINISTRATIVE BOUNDARY

Table 2 Content in Administrative boundary (Layer name: administrativ_grans)

Object type	Object type number	Definition	Description	Comment
Territorial waters boundary	1561	Sweden's territorial waters boundary towards the free ocean or other nation's sea territory	The territorial waters include internal waters and territorial sea. Internal waters include water areas on land and in the sea inside the national border and baselines. The territorial sea extends 12 nautical miles from the baselines. The baselines are drawn along a low water line along the coast at the level of 0,5 meters. Presented according to the law (2017:1272) about Sweden's sea territory and maritime zones.	*The territorial waters boundary at the Finnish border in the Bothnian sea and in Åland's ocean, at the border against Denmark in Öresund as well as the border against Norway in Svinesund, is presented as National boundary.*
National boundary	1562	boundary between two nations	The boundary also serves as county, municipality, district, and real property boundary.	
County boundary	1563	boundary for a geographically delimited area that constitutes an	County and municipality boundaries in public waters are established by The Legal, Financial and	Enclaves is not included.

Object type	Object type number	Definition	Description	Comment
		administrative unit directly under the state	Administrative Services Agency (Kammarkollegiet). that constitutes an administrative unit directly subordinate to the state.	
Municipality boundary	1564	boundary for geographically delimited area constituting an administrative unit with its own board and taxation right	Also serves as a register area in the real property register according to the real property register announcement. County and municipality boundaries in public waters are established by The Legal, Financial and Administrative Services Agency (Kammarkollegiet).	Enclaves is not included
Cultivation boundary	1565	administrative boundary of importance for the practice of reindeer husbandry rights	Administrative determined boundary between mountain regions and areas suitable for cultivation in Norrbotten and Västerbotten counties. The cultivation boundary is regulated in the Reindeer Husbandry Act (SFS 1971:437).	Completely included.

Table 3 Set of attributes for Administrative boundary.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	

Attribute	Type	Length	Definition	Description
objekttyp	Text	255	indicates that the type is Administrative boundary	

5.1.2   NATIONAL BOUNDARY MARKER

Table 4 Contents in Boundary marker (Layer name: riksrose)

Object type	Object type number	Definition	Description	Comment
National boundary marker	5121	marking on land for the location of the national boundary	Can also exist on land for the national boundary's location in water. To a national boundary marker there must always be a national boundary connected.	

Table 5 Set of attributes for National boundary marker.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	Indicates that the type is national boundary marker	The object type is *National boundary marker*
beteckning	Text	64	Unique designation that consists of Rr together with a combination of numbers, roman numerals and/or letters.	Example: Rr II, Rr 63, Rr H, Rr Kca, Rr Ca, Rr M 12
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation

Attribute	Type	Length	Definition	Description
				is given in degrees (360 degrees in a circle).

5.2 Facility area

Table 6 Included layers in Facility area theme.

Facility area	Layer name
Facility area (polygon)	anlaggningsomrade
Facility area point	anlaggningsomradespunkt
Runway (polygon)	start_landningsbana
Airport point	flygplatspunkt

5.2.1 FACILITY AREA (POLYGON)

Table 7 Contents in Facility area (Layer name: anlaggningsomrade)

Object type	Object type number	Definition	Description	Comment
Industrial area	2831	a facility area primarily used for industrial activities.		Minimum area mapped for energy production, mining, test field and quarry is 40,000 square metres (4 ha). Minimum area mapped for reindeer enclosure is 2,000 square metres. *Industrial area, unspecified* is used for larger facilities to keep the area together and where it is not adjacent to a locality.
Community function	2832	facility area used for		Minimum area mapped is 40,000

Object type	Object type number	Definition	Description	Comment
		socially beneficial activities		square metres (4 hectares).
Recreation	2833	facility area primarily used for activities related to sport, leisure, or culture		Minimum area mapped is 40,000 square metres (4 hectares).
Civil firing range	2834	a restricted area where civilian dangerous, such as firing with live ammunition, detonations, or rocket launching are regularly conducted		Minimum area mapped is 40,000 square metres (4 hectares). Example: Bofors test centre, Vidsel test range, Esrange rocket shooting field, torpedo shooting field in Vättern.

Table 8 Set of attributes for Facility area.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates type of facility area	Value range describes valid values.
andamal	Text	255	States activity	See value range for industrial area purpose, community function purpose and recreation purpose below.

Attribute	Type	Length	Definition	Description
skjutfaltstyp	Text	255	type of firing range	Value range for valid firing range types. Valid only for the object type *Civil firing range*. See value range *Firing range type*.
skjutfaltstext	Text	100	informative text for firing range	Valid only for the object type *Civil firing range.*

Table 9 Value range for Industrial area purposes

Value	Definition	Description	Comment
Energiprodukt-ion *(Energy produc-tion)*	transformation of energy source to electricity or heat-ing		Example: Biogas plant, oil power plant, power heating plant, natural gas, solar cell park, wave power plant, heating plant, nu-clear power plant.
Gruvområde *(Mining area)*	area where mining activities take place	Also includes sludge reservoirs and land with facilities for the mining operations.	Mapped if the min-ing facility is in use.
Rengärde *(Reindeer enclo-sure)*	enclosure intended to be used during separation and slaughter or calf marking of rein-deers		Mapped if the rein-deer enclosure is in use. Abandoned reindeer enclosures are mapped if there is a stone wall around it. Reindeer enclosure is pre-sented within the coverage area for Lantmäteriet's mountain.
Testbana *(Test track)*	testing facility for motor vehicles		

Value	Definition	Description	Comment
Täkt *(Quarry)*	facility area where stone, gravel, or peat is extracted		Example: Mountain quarry, gravel pit or peatery.
Ospecificerad *(Unspecified)*	unspecified industrial activity		

Table 10 Value range for Community function area purpose

Value	Definition	Description	Comment
Avfallsanlägg-ning *(Waste facility)*	area for reception of waste		Car dismantling, landfill and recycling central are mapped. Recycling station is not included.
Begravningsplats *(Cemetery)*	area used for the storage of the remains or ashes of the deceased		Example: Cemetery, funeral place, or memorial grove.
Civilt övnings-fält *(Civil practice field)*	area used for training and education in the field of rescue, safety, and emergency preparedness	Used for e.g., rescue services, police, and ambulance care.	The Rescue Services practice field are mapped.
Trafikövnings-plats *(Traffic training area)*	specially prepared road course for training in manoeuvring and slippery driving, e.g., as part of a driver's licence training	Also called slippery course.	
Ospecificerad *(Unspecified)*	unspecified community activities.		

Table 11 Value range for Recreation purpose

Value	Definition	Description	Comment
Besökspark *(Visitor Park)*	usually fenced in park with entry fees visited for leisure and experiences		Example: Astrid Lindgrens World, Gröna Lund or Kolmården zoo.

Value	Definition	Description	Comment
Motorsportan-läggning *(Motorsport facility)*	prepared area for motor sports		Example: Motocross track.
Ospecificerad *(Unspecified)*	unspecified recreation purpose		

Table 12 Value range for Firing range type.

Value	Definition	Description	Comment
Skjutfält (Firing range)	firing range on land		
Skjutområde (Firing area)	firing range on water		

5.2.2 FACILITY AREA POINT

Table 13 Contents in Facility area point (Layer name: anlaggningsomradespunkt)

Object type	Object type number	Definition	Description	Comment
Industrial area, point	2841	a facility area represented by a point primarily used for industrial activities		
Community function, point	2842	facility area, represented by a point, used for public contexts		
Recreation, point	2843	facility area represented by a point, primarily used for activities related to sport, leisure, or culture		Running track outside a larger facility is mapped as sports facility if it is larger than 1000 square meters.

Object type	Object type number	Definition	Description	Comment
Sports field, point	2844	delimited and prepared field or course, represented with a point, where sports or athletic activities take place	Often has standardized measurements.	

Table 14 Set of attributes for Facility area point.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates type of facility point	Value range describes valid values.
andamal	Text	255	states facility	See value range Industrial purpose, Community function purpose, Recreation purpose and Sports field purpose below.
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).

Table 15 Value range Industrial purposes

Value	Definition	Description	Comment
Hamn *(Harbour)*	area, where ships can anchor and moor, meant for protection, loading, unloading and storage		Editorial collection takes information from the Swedish Maritime Administration's port register. Guest harbour is not included but is instead presented as *Guest harbour.* Examples: Fishing harbour, industrial harbour.

Table 16 Value range Community function purposes

Value	Definition	Description	Comment
Sjöräddningsstation *(Sea rescue station)*	rescue station with a stationed sea rescue unit	The stations are operated by the Swedish Sea Rescue Society.	

Table 17 Value range Recreation purposes

Value	Definition	Description	Comment
Badplats *(Swimming area)*	swimming pool or nature swimming with prepared services	facilities provided such as a bathing jetty, lifebuoy, and toilet	
Campingplats *(Camp site)*	prepared area for overnight stays in a cabin, camper van, motor home or tent with attached services		All camp sites listed in the following designations should be included: - The Swedish Camping Association www.scr.se - Independent campsites in Sweden www.husvagnochcamping.se - Caravan Club www.caravanclub.se In addition, camp sites collected with municipalities are also included.

