

# Registers of Scotland Cadastral Parcels (INSPIRE) dataset

## Information Sheet

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## 2 Introduction

### 2.1 The Registers of Scotland

The Registers of Scotland is the non-ministerial body responsible for keeping the public registers of land, property, and other legal documents in Scotland.

### 2.2 The Land Register of Scotland

The Land Register of Scotland is our main register, recording ownership of land and property in Scotland. It provides owners with a state-backed guarantee of title. First introduced in 1981, the Land Register is replacing the General Register of Sasines.

The Land Register comprises the title sheet record, the cadastral map, the archive record, and the application record.

The cadastral map is a map showing the totality of registered geospatial data, (other than supplementary data contained within individual title sheets) in Scotland. For each cadastral unit, the map shows the cadastral unit number (title number), the boundaries of the title, registered leases and otherwise depicts registered rights and burdens in such manner as the Keeper considers appropriate.

The cadastral unit (title) represents a single registered plot of land and this will directly correspond with a title sheet, subject to certain exceptions (e.g. areas in shared ownership that were previously included in separate title sheets, tenements/flats etc.).

Mapping of the Land Register is based on Ordnance Survey (OS) map data. The RoS INSPIRE Cadastral Parcels dataset is published with permission from the OS.

### 2.3 The INSPIRE Directive

European Directive 2007/2/EC, better known as 'INSPIRE' was passed into UK law in December 2009 and implemented in Scotland with the INSPIRE (Scotland) Regulations 2009, followed by the INSPIRE (Scotland) Amendment Regulations 2012 and the INSPIRE (EU Exit) (Scotland) (Amendment) Regulations in 2019. The deadline for compliance was 23 November 2017.

The aim of the directive is a spatial data infrastructure (SDI) for Europe, to improve the access and use of data at local, regional, national and international levels; to improve data sharing between public authorities and improve public access to spatial data.

The Directive instructs members/states to make spatial data available in a consistent format within the scope of the Directive, and to provide network services and metadata to support the data. The RoS Cadastral Parcels (INSPIRE) dataset fulfil these requirements for cadastral parcels as specified in Annex 1 – Cadastral Parcels. Further requirements are coordinated at member/state level.

## 2.4 RoS INSPIRE Cadastral Parcels Dataset

The RoS Cadastral Parcels (INSPIRE) dataset is a maintained and produced by the Registers of Scotland to comply with the INSPIRE Directive. The polygons contained within the dataset are shapes that show the position and indicative extent of ownership of the earth's surface for each registered property in Scotland. Each cadastral parcel has a unique identifier called the INSPIRE ID which relates to a registered title in the Land Register.

The data can be used in a geographic information system (GIS) to view and query title extents. For reasons described in further sections of this document, the extent of rights and land contained within a registered title cannot be established from the cadastral parcel.

## 3 Specification

### 3.1 Delivery

RoS Cadastral Parcels are made available for download as un-styled vector polygons in ESRI shapefile format or via a Web Feature Server as black outlines with transparent fill. See the Links section for URLs.

The data is projected to the British National Grid (EPSG:27700). Shapefiles are also included in the European Terrestrial Reference System ETRS89 (EPSG:4258), to permit harmonisation with datasets from other European countries.

### 3.2 Metadata

A number of attribute fields are contained within the data, as set out in Table 1.

Table 1: Cadastral Parcels attribute fields

Inspireid	Inspire ID used to link the entry to the Land Register title number (PRIMARY KEY).
date_migrated	The date on which the polygon was migrated into the INSPIRE dataset
Referencepoint	A point within the cadastral parcel (Void: UNPOPULATED).
Areavalue	Registered area value giving quantification of the area projected on the horizontal plane of the cadastral parcel (Void: UNPOPULATED).
beginlifespanversion	Date and time at which this version of the cadastral parcel was inserted or changed in the spatial data set (Void: UNPOPULATED).
Endlifespanversion	Date and time at which this version of the cadastral parcel was superseded or retired in the spatial data set (Void: UNPOPULATED).

label	Text commonly used to display the cadastral parcel identification. Populated with SCT + title id (padded with zeros to 10) e.g. SCT0000123678.
validfrom	Official date and time the cadastral parcel was/will be legally established (Void: UNPOPULATED).
validto	Date and time at which the cadastral parcel legally ceased/will cease to be used (Void: UNPOPULATED).
county	The RoS Registration county that the polygon relates to.
geometry	2-D multi-part vector polygon geometry.

