Building on our food security

July 2022

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Executive summary

Maintaining agricultural capacity to deliver significant levels of domestic food production is critical. This must be achieved in the context of addressing and adapting to climate change, reversing the loss of nature and meeting increasing demands on land for other social goods — not least affordable housing and renewable energy.

With enough previously developed 'brownfield' land to provide 1.2 million homes, and south-facing rooftops that could meet much of our energy needs, we have a chance to tackle the climate, housing and cost-of-living crises without sacrificing our farmland. Adjusting our farming sector to a post-Brexit model of subsidies should support the necessary move away from damaging intensive farming practices and towards a more multifunctional approach to using land — reconciling food production with better management for natural and cultural heritage, and for public access. Policies that are put in place now will be crucial in ensuring the most efficient use of our land in the face of these challenges.

This report by CPRE, the countryside charity, looks to quantify rates of built development on farmland identified as Best and Most Versatile (Grades 1, 2 and 3a) in the Agricultural Land Classification (ALC) used by government. The review covers development between 2010 (the date of the last published government-commissioned review) and 2022. Our report is also the first to look at national rates of development specifically on Grade 1 and 2 land. We propose alternative policy measures which would result in better outcomes for this valued land and more sustainable options for building the new homes we need. Our recommendations aim to influence the full review of the National Planning Policy Framework (NPPF) expected in 2023.

There are clearly many competing priorities for our land, but it is essential to preserve our most productive agricultural land from long-term loss; the NPPF[1] aims to protect best and most versatile land from development, but evidence shows that this is not being achieved in practice. In recent years, substantial losses have been reported for housing development that could have been built on suitable brownfield land instead. And as we know, once this precious asset is built on, it is lost for good.

Our key findings include:

- In the past 12 years we have lost over 14,000 hectares of prime agricultural land to development, including 287,864 houses — equivalent to the productive loss of around 250,000 tonnes of vegetables and enough to provide nearly two million people with their 5-a-day for an entire year.

- 2022 saw the greatest number of hectares of BMV land planned for development — equating to a 100-fold increase on the number of hectares of BMV land built on in 2010.

- Flooding as a result of climate change poses a further risk, with almost 60% of our most productive Grade 1 land already sitting in the Environment Agency's Flood Zone 3.

- Since 2010, planning appeals which involved BMV land have had a 46% allowance rate in comparison to a total appeals allowance rate of 25%.

- The East of England has lost 3,232 ha of BMV land since 2010 — the greatest absolute loss within a single region.

- The BMV land surrounding our towns and cities (almost a quarter of the total, and a valuable resource for feeding these populations) is being developed at a rate nearly twice that of the national average.

CPRE therefore recommends that the government should:

- Consult on and publish a national land use strategy that provides an integrated framework for local policy and decision-making on both planning and farming.

- Incorporate the following guidelines in the new NPPF to ensure the loss of valuable farmland is minimised:
  - a brownfield first policy
  - a greater steer towards medium- and high-density new housing
  - a firm presumption against development on BMV land — the higher the ALC grade, the greater the weight which should be attached to its protection.

- Require site-specific surveys to be mandatory on any development proposals involving more than 1 ha of land, unless it is clear that the site will not contain BMV land.

- Require local authorities to identify and track development on BMV land in their district.

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Introduction

Maintaining agricultural capacity to deliver significant levels of domestic food production is critical. This must be achieved in the context of addressing and adapting to climate change, reversing the loss of nature and meeting increasing demands on land for other purposes — not least affordable housing and production of renewable energy. There is a particular need to move away from intensive farming practices and towards a more multifunctional approach to using land, reconciling food production with better management for natural and cultural heritage.

Appropriate identification, protection and use of our most productive land for food production will be a vital part of our national food security. The Government Food Strategy published in June 2022 stated that:

> "We have some of the best performing farms in the world, with 57% of agricultural output coming from just 33% of the farmed land area"[2].

It is therefore essential that we preserve the most productive agricultural land from long-term loss, but the evidence shows that, in practice, our national policies do not achieve this; recent years have seen substantial losses to housing development that could have been accommodated on suitable brownfield land instead.

Harnessing upcoming changes to land use policy can result in alternative policy measures which would result in better outcomes for our most productive land, as well as more sustainable options for building the new homes and energy facilities we need.

Our Best and Most Versatile agricultural land

While all our land is of great value and potential for myriad reasons, the planning system's 'Best and Most Versatile' (BMV) classification is given to the agricultural land that is regarded as the most valuable in terms of its food producing potential. BMV land was first identified and classified in response to the demand for self-sufficiency following the Second World War. Land is identified as BMV (either Grade 1, 2 or 3a; there are six grades altogether) using the Agricultural Land Classification (ALC). The mapping of agricultural land is maintained by Natural England. Land which is classified as one of these three grades is deemed the most flexible in terms of the range of crops which can be grown, while also requiring lower inputs to produce high crop yields.

Agricultural land classifications:

Grade 1:
Excellent quality agricultural land — land with no (or very minor) limitations and high and less variable yields. A very wide range of agricultural crops can be grown, such as apples and pears, salad crops, soft fruit, and winter harvested vegetables.

Grade 2:
Very good quality agricultural land — land with minor limitations that affect crop yields, cultivations or harvesting. Generally high yielding land but may be lower or more variable than Grade 1.

Grade 3a:
Good quality agricultural land — land which can consistently produce moderate to high yields of a reduced variety of arable crops, such as cereals, sugar beet and potatoes.

Grade 3b:
Moderate quality agricultural land — capable of producing moderate yields.

Grade 4:
Poor quality agricultural land — land with severe limitations.

Grade 5:
Very poor quality agricultural land — land with very severe limitations.

The process of grading agricultural land requires assessing factors which affect the site and its interactions, including: climate, aspect, gradient and soil. Crucially, the classification of BMV land does not consider the current agricultural use of the land, instead basing its grade on its inherent potential.