Value	Definition	Description	Comment
Golf course	a prepared area for golf		Nine-hole course and larger.
Gästhamn (Guest harbour)	harbour (marina) prepared with boat berths, available for temporary visiting recreational boats for a fee	Editorial collection from: - The Guest Harbour guide (Gästhamnsguiden) - Swedish Guest Harbours (Svenska Gästhamnar) In addition to these, guest harbours collected in collaboration with the municipalities are also mapped.	
Idrottsanläggning (Sports facility)	larger sports and athletics facility (sports field)		

Table 18 Value range for Sports field purposes

Value	Definition	Description	Comment
Galoppbana (Gallop racecourse)	racecourse prepared for gallop competitions.		Main courses according to Svensk galopp. Examples: Göteborg, Jägersro, Bro Park
Travbana (Trotting racecourse)	racecourse prepared for trotting competitions		Selection according to www.travsport.se
Skjutbana (Shooting range)	prepared range for training or competition in shooting		A permanent range which is at least 300 m long. Examples: Shooting range for rifle, field shooting or automatic weapon as well as longer hunting shooting range.

5.2.3   RUNWAY

Table 19 Contents in Runway (Layer name: start_landningsbana)

Object type	Object type number	Definition	Description	Comment
Runway	2853	prepared surface for take-off and landing of airplanes	Runway within an airport.	Also mapped for former airports. Taxiways are not included.

Table 20 Set of attributes for Runway (Layer name: start_landningsbana)

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	states that the type is runway	A text value that should always be runway.
flygplatsstatus	Text	255	states if the airport is operational or closed	See value quantity for Airport status.

Table 21 Value range for Airport status

Value	Definition
i drift *(Operational)*	the airport is operational
nedlagd *(Closed)*	the airport is closed

5.2.4   AIRPORT POINT

Table 22 Contents in Airport point (Layer name: flygplatspunkt

Object type	Object type number	Definition	Description	Comment
Helicopter pad	2852	designated spot from which air traffic or helicopter traffic originates	Helicopter pads normally have one or more helicopter landing pads and may have limited infrastructure such as fuel stations, hangars, and workshops.	They are mapped if they are licensed by the Swedish Transport Agency (Luftfartsverket) according to AIP, except for within the coverage area of the Lantmäteriet´s mountain range information where all helicopter landing sites are mapped.

Table 23 Set of attributes for Airport point.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	States type of airport point	Value range described valid values.
iata	Text	3	three-digit identification code for airports	IATA-codes are only available for airports with regular flights, for example, ARN – Stockholm Arlanda Airport.
icao	Text	4	four-lettered code of the geographic position of airports, only	ICAO-codes are available both for airports with

Attribute	Type	Length	Definition	Description
			used by pilots and air traffic control	regular flights as well as small airports with only private aviation, for example, ESSB (Europe Sweden Stockholm Bromma).
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).

5.3 Structures

Table 24 Included layers in the Structures theme.

Structures	Layer name
Building (polygon)	byggnad
Building facility line	byggnadsanlaggningslinje
Building facility point	byggnadsanlaggningspunkt
Building point	byggnadspunkt

5.3.1 BUILDING (POLYGON)

Table 25 Contents in Building (polygon) (Layer name: byggnad)

Object type	Object type number	Definition	Description	Comment
Residential	2061	building primarily used for leisure or permanent accommodation		Used for large buildings. Outside built-up areas, the minimum size varies depending on the shape of the building, but here all buildings larger than

Object type	Object type number	Definition	Description	Comment
				approximately 2000 square meters are included. Exceptions are made for buildings with certain characteristic features, which are instead shown as building points. Within the built-up area, buildings larger than approximately 10,000 square meters are mapped.
Industrial	2062	building primarily used for manufacturing products and processing of raw materials		Used for large buildings. Outside built-up areas, the minimum size varies depending on the shape of the building, but here all buildings larger than approximately 2000 square meters are included. Exceptions are made for buildings with certain characteristic features, which are instead shown as building points. Within the built-up area, buildings larger than approximately 10,000 square meters are mapped.
Public	2063	building primarily used for citizens'		Used for large buildings Outside built-up areas, the

Object type	Object type number	Definition	Description	Comment
		activities in community life		minimum size varies depending on the shape of the building, but here all buildings larger than approximately 2000 square meters are included. Exceptions are made for buildings with certain characteristic features, which are instead shown as building points. Within the built-up area, buildings larger than approximately 10,000 square meters are mapped.
Other large building	2068	*Building* whose purpose is not *Residential, Industrial* or *Public*		Used for large buildings Outside built-up areas, the minimum size varies depending on the shape of the building, but here all buildings larger than approximately 2000 square meters are included. Exceptions are made for buildings with certain characteristic features, which are instead shown as building points. Within the built-up area, buildings larger than approximately 10,000 square

Object type	Object type number	Definition	Description	Comment
				meters are mapped.

Table 26 Set of attributes for Building.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of building	Range of values for valid values.

5.3.2 BUILDING FACILITY LINE

Table 27 Contents in Building facility line (Layer name: byggnadsanlaggningslinje)

Object type	Object type number	Definition	Description	Comment
Reindeer fence	1980	fence intended to lead reindeer between different pastures and to collection points		Presented completely apart from capture fences shorter than 200 metres at *reindeer enclosures*.
Cable traffic	1978	wire-borne transportation system with carriages, baskets, loops, sticks or harness that run above ground level	Cable cars and ski lifts.	Mapped if it is operating and at least 200 m long. Also used for funicular aerial tramways, gondolas chair lift, drag lift or zipline.

Table 28 Set of attributes for Building facility line.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of building facility line.	Range of values for valid values.

5.3.3 BUILDING FACILITY POINT

Table 29 Contents in Building facility point (Layer name: byggnadsanlaggningspunkt)

Object type	Object type number	Definition	Description	Comment
Chimney	2022	vertical pipe-shaped con-struction to di-vert smoke		Free standing or as a part of a building. All prominent chim-neys in the land-scape that are at least approxi-mately 25 meters tall are to be mapped. Cartographic se-lection may oc-cur.
Mast	2019	tall and vertical construction erected on a small area, of-ten anchored with cables	Not intended to contain or hold a notable space (in comparison to a tower).	Mapped for tele, radio and TV masts that are at least 25 metres high. Where multiple masts are closely situated, a selec-tion is presented. Other carto-graphic selection may also occur.

Table 30 Set of attributes for Building facility point.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of building facility point	Range of values for valid values.
hojd	Integer	3	height above ground	
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal po-sition with anti-clockwise rota-tion. Orientation is given in de-grees (360 de-grees in a circle).

5.3.4 BUILDING POINT

Table 31 Contents in Building point (Layer name: byggnadspunkt)

Object type	Ob-ject type num-ber	Definition	Description	Comment
Building, size class 1	2045	building or small group of buildings where the larg-est building corresponds to a certain size	Residential, shack, military facility, office, commercial building, public building, indus-try, etc.	Normally consists of one building or a small group of buildings. The largest build-ing has an area of up to approxi-mately 380 square meters. All type of shape can occur, except for circular ones. Not included in-side built-up ar-eas. Buildings that are clearly elongated

Object type	Object type number	Definition	Description	Comment
				and are 250-1900 square meters are instead presented as *Building, size class 2* or *Building, size class 3*.
Building, size class 2	2046	building or small group of buildings where the largest building corresponds to a certain size and shape ad is larger than size class 1	Residential, military facility, office, commercial building, industry, etc.	The largest building has an area of 250-1300 square meters. Elongated houses where none of the sides exceed 90 m. Not included inside built-up areas.
Building, size class 3	2047	building or small group of buildings where the largest building corresponds to a certain size and shape ad is larger than size class 2	Residential, military facility, office, commercial building, industry, and agricultural, complementary building.	The largest building has an area of 250–1900 square meters. Elongated houses where the longest side is 90–110 m. For angled houses, the longest side is measured. Not included inside built-up areas.
Solitary cabin in the mountains	2032	remotely located cabin, within the coverage area for Lantmäteriet's mountain range information., which is usually locked and not intended for tourists		Examples: surveillance cabins, staff cabins, hunting and fishing cabins, reindeer herder cabins
Mountain lodge	2033	tourist facility with buildings for services, activities, and	Outside of the tourist season, access to an open emergency shelter is available.	STF-owned mountain lodge are included as well as

Object type	Object type number	Definition	Description	Comment
		accommodation		Låktatjåkko mountain lodge.
Research station	2048	building where research is conducted		
Lighthouse	1051	device for sea traffic that, through light or other signals, provides positional controls or warnings		Historical lighthouses and coastal lighthouses are mapped.
Manor	2034	larger farm property with elegant buildings	• Residential building for an estate where the building's design and location are prominent. • Residential building whose function was the main building for a manor or estate but now serves a different purpose. Larger residential building that has been built as a private residence for the owner and that together with surrounding property have a manor-like style	
University	2044	post-secondary school classified as a university in the university regulation		No data has been collected yet.
Church	1042	building that is permanently used or has been used for	Has the characteristics of a traditional Swedish church.	Chapel (not burial chapel) and abandoned churches are included.

