

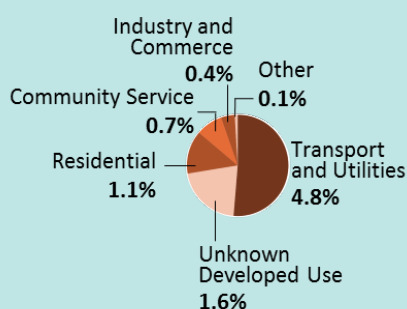
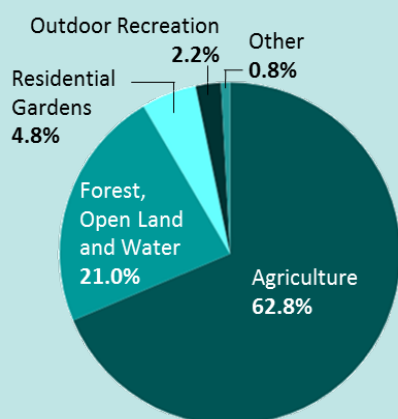


Land Use in England, 2018

This release presents figures on land use in England as at April 2018. The release is accompanied by an interactive report that allows users to explore the data. The report is available here: <https://www.gov.uk/government/collections/land-use-in-england>.

The headline statistics from this publication are:

- In total, 8.3 per cent of England is of a developed use while 91.5 per cent is non-developed, with 0.2 per cent vacant (figures from accompanying live table P400a)



- 12.4 per cent of all land in England is designated as Green Belt, of which 6.7 per cent is developed (P401a)
- Within the Green Belt, 0.3 per cent of land is residential and 2.9 per cent is residential gardens (P401a)
- 10.5 per cent of all land in England is within National Flood Zone 3. Of this, 5.8 per cent is developed (P402a)

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Introduction

This statistical release presents summary statistics showing how different land uses are distributed across England. Land uses are classified across 28 Land Use **Categories**, broken up into 13 different **Groups** (see Table BN1 in the technical notes) split between developed and non-developed land use types. Statistics on land uses within the Green Belt, within National Flood Zone 3 and within areas of medium and high flood risk are also presented. Data are provided to the department by Ordnance Survey Ltd and based on a snapshot of land use in England in April 2018 taken from Ordnance Survey's AddressBase, Open Greenspace and Mastermap Topography products.

The department's response to last year's consultation on proposed changes to Land Use Change Statistics is being published alongside this release: details are given on page 9. In addition, a revised and enhanced set of Land Use Change Statistics tables covering 2013-14 to 2017-18 is being published at the same time as this release.

Following consultation with users and in line with the guidance on Experimental official statistics published by the ONS's [Good Practice Team](#) and complementary guidance published by the [Office for Statistics Regulation](#), departmental statisticians have removed the 'Experimental' status with effect from this publication and it is now designated as 'Official' statistics.

Land use in England

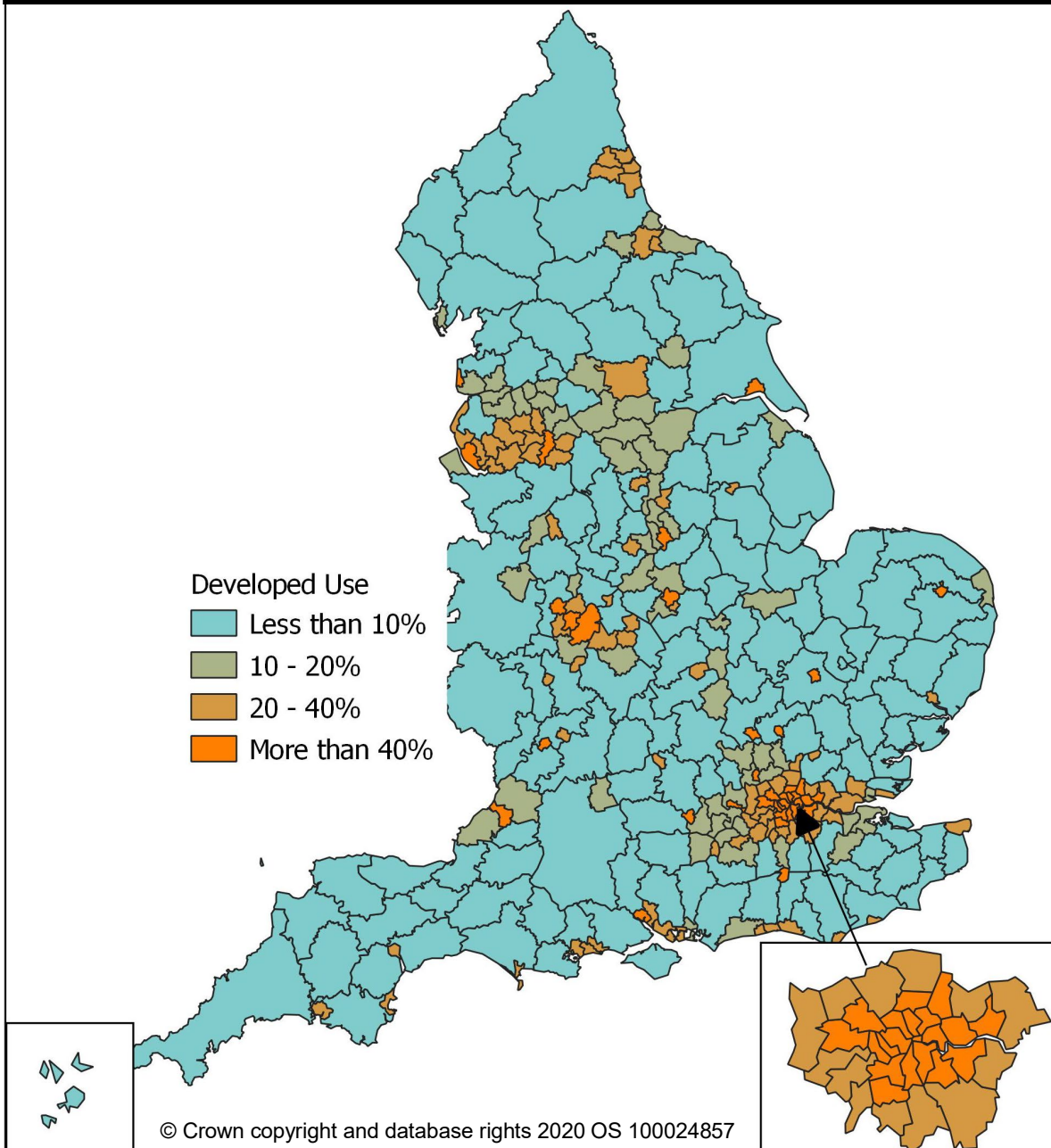
The land area in England is predominantly of a non-developed use, with 91.5 per cent of the total England land area being non-developed land uses and 8.3 per cent developed land uses. The local authority with the highest proportion of land developed is the City of London at 85.0 per cent, the local authorities with the next highest proportions are Kensington and Chelsea and Islington with 66.9 per cent and 66.4 per cent of the land area of a developed use, respectively. Three local authorities have less than 3 per cent of land that is of a developed use; Craven, Eden and Richmondshire at 2.5, 2.6 and 2.7 per cent, respectively. The proportions of land use for all English local authorities are given in Live Table P400.