Figure 1

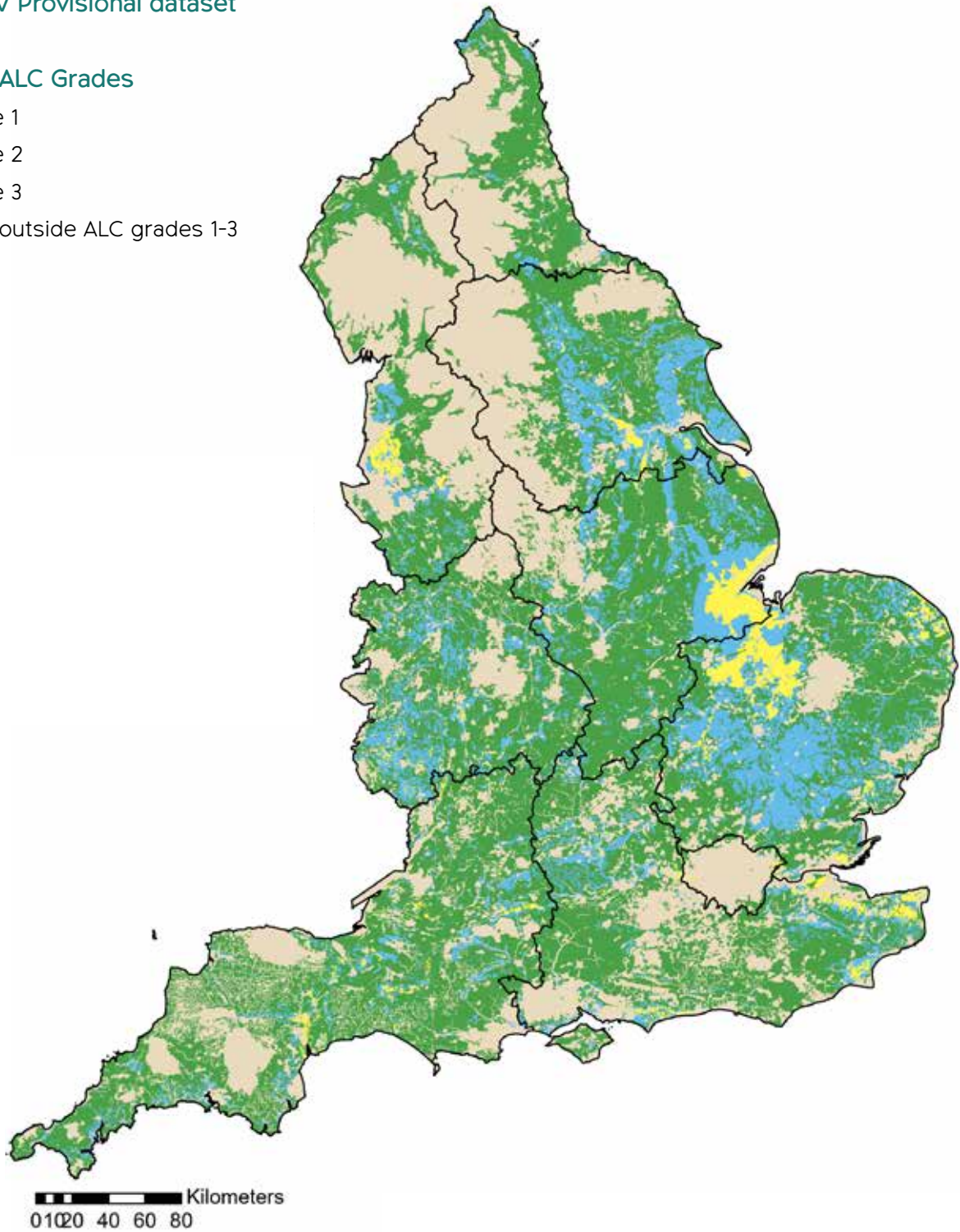## Map of BMV Provisional dataset

Provisional ALC Grades

- Grade 1
- Grade 2
- Grade 3
- Land outside ALC grades 1-3

Kilometers
0 10 20 40 60 80

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BMV: Protected through policy but not monitored

Identifying where the Best and Most Versatile agricultural land is located is a vital process for enabling the planning system to deliver on its sustainable development objectives. Identifying the locations of BMV land informs decisions on how farms and soils might be affected by a development, with the overall purpose of protecting the land from inappropriate or unsustainable proposals.

The National Planning Policy Framework (NPPF) states that:

'Planning policies and decisions should contribute to and enhance the natural and local environment...' by 'recognising the intrinsic character and beauty of the countryside and the wider benefits from the natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land...'

(Chapter 15, para. 174b). The NPPF also encourages local planning authorities to try to prioritise areas of poorer quality land for development over BMV.

In addition to national planning policy, legislation requires local planning authorities to consult Natural England (the government's adviser for the natural environment) on all non-agricultural applications which result in the loss of more than 20 hectares of BMV land but are not included in their local development plan[3]. National Planning Practice Guidance for the natural environment provides planning authorities with information on the value of protecting BMV and planning for its future use[4]. Furthermore, undertakings to protect BMV land were made in the Government's 25 Year Environment Plan of 2018[5], which states that the sustainable and efficient use of natural resources is vital to improving the environment.

No monitoring of the use of BMV land, or loss of it to development, has been reported by government since 2010[6]. In fact, to CPRE's knowledge, no national monitoring of development on land in the highest two grades (1 and 2) has ever been reported. This is in clear contrast to protected landscape designations of National Parks and Areas of Outstanding Natural Beauty, where land use patterns are monitored by the Department for Environment, Food & Rural Affairs (DEFRA), and Green Belts, where development rates are monitored by the Department for Levelling Up, Housing and Communities (DLUHC).

Green Fingers in The Blue Finger

The 'Blue Finger' is a strip of Grade 1 agricultural land in north east Bristol that runs north into South Gloucestershire and is home to a number of community growing initiatives. Grow Wilder is a nature-friendly farming and gardening initiative run by Avon Wildlife Trust, while the Edible Futures market garden produces high quality salads and vegetables for the local community using environment friendly practices. Both these projects show the immense value that can be gained by communities and nature through the use of BMV land at the edge of towns and cities. Despite this, the Blue Finger has also suffered inappropriate development, with a new bus junction being developed through it in 2015. Changing national planning policies to require local plans to consider local food growing could play an important role in better protecting these often overlooked soils.

Our best agricultural resource under threat

Despite national planning policy stating that the presence of BMV land should be considered when making planning decisions, this is not being achieved in practice. Shifts in policy which once focused on prioritising securing food production have now moved towards achieving 'sustainable development', which has resulted in increased losses of greenfield land in order to fulfil government housing delivery targets.

How we use our land resource is only going to become more important as the impacts of the climate emergency become evident, with significant areas of BMV land at risk of permanent flooding. Climatic change, especially rainfall patterns and accumulated temperatures, may also lead to changes in agricultural land quality that will reduce the extent of BMV land.

The purpose of this report is to build upon the previous research undertaken by DEFRA to review the effectiveness of BMV policy, in 2010 and 2004, which found considerable losses of high-grade agricultural land to development. We will explore the current extent of BMV land in England, analyse the current pressures placed on this land, and discuss policy measures which will result in better outcomes for people and the environment.