Object type	Object type number	Definition	Description	Comment
		religious purposes within the *Church of Sweden*		
Nuclear power plant	2035	facility that generates electricity from nuclear power	Also includes decommissioned nuclear power plants.	Completely included. Example: Forsmark
Sami cot	1044	basic conical or dome shaped building in mountain regions intended for stays		Updated only within the coverage area for Lantmäteriet's mountain range information. Cartographic selection may occur.
Naturum	2050	Information centre where visitors receive information about the local area's geology, flora, fauna, and cultural history	Naturum serves as a gateway to nature. The building often harmonizes with the surrounding environment, and the activities provide everyone with an opportunity to learn more about nature and the environment. The Swedish Environmental Protection Agency owns the right to the name Naturum. They are operated by county administrative boards, municipalities, or foundation.	
Rest cabin	1050	cabin that can be used for protection or for rest and is always unlocked	Rest cabin according to the government's trail network, often have emergency phones.	Information is obtained from county administration boards, municipalities, STF (Swedish Tourist Association), the tourism industry, designated contact persons or through field controls and

Object type	Object type number	Definition	Description	Comment
				by image interpretation.
Religious building	2037	assembly hall, with distinct characteristic features, intended for religious community activities such as worship service, prayer, preaching and religious studies	Churches within the Church of Sweden are not included.	Only freestanding religious buildings are mapped. Examples: Mosque, synagogue, temple, free church.
Hospital	2042	facility for closed care and specialized outpatient care		Used for buildings that, in the Basic data registry for building, address, and unit have Building function: *Public* and Public function: *Hospital* set as the main purpose. Several adjacent buildings belonging to the same hospital can be included. Larger hospital buildings are also represented as *Building (area).*
Blast shelter	1052	space under ground for protection during rocket launches or other types of shooting		Presented within Esrange space centre.
Castle	2038	monumental historical building that is or has been owned by a		

Object type	Object type number	Definition	Description	Comment
		royal or noble person		
Tower	1045	tall and vertical structure built on a relatively small area or on another building	intended to contain or hold a notable space (in comparison to a mast)	All towers that are prominent in the landscape are included. Cartographic selection may occur. Examples: Mining tower, fire tower, view tower, water tower and bird tower.
Tourist cabin/overnight cabin	2041	cabin located in connection to the state mountain trail system and intended for overnight stays	An open emergency shelter is always available here. Many tourist cabins along the state mountain trail system have emergency telephones.	
University	2043	post-secondary school classified as a university in the university regulation		No data has yet been collected.
Wind turbine	2025	tower or mast with a device that converts wind energy to electricity		Mapped for all wind turbines that are at least 25 metres high, including the maximum heights of the rotor blades above the ground. Cartographic selection may occur.
Lean-to	1046	basic building for outdoor activities with the purpose to provide hikers	The building has three walls and a roof.	Mapped along hiking trails. Within the coverage area of Lantmäteriet's

Object type	Object type number	Definition	Description	Comment
		protection from wind and rain		mountain range information lean-tos are also mapped even if they are not located near a trail. Example: Wind shield, lean-to.
Windmill	1047	building erected to mill grains using wind power		Mapped for all windmills with a characteristic building form. Sails may be missing

Table 32 Set of attributes for Building point.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	states type of building point	The value range describes valid values.
hojd	Integer	3	height above ground	
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on hori-zontal position with anti-clock-wise rotation. Orientation is given in degrees (360 degrees in a circle).

5.4 Hydrography

Table 33 Layers included in the Hydrography theme.

Hydrography	Layer name
Hydro facility line	hydroanlaggningslinje
Hydro facility point	hydroanlaggningspunkt
Hydro line	hydrolinje
Hydro point	hydropunkt

5.4.1 HYDRO FACILITY LINE

Table 34 Contents in Hydro facility line (Layer name: hydranlaggningslinje)

Object type	Object type number	Definition	Description	Comment
Dam construction	1903	permanent barrier over a water course that dams or controls its flow		Construction for creation of mirror ponds is not included. The minimum length for reporting is 80 meters. Dam constructions shorter than 80 metres are presented as *Dam construction, point.*
Aqueduct	1911	structure for transporting water courses over an obstacle	The obstacle can be a valley, road, railway, or another water course.	The aqueducts in Håverud, Kungs Norrby and Ljungsbo are mapped.

Table 35 Attribute set for Hydro facility line.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	

Attribute	Type	Length	Definition	Description
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	specifies the type of hydro facility line	Range of values for valid values.

5.4.2 HYDRO FACILITY POINT

Table 36 Contents in hydro facility point (Layer name: hydroanlaggningspunkt)

Object type	Object type number	Definition	Description	Comment
Lock gate	1922	construction for raising and lowering the water level in a waterway to enable boat traffic	A lock always consists of at least two lock gates.	Presented completely.
Dam construction, point	1923	permanent barrier over a water course that dams or controls flow		Construction for creation of mirror ponds is not included. Dam constructions shorter than 80 metres are mapped. Longer dam constructions are presented as *Dam construction (line)*.

Table 37 Set of attributes for hydro facility point.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	

Attribute	Type	Length	Definition	Description
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	specifies the type of hydro facility line	Range of values for valid values.
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).

5.4.3 HYDRO LINE

Table 38 Contents in Hydro line (Layer name: hydrolinje)

Object type	Object type number	Definition	Description	Comment
Watercourse	1581	natural or man-made flowing water that is part of a drainage system		Included are watercourses that are part of the drainage network and are 1000 meters or longer from source to mouth. Watercourse smaller than 6 m wide is presented as size class 1. Watercourse that is 6-34 m wide is presented as size class 3.

Table 39 Attribute set for Hydro line.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	

Attribute	Type	Length	Definition	Description
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	specifies the type of hydro line	Range of values for valid values.
vattendrag-sid	Text	36	common identity for all included parts of water courses from source to mouth	Watercourse ID can be found on all line-repre-sented water-courses.
storleksklass	Text	255	specifies the water courses size	In this product, all watercourses are class 1 or 2.
kanal	Text	255	man-made water course for ships	Value range: Ja, Nej, Ingen in-formation *(Yes, No, No in-formation).*

5.4.4 HYDRO POINT

Table 40 Contents in Hydro point (Layer name: hydropunkt)

Object type	Object type number	Definition	Description	Comment
Current di-rection ar-row, large	1597	symbol for flow direction in water-courses or along narrower watercourses.		Used for water-courses that are 6 metres or wider.

Table 41 Attribute set for Hydro point.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	

Attribute	Type	Length	Definition	Description
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of hydrographic facility point	Range of values for valid values.
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).

5.5   Height

Table 42 Included layers in the theme Height.

Height	Layer name
Contour line	hojdlinje
Contour line text	hojdkurvstext
Elevation point	hojdpunkt

5.5.1   CONTOUR LINE

Table 43 Contents in Contour line (Layer name: hojdlinje)

Object type	Object type number	Definition	Description	Comment
Contour line 10	2404	contour line for height that represents the equidistance 10 m	Adjacent contour lines together illustrate differences in elevation in the terrain.	
Depression contour 10	2405	contour line for a depression that represents the equidistance 10 m	Depression contours together show height differences in the terrain.	

Table 44 Attribute set for Contour line.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of contour line	Range of values for valid values.
hojdvarde	Text	4	height above the sea in metres	
stodkurva	Text	255	contour lines that rep-resent a certain eleva-tion in the terrain	Every fifth eleva-tion contour line is presented more prominently. Value range: Ja/Nej *(Yes/No)*
i_glaciar	Text	255	indicates if the con-tour line is on a glac-ier	Value range: Ja/Nej *(Yes/No)*

5.5.2 CONTOUR LINE VALUE

Table 45 Contents in Contour line value (Layer name: hojdkurvstext)

Object type	Ob-ject type num-ber	Definition	Description	Comment
Contour line value	2403	elevation value for a contour line	Contour line value	

Table 46 Attribute set for Contour line value.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for ex-change objects	

Attribute	Type	Length	Definition	Description
skapad	DateTime	23	time when the object was created	
textkategori	Text	255	grouping is used to control the printing of text	The text category is used to control font style (normal/italic/bold/light) and colour (black/blue/green/...). Text type can also be used to control style.
textstoleksklass	Text	255	specifies which font size to use depending on the scale	In combination with text category, scale, and possibly text type, the printing of text is controlled.
textlage	Integer	3	insertion point for text	Text position is 5. *Figure 2 Image showing the text's insertion point*
texttyp	Text	255	indicates type of text	Contour values are always of type U (information text) Text type can be used to control style
karttext	Text	4	cartographic text	The map text can be hyphenated or abbreviated.
textriktning	Floating point	6.2	rotation for text	Text rotation is specified in degrees (0.00 – 360.00, increasing anti-clockwise). 0.00=Unoriented text.

5.5.3 ELEVATION POINT

Table 47 Contents in Elevation point (Layer name: hojdpunkt)

Object type	Object type number	Definition	Description	Comment
Triangulation station	2412	geodetic elevation point that is part of the in national triangulation network	Elevation point that is geodetically accurately positioned in plan that is part of the in national triangulation network. Presented in whole metres.	
Spot elevation	2411	unmarked elevation point	Elevation point that does not need to be marked, ex. at a junction, on a summit or similar. Presented in whole metres.	

Table 48 Attribute set for Elevation point.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of elevation point	Range of values for valid values.
hojdvarde	Integer	4	height above the sea in metres	
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).

5.6 Communication

Table 49 Included layers in the theme Communication

Communication	Layer name
Road line	vaglinje
Road point	vagpunkt
Ferry route (line)	farjeled
Other road (line)	ovrig_vag
Mountain transport route (line)	transportled_fjall
Mountain point of interest	ledintressepunkt_fjall
Rail traffic (line)	ralstrafik
Rail traffic station (point)	ralstrafikstation

5.6.1   ROAD LINE

Table 50 Contents in Road line (Layer name: vaglinje)

Object type	Object type number	Definition	Description	Comment
Motorway	1801	road that corresponds to traffic regulations for motorways		The road lines from the Swedish Transport Administration's product Road type have been generalized and cartographically adjusted for presentation in scale 1:100,000. Roads shorter than 100 meters are generally not presented. Parallel lanes are presented with a single line instead of two where it is cartographically suitable. Roundabouts are

Object type	Object type number	Definition	Description	Comment
				presented if they have a diameter exceeding 30 m.
Two-lane expressway	1802	road that corresponds to the regulations for a two-lane expressway		The road lines from the Swedish Transport Administration's product Road type have been generalized and cartographically adjusted for presentation in scale 1:100,000. Roads shorter than 100 m are generally not presented. Parallel lanes are presented with a single line instead of two where it is cartographically suitable. Roundabouts are presented if they have a diameter exceeding 30 m.
Divided road	1803	road where oncoming traffic is separated by a median barrier	Motorways and two-lane expressways are not included. However, other four lane roads and regular roads where traffic directions are separated by a median barrier is included.	The road lines from the Swedish Transport Administration's product Road type have been generalized and cartographically adjusted for presentation in scale 1:100,000. Roads shorter than 100 m are generally not presented. Parallel lanes are presented with a single line instead of two where it is cartographically suitable.