### 3.2.1 Polygon Selection Criteria:

The dataset contains a subset of the polygons contained within the Cadastral Map. The selected polygons represent the locations of ownership at ground level in Scotland. An automated process is used to identify and select the polygons which represent ownership rights from polygons which represent other rights and burdens. Title sheets are searched for structured text and styling references which are then matched to similarly styled geometries contained within the title plan.

Seabed titles fall outwith the scope of INSPIRE and polygons associated with the Sea registration county are not included in the dataset.

### 3.2.2 Geographic Coverage

The dataset covers the land mass of Scotland. All land and property in Scotland can be registered. Scotland currently operates two land registers – the General Register of Sasines and the Land Register of Scotland. Only properties that have been registered in the Land Register and therefore mapped in the Cadastral Map will have a polygon available in the cadastral parcels dataset. This means that there will be large gaps in the data when viewed as a map.

### 3.2.3 Availability of data

Our data model for mapping some types of properties does not permit a single polygon to represent unique ownership at ground level. Parcels at heights other than ground level do not meet the INSPIRE definition of parcels, but can rather be regarded as building units. These properties have been removed from the dataset where possible (e.g. flatted property, different legal tenements).

### 3.2.4 Structure of cadastral information

Cadastral Zoning, Boundaries and Basic Property Units do not exist in Scotland.

### 3.2.5 Temporal aspects

The polygons included in the dataset represent the current view of registered titles in the Land Register, as on the day that the data was migrated to the RoS Cadastral Parcels (INSPIRE) dataset. Historic data are not included as parcels are regenerated for each update. Where the boundaries of an ownership right has changed, the polygon will be updated with the new geometry, but all other attributes will remain unchanged.

The INSPIRE dataset is refreshed on a quarterly basis in February, May, August and November each year. The updated dataset is published on the last day of the month.

## 4 Data Quality

The data contained in the Land Register has been captured for the purpose of enabling land registration. It is fit for this purpose and the tools that we use to achieve it.

Polygon geometry undergoes validation checks during the production of the RoS Cadastral parcels (INSPIRE) dataset. The vertices of geometries in the INSPIRE dataset are snapped to a grid with 1 cm precision.

### 4.1 Topological gaps and overlaps

Overlapping and stacked polygons are a valid part of The Register of Scotland's current data model. Holes (e.g. removals or exceptions) are indicated with an overlapping polygon on the Land Register. Polygons which represent holes are not removed from ownership polygons before they are included in the INSPIRE dataset.

There should be no duplicated polygons within the dataset, as flatted properties are removed (see availability of data above).

Small sliver gaps and overlaps may be present, within the mapping tolerance used by RoS.

Occasionally, overlaps which may require rectification may occur.

### 4.2 Positional accuracy

RoS spatial data are captured relative to Ordnance Survey large scale mapping (LandLine / MasterMap) within a small visual tolerance. OS large scale mapping is scaled at 1:1,250 (urban), 1:2,500 (semi-urban/rural) and 1:10,000 (mountain and moorland).

Polygons will follow features contained within OS MasterMap where those features coincide with the ownership boundary. However, ownership boundaries do not always follow features mapped by the Ordnance Survey.

### 4.3 Logical consistency

In a small number of cases, the polygon which has been identified as representing ownership (using an automated process) actually represents a different right type. This is more likely to occur in complex titles with many polygons or uncommon description styles contained within the title sheet text.

### 4.4 Completeness

In the context of data quality, 'completeness' should be understood as a measure of how many of the titles present in the Cadastral Map are also present as parcels in the RoS Cadastral Parcels (INSPIRE) dataset. Refer to section 3.2.2 to distinguish this from Land Register completion and geographic coverage of the dataset.