Region	Developed use	Non-developed use	Vacant
North East	7.0	92.9	0.2
North West	9.0	90.8	0.1
Yorkshire and The Humber	7.6	92.3	0.1
East Midlands	7.7	92.1	0.2
West Midlands	8.9	90.9	0.2
East of England	7.6	92.1	0.2
London	39.6	59.8	0.6
South East	9.4	90.4	0.2
South West	6.7	93.2	0.1

Table 2: Local authorities with highest and lowest proportion of developed land use

Local authority	Developed use	Local authority	Developed use
City of London	85.0%	Craven	2.5%
Kensington and Chelsea	66.9%	Eden	2.6%
Islington	66.4%	Richmondshire	2.7%
Westminster	62.8%	Ryedale	3.1%
Tower Hamlets	61.0%	West Devon	3.1%

Map 1: Land Use by visible usage, Local Authorities of England 2018



An interactive version of this map is available in the [Land Use Dashboard](#)

Figure 1a: Land use in England 2018 by group as a proportion of total land use area.

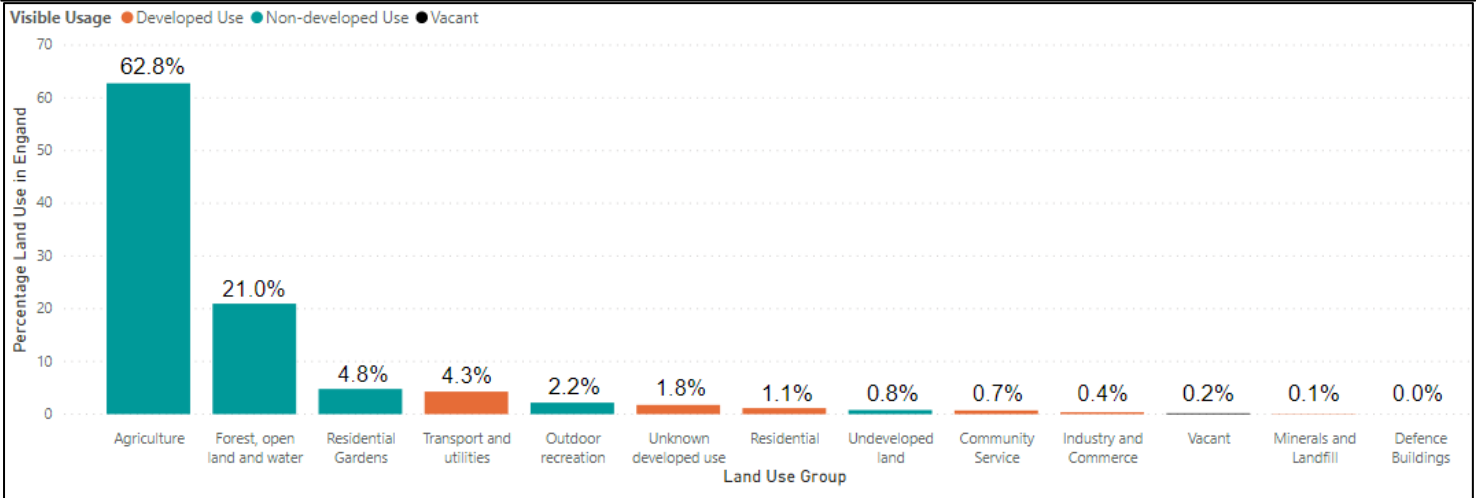
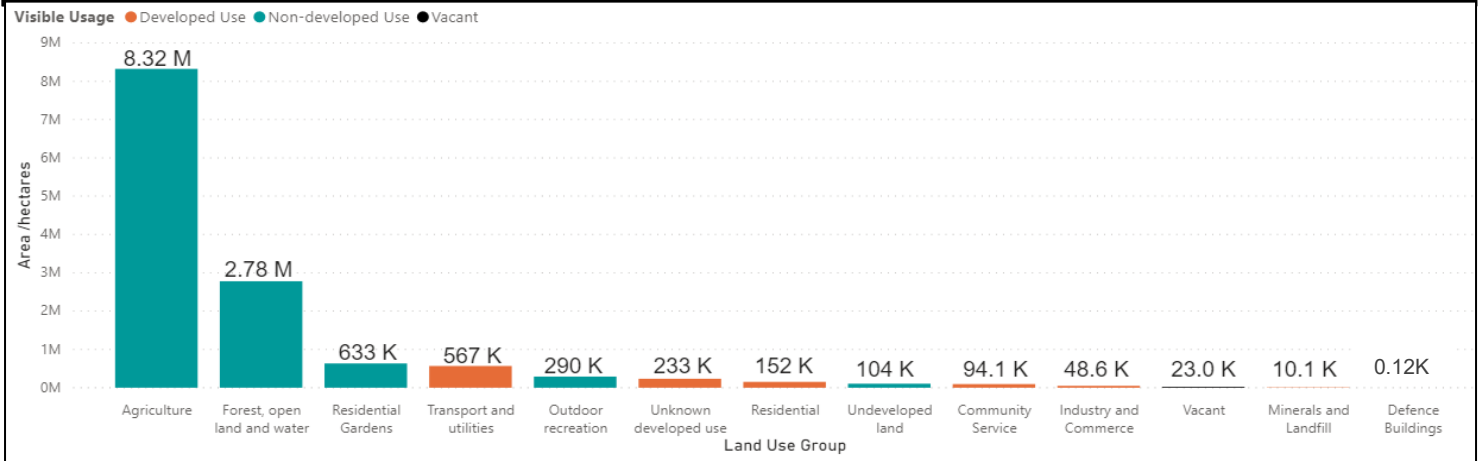