Object type	Object type number	Definition	Description	Comment
				Roundabouts are presented if they have a diameter exceeding 30 m.
Country road	1804	main road with one lane in each direction separated by a centre line		The road lines from the Swedish Transport Administration's product Road type have been generalized and cartographically adjusted for presentation in scale 1:100,000. Roads shorter than 100 m are generally not presented. Parallel lanes are presented with a single line instead of two where it is cartographically suitable. Roundabouts are presented if they have a diameter exceeding 30 m.
Country road, small	1805	state road with road number >499		The road lines from the Swedish Transport Administration's product Road type have been generalized and cartographically adjusted for presentation in scale 1:100,000. Roads shorter than 100 m are generally not presented. Parallel lanes are presented with a single line instead of two where it is cartographically

Object type	Object type number	Definition	Description	Comment
				suitable. Roundabouts are presented if they have a diameter exceeding 30 m.
Small road	1806	private road, suitable for cars	Included here are state-funded private roads that are allowed to be trafficked as well as private roads outside of built-up areas that the municipality has classed as a good car road and in some cases receive municipal contributions. The road often has a basic standard and can normally be trafficked by car.	The road lines from the Swedish Transport Administration's product Road type have been generalized and cartographically adjusted for presentation in scale 1:100,000. Roads shorter than 100 m are generally not presented. Parallel lanes are presented with a single line instead of two where it is cartographically suitable. Roundabouts are presented if they have a diameter exceeding 30 m.
Small road, basic standard	1807	private road, less suitable for cars	A private road, with a basic standard, often without winter maintenance. Forest roads are included. Generally motor vehicle traffic is not allowed without permission. Roads with a road barrier are often of this type.	The road lines from the Swedish Transport Administration's product Road type have been generalized and cartographically adjusted for presentation in scale 1:100,000. Roads shorter than 100 m are generally not presented. Parallel lanes are presented with a single line instead of two where it is

Object type	Object type number	Definition	Description	Comment
				cartographically suitable. Roundabouts are presented if they have a diameter exceeding 30 m.
Arterial road	1808	road that is a part in the main network for car traffic	Examples include routes, throughfares, ring roads and entrances to towns and built-up areas.	The road lines from the Swedish Transport Administration's product Road type have been generalized and cartographically adjusted for presentation in scale 1:100,000. Roads shorter than 100 m are generally not presented. Parallel lanes are presented with a single line instead of two where it is cartographically suitable. Roundabouts are presented if they have a diameter exceeding 30 m.
Main street	1809	road within a built-up area that is part of the main network for car traffic.	Main street in a built-up area. Often maintained by municipality.	The road lines from the Swedish Transport Administration's product Road type have been generalized and cartographically adjusted for presentation in scale 1:100,000. Roads shorter than 100 m are generally not presented. Parallel lanes are presented with a single line instead of two

Object type	Object type number	Definition	Description	Comment
				where it is carto-graphically suita-ble. Roundabouts are presented if they have a diameter exceeding 30 m.
Local street, large	1810	road that is part of the lo-cal car traffic network	Designed for mixed traffic with unpro-tected road users. Col-lecting local roads are usually included.	The road lines from the Swedish Transport Ad-ministration's product Road type have been generalized and cartographically adjusted for presentation in scale 1:100,000. Roads shorter than 100 m are generally not presented. Parallel lanes are presented with a single line in-stead of two where it is carto-graphically suita-ble. Roundabouts are presented if they have a diameter exceeding 30 m.
Local street, small	1811	smaller road that is part of the local car traffic network	Pedestrian streets are included. Also in-cludes streets within pedestrian zones, which are regulated for vehicles to travel at walking speed.	The road lines from the Swedish Transport Ad-ministration's product Road type have been generalized and cartographically adjusted for presentation in scale 1:100,000. Roads shorter than 100 m are generally not presented. Parallel lanes are presented with a single line

Object type	Object type number	Definition	Description	Comment
				instead of two where it is carto-graphically suita-ble. Roundabouts are presented if they have a diameter exceeding 30 m.
Unclassified	1816	road that has not been clas-sified	May be a provisional road that has not yet been classified. The roads are down-loaded from the Swe-dish Traffic Admin-istration.	

Table 51 Attribute set for Road line.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of road line	Range of values for valid values.
avfarts-vag_pafarts-vag	Text	255	indicates if the road section is included in a slip road	Collected from the Swedish Transport Ad-ministration's product Road type. Value range: Ja, Nej, Ingen in-formation *(Yes, No, No in-formation).*
cirkulations-plats	Text	255	indicates if the road section has a traffic	Collected from the Swedish Transport Ad-ministration's

Attribute	Type	Length	Definition	Description
			regulation for a roundabout	product Road type. Value range: Ja, Nej, Ingen information *(Yes, No, No information)*.
bro_och_tunnel	Text	255	indicates if the road section includes any form of bridge or tunnel	Refer to value range Level.
vardvagnummer	Text	255	complete road number for the main road	Combination of main number, sub-number, and European road. Used for printing in map products. The information is based on data from the Swedish Transport Administration's product *Road type*. Examples: E4, E20.8, 859, 891.1
gastvag1nummer	Text	255	complete road number for guest road 1	Combination of main number, sub-number, and European road. Used for printing in map products. The information is based on data from the Swedish Transport Administration's product *Road type*.
gastvag2nummer	Text	255	complete road number for guest road 2	Combination of main number, sub-number, and European road. Used for printing in map products. The information is based on data

Attribute	Type	Length	Definition	Description
				from the Swedish Transport Administration's product *Road type*
alt... tivt_manér	Text	255	States that organization objects should be managed separately during cartographic presentation.	Example: Two lanes are kept. Used to solve some problems, e.g., at tunnels and slip roads. Value range: Ja, Nej, Ingen information *(Yes, No, No information).*

Table 52 Value range Level.

Value	Definition
överfart *(overpass)*	road or rail traffic that passes over another object
underfart *(underpass)*	road or rail traffic that passing under another object
tunnel *(tunnel)*	underground road or rail traffic
överfart och underfart *(overpass and underpass)*	road or rail traffic that passes over or under another object
Ingen information	

5.6.2 ROAD POINT

Table 53 Contents in Road point (Layer name: vagpunkt)

Object type	Object type number	Definition	Description	Comment
Turnaround	2205	road area at the end or along a road that is	Only turnarounds are presented.	Presented fully for *Small road* and *Small road,*

Object type	Object type number	Definition	Description	Comment
		designed to provide longer vehicles the opportunity to turn around		*simple standard.* Exception for road shorter than 500 m and roads inside built-up areas.
Rest area	2207	facility alongside a road for travellers need to rest, use toilets, recreate or similar		Selection according to the Swedish Transport Administration's product *Service area*.
Interchange	2209	plane separated junction where entrance and exit can be accessed	Centre point for interchanges is mapped.	

Table 54 Attribute set for Road point.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of road point	Range of values for valid values.
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).
trafikplatsnummer	Integer	4	The Swedish Transport	Examples: 174, 110b

Attribute	Type	Length	Definition	Description
			Administration's number for inter-changes	

5.6.3 FERRY ROUTE

Table 55 Contents in Ferry route (Layer name: farjeled)

Object type	Object type number	Definition	Description	Comment
Ferry route	1891	route for ferry traffic	Ferry route with car ferries in regular traffic.	Within the country the following is mapped: - Ferry routes operated by the Swedish Transport Administration's ferry company. - Other ferry routes that connect the state road network. - Other ferry routes with year-round traffic and a fixed timetable. International ferry routes are also included.

Table 56 Attribute set for Ferry route.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	

Attribute	Type	Length	Definition	Description
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of *Ferry route*.	The object type is always *Ferry route* for this object.
destination	Text	50	destination for the *Ferry route*	Examples: Nynäshamn-Visby, Kvarsebo-Skenäs, International examples: Riga (LV), Turku (FI).
vagnummer_nationell	Text	20	road number for domestic ferry routes	

5.6.4 OTHER ROAD

Table 57 Contents in Other road (Layer name: ovrig_vag)

Object type	Object type number	Definition	Description	Comment
Footpath	1624	well-trodden path		In areas with a lot of paths, a cartographic selection is presented. Some longer tractor roads are categorized as *Footpaths*. Within the coverage area for Lantmäteriet's mountain range information clear roads created by quadbikes are also mapped as *Footpath*.
Illuminated exercise track	1625	illuminated tracks with prepared and maintained trail or track		Presented according to a cartographic selection.

Object type	Ob-ject type num-ber	Definition	Description	Comment
Hiking trail	1846	marked trail along a path or road intended for hiking		Mapped if it is at least 10 kilome-tres long, except within the cover-age area of Lantmäteriet's mountain range information, where it is mapped regard-less of length. Additionally, it should be named and clearly marked, normally with painted or-ange rings on trees or poles. On bare mountains painted cairns or low poles are used. Example of trails are *Sörm-landsleden*, *Kungsleden* and various Pilgrim trails.
Hiking and winter trail	1847	marked trail along a path or road intended for hiking, ski-ing, or snow-mobiles.	Marked with red crosses on poles. Restrictions for snow-mobiles may apply.	Well-marked and maintained trails are included. Mapped within the coverage area for Lantmäteriet's mountain range information.
Winter trail	1848	marked trail in-tended for ski-ing or snow-mobiles	Marked with red crosses on poles. Re-strictions for snowmo-biles may exist.	Well-marked and maintained trails are included. Mapped within the coverage area for Lantmäteriet's mountain range information.