A note on the different BMV datasets used

A number of datasets have been used in this report. Information on the extent of BMV land grades and development data in England was obtained and analysed from the following datasets:

• Provisional ALC 1:250,000 dataset (available at www.magic.gov.uk) — this dataset categorises BMV land into Grade 1, 2 and 3 and was used to identify developments which have taken place on BMV land.

• Post 1988 ALC Site Data (DEFRA, available from Natural England) — a dataset of detailed individual site survey data which classifies 2.8% (or 325,200 ha) of England's rural land into Grade 1, 2, 3a and 3b. This is out of a total area of 972,052 ha of detailed survey data available (8% of England's rural area).

• 'Likelihood of Best and Most Versatile' (BMV) land/ ALC Strategic Map (DEFRA, available from Natural England, received April 2022) — a predictive dataset at a scale of 1:250,000 which uses a combination of detailed ALC post-1988 surveys, provisional ALC data, climatic data and National Soil Resources Institute information to assess soil association areas by their likely proportion of BMV land. The likelihood maps do not distinguish individual grades, instead the categories are: High likelihood (areas where more than 60% of the land is likely to be BMV), Moderate likelihood (20–60% of the land is likely to be BMV) and Low likelihood (less than 20% of the land is likely to be BMV)

• Glenigan Report commissioned by CPRE on development proposals and decisions on BMV agricultural land (Glenigan.com)

How much BMV land is there and where is it?

In 2012 Natural England[7] estimated that Grades 1 and 2 together formed about 21% of all farmland in England, with Grade 3a covering a further 21%. At that time DEFRA[8] estimated that the total area of farmed land in England was 8.9m hectares, suggesting that just under 3,750,000 ha of farmland (42%) was BMV in 2012.

Across rural England, there has been limited detailed surveying of BMV land. Datasets that exist which try to quantify how much land is classified as Grade 1, 2 or 3a are largely based on strategic analyses of land quality. Due to the predictive nature of assessing BMV land quantities, there are several datasets using different methodologies to provide estimates. We explore the 'Provisional ALC', 'Post 1988 detailed survey', and 'Likelihood of BMV' mapping datasets in the following tables.

Table 1 shows the hectares of Grade 1, 2 and 3 according to the 'Provisional' mapping produced via reconnaissance mapping in 1966. It also describes the hectares of Grade 3a land which have been identified through the Post 1988 detailed mapping. This dataset only assesses 8% of rural England, and in the light of the 2012 Natural England estimate mentioned above, the true quantity of this land type will be much (possibly as much as 1.5 million ha) higher. Table 1 shows that, which the data we have available, there is an estimated 2,272,782 ha of BMV (Grade 1, 2 and 3a) land across England. This is largely concentrated across the East Midlands, East of England, South West and Yorkshire and the Humber regions.

Table 1
The hectares of Grade 1 and 2 land according to the 'Provisional' dataset and the hectares of Grade 3a according to the 'Post 1988' dataset in England. Data: Provisional ALC 1:250,000 dataset; Post 1988 ALC Site Data.

Region	Grade 1	Grade 2	Grade 3a (Identified)	BMV Total (Grades 1, 2 and identified 3a)
East Midlands	105,864	398,622	5,654	510,140
East of England	104,133	506,487	8,169	618,789
London	4,128	7,895	77	12,100
North East		16,497	2,760	19,257
North West	29,134	79,143	4,812	113,089
South East	47,361	173,095	13,395	233,851
South West	37,318	220,045	17,033	274,396
West Midlands	13,584	186,845	7,847	208,276
Yorkshire and the Humber	13,064	260,449	9,371	282,884
Total	354,586	1,849,078	69,118	2,272,782

Analyses

Development on BMV land

The dataset obtained from development consultancy Glenigan was used to determine the hectares of BMV land which had been built on since 2010. This provided us with information on the developments which have taken place on BMV land according to the Provisional ALC dataset. As the Provisional ALC dataset does not provide subdivision of Grade 3, we used the Post 1988 detailed survey ALC dataset to identify which Grade 3 land was its respective Grade 3a category, where this detailed survey information was available (see above for further detail on this dataset).

From our available data we found that, between 2010 and 2022, there were 14,415 hectares of Grade 1, 2 and identified Grade 3a agricultural land covered by development (Figure 2). Of this, 8,035 ha were used for private housing developments totalling 287,864 houses. Another 1,400 ha were used for renewable energy developments including solar, illustrating that housing developments have had 55% of the impact on BMV land take.

In total, this 14,415 ha represents a 0.6% loss of our total identified BMV agricultural land of 2,272,782 ha (Table 1). Figure 2 also highlights that since 2010, there has been an overall increase in the amount of BMV agricultural land used for new developments, with a particular spike for projects with a start date of 2022. A total of 61 ha of identified BMV land was converted to development in 2010; this increases 100-fold in 2022, which sees project starts covering 6,500 ha of prime agricultural land and the highest rate of development identified to date.

On first impression a 0.6% loss in our total BMV agricultural land sounds insignificant. However, the Food Foundation's Veg Facts series[9] found that, in 2018, only 1% of the UK's agricultural land was used to produce 52.7% of our vegetables — equivalent to 2.4 million tonnes[10] from 137,360 ha, or on average, 17.5 tonnes per hectare. If we extrapolate this production rate to the 14,415 ha BMV land developed in England, this is equivalent to losing the production of around 250,000 tonnes of vegetables — enough to provide nearly two million people with their 5-a-day for an entire year[11]. However, this calculation does not account for the higher crop yields from BMV agricultural land, meaning the production loss is likely to be higher than this.

For CPRE, the key point is that the loss of this land is unnecessary and avoidable. We have highlighted, through our State of Brownfield reports, that there is a plentiful and constantly replenishing supply of suitable previously developed (brownfield) sites available for housing development in each English region — more than enough to accommodate the housing that has been built on BMV land. In addition, there is plenty of potentially suitable alternative space for renewable technologies — particularly for solar panels on existing rooftops.

The general increase in the rate of development shown here is likely to be due to a gradual weakening of national planning policies on BMV, as well as on brownfield land and housing density. As previously discussed, the NPPF asks local planning authorities to consider the economic benefits of high-grade agricultural land when making planning decisions. But this is a demotion of BMV relevance within policy when we consider that the 1997 edition of the government's Planning Policy Guidance note 7 had a firm presumption against building on BMV; this was supported by the 'brownfield first' and minimum residential density policies contained in PPG3 after 2000 — both of which served to minimise the need to build on productive farmland.