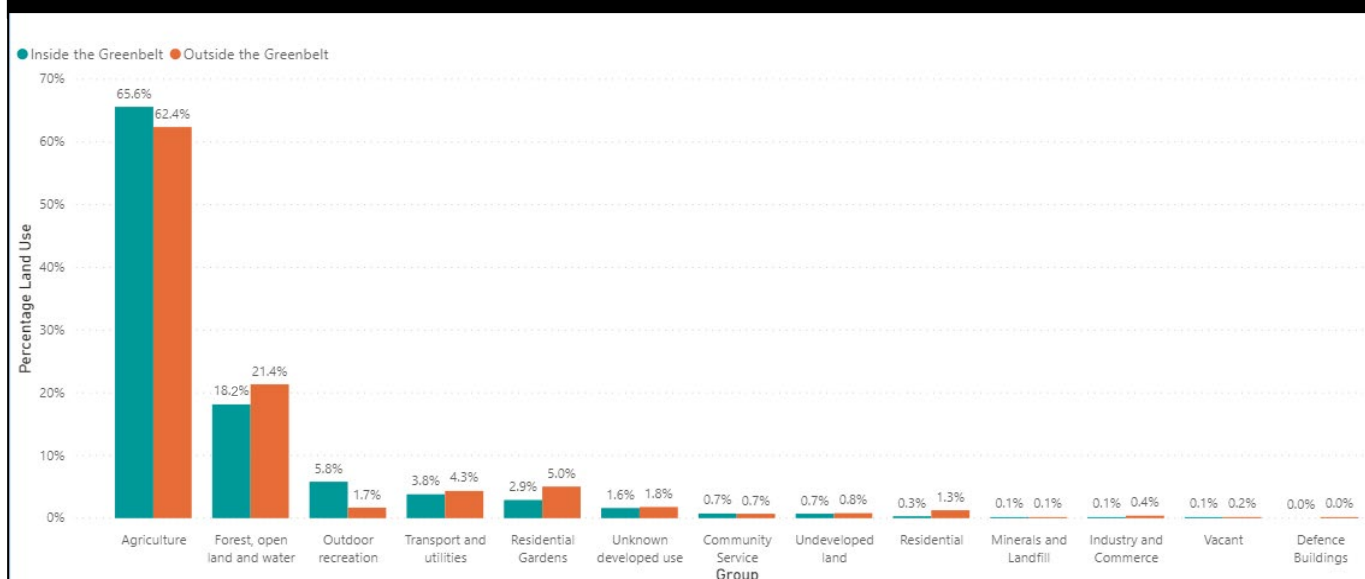
Figure 1b: Land use in England 2018 by group as total area in hectares.



Land use within the Green Belt

According to [previously published figures](#), 12.4 per cent of England was designated as Green Belt as at April 2018, covering 186 local authorities to varying degrees. This is the area of land designated as Green Belt taken as a percentage of land area at Mean High Tide. Within the Green Belt, 6.7% of land use is developed, whereas outside the Green Belt 8.6% is developed. Of the total Green Belt land area for England, 0.3% is of a residential use, whereas outside the Green Belt 1.3% of land is residential.

Figure 2: Land use within and outside of the designated Green Belt of England 2018 by Group as a proportion of total land use.