Table 58 Attribute set for Other roads.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	specifies the type of *Other road*	Range of values for valid values.
vagutforande	Text	255	specifies the road's relationship to other roads or terrain	Summer bridge is only valid for the detail type *Hiking trail.* See value range *Road construction.*
skoterkor-ning_tillaten	Text	255	specifies if snowmo-biles are allowed	Obligatory for the object *Hiking and winter trail.* See value range *Snowmobiles.*
ruskmarke-ring	Text	255	specifies if the trail has a landmark of stone or not	Obligatory for the object *Winter trail.* Value quantity: Ja, Nej, Ingen in-formation *(Yes, No, No in-formation)*
alterna-tivt_manér	Text	255	states that the organi-zation object should be separately treated during cartographic presentation	Makes the presentation of hiking trails by the side of a road possible. Value quantity: Ja, Nej, Ingen in-formation *(Yes, No, No in-formation)*

Table 59 Value range Road construction.

Value	Definition	Comment
Bro *(Bridge)*	construction meant to carry traffic over an obstacle	
Normal *(Normal)*	road on the ground	
Sommarbro *(Summer bridge)*	bridge that is re-moved during the winter season to avoid damage caused by snow melt	Only valid for the object type *Hiking trail.*
Tunnel *(Tunnel)*	underground road	
Underfart *(Underpass)*	road or trail that goes underneath another object	
Ingen information *(No information)*		

Table 60 Value range Snowmobile driving

Value	Definition
Ja *(Yes)*	snowmobiles are allowed on the trail
Nej *(No)*	snowmobiles are not allowed on the trail
Påbjuden *(Mandatory)*	snowmobiles are mandatory on the trail within a restricted area
Ingen information *(No information)*	

5.6.5 TRANSPORT TRAIL MOUNTAIN

Table 61 Contents in Mountain Transport Trail (Layer name: transportled_fjall)

Object type	Object type number	Definition	Description	Comment
Boat portage	1827	permanent facility to move boats between lakes	Minimum length ca 200 m.	Example: Boat portage at Hävlingen.
Capture line across trail	1824	marking across a trail's direction of travel to facilitate orientation in harsh weather		Mapped within the coverage area for Lantmäteriet's mountain range information.
Suitable travel route	1822	recommended route that is not marked in the terrain		Only included in high mountain areas.
Reindeer herding trail	1823	trail for the reindeer husbandry	Used for *reindeer moving trail* and *reindeer husbandry trail.*	
Rowing trail	1825	trail with accessible boats	Used to enable crossings of larger water courses or lakes during hiking.	Included along the *Kungsleden* trail in Norrbotten county.
Ski trail	1821	Marked trail in terrain, along a road or path intended for skiing	The trails are of permanent nature, prepared on the ground prepared, well-trodden and marked in the terrain.	Presented within the coverage area for Lantmäteriet's mountain range information. Longer ski trails are presented with a line, while other ski trails are presented only with symbols. Skiing trails that follow other linear objects, e.g., winter train is presented only with a symbol.
Trail, porly parked	1826	indistinct walking trail		Included when it leads to

Object type	Object type number	Definition	Description	Comment
				settlements or other destinations on the map, connects roads or goes along shores. Destinations include for example a lake, viewpoint on a mountain, wetland, ancient remains or field. Presented within the coverage area for Lantmäteriet's mountain range information.
Trafficated boat route	1828	route for boat traffic that connects trails		Mapped completely within the coverage area for Lantmäteriet's mountain range information.

Table 62 Attribute set for Transport trail mountain.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of transport trail in the mountains	Range of values for valid values.
rennarings-ledstyp	Text	255	indicates the type of reindeer husbandry route	Value is only specified for the object type *Reindeer husbandry*

Attribute	Type	Length	Definition	Description
				route and is mandatory. See value range *Type of reindeer husbandry route*.

Table 63 Value range Type of reindeer husbandry trail

Value	Definition
Renflyttningsled *(Reindeer moving trail)*	trail used for moving reindeer herds between different grazing lands
Renskötarled *(Reindeer husbandry trail)*	trails used by reindeer herders

5.6.6 MOUNTAIN POINT OF INTEREST

Table 64 Contents in Mountain point of interest (Layer name: ledintressepunkt_fjall)

Object type	Object type number	Definition	Description	Comment
Flashing beacon	1837	Device that, facilitates navigation to the location with regularly occurring flashing signals	The flashing beacon at Blåhammaren's mountain station is the only land lighthouse in Sweden.	
Pedestrian bridge, point	1838	Building structure designed to facilitate hikers over an obstacle		Presented within the coverage area for Lantmäteriet's mountain range information. Example: Suspension bridge, duckboard
Emergency phone	1833	landline telephone available for emergency calls and short messages, which is		The emergency phone cannot be used for private calls because it is directly connected to the police's/mountain

Object type	Object type number	Definition	Description	Comment
		always accessible		rescue's emergency centre. Mapped completely within the coverage area for Lantmäteriet's mountain range information (see appendix 1).
Parking	1834	artificial area in mountain regions intended for car parking	The parking is a suitable starting point for continue foot/skis/snowmobile on a trail or in some cases by boat. Often there is information boards with tourist information.	Larger maintained car parks are mapped.
Mandatory route for snowmobiling	1836	symbol indicating where snowmobile driving is allowed within prohibited areas		Presented for *Winter trail* or *Hiking and winter trail*, which permit snowmobile traffic within the area *Prohibited area for terrain vehicles.*
Ski trail symbol	1831	symbol for ski trail	Ski trail symbol is presented along ski trails to ease map reading.	
Storm bell	1835	device that, with a bell, facilitates navigation to the location	The bell rings when the wind blows hard enough and helps the hikers finding the shelter in poor visibility.	The storm bell at Endalen's shelter is the only one in Sweden. It was erected in 1930 by a group of Norwegians as a thank you for being rescued in the easter snowstorm of 1927.
Ford	1832	suitable crossing for hikers over larger	Fords are mapped along the most frequently used trails in	Which fords that are mapped are always decided in

Object type	Ob-ject type num-ber	Definition	Description	Comment
		water courses lacking bridges	the mountains. Some fords outside the trails are also mapped, but these are well-known and have been used by the Sami people and hikers for a long time.	collaboration with nature conversa-tionalists, tour guides and Sami people. Mapped fords do not mean that crossing the water courses is always possible. Water levels can change very quickly in high mountain ar-eas during heavy rainfall. Large variations in snow melt can also oc-cur within a day. Mapped within the coverage area for Lantmäteriet's mountain range information.

Table 65 Attribute set for Trail point of interest mountain.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of trail point of interest in the mountains	Range of values for valid values.
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal po-sition with anti-clockwise rota-tion. Orientation is given in

Attribute	Type	Length	Definition	Description
				degrees (360 degrees in a circle).
vagutfo-rande	Text	255	specifies the road's relationship to other roads or terrain	See value range Road type.

Table 66 Value range Road type

Value	Definition
Bro *(Bridge)*	construction meant to carry traffic over an obstacle
Sommarbro *(Summer bridge)*	bridge that is removed during the winter season to avoid damage caused by snow melt

5.6.7 RAIL TRAFFIC

Table 67 Contents in Rail traffic (Layer name: ralstrafik)

Object type	Object type number	Definition	Description	Comment
Railway	1861	rail traffic that is part of the national railway network as well as industrial tracks		Presented according to a cartographic selection. Parallel railway tracks are presented with a single line instead of two where it is cartographically appropriate. Significant generalization on marshalling yards and station areas.
Heritage railway	1862	rail traffic with museum activities	A heritage railway can either be built for this purpose have been used in regular train traffic before being shut down and converted to a heritage railway.	

Table 68 Attribute set for Rail traffic.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of rail traffic	Range of values for valid values.
bro_och_tun-nel	Text	255	indicates the stretch through a tunnel or the level for roads or railways in relation to another road or rail-way	See value range *Level.*
under_bygg-nad	Text	255	indicates if the rail traffic goes under a building or not	Value range: Ja/Nej/Ingen in-formation *(Yes/No/No infor-mation)*

Table 69 Value set Level.

Value	Definition
Överfart *(Overpass)*	road or rail traffic that passes over an-other object
Underfart *(Underpass)*	road or rail traffic that passing under an-other object
Tunnel *(Tunnel)*	underground road or rail traffic
Överfart och underfart *(Overpass and underpass)*	road or rail traffic that passing over or under another object
Ingen information *(No information)*	

5.6.8   RAIL TRAFFIC STATION

Table 70 Contents in Rail traffic station (Layer name: ralstrafikstation)

Object type	Object type number	Definition	Description	Comment
Railway station	1871	location along a railway line intended for trains to make a stop	Mapped for railways that dispatches passengers or freight traffic. It does not need to have an associated station building.	Only stations with passenger exchanges are presented, a certain cartographic selection occurs.

Table 71 Attribute set for Rail traffic station.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of rail traffic station	Range of values for valid values.
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).
status	Text	255	status of the station	See value range *Rail traffic status*.
under_mark	Text	255	indicates if the station is located underground	Value range: Ja/Nej/Ingen information *(Yes/No/No information)*

Table 72 Value set Rail traffic status.

Value	Definition
Avstängd *(Closed)*	temporarily closed for at least a year
Ej underhållen *(Not maintained)*	
Nedlagd *(Decommissioned)*	discontinued
Planerad *(Planned)*	
Rivet *(Torn)*	
Öppen *(Open)*	open for traffic
Ingen information *(No information)*	

5.7 Cultural-historical remains

Table 73 Included layers in the theme Cultural-historical remains.