Figure 2

Shows the number of hectares of BMV land lost to development since 2010. Hectares lost of Grade 1 and 2 land are based on the 'Provisional' dataset and hectares lost in Grade 3a are based on available detailed survey information in the 'Post 1988' dataset. Data: Provisional ALC 1:250,000 dataset; Post 1988 ALC Site Data; Glenigan. See Table A1 for figures.


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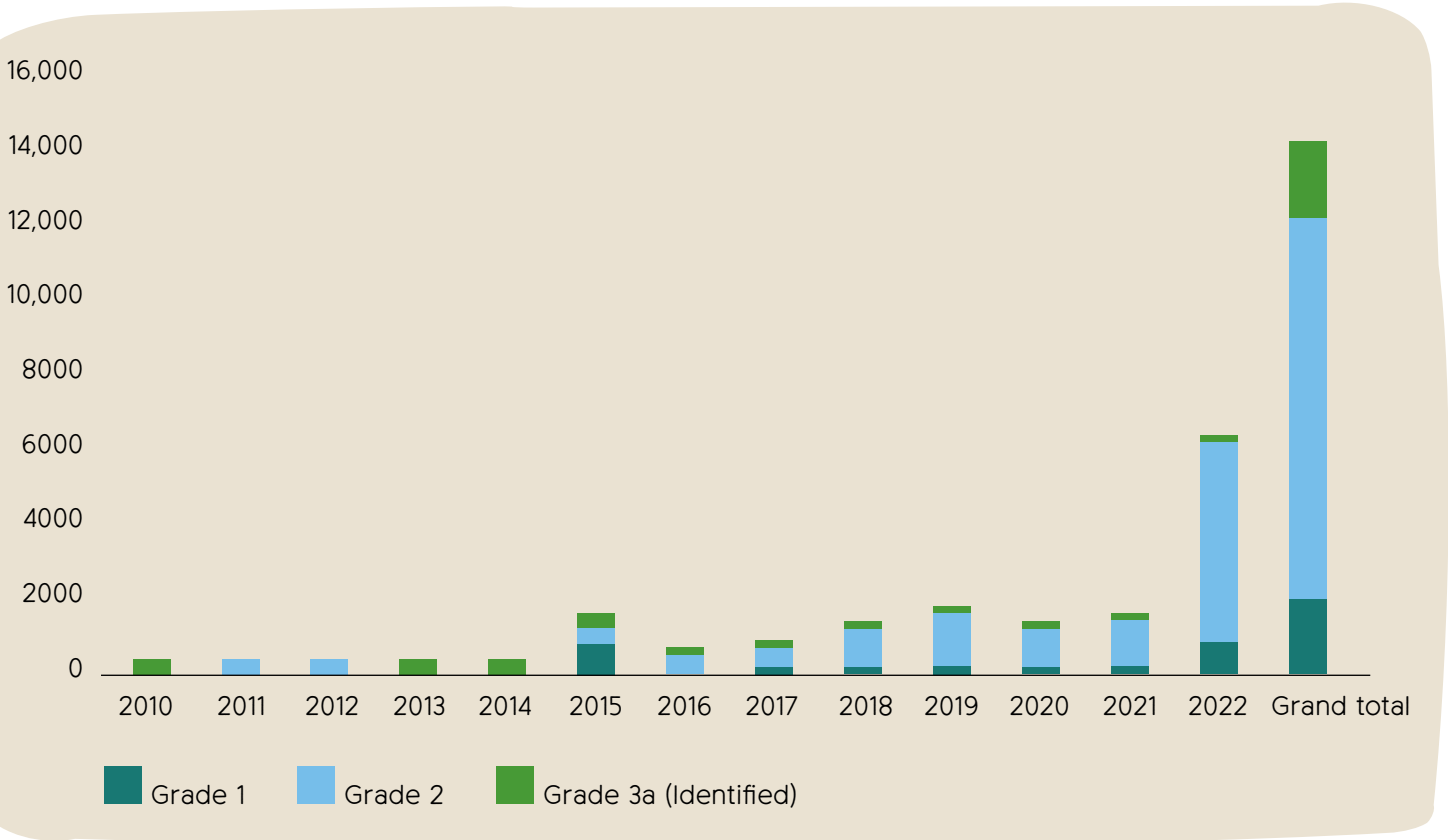
The regional profile of BMV development

The same datasets were used to evaluate the regional differences in the overall loss of BMV agricultural land between 2010 and 2022, the result of which can be seen in Figure 3 and Tables 2 and 3.

There have been three regions (East Midlands, East of England and the South East) which have experienced the highest absolute losses of BMV agricultural land from development projects between 2010 and 2022 (Figure 3 and Table 2). In particular, the East of England has seen high levels of development on BMV land, having lost over 3,200 hectares over the past 12 years. This is followed closely by the South East region losing 2,920 hectares of BMV land overall, including the greatest regional loss of Grade 1 (excellent quality agricultural land) BMV land at 577 hectares.

Our BMV agricultural land is not spread evenly throughout the country; as previously highlighted, the top regions for the proportion of BMV are the East of England, East Midlands and Yorkshire and the Humber, so it would stand to reason that these areas would have some of the highest losses. However, Table 2 also shows that with over 1% loss each, the North East, North West and South East have seen the highest proportions of BMV land lost to development. Going further into the data, Yorkshire and the Humber has seen had the highest proportional loss of Grade 1 land, at over 3.5%, while the East Midlands, West Midlands and South East have lost 7%, 6% and 4%, respectively, of their Grade 3a land (Table 3).