The proportions and total hectares of land use for all English local authorities that have land within the Green Belt are given in Live Table P401a and P401b. Statistics are published annually on the Green Belt and can be found here: <https://www.gov.uk/government/collections/green-belt-statistics>

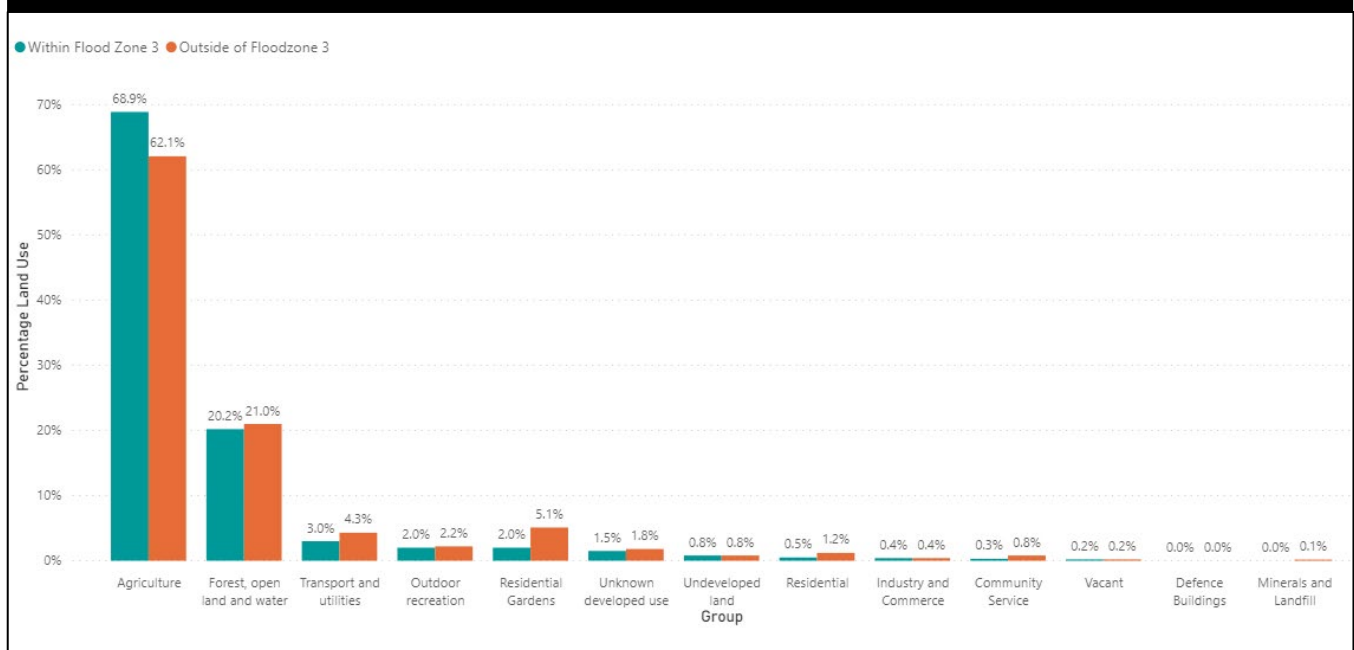
The areas “Outside of the Green Belt” are the difference between the total area of England and the area of England within the Green Belt. Mathematically, it is the difference in the values of table 400a and 401a.

Land use within National Flood Zone 3

10.5 per cent of land in England is classified as within National Flood Zone 3 by the Environment Agency. This area is assessed to be at risk of at least a one in one hundred chance of flooding each year from river areas or at least a one in two hundred chance of flooding from the sea. This area does not take into account the presence of defences and only focusses on flooding from the rivers or sea.

5.8 per cent of land in National Flood Zone 3 is of a developed use, compared to 8.6 per cent outside of Flood Zone 3

Figure 3: Land use within and outside of Flood Zone 3 in England 2018 by Group as a proportion of total land use.



Within Flood Zone 3, there is a smaller proportion of land use which is developed compared with outside Flood Zone 3 for Residential and Community Service groups in particular.

There is a greater proportion of Agricultural land within Flood Zone 3, compared with outside, as there are many agricultural fields around rivers which are functional floodplains.

The proportions of land use for all English local authorities in National Flood Zone 3 are given in Live Table P402.

The areas “Outside of Flood Zone 3” are the difference between the total area of England and the area of England within Flood Zone 3. Mathematically, it is the difference in the values of table 400a and 402a.