Cultural-historical remains	Layer name
Cultural-historical remains, line	kultur_lamning_linje
Cultural-historical remains, point	kultur_lamning_punkt

5.7.1 CULTURAL-HISTORICAL REMAINS, LINE

Table 74 Contents in Cultural-historical remains, line (Layer name: kultur_lamning_linje

Object type	Object type number	Definition	Description	Comment
Ruin, centre line	2504	the remains of an old, preferably historical, important	Presented as centre line.	

Object type	Ob-ject type num-ber	Definition	Description	Comment
		elongated building of stone or bricks		

Table 75 Attribute set for for Cultural-historical remains, line.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates type of line-shaped cultural-histor-ical remains	Range of values for valid values.

5.7.2 CULTURAL-HISTORICAL REMAINS, POINT

Table 76 Contents in Cultural-historical remains, point (Layer name: kultur_lamning_punkt

Object type	Ob-ject type num-ber	Definition	Description	Comment
Ancient re-mains, large information symbol	2511	large infor-mation symbol at ancient mon-ument	Presented with a "R"-symbol.	
Ruin	2514	remains of an old, historical, important building made of stone or bricks		
Commemo-rative stone, large	2515	large infor-mation symbol at a commemo-rative stone,	Presented with an "Ms"-symbol.	

Object type	Object type number	Definition	Description	Comment
information symbol		memorial mark, or monument		
Other cultural historical remains, smaller	2516	cultural-historical remains that is not an ancient remain, but still has antiquarian value	The most common distinction between an ancient remains and other cultural-historical remains is the age. In the Cultural Environment Act of 2014, the year1850 is defined as a breaking point. A blast furnace from 1840 is classified as ancient monument, but if it was created in 1860 it is often seen as other cultural-historical remain.	
Mining shaft	2517	remains of abandoned mine		

Table 77 Attribute set for for Cultural-historical remains, point.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates type of cultural-historical remains	Range of values for valid values.
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation

Attribute	Type	Length	Definition	Description
				is given in de-grees (360 de-grees in a circle).

5.8 Land cover

Table 78 Layers included in the Land cover theme.

Land cover	Layer name
Land cover	mark
Land cover boundary lines	markkantlinje
Wetlands	sankmark
Land accessibility	markframkomlighet

5.8.1 LAND COVER

Table 79 Contents in Land cover (Layer name: mark)

Object type	Object type number	Definition	Description	Comment
Built-up area	2649	land with residential, industrial, or commercial buildings		Used for areas that are mapped as built-up in Topography 10, *Closed built-up area*, *Built-up area, high*, *Built-up area, low*, *Industrial, and retail area,* or *Town square*. In addition to these areas, buildings are also mapped for: • Areas adjacent to areas that in Topography 10 are mapped as *Closed built-up area*, *Built-up*

Object type	Object type number	Definition	Description	Comment
				area, high, Built-up area, low, *Industrial, and retail area,* or *Town square,* where at least 8 buildings are at 80 m or less from each other. • Independent areas where 30 or more buildings are at 80 m or less from each other.
Open land	2640	land below the treeline, mainly including natural open land, unmanaged and extensively managed meadow	Open land where the height of vegetation is less than approximately 1,5 metres but where individual trees, bushes, and smaller groves higher than 1,5 metres may be included. Also included are former agricultural land, low production pastures, natural meadows and grasslands, plot of lands and gardens with an open character outside built-up areas, undeveloped allotment areas, moorlands, sandy beaches, and shingle fields. Land leased for special activities are also included, such as ski slopes, firing ranges, gravel pits and quarries. Areas by the coast with rock outcrops are also classed as open land.	Minimum area presented is 10 000 square meters. Arable land and fruit orchard are also part of Open land.

Object type	Object type number	Definition	Description	Comment
Alpine tundra	2644	all land above the tree line, except for water surfaces and glaciers	Low trees, bushes and smaller groves may occur.	The minimum size for mapping is approximately 10,000 square meters.
Subalpine birch forest	2647	birch forest above upper limit of the coniferous forest, which extends up to the border of the alpine tundra	Individual coniferous trees may occur. Above the upper limit of the subalpine birch forest, clusters of individual trees may occur.	The minimum mapping size is approximately 80,000 square metres (8 hectares). Areas of approximately 80,000 square metres (8 hectares) with a mix of open land and subalpine birch forest adjacent to homogeneous subalpine birch forest areas can also be mapped.
Skog	2650	land with coniferous or deciduous trees		The minimum mapping size is approximately 10,000 square metres Subalpine birch forest, i.e., birch forest above the upper boundary of the coniferous forest, which extends up to the border towards alpine tundra, is not included.
Sea	2631	waterbody that receives water from waterbodies located on land and that are coherent with other seas	The sea level should be mapped in the normal water level if possible. Water with sparse and/or temporary reeds should be mapped as Sea. Dense, persistent belts of reeds should	Sea is mapped for the index squares that include the economic zone. Islands are distinguished from the water surface if they are 500 square metres or larger. If

Object type	Object type number	Definition	Description	Comment
			be mapped as *Wetland, soaked*.	significant objects, e.g., buildings, are on the island, the minimum surface area is 160 square meters.
Lake	2632	permanent, widespread regulated or unregulated surface water body on land without significant flow velocity	Natural standing water or with limited impact by a low dam threshold. Also includes smaller surface water-bodies such as forest ponds or similar	The minimum mapping size is areas larger than approximately 2000 square metres. Islands are distinguished from the water surface if they are 500 square metres or larger. If significant objects, e.g., buildings, are on the island, the minimum surface area is 160 square meters.
Watercourse surface	2633	surface water-body with significant flow velocity connecting to lakes or seas	Including both natural and artificial water bodies.	The watercourse width should be at least about 34 meters wide. Watercourses that are narrower than 34 m are reported as *Shoreline, watercourse surface*. Islands are distinguished from the water surface if they are 500 square metres or larger. If significant objects, e.g., buildings, are on the island, the

Object type	Object type number	Definition	Description	Comment
				minimum area is 160 square meters.
Artificial water	2634	surface water-body for swimming, treatment, or storage of water without inflow or outflow.	Artificial water has been created by humans. Swimming pools, treatment ponds, infiltration ponds, leachate ponds, wastewater ponds, retention basin and fire ponds are included. Regulation reservoirs are mapped as *Lakes*.	The minimum requirement for mapping areas is 2000 square meters. Islands are distinguished from the water surface if they are 1600 square meters or larger.
Glacier	2635	permanent mass of snow and ice in high mountains that slowly slide down the mountain slope		The minimum reporting requirement is approximately 40,000 square meters (4 hectares).
Unmapped area	2648	area that is not mapped	Includes areas outside the national border.	

Table 80 Attribute sets, Land cover (Layer name: Mark).

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of land cover	Value range describes valid values for land cover.
vattenytaid	Text	36	identity to keep together all water	It is only specified for the

Attribute	Type	Length	Definition	Description
			surfaces that belong to the same object	object types of *Sea, Lake, Watercourse surface, Artificial water, and Glacier* and is not mandatory.
hojd_over_havet	Text	20	indicates the water surface elevation in meters above sea level	Is only specified for the object types of *Lake* and *Watercourse surface*.
reglerat_vatten	Text	255	indicates whether the water level is regulated	Is only specified for the object types of *Lake* and *Watercourse surface*. It is a mandatory attribute. Range of values: Ja/Nej/Ingen information (Yes/No/No information.)

5.8.2   LAND COVER BOUNDARY LINE

Table 81 Contents in the layer Land cover boundary (Layer name: markkantlinje)

Object type	Object type number	Definition	Description	Comment
Boundary line, unmapped area	2611	land cover boundary line for unmapped area	Used to delimit and close surfaces in the land cover layer that are adjacent to unmapped areas.	
Shoreline, sea	2612	land cover boundary line between sea and land	Boundary line between sea and built-up areas, open land, or forest.	Against a lake or a watercourse surfaces the land cover boundary line *Closure against sea* is used.

Object type	Object type number	Definition	Description	Comment
Shoreline, lake	2613	land cover boundary line between lake and land	Boundary line between lake and glacier, built-up area, open land, or forest.	Against a water-course surfaces, the land cover boundary line *Closure* is used. Against the sea, the land cover boundary line *Closure against the sea* is used.
Shoreline, watercourse surface	2614	land cover boundary line between water course surface and land	Boundary line between water course surface and glacier, built-up area, open land, or forest.	When it is against a lake, the land cover boundary line *Closure* is used. When it is against the sea the land cover boundary line *Closure against the sea* is used.
Shoreline, artificial water	2615	land cover boundary line between artificial water and land	Boundary line between artificial water and built-up area, open land, or forest.	
Closure against the sea	2616	land cover boundary line between sea and lake or watercourse surface	*Closure against the sea* is a constructed, usually straight line used to separate the sea from a lake or a watercourse surface.	
Closure	2617	land cover boundary line between lake or watercourse surface	*Closure* is a constructed, usually straight line used to separate lakes from watercourse surfaces. It is also used where there are two adjacent lakes or two or more main watercourse branches joining. *Closure* is also used for regulation ponds as well as the beginning and end of locks.	