Missing items (i.e. incompleteness) result where the title represents a lease, unique ownership at ground level cannot be established (see section 3.2.3), or where no ownership polygons can be identified from the title using an automated process. A very small number of titles have been mapped using only polylines and points and therefore do not have any polygons to include in the INSPIRE dataset.

For these reasons, approximately 30% of Land Register titles are missing from the RoS Cadastral parcels (INSPIRE) dataset.

## 5 Data Production and Maintenance

### 5.1 Land Register Data

Under typical conditions, RoS processes thousands of applications for registration every week. This means that the data in the Land Register is steadily growing and subject to change.

No new spatial data is captured specifically for the purpose of generating the INSPIRE dataset. An automated textual analysis algorithm is used to match style references and identify the polygon which represents ownership rights.

RoS investigates and where practicable, resolves discrepancies with registered titles which result from receiving new data from the OS.

The Keeper will correct the Land Register if a manifest inaccuracy becomes evident and the rectification action is also manifest.

Since 2015, RoS has been implementing a complex programme of digital improvements to our internal mapping tools and spatial data model.

### 5.2 RoS Cadastral Parcels (INSPIRE) dataset

The methodology for producing the RoS Cadastral parcels (INSPIRE) dataset utilises data exported from both the new Cadastral Map (CadMap) and the legacy Digital Mapping

Systems (DMS). As work on decommissioning legacy systems and improving data structure progresses, corresponding changes to the INSPIRE methodology will be required in turn.

When a change to the INSPIRE methodology has been made, any impacts on the dataset will be described in the Change Log (see section 7).

## 6 Other useful Information

### 6.1 Relationship to other RoS datasets

The RoS Cadastral Parcels (INSPIRE) dataset contains a sub-set of the spatial information held in the Cadastral Map, which forms part of the Land Register of Scotland. The INSPIRE polygon is linked to the relevant title number via the INSPIRE ID. INSPIRE IDs can be converted to title numbers via the RoS INSPIRE ID lookup service (a fee applies).

SCOTLIS displays the polygon data contained within the Cadastral Map. Members of the public can view the polygons associated with an individual title at [scotlis.ros.gov.uk](http://scotlis.ros.gov.uk). Users with an online services account also have access to a searchable map on SCOTLIS. The data on SCOTLIS is updated nightly.

The Cadastral Map contains polyline and point data, shown on the title plan, which is not displayed on SCOTLIS. The full set of points, polylines and polygons associated with a title is available for purchase as digital data (e.g. shapefiles).

### 6.2 Use cases

The dataset provides indicative extents where it is possible to identify single ownership at ground level with reasonable certainty. It does not represent the totality of ownership information contained with the Land Register of Scotland or other registers like the General Register of Sasines.

It can be used to investigate how land ownership interacts with other spatial phenomena at the local, regional, national or European scale, bearing in mind the limitations of working with an incomplete dataset. Certain types of properties, e.g. flats, have been purposefully omitted from the dataset. Certain types of land or land ownership may be more likely to be represented in the Land Register than others.

Implementation of the Land Register was staggered by Registration County with operational dates between 1981 and 2003 (see Table 2). This means that some Registration Counties are closer to completion than others.

Table 2: RoS Registration County operational dates

Renfrew 6 Apr 1981	Kirkcudbright 1 Apr 1997	Midlothian 1 Apr 2001
Dumbarton 4 Oct 1982	Wigtown 1 Apr 1997	Inverness 1 Apr 2002
Lanark 3 Jan 1984	Angus 1 Apr 1999	Nairn 1 Apr 2002



Glasgow 30 Sep 1985	Kinross 1 Apr 1999	Banff 1 Apr 2003
Clackmannan 1 Oct 1992	Perth 1 Apr 1999	Caithness 1 Apr 2003
Stirling 1 Apr 1993	Berwick 1 Oct 1999	Moray 1 Apr 2003
West Lothian 1 Oct 1993	East Lothian 1 Oct 1999	Orkney & Zetland 1 Apr 2003
Fife 1 Apr 1995	Peebles 1 Oct 1999	Ross & Cromarty 1 Apr 2003
Aberdeen 1 Apr 1996	Roxburgh 1 Oct 1999	Sutherland 1 Apr 2003
Kincardine 1 Apr 1996	Selkirk 1 Oct 1999	Seabed 8 Dec 2014
Ayr 1 Apr 1997	Argyll 1 Apr 2000	
Dumfries 1 Apr 1997	Bute 1 Apr 2000	

The dataset can be used to determine whether a location has been added to the Land Register. However, it cannot be used to determine whether an area of land has not yet been added to the Land Register.