Figure 3
The hectares of Grade 1, 2 land according to the 'Provisional' dataset and the hectares of Grade 3a according to the 'Post 1988' dataset in England, which have been developed since 2010, by region. Data: Provisional ALC 1:250,000 dataset/ Post 1988 ALC Site Data/ Glenigan. See Table A2 for breakdown of figures.
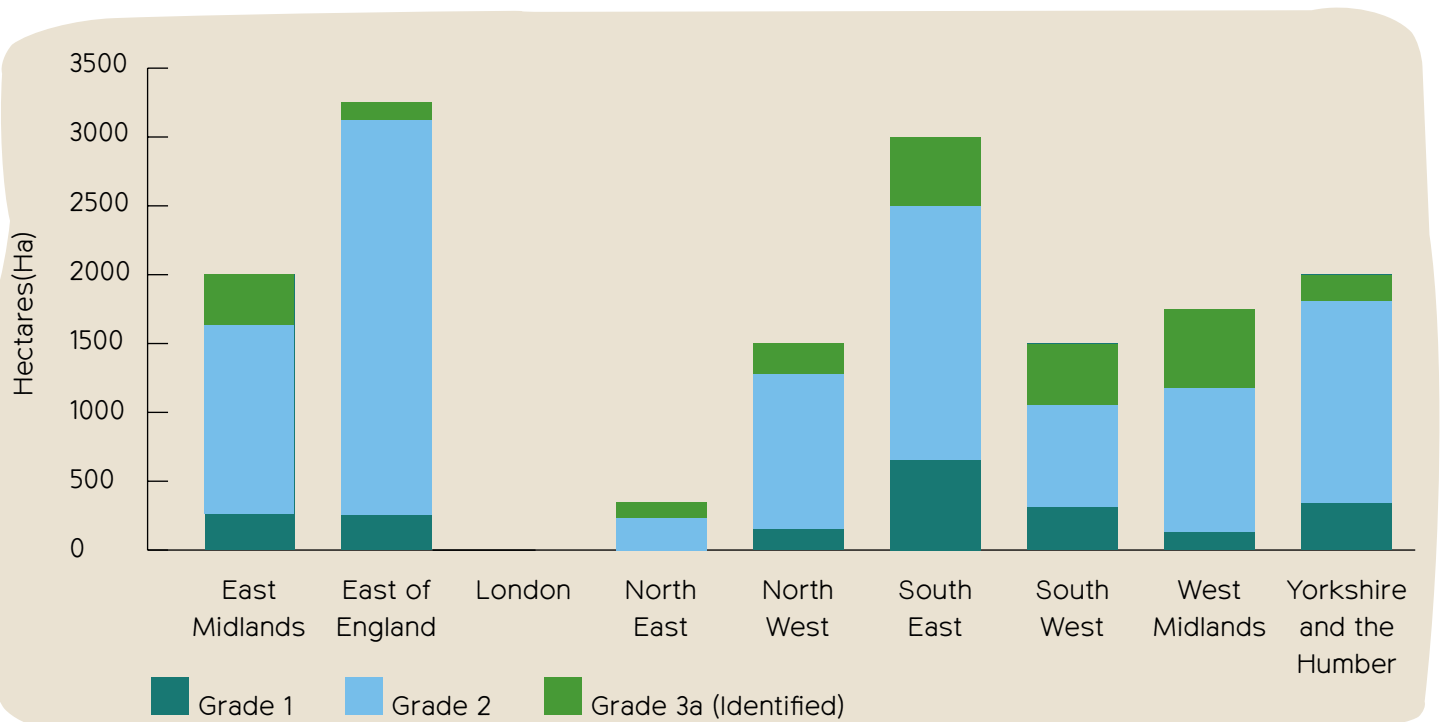
Table 2

Shows the total hectares of BMV in each region, the number of those hectares which have been developed and the percentage developed as a proportion of the total area of BMV land in that region*. Data: Provisional ALC 1:250,000 dataset; Post 1988 ALC Site Data.

Region	BMV Total	BMV Developed	Proportion developed (%)
East Midlands	510,140	1,970	0.39
East of England	618,789	3,232	0.52
London	12,100	2	0.02
North East	19,257	314	1.63
North West	113,089	1,255	1.11
South East	233,851	2,920	1.25
South West	274,396	1,316	0.48
West Midlands	208,276	1,629	0.78
Yorkshire and the Humber	282,884	1,777	0.63
Total	2,272,782	14,415	0.63

* BMV figures derived from total sum of 'Grade 1', 'Grade 2' in Provisional dataset
and 'Grade 3a (Identified)' in the Post 1988 dataset.

Table 3

The percentage of Grade 1, 2 and Grade 3a (identified) which has been developed in that region since 2010 as a proportion of the total area of each category in that region*. Data: Provisional ALC 1:250,000 dataset; Post 1988 ALC Site Data; Glenigan.

Region	Grade 1	Grade 2	Grade 3a (Identified)
East Midlands	0.22	0.33	7.37
East of England	0.23	0.57	1.26
London	0.05	-	-
North East	-	1.52	2.29
North West	0.38	1.23	3.60
South East	1.22	1.04	4.04
South West	0.84	0.31	1.93
West Midlands	0.66	0.56	6.23
Yorkshire and the Humber	3.53	0.45	1.47

* BMV figures derived from total sum of 'Grade 1', 'Grade 2' in Provisional dataset
and 'Grade 3a (Identified)' in the Post 1988 dataset.
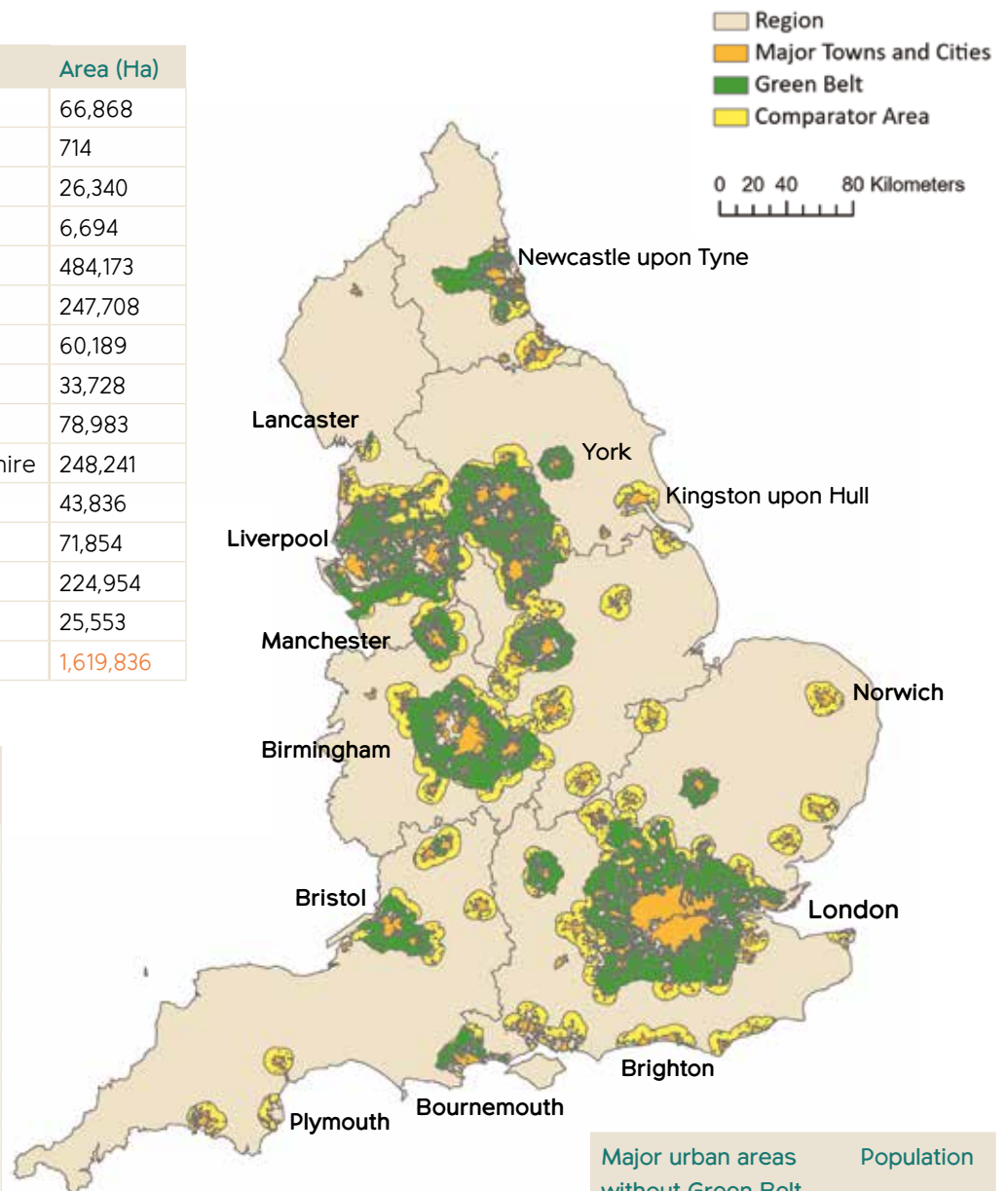
BMV around towns and cities