Object type	Object type number	Definition	Description	Comment
Glacier boundary	2618	land cover boundary line for glacier		Presented between glaciers and alpine tundra but is replaced with *Shoreline, lake* or *Shoreline, watercourse surface* against surfaces that are bordered by these.
Built-up area boundary	2619	land cover boundary line for grouped built-up areas		Presented for *built-up area*, but is replaced with, *lake or Shoreline (sea, lake, watercourse surface or artificial water)* against surfaces bordered by these.
Open land boundary	2622	land cover boundary line for open land, town squares or alpine tundra		Presented for open land or alpine tundra but is replaced by *agricultural land boundary, industry and retail area boundary,* and *shoreline (sea, lake, watercourse surface or artificial water)* against surfaces bordered by these.
Forest land boundary	2623	land cover boundary line that distinguishes between coniferous and mixed forest, deciduous forest, and subalpine birch forest		Presented for coniferous and mixed forest, deciduous forest and subalpine birch forest but is replaced by *open land boundary, agricultural land boundary, industry and retail area boundary,*

Object type	Object type number	Definition	Description	Comment
				and *shoreline (sea, lake, watercourse surface or artificial water)* against surfaces bordered by these.

Table 82 Attribute set land cover boundary line.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of land cover boundary line	Range of valid land cover boundary lines.

5.8.3 WETLANDS

Table 83 Contents in wetlands (Layer name: sankmark)

Object type	Object type number	Definition	Description	Comment
Wetland, firm	2651	peat-forming wetlands on comparably firm peat	Peat-forming wetlands (bog or fen) where shrub or semi-grass vegetation binds the peat Rough or smooth surface. The ground is normally accessible by foot.	Minimum area for mapping is 6000 square metres. Dried out or drained wetlands that have become productive for-ests, are not clas-sified as wetland.
Wetland, soaked	2652	wetland that is often or	Includes various wet-lands, such as peat-	The minimum mapping area is

Object type	Object type number	Definition	Description	Comment
		constantly filled with water	forming wetlands with spares vegetation, quagmires, calcium sediment pools, reed belts in shallow water, overgrown lakes as well as floodplains adjacent to lakes and water courses. The ground is usually difficult to access due to the water level.	6000 square metres. Dried-out or drained mires that have become productive forests, are not classified as wetland.

Table 84 Attribute set for wetlands.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of wetland	Range of values with valid wetland types.

5.8.4 LAND ACCESSIBILITY

Table 85 Contents in theme Land accessibility (Layer name: markframkomlighet)

Object type	Object type number	Definition	Description	Comment
Dense vegetation, hard to pass	1572	land with dense and hard to pass vegetation	The vegetation types included are willow, meadow birch forest, meadow spruce forest, wet bushy heaths and healthy bushy heaths with willow and bog	

Object type	Ob-ject type num-ber	Definition	Description	Comment
			elements. Some areas of sloping wetland character are also in-cluded.	

Table 86 Set of attributes for Land accessibility

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of accessibility	Range of values for land accessi-bility.

5.9 Transmissions

Table 87 Included layers in the theme Transmissions (Ledningar)

Transmission	Layer name
Transmission line	ledningslinje

5.9.1 TRANSMISSION LINE

Table 88 Contens in Transmission line (Layer name: ledningslinje)

Object type	Ob-ject type num-ber	Definition	Description	Comment
Electricity transmission line, national	1702	transmission line for elec-tricity distribu-tion, usually with a voltage		Mapped for aerial transmission line. In case of parallel transmission lines closer to each other than 100

Object type	Object type number	Definition	Description	Comment
		higher than 200 kV		meters, only the electricity transmission lines with the highest voltage are presented.
Electricity transmission line, region	1703	transmission line for electricity distribution, usually with a voltage between 25 and 200 kV		Mapped for aerial transmission line. In case of parallel transmission lines closer to each other than 100 meters, only the electricity transmission lines with the highest voltage are presented.
Electricity transmission line, distribution	1704	transmission line for electricity distribution, usually with a voltage between 6 and 24 kV		Mapped for aerial transmission line within the coverage area for Lantmäteriet's mountain range information. In case of parallel transmission lines closer to each other than 100 meters, only the electricity transmission lines with the highest voltage are presented.
Telephone line	1707	transmission line meant for telephone traffic		Mapped to remotely located farms and only within the coverage area for Lantmäteriet's mountain range information. Telephone lines that run along roads are not included.

Table 89 Attribute set for Transmission line.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of transmission line	Range of values for valid values.

5.10 Military area

Table 90 Included layers in the theme Military area

Military area	Layer name
Military area	militart_omrade

5.10.1   MILITARY AREA

Table 91 Contents in Military area (Layer name: militart_omrade)

Object type	Object type number	Definition	Description	Comment
Military training area	5501	Military area primarily used for grouping, firing practice, and other types of exercises that do not do not involve live ammuni-tion.	Detonation of single charges or firing at a low-risk height can be conducted, see local instructions.	Presented com-pletely. Carefully pay attention to any current barri-ers. The public are prohibited from access when activities are on-going.
Military fir-ing range	5503	Military area where danger-ous activities such as firing with live am-munition and detonations are	Military firing ranges can be owned or used by the state and are available mainly for the Swedish Armed Forces Defence Mate-riel Administration or the National Defence	Presented com-pletely. Carefully pay attention to topical barriers. The public are prohibited when activities are on-going.

Object type	Ob-ject type num-ber	Definition	Description	Comment
		regularly con-ducted.	Radio Establishment. An area with potential risk is cordoned off, which normally consti-tutes a restricted area for aviation (R-area). Firing ranges over ad-jacent water are not part of the firing range but are delimited in the same way as firing ranges.	
Barracks area	5504	Military area, usually fenced, with barracks, chancellery, mess halls, storage facili-ties, etc.		

Table 92 Set of attributes for Military area

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of military area	Range of values for valid values.
mo_id	Text	6	identifier for military area	An ID for the military area that comes from the Swedish Armed Forces and is used for linking our information with theirs. Structured in the form MOXXXX

Attribute	Type	Length	Definition	Description
				where MO is a prefix and XXXX is a serial number.
skjutfaltstyp	Text	255	type of firing range	Is mandatory for the object type *military firing range.* See value range *Firing range type*.
riskomrade	Text	100	militarily monitored area where firing may occur	It is only specified for *Military firing range* and is not mandatory. Example: *Riskområde 4*

Table 93 Value set Firing range type.

Value	Definition
Skjutfält (*Firing range*)	Firing range on land.
Skjutområde (*Firing area*)	Firing range on water.

5.11 Nature conservation

Table 94 Included layers in the Nature conservation theme.

Nature conservation	Layer name
Nature conservation point	naturvardspunkt
Nature conservation line	naturvardslinje
Restricted area	restriktionsomrade
Protected nature	skyddadnatur

5.11.1   NATURE CONSERVATION POINT

Table 95 Contents in Nature conservation point (Layer name: naturvardspunkt)

Object type	Object type number	Definition	Description	Comment
Nature monument	5804	nature object protected according to *Miljöbalken* (SFS 1998:808) 7 Ch. 10 § or corresponding older law		Presented according to a cartographic selection.

Table 96 Attribute set for Nature conservation point.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of Nature conservation point	Range of values for valid values.
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).

5.11.2 NATURE CONSERVATION LINE

Table 97 Contents in Nature conservation line (Layer name: naturvardslinje)

Object type	Object type number	Definition	Description	Comment
Nature reserve, line	5641	protected nature according to *Miljöbalken* (SFS 1998:808) 7 chapter 4-6 § or corresponding older law	Line-shaped area.	Example: The Vasaloppet trail.

Table 98 Attribute set for Nature conservation line

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates type of nature conservation line	Range of values for valid values. Only *Nature reserve, line* is a valid value for Nature conservation line in 1:100,000.

5.11.3 RESTRICTION AREA

Table 99 Contents in Restriction area (Layer name: restriktionsomrade)

Object type	Object type number	Definition	Description	Comment
Fire ban	5610	area with a ban on open fires	Information is obtained from the County Administrative Board.	Mapped within the coverage area Lantmäteriet's

Object type	Object type number	Definition	Description	Comment
				mountain range information.
Tent and fire ban	5609	area with a ban on camping and open fires	Information is obtained from the County Administrative Board.	Mapped within the coverage area Lantmäteriet's mountain range information.
Prohibited area for off-road vehicles	5602	area where off-road vehicles is prohibited according to the Off-road Traffic Ordinance (SFS 1978:594)	Off-road vehicle traffic is prohibited according to a decision by the County Administrative Board or municipality.	Mapped within the coverage area Lantmäteriet's mountain range information.
Prohibited area for terrain vehicles, time-limited	5611	area with a time-limited ban on off-road vehicle traffic according to the Off-road Traffic Ordinance (SFS 1978:594)	Off-road vehicle traffic is prohibited during a certain time of the year out of consideration for reindeer herding, according to a decision by the County Administrative Board or municipality.	Mapped within the coverage area Lantmäteriet's mountain range information.

Table 100 Attribute set for Restriction area.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for generalized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of restriction area	Range of values for valid values.
informa-tiv_text	Text	200	description of exceptions from, or	Example: Snow-mobile driving on the ice of lake

Attribute	Type	Length	Definition	Description
			information about, re-stricted area	*Bredåssjön* is al-lowed.
tidsbegrans-ning	Text	100	date when the prohibi-tion applies	Only specified for the object type *Prohibited area for off-road vehicles time-limited,* for which it is man-datory. Example: April 20 - January 10.

5.11.4 PROTECTED NATURE

Table 101 Contents in Protected nature (Layer name: skyddadnatur)

Object type	Ob-ject type num-ber	Definition	Description	Comment
National Park	5603	protected na-ture according to *Miljöbalken* (SFS 1998:808) 7 Ch 2 § or cor-responding older law		National Park is always mapped with a name, for example Abisko national park. Presented com-pletely.
Nature re-serve	5604	protected na-ture according to *Miljöbalken* (SFS 1998:808) 7 Ch. 4-6 §§ or corresponding older law		Nature reserve is always mapped with name, for example Agnäs nature reserve. Presented com-pletely. Minimum area for enclaves within nature reserves is 40,000 square meters.
Nature con-servation area	5608	protected na-ture according to the *nature conservation law*	The decision to estab-lish nature conserva-tion areas was made by the County Adminis-trative Board or munic-ipalities. The possibil-ity to establish nature	No data has been collected yet.