The data cannot be used to determine whether any non-ownership rights or burdens exist in a specific location. The dataset should not be used to make planning decisions relating to individual parcels.

RoS does not guarantee the completeness or accuracy of the Data provided to you or that the Data will be fit for your particular purpose.

### 6.3 Licensing/General

The Terms and conditions of use of the RoS Cadastral Parcels (INSPIRE) dataset is set out in the license.

You may use and copy this document within your organisation or business to allow you to use the RoS Cadastral parcels (INSPIRE) dataset only for the purpose for which it has been licensed to your organisation. You may not copy or incorporate this document in free or paid for products, services, publications or support materials, without prior written permission.

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Your feedback is welcome.

## 6.5 Links

INSPIRE Knowledge Base

<https://inspire.ec.europa.eu/>

RoS Data and Statistics

<https://www.ros.gov.uk/data-and-statistics>

RoS INSPIRE Download Service

<https://ros.locationcentre.co.uk/inspire/>

RoS INSPIRE View Service

<http://ros.datafeed.locationcentre.co.uk/geoserver/wms>

Scottish Spatial Data Infrastructure Metadata Portal

<https://spatialdata.gov.scot>

SCOTLIS

<https://scotlis.ros.gov.uk>

OS terms and conditions

<https://www.ordnancesurvey.co.uk/documents/licensing/inspire-end-user-licence.pdf>

## 6.6 Document Revision

Version Name	Published
INSPIRE_dataset_specification_v1_May2020.pdf	July 2020
INSPIRE_dataset_specification_v1.1_Nov2020.pdf	Nov/Dec 2020
INSPIRE_dataset_specification_v1.2_Sep2021.pdf	Sep 2021
INSPIRE_dataset_specification_v1.3_Dec2023.pdf	Dec 2023

## 7 Change Log

### December 2023

Due to ongoing work to modernise our core operational mapping systems, the Cadastral Map has been migrated to a new system (see Section 5.2). Consequently, we will be changing the RoS Cadastral Parcels unique identifier numbers in the first half of 2024.

This will result in the following changes to the dataset:

- Unique identifier numbers (*inspireid*) for all features in the dataset will be updated with new values
- The corresponding '*label*' will also contain the new identifier
- Existing *inspireids* will not be carried over into the new dataset

A lookup table will be made available to enable linking of cadastral parcel identifiers between the old and new numbering systems. This document will be updated with further details in due course.

### November 2021

The code which produces the RoS Cadastral Parcels (INSPIRE) dataset has been refactored to facilitate a change in production environment. The change was required by ongoing digital transformation work and gives us more flexibility to improve the code in future.

This will result in the following changes to the dataset from Nov 2021 onwards:

- Identification of flatted properties has been improved. This has resulted in more flatted properties being removed from the final dataset.
- Identification of titles where a large number of non-ownership rights are described in a structured manner has been improved. This has improved the accuracy with which ownership polygons are extracted. However, in some instances where the ownership polygon represents a pro indiviso share of ownership, the polygon identification may be less accurate. Further investigation into the identification of pro indiviso shares will be undertaken in future.
- References to double styled ownership polygons (e.g. edged and tinted) are handled differently, which may result in different polygons being identified as the ownership

polygon (which can be an improvement or a loss in accuracy). Further work will be undertaken in future.

- Spatial operations used to aggregate individual Title polygons into an ownership extent can result in some rounding of polygon coordinates. The rounding effect is applied slightly differently. This means that a mathematical change-comparison of geometries between the new and previous dataset will yield a large number of differences, even where there is no visual difference, and the source data has not changed.