This part of the research looks at BMV development in areas designated as Green Belt, as well as areas of undesignated and largely undeveloped land around large towns and cities. Together, these areas of land make up around 22% of England's land area (Figure 4)

Figure 4

Countryside around towns including:
Green Belt (green); other large towns & cities without Green Belts (yellow)

Green Belt	Area (Ha)
Avon	66,868
Burton and Swadlincote	714
Cambridge	26,340
Gloucester and Cheltenham	6,694
London	484,173
North West	247,708
Nottingham and Derby	60,189
Oxford	33,728
SW Hampshire and SE Dorset	78,983
South Yorkshire and West Yorkshire	248,241
Stoke on Trent	43,836
Tyne and Wear	71,854
West Midlands	224,954
York	25,553
Total	1,619,836

Major urban areas with Green Belt	Population
London	7,215,900
Birmingham	970,900
Liverpool	469,000
Leeds	443,250
Sheffield	439,870
Bristol	420,560
Manchester	394,270
Coventry	303,480
Bradford	293,720
Stoke on Trent	259,250
Wolverhampton	251,430
Nottingham	249,650
Derby	229,400

Legend:
- Region
- Major Towns and Cities
- Green Belt
- Comparator Area

0 20 40 80 Kilometers

Map labels: Newcastle upon Tyne, Lancaster, York, Kingston upon Hull, Liverpool, Manchester, Norwich, Birmingham, Bristol, London, Brighton, Bournemouth, Plymouth

Major urban areas without Green Belt	Population
Leicester	303,580
Kingston upon Hull	301,420
Plymouth	243,800
Southampton	234,250
Reading	232,660

Safeguarding the land around our urban centres for nature-friendly farming allows for the connection between urban and rural economies to be rebuilt. This offers multiple benefits, such as securing access to locally produced foods for our urban centres; creating jobs through increased generation of goods and services; and providing green spaces and educational opportunities for city dwellers. The promotion of ecological farming practices in our urban fringe also has many benefits which will support existing government goals for the sequestration of carbon and promotion of biodiversity. The use of our urban fringe BMV land for ecological farming offers us the optimal return in regard to all of these benefits. However, due to its location, BMV land in the urban fringe is unique in that it will face a higher development threat than other areas of BMV land.

Our analysis found that there are 537,262 hectares of BMV classified land in the countryside around towns and cities; 23.6% of all England's BMV is in these areas, making the urban fringe representative of the wider countryside in this sense.

Table 4 shows the amount of development which has occurred on BMV land in countryside around towns and cities. In total, 5,565 hectares have been lost — over a third of England's total BMV loss and 1% of the total BMV land available in these areas. The regions which have been hardest hit by BMV development in countryside around their towns and cities are the East Midlands, North East, South East and South West. Grade 3a is experiencing the highest losses, with the East Midlands losing nearly 8% of its total identified 3a land while the North West and South East have lost 4% and 5% respectively.

Table 4
The hectares of Grade 1, 2 and 3 land according to the 'Provisional' dataset and the hectares of Grade 3a and 3b according to the 'Post 1988' dataset around towns and cities, which have been developed since 2010. Data: Provisional ALC 1:250,000 dataset; Post 1988 ALC Site Data; Glenigan.

Region	Grade 1	Grade 2	Grade 3a (Identified)	BMV Total
East Midlands	-	547 (0.94)	266 (8.53)	813 (1.31)
East of England	18 (0.15)	1,012 (0.86)	21 (0.59)	1,051 (0.79)
London	2 (0.06)	-	-	2 (0.02)
North East	-	102 (2.01)	35 (2.37)	136 (2.09)
North West	60 (0.21)	392 (0.94)	128 (4.25)	580 (0.79)
South East	363 (2.18)	548 (0.85)	268 (5.34)	1,178 (1.37)
South West	168 (1.96)	332 (1.30)	60 (1.39)	559 (1.46)
West Midlands	14 (0.53)	599 (0.77)	230 (3.93)	843 (0.98)
Yorkshire and the Humber	-	347 (0.97)	55 (0.94)	402 (0.96)
Total	625	3,878	1,062	5,565 (1.03)

Development through Appeals

Local planning authorities make the decisions on whether a planning application should be given permission after weighing up many different variables as required by national planning policies. If an authority decides that a planning application should not be given permission, the applicant has a six-month window to decide if they would like to appeal that decision to the Secretary of State.

The Planning Inspectorate is a government agency which has the power, acting on behalf of the Secretary of State, to overturn a refusal of planning consent by a local planning authority (LPA) if it believes the LPA decision was unsound. In major cases the final decision may be taken by the Secretary of State who can overrule the planning inspector's recommendation. For this part of the research, CPRE analysed appeal decisions from 2010 onwards which include reference to BMV land, to gain understanding of how much weight the presence of BMV land has in planning decisions by the inspectorate.

Table 5 shows that since 2010, there have been 147 appeals that mention BMV land within the appeal report. Of these, 67 were allowed and 80 dismissed, an overall allowance rate of 46%. Appeals which were allowed used 788 ha of BMV land, with over half of this land take occurring in 2015 and 2016. This is much higher than the average rate at which all appeals are allowed (about 25%) but also consistent with the rate at which appeals involving a public inquiry are allowed. Most, if not all, appeals involving BMV land would need an inquiry due to the heightened controversy.