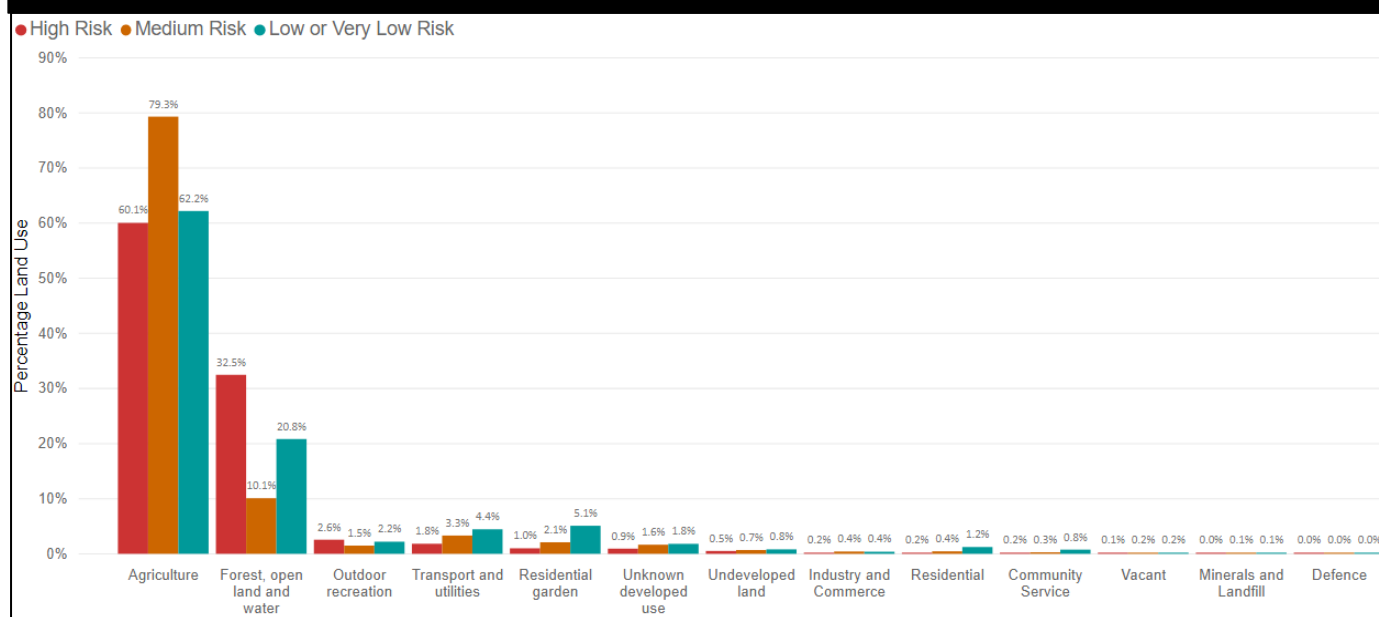
Land Use within Areas of Flood Risk

4.7 per cent of Land in England is classified as being at a high risk of flooding from rivers and the sea. “High risk” means that each year this area has a chance of flooding of greater than 3.3%. Unlike National Flood Zone 3, this considers the effect of any flood defences in the area. These defences reduce but do not completely stop the chance of flooding as they can be overtopped or fail.

3.8 per cent of Land in England is classified as being at a medium risk of flooding from the rivers and the sea. “Medium risk” means that each year this area has a chance of flooding of between 1% and 3.3%. Again, this considers the effect of any flood defences in the area. These defences reduce but do not completely stop the chance of flooding as they can be overtopped or fail.

Within areas of high risk of flooding from the rivers and the sea, 3.3 per cent of the land is of a developed use. Within areas of medium risk, 6.1 per cent is of a developed use.

Figure 4: Land use within areas at Risk of Flooding from the rivers and the sea



In areas at high risk of flooding from rivers and the sea, less than 0.2 per cent of land use is residential. Moving from areas of high risk to lower risk, the proportion of land which is developed increases.

Areas of low risk are defined as having a risk of flooding from rivers and the sea of from 0.1% to 1% each year. Areas of very low risk have a less than 0.1% risk of flooding from the rivers and the sea each year.

Accompanying live tables

Accompanying Live Tables are available to download alongside this release:

Table P400a Land Use: England, English Regions and English local authorities - proportion of total land area by usage type

Table P400b Land Use: England, English Regions and English local authorities - total land area (hectares) by usage type

Table P401a Land Use: England, English Regions and English local authorities - proportion of total land area by usage type in the Green Belt

Table P401b Land Use: England, English Regions and English local authorities - total land area (hectares) by usage type in the Green Belt

Table P402a Land Use: England and English local authorities - proportion of total land area by usage type in National Flood Zone 3

Table P402b Land Use: England and English local authorities - total land area (hectares) by usage type in National Flood Zone 3

Table P403a Land Use: England and English local authorities - proportion of total land area by usage type in areas at High Risk of Flooding from Rivers and the Sea

Table P403b Land Use: England and English local authorities - total land area (hectares) by usage type in areas at High Risk of Flooding from Rivers and the Sea

Table P404a Land Use: England and English local authorities - proportion of total land area by usage type in areas at Medium Risk of Flooding from Rivers and the Sea

Table P404b Land Use: England and English local authorities - total land area (hectares) by usage type in areas at Medium Risk of Flooding from Rivers and the Sea

These tables can be accessed at: <https://www.gov.uk/government/collections/land-use-statistics>

Consultation on proposed changes to Land Use Change Statistics

The department's response to last year's consultation on proposed changes to Land Use Change Statistics is being published alongside this release and is available at <https://www.gov.uk/government/consultations/land-use-change-statistics-proposed-changes>.

In summary, the department intends to implement the main proposals to continue to publish statistics on land use annually, in addition to maintaining annual updates on the number of addresses changing from and to a residential use, but decreasing the frequency of publication of hectareage change estimates to three-yearly intervals. The precise timescales for future publications and associated technical details will be announced in due course.