Object type	Object type number	Definition	Description	Comment
			conservation areas ceased when *Miljöbalken* came into act in 1998.	
Animal protection area	5606	protected nature according to M*iljöbalken* (SFS 1998:808) 7 Ch. 12 § or corresponding older law	*Animal protection area is divided into bird protection area, seal protection area or animal protection area.*	Presented completely.
Culture reserve	5607	protected nature according to *Miljöbalken* (SFS 1998:808) 7 Ch. 9 §		Presented completely.

Table 102 Attribute set for Protected nature.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for general-ized objects	
skapad	DateTime	23	time when the object was created	
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	indicates the type of protected nature	Range of values for valid values.
djurskydds-typ	Text	255	type of animal protec-tion area	Valid only for the object type *Animal protec-tion area*, is mandatory. See value range *Animal protec-tion type*.

Table 103 Value range Animal protection type.

Value	Definition
Säl- och fågelskyddsområde	animal protection area for seals and birds
Djurskyddsområde	animal protection area for animals other than seals and birds
Fågelskyddsområde	animal protection area for birds
Sälskyddsområde	animal protection area for seals
Ingen information	no information

5.12 Northern Artic Circle

Table 104 Included layers in the theme Northern Artic Circle.

Northern Artic Circle	Layer name
Northern Artic Circle	polcirkeln

5.12.1 NORTHERN ARTIC CIRCLE

Table 105 Contents in Northern Artic Circle (Layer name: polcirkeln)

Object type	Object type number	Definition	Description	Comment
Northern Artic circle	1881	southern boundary north of the equator for the area where the sun, at some point, is above the horizon for more than 24 hours in a row	The Artic Circle is presented with its mean circle for a certain year. The Artic Circle moves by approximately 0.47" (arcseconds) per year, which represents approximately 15 metres on the ground.	Presented completely.

Table 106 Attribute set for the Northern Artic Circle

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for exchange objects	

Attribute	Type	Length	Definition	Description
versiongiltig-fran	DateTime	23	indicates that a certain version becomes valid and is only used to keep track of versions (does not refer to the validity of information or decision dates)	Specified in the format: 2019-04-26T11:28:03.000
lagesosaker-hetplan	Floating point	6.3	average deviation from the "true" value in plane	The value is described in the unit metre.
lagesosaker-hethojd	Floating point	6.3	average deviation from the "true" value in height	The value is described in the unit metre.
ursprung-lig_organisation	Text	255	indicates which process or collaboration form that is responsible for the change	Lantmäteriet
objekttypnr	Integer	4	a unique integer for the object type	
objekttyp	Text	255	Only indicates the object type *Northern Artic circle.*	

5.13 Text

Table 107 Included layers in the theme Text

Text	Layer name
Text line	textlinje
Text point	textpunkt

5.13.1   TEXT LINE

Table 108 Contents in Text line (Layer name: textlinje)

Text category	Definition	Description	Comment
Administrative unit	name of the division of the kingdom of Sweden into counties and municipalities		

Text category	Definition	Description	Comment
Facility area/Building facility	name of a building facility or facility area	A facility can be a single building, a collection of buildings, or otherwise developed areas intended for production, service, or recreation.	
Settlements	name of smaller settlements or single farms		
Mountain information text	name of objects in the mountain area	Examples can be Emergency phone, Mountain lodge, etc.	
Hydrography	name of hydrographic object	Lake, watercourse, wetland, glacier.	
Cultural-historical remains	name of cultural-historical remains	Can be name of ancient remains or other cultural-historical remains.	
Church	name of church		
Protected nature	name of an area with long-term legal protection	In cases where the decided name form by the Government or County Administrative Board does not correspond with the established name form by Lantmäteriet, only the information text is presented, e.g., Nature reserve	
Terrain name	name of nature and terrain objects		
Urban area	name of densely built-up area		
Informational text	name that is not a place name text	Presented according to an established list of informational texts.	

Table 109 Attribute set for for Text line.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for exchange objects	
skapad	DateTime	23	time when the object was created	
textstrang	Text	100	specifies the entire text without hyphenations	Text string corresponds to informational text or register text for decided place names. Information texts that are hyphenated and have two map texts such as "Service" and "house" should have "Service house" written in the attribute *textstrang*. Abbreviated text should have the full text written in the attribute *textstrang*.
textkategori	Text	255	grouping is used to control the printing of text	The text category is used to control font style (normal/italic/bold/light) and colour (black/blue/green/...). Text type can also be used to control style.
textstoreksklass	Text	255	specifies which font size to use depending on the scale	In combination with text category, scale, and possibly text type, the printing of text is controlled. Value range is 1–10.
textlage	Integer	1	insertion point for text	The insertion point of the text is specified by a number between 1-9. *Figure 3* The insertion point of the text

Attribute	Type	Length	Definition	Description
				is specified by a number between 1-9.
texttyp	Text	255	indicates type of text	Type of text according to value list. N= place name U= information text Text type can be used to control style
textsparrning	Integer	3	distance between letters	Stated in %. 100% is normal distance.
karttext	Text	100	cartographic text	The map text can be hyphenated or abbreviated. Information texts that are hyphenated and have two map texts such as "Service" and "house" should have "Service house" written in the attribute *textstrang*. Abbreviated text should have the full text written in the attribute *textstrang*.
textdelnr	Integer	1	specifies whether the text is hyphenated or not	Hyphenation part 0= not hyphenated otherwise 1–9 for each part string

5.13.2 TEXT POINT

Table 110 Contents in Text point (Layer name: textpunkt).

Text category	Definition	Description	Comment
Administrative unit	name of the division of the kingdom of Sweden into counties and municipalities		

Text category	Definition	Description	Comment
Facility area/Building facility	name of a building facility or facility area	A facility can be a single building, a collection of buildings, or otherwise developed areas intended for production, service, or recreation.	
Settlements	name of smaller settlements or single farms		
Mountain information text	name of objects in the mountain area	Examples can be Emergency phone, Mountain lodge, etc.	
Hydrography	name of hydrographic object	Lake, watercourse, wetland, glacier.	
Cultural-historical remains	name of cultural-historical remains	Can be name of ancient remains or other cultural-historical remains.	
Church	name of church		
Protected nature	name of an area with long-term legal protection	In cases where the decided name form by the Government or County Administrative Board does not correspond with the established name form by Lantmäteriet, only the information text is presented, e.g., Nature reserve	
Terrain name	name of nature and terrain objects		
Urban area	name of densely built-up area		
Informational text	Name that is not a place name text	Presented according to an established list of informational texts.	

Table 111 Attribute set for Text point.

Attribute	Type	Length	Definition	Description
objektiden-titet	Text	36	a globally unique identity for ex-change objects	
skapad	DateTime	23	time when the ob-ject was created	
textstrang	Text	100	specifies the entire text without hy-phenations	Text string corre-sponds to informa-tional text or register text for decided place names. Information texts that are hyphenated and have two map texts such as "Ser-vice" and "house" should have "Service house" written in the attribute *textstrang*. Abbreviated text should have the full text written in the at-tribute *textstrang*.
textkategori	Text	255	grouping is used to control the printing of text	The text category is used to control font style (nor-mal/italic/bold/light) and colour (black/blue/green/...). Text type can also be used to control style.
textstorleks-klass	Text	255	specifies which font size to use depend-ing on the scale	In combination with text category, scale, and possibly text type, the printing of text is controlled. Value range is 1–10.
textlage	Integer	1	insertion point for text	The insertion point of the text is

Attribute	Type	Length	Definition	Description
				specified by a number between 1-9. *Figure 4 Image that shows the insertion point of the text.*
texttyp	Text	255	indicates type of text	Type of text according to value list. N= place name U= information text Text type can be used to control style
textsparr-ning	Integer	3	distance between letters	Stated in %. 100% is normal distance.
textriktning	Floating point	6.2	rotation for text	Text rotation is specified in degrees (0.00 – 360.00, increasing anti-clockwise). 0.00=Unoriented text.
karttext	Text	100	cartographic text	The map text can be hyphenated or abbreviated. Information texts that are hyphenated and have two map texts such as "Service" and "house" should have "Service house" written in the attribute *textstrang*. Abbreviated text should have the full text written in the attribute *textstrang*.
textdelnr	Integer	1	specifies whether the text is hyphenated or not	Hyphenation part 0= not hyphenated otherwise 1–9 for each part string

Table 112 Recommended font size

Font size	Text size class
5.25	1
6.0	2
7.0	3
8.0	4
9.0	5
10.0	6
12.0	7
14.0	8
16.0	9
20.0	10

Table 112 Recommended font size

6 List of changes

Table 113. Table for list of changes.

Version	Date	Reason and change from previous version
1.6	2024-02-28	Chapter 5.3.4 Church has received a new definition, description, and comment. List of change added.
1.5	2023-12-20	Chapter 5.8.2 Description updated for Shoreline, sea, Shoreline, lake, Shoreline, watercourse surface and Shoreline, artificial water. Comment updated for Built-up area boundary, Open land boundary and Forest land boundary.
1.4	2023-11-20	First version in English.

Appendix 1 Lantmäteriet's coverage area for mountain range information

Within Lantmäteriet's coverage area for mountain range information there is a slightly different object selection. Partly objects that are only presented within this area for example Sami cot, and partly objects that are presented in the whole of Sweden but have another selection in this area, for example watercourses.

For information in more detail, see the selection for the respective objects in chapter 5.

Figure 5 Lantmäteriet's coverage area for mountain range information.