Further analysis into appeal reports showed us that the most common reason quoted for an application appeal to be allowed was due to the local planning authority not having a five-year housing land supply, quoted in 22 of the appeal reports. Of the 87 appeals which were dismissed, 12 gave 'significant' weight to the presence of BMV land while 10 gave 'moderate weight'. The presence of BMV land in 33 dismissed appeals played either a 'limited', 'modest' (or 'some') or no role in the appeal ultimately being rejected. This raises the question of how much value is being placed on the presence of BMV land by DLUHC and the Planning Inspectorate within the wider context of meeting housing targets in a district.

A recent comment made by Lord Benyon in a Lords debate on food security[12] remarked that

' very strict rules relate to both planning and the use of the best agricultural land ',

in relation to a major solar development which has been given permission on BMV land in Suffolk. However, with almost half of appeals involving BMV land being allowed by the Planning Inspectorate, it could be reasonably argued that these policies are not strong enough.

Housing development versus BMV protection

September 2021 saw an appeal for 118 houses on a BMV site in West Sussex allowed by the Planning Inspectorate. The development of the site resulted in a loss of 4.5 ha of Grade 2 and 3a agricultural land, as well as 2 ha of a nitrate mitigation site, and was described as 'not ideal' in the inspector's report. Driven by Chichester's out-of-date Local Plan, the development of this BMV land was described as 'inevitable' due to constraints on land from the protected South Downs National Park and Chichester Harbour AONB, limiting other development site opportunities to meet the councils housing needs. Current national planning policy results in these trade-offs between different land uses, whereas policy should allow for a more integrated decisions and better outcomes.

The introduction of a national land use strategy, together with more local influence over the implementation of land management policy, would allow for more integrated policies and decision-making, and better outcomes, addressing the wasteful pattern of development often driven by the requirement for a district to meet its housing targets. The outcome should be living more within environmental limits and being able to expand environmental capacity rather than continue to shrink it. In England, there is also an important equity dimension to land use: there is an increasingly urgent need to spread or 'level up' development and quality of life more fairly between the pressurised south of the country and the relatively neglected midlands and northern regions.

Table 5
Shows the number of allowed and dismissed appeal decisions which have mentioned BMV land within the Planning Inspector's report. Data: Compass; CPRE analysis

Year	Allowed	Dismissed	Allowed Area (Ha)	Allowed Rate (%)
2010	-	-	-	-
2011	-	3	-	0
2012	1	3	4	25
2013	3	1	11	75
2014	3	4	77	43
2015	7	17	366	29
2016	17	28	117	38
2017	12	6	38	67
2018	4	5	11	44
2019	3	2	7	60
2020	4	5	45	44
2021	11	8	71	58
2022	2	1	40	67
Total	67	80	788	46

Future threats: Flooding

The land losses resulting from permanent development on land classified as BMV is further compounded if we consider other current and future pressures on this land. Farmland is severely damaged when hit by flooding, causing delays to the harvest and a reduction in yields. For this analysis, we look into the current flooding threat BMV land faces.

The Environment Agency produces maps of flood risk to support food risk assessments in planning. Using the 'Flood Map for Planning (Rivers and Sea) - Flood Zone 3' dataset (data.gov.uk)[13] we determined how much of the Provisional ALC mapping fell into these areas. Flood zone 3 represents areas of the highest risk of flooding.

Table 6 shows that an estimated 212,319 ha of all England's Grade 1 BMV land is within flood zone 3 areas — this means 59.8% of all England's Grade 1 BMV land is at the highest risk of flooding. The regional profile of flood risk shows that 75% and 95%, respectively, of the East Midlands and East of England Grade 1 land is at the highest risk of flooding, shown on (Figure 6 a and b).

The figures presented here are representative of the current threat posed by flooding, but the consequences of climate change are likely to increase the threat posed by flooding even further. The Met Office predicts that the intensity of rain will increase and that, by 2070, rainfall in the summer will have increased by 20%, with a 25% increase in winter[14]. The implications of climate change will have severe consequences for the loss of BMV land and our resulting food security. Protecting BMV land from permanent development now is vital if we are to maintain a supply of BMV land as climate change progresses. Our analysis found that around 450 hectares of BMV land have already been used to build flood defence developments, suggesting that we are already seeing the impacts on climate change on this land.

Table 6
The hectares of Grade 1, 2 and 3 land according to the Provisional dataset which fall into Flood Zone 3 by region. Data: Provision ALC 1:250,000 dataset / Environment Agency[15]

Region	Grade 1	Grade 2	Grade 3	Total
East Midlands	79,903	121,191	105,897	306,991
East of England	98,784	89,969	87,797	276,550
London	130	15	1,077	1,222
North East	–	5,153	16,732	21,885
North West	6,625	10,965	41,290	58,880
South East	6,994	24,256	51,944	83,194
South West	1,606	14,956	82,424	98,986
West Midlands	1,426	9,349	44,525	55,300
Yorkshire and the Humber	16,851	58,736	97,000	172,587
Total	212,319	334,590	528,686	1,075,595

Figure 6a shows the Grade 1 classified land within the East Midlands and East of England regions. Figure 6b shows the Grade 1 land (as in Figure 6a) and those areas which are considered to be in 'Flood Zone 3'

Figure 6a

Legend

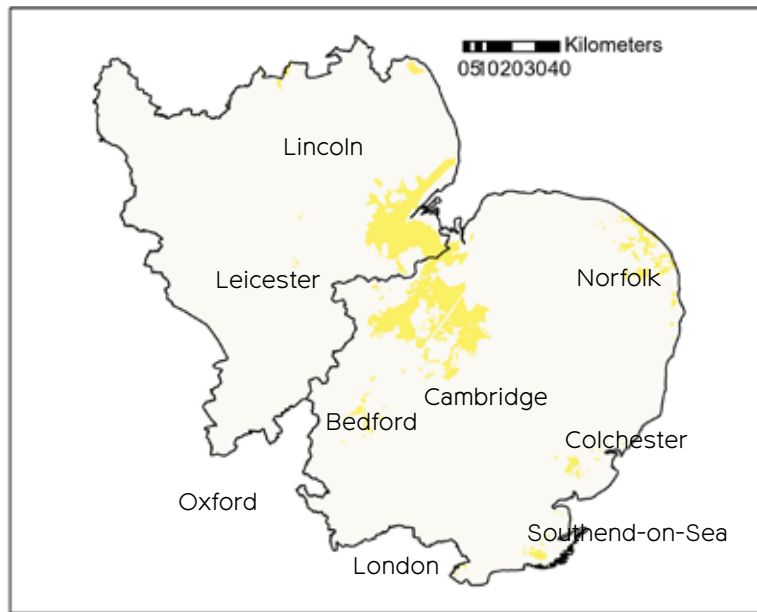|	
🟨	Grade 1
🟦	Flood zone 3
⬜	East Midlands and East Region