Land Use Change Statistics 2013-14 to 2017-18

A revised and enhanced set of Land Use Change Statistics tables covering 2013-14 to 2017-18 is being published at the same time as this release, at <https://www.gov.uk/government/statistical-data-sets/live-tables-on-land-use-change-statistics>

The changes are as follows:

- Live tables P310 and P311: use of revised Green Belt boundary data for some local authorities for and a revised split of residential addresses created inside/outside the Green Belt in West Lancashire in 2016-17;
- Live tables P320 and P321: use of an alternative dataset of land in National Flood Zone 3 for 2016-17 and inclusion of figures for areas within Medium or High Flood Risk areas, taking account of the effects of flood defences in an area.
- Live Tables P380 to P383: use of revised Green Belt boundary data for some local authorities;
- Live table P390: use of revised datasets of land in National Flood Zone 3 and inclusion of figures for areas within Medium or High Flood Risk areas, taking account of the effects of flood defences in an area.

Technical notes

The Code of Practice for Statistics was published in February 2018 to set standards for organisations in producing and publishing official statistics and ensure that statistics serve the public good. This release follows the Code of Practice.

Data collection

Land use experimental statistics are derived from data produced for the department by Ordnance Survey Ltd. The data is based on three of [Ordnance Survey's products: AddressBase, Open](#)

Greenspace and Mastermap Topography. The data Ordnance Survey provides to the department includes the land use classification, the area of land use, its location and the local authority to which it is mapped. Summary statistics are made available at national and local authority level. Statistics are also calculated on other geographies, such as the Green Belt or areas of high flood risk.

Data availability

Information is published at several geographical levels, such as nationally and by region and local authority. They are also available for other geographies, such as Green Belt areas or areas of high flood risk. In addition to data provided within this release and the accompanying live tables, figures for other/smaller geographical areas, such as Parliamentary constituencies, wards, lower-layer super output areas (LSOAs) and middle-layer Super output areas (MSOAs) can be obtained on request from planning.statistics@communities.gov.uk. In some cases, it will be necessary for an enquirer to agree to the terms of an end user licence to comply with the terms of the contract with which the data are provided by Ordnance Survey.

Data quality

The Ordnance Survey's data products that were used to derive the land use data are subject to numerous quality assurance tests to meet the required quality criteria before their publication.

Prior to the department formally taking receipt of the land use data, Ordnance Survey has checked it meets the required performance criteria and worked with the department's statisticians to test, develop and improve the outputs' validity.

The department aggregates the data to local authority and national level and performs analysis against available contemporaneous boundary files of the Green Belt and areas of high flood risk. The department's statisticians compare the aggregated data against previous and current data for comparable LA areas and national trends.

Assessment of data quality

In 2015, the UK Statistics Authority (UKSA) published a [regulatory standard for the quality assurance of administrative data](#). To assess the quality of the data provided for this release the department has followed that standard. The standard is supported with an [Administrative Data Quality Assurance Toolkit](#) which provides useful guidance on the practices that can be adopted to assure the quality of the data they utilise.

The Land Use statistical release is produced by MHCLG based on data provided under contract by Ordnance Survey. An assessment of the level of risk based on the Quality Assurance Toolkit is as below. This is based on an assessment initially carried out for the separate Land Use Change Statistics publication, which uses some of the same underlying data.

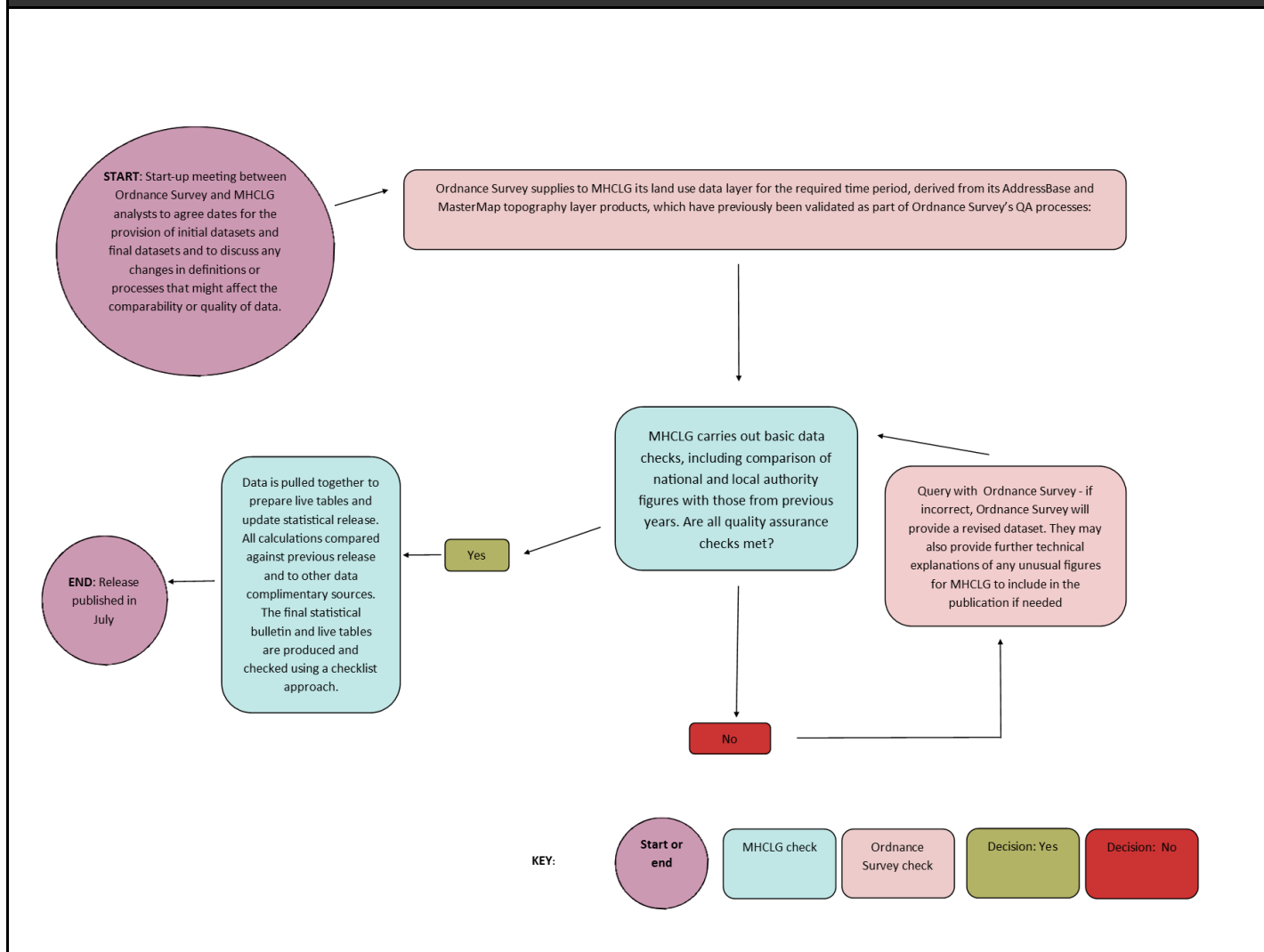
Risk/Profile Matrix Statistical Series	Administrative Sources	Data Quality Concern	Public Interest	Matrix Classification
Land Use statistics	The Ordnance Survey land use layer, produced using data from OS AddressBase, Open Greenspace and MasterMap Topography layer	Low	Medium	Low Risk [A1]

The publication of Land Use statistics can be considered as medium profile, as there is mainstream media interest, with moderate economic and/or political sensitivity.

The data quality concern is considered low, given that the data are obtained under contract from Ordnance Survey, who produce the data using one of their main mapping products. After receiving the dataset, departmental statisticians perform further detailed validation and checks, spotting, obtaining advice from Ordnance Survey and correcting any errors.

Overall, the Land Use statistics have been assessed as A1: Low Risk. A full outline of the statistical production process and quality assurance carried out is provided in the flow chart in Figure 5.

Figure 5: Process flow chart, Land Use Statistics



Further details are also provided against each of the four areas outlined in the Quality Assurance Toolkit:

i) Operational context and administrative data collection

The data provided under contract to the department by Ordnance Survey are taken from Ordnance Survey's land use layer, which is routinely updated using their administrative processes. In particular, it is derived from the AddressBase product and the MasterMap Topography layer. Topographical changes are recorded by an image analysis (c.80,000 km of aerial imagery is captured per year), field surveying and data enhancement/cartography of boundaries or descriptive terms. Major developments and landscape changes are monitored every six months. Rural areas, urban improvement and minor changes are monitored by aerial photography, with sites revisited for image capture on a three-year cycle.

After receiving the dataset, the department aggregates the data to local authority and national level and performs analysis against boundary files of the Green Belt and areas of high flood risk. The department's statisticians compare the aggregated data against previous and current data for comparable local authority areas and national trends.

ii) Communication with data supply partners

Data were provided under a binding contract between the department and Ordnance Survey outlining the expectations of the data to be provided in terms of timing and quality. Close working links are maintained between departmental statisticians and the relevant technical team within Ordnance Survey, both in advance of the scheduled annual publication of the statistics and through the year as queries arise in response to *ad hoc* data queries received. Special importance is attached to any changes to the definition of land use categories because this helps in the understanding of any apparently large changes compared with the previous year.

iii) QA principles, standards and checks by data suppliers

The Ordnance Survey's data products that were used to derive the land use data are subject to numerous quality assurance tests to meet the required quality criteria before their publication.

These products are then used in the Land Use Statistics methodology, with the Ordnance Survey going through several stages to produce the final figures.

Before the department formally receives the land use data, Ordnance Survey has also checked that they meet the required performance criteria and worked with the department's statisticians to test, develop and improve the outputs' validity.

iv) Producers' QA investigations and documentation

The individual land use and residential address changes provided by Ordnance Survey are checked by departmental statisticians for records displaying potential anomalies, such as unusually high or amounts of land in a particular category, or very large changes compared with the previous year's figures. Such anomalous entries are then queried with Ordnance Survey and if necessary amended. The records which have passed this stage are then reconfigured within the department's database.

Quality assurance

The department has previously published a quality assurance statement, available at <https://www.gov.uk/government/publications/land-use-change-statistics-quality-assurance-assessment>. It gives a full overview of the quality assurance procedures in place, and has been produced in conjunction with the UK Statistics Authority's guidance on using administrative data, available at:

<https://www.statisticsauthority.gov.uk/monitoring-and-assessment/monitoring/administrative-data-and-official-statistics/>

Revisions policy

This policy has been developed in accordance with the UK Statistics Authority Code of Practice for Statistics and the Ministry of Housing, Communities and Local Government Revisions Policy (found at <https://www.gov.uk/government/publications/statistical-notice-dclg-revisions-policy>). The policy

covers two types of revision:

Non-scheduled revisions

Where a substantial error has occurred as a result of the compilation, imputation or dissemination process, the statistical release, live tables and other accompanying releases will be updated with a correction notice as soon as is practical.

Scheduled revisions

The Land Use Statistics publication is produced from static versions of Ordnance Survey products and as such is not subject to any scheduled revisions.

Related statistics

Land Use Change Statistics

Land Use Change Statistics are a rich source of information which show how land use has changed in England. The information includes the nature of the changes, the areas of land affected and the locations of the changes. These changes are recorded to and from the same set of 28 land use categories as used here. Land Use Change Statistics focus on changes to a developed use, in particular to residential development. It presents National Statistics on these changes in land use in England recorded in 2017-18. Statistics on changes within the Green Belt and changes within areas of high flood risk are also presented. The Land Use Change Statistics collection can be found here: <https://www.gov.uk/government/collections/land-use-change-statistics>

The department publishes a range of **other statistics relating to land use, planning and related topics**. These are summarised in the 'Related statistics' section starting on page 23 of the *Planning applications in England: October to December 2019* statistical release at <https://www.gov.uk/government/statistics/planning-applications-in-england-october-to-december-2019>

Local authority registers of brownfield land

As at March 2019, 100% of local authorities had published a local register of brownfield land suitable for housing. The department's analysis of data provided on local authority websites suggests that across England as a whole there are over 28,000 hectares of developable land. These figures are provided here to give contextual information to users and have not been designated as official statistics.

User engagement

The department's engagement strategy to meet the needs of statistics users is published here: <https://www.gov.uk/government/publications/engagement-strategy-to-meet-the-needs-of-statistics-users>.

This release also provides an interim update from the department following last year's consultation on proposed changes to Land Use Change Statistics. More details are provided earlier in this release.

Detailed technical notes

1. These land use statistics are estimates.
2. Land use is not focused on a single day because it is derived from a range of products, each having their own publishing date. These dates are spread out over a number of weeks, but chosen to centre around 1 April 2018.
3. Vacant land is identified by Ordnance Survey as unclassified land, bounded by hoardings etc., around the perimeter. It is also yet to be attributed to an address. It is not possible within the summary statistics presented here to define whether the vacant land is of a developed or non-developed land use type.
4. Residential land area is limited to the on the ground footprint.
5. Only building features can be classified as 'defence' within the land use data, such as barracks and administration offices. This is because a defence classification is mainly indicated by the address data used within the land use analysis. It is not indicated by the large-scale topographic data used. Hence, large areas such as firing ranges and military airfields, cannot be identified by the current process. This category was called 'Defence' in 2017 but has been renamed 'Defence buildings' for 2018.
6. The Green Belt analysis is based on annually updated data sets of digitised boundaries provided to MHCLG by local authorities. Land can only be removed from the Green Belt through the local planning process. Land uses have been mapped against revised Green Belt boundaries for 2017-18, published by MHCLG.
7. Land uses have been mapped against National Flood Zone 3 for February 2018, published by the Environment Agency.
8. Land uses have been mapped against Areas at risk of Flooding from Rivers and the Sea for June 2020, published by the Environment Agency.
9. Changes between 2017 and 2018 in land use statistics: due to continuous data improvement, there are some changes of land use type from the Land Use in England 2017 statistical release to this release. These changes do not necessarily represent a change in land use, rather a reclassification of an area. For example, some areas designated as 'water' in the 2017 release have been reclassified as 'outdoor recreation' to reflect their use more accurately. Comparing the 2017 Land Use data to the 2018 Land Use data does not accurately reflect a year-on-year change of land use. The dedicated Land Use Change statistics are focussed on this and should be used to track year-on-year changes.
10. The land use categories used in compiling these summary statistics are shown below in Table BN1. For full details on what are included in these groups and categories please refer to the [Land use change statistics methodology changes guidance](#).

Table BN (Background Note) 1: Land use categories, groups and divisions

Developed land			Non- developed land			
Group	Category (codes)		Group	Category (codes)		
Residential	Residential	(R)	Agriculture	Agricultural land	(A)	
	Institutional and communal Accommodation	(Q)		Agricultural buildings	(B)	
	Transport and utilities	Highways and road transport	(H)	Forestry open land and water	Forestry and woodland	(F)
Transport (other)		(T)	Rough grassland and bracken		(G)	
Utilities		(U)	Natural and semi-natural land		(N)	
Industry and commerce	Industry	(I)	Water		(W)	
	Offices	(J)	Outdoor recreation	Outdoor recreation	(O)	
	Retailing	(K)		Residential gardens	Residential gardens	(RG)
	Storage and warehousing	(S)			Undeveloped land	Undeveloped land in urban areas
Community services	Community buildings	(C)	<hr/> Vacant land <hr/>			
	Leisure and recreational buildings	(L)	Vacant	Vacant land	(V)	
Minerals and landfill	Minerals	(M)				
	Landfill waste disposal	(Y)				
Defence buildings	Defence buildings	(D)				
Other developed use	Unidentified building	(~B)				
	Unidentified general manmade surface	(~M)				
	Unidentified structure	(~S)				
	Unknown developed use	(~U)				

11. Details of officials who receive pre-release access to Land Use Statistics up to 24 hours before release can be found at: <https://www.gov.uk/government/organisations/ministry-of-housing-communities-and-local-government/about/statistics>.

Enquiries

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Information on Official Statistics is available via the UK Statistics Authority website:

<https://www.gov.uk/government/statistics/announcements>

Information about statistics at MHCLG is available via the department's website: www.gov.uk/government/organisations/department-for-communities-and-local-government/about/statistics

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July 2020

For all our latest news and updates follow us on Twitter: <https://twitter.com/mhclg>