Figure 6b

© Environment Agency copyright and/or database right 2018. All rights reserved. some features of this map are based on digital spatial data from the Centre for Ecology and Hydrology, © NERC (CEH). © Crown copyright and database rights 2018 Ordnance Survey 100024198

Conclusion and recommendations

This report has found that current planning policy is not sufficient in protecting our BMV agricultural land and that we continue to needlessly place development on this valuable resource. We have seen a trend of increasing amounts of BMV land being used for development since 2010, likely resulting from continued pressure on Local Planning Authorities to find land within their districts to meet their nationally imposed housing targets. The effects of housing pressure are surfacing in the usual hot spots for development such as the East of England and South East, in addition to high BMV land take in the West and East Midlands, likely resulting from a lack of land use strategies across the country. However, drawing solid conclusions on the status of development on BMV land will continue to be difficult until more accurate and up-to-date information is available on exactly where BMV land is. As a result, the figures we have stated in this report are indicative but are likely to be conservative estimates.

It is vital that we maintain as much of our domestic food production as possible. As recent events have shown, the food security of the country increasingly hangs in the balance. Meanwhile, the pressures on our most productive land will only continue to increase as we experience more damaging effects from the changing climate. Protecting our BMV agricultural land should be of top priority.

CPRE therefore reccomends that the government should:

- Consult on and publish a national land use strategy that provides an integrated framework for local policy and decision-making on both planning and farming.

- Incorporate the following guidelines in the new NPPF to ensure the loss of valuable farmland is minimised:
    - a brownfield first policy
    - a greater steer towards medium- and high-density new housing
    - a firm presumption against development on BMV land — the higher the ALC grade, the greater the weight which should be attached to its protection.

- Require site-specific surveys to be mandatory on any development proposals involving more than one hectare of land, unless it is clear that the site will not contain BMV land.

- Require local authorities to identify and track development on BMV land in their district.

Annex

Methods

Development on BMV land analysis: To understand the quantities of BMV land which have been built on since 2010, we used several spatial datasets from Natural England and a development dataset obtained from development consultancy, Glenigan. The majority of information on the ALC Grade of soils throughout the country is based on the old system which does not include Grades 3a and 3b, instead placing both of these Grades into an aggregated Grade 3. Using GIS tools and the Post 1988 dataset, we were able to determine which developments in our dataset fell into Grade 3a land, and as a result could be considered BMV for our findings. It should be noted that the post 1988 dataset covers only 8% of rural England, and as a result, we were only able to identify 3% of the Grade 3 land which fell into Grade 3a or 3b.

Appeals analysis:
During April 2022, CPRE collated inspector reports from planning appeals platform, Compass. A key word search was conducted using the phrases 'BMV' and 'Best and Most Versatile' to identify the relevant appeals.

Flooding risk analysis:
To assess the risk to faced by BMV to Flooding, CPRE used the existing 'Provisional' mapping dataset and the Environment Agency's flood risk for planning, flood zone 3 datasets, to understand where areas of BMV land were falling in relation to high flood risk areas. Using GIS tools these two spatial datasets were overlaid, and the intersect between flood zone 3 and Grade 1 areas was measured.

Complementary tables of figures

Table A1

Shows the number of hectares of BMV land lost to development since 2010. Hectares lost of Grade 1 and 2 land are based on the 'Provisional' dataset and hectares lost in Grade 3a are based on available detailed survey information in the 'Post 1988' dataset. Data: Provisional ALC 1:250,000 dataset; Post 1988 ALC Site Data; Glenigan.

Row Labels	Grade 1	Grade 2	Grade 3a (Identified)	BMV total
2010	1.15	59.03	1.29	61.47
2011	1.87	102.32	-	104.19
2012	39.26	1.68	-	40.94
2013	3.94	107.36	0.87	112.17
2014	5.08	94.25	16.00	115.33
2015	484.44	278.42	197.17	960.04
2016	34.85	363.94	17.28	416.07
2017	110.04	414.43	81.07	605.54
2018	132.88	855.15	139.44	1,127.47
2019	220.71	1,252.16	313.40	1,786.27
2020	93.03	802.42	172.10	1,067.55
2021	154.91	1,158.48	222.79	1,536.18
2022	752.38	4,637.93	1,091.94	6,482.26
Total	2,034.5	10,127.6	2,253.4	14,415.5

Table A2

The hectares of Grade 1, 2 and 3 land according to the 'Provisional' dataset and the hectares of Grade 3a and 3b according to the 'Post 1988' dataset in England, which have been developed since 2010, by region. Data: Provisional ALC 1:250,000 dataset; Post 1988 ALC Site Data; Glenigan.

Region	Grade 1	Grade 2	Grade 3a (Identified)	BMV Total (Grade 1, 2 and identified Grade 3a)
East Midlands	238	1,315	417	1,970
East of England	243	2,887	103	3,232
London	2	-	-	2
North East	-	251	63	314
North West	111	971	173	1,255
South East	577	1,802	541	2,920
South West	313	674	329	1,316
West Midlands	90	1,050	489	1,629
Yorkshire and the Humber	461	1,178	138	1,777
Total	2,035	10,128	2,253	14,415

Supplementary analyses

Likelihood of BMV land dataset

While the analyses in this report provide us with some insight into the quantities of BMV land which have been developed, the limited size of the Post 1988 Site Survey dataset means it is difficult to determine the true extent of BMV land take due to limited knowledge of the relative proportions of Grade 3a and 3b land.

Due to this, complementary analyses using Natural England's 'Likelihood' of BMV land dataset were undertaken to gain a strategic insight into the BMV land take for development and give some initial indication as to the full extent of BMV land being lost. This dataset is used to show the best available estimate of agricultural land quality at the date of compilation (April 2022) expressed in terms of the proportion of land likely to be classified as BMV, either 'High', 'Moderate' or 'Low' (see Box 2 for the breakdown of these categories).

As the Likelihood dataset is based on a proportion of land being BMV, our results have been made on conservative estimates which account for the probability that a development may not be on BMV land. For example, 60% of the total estimated land take is presented in Table 3A for the 'High' category, 40% of the land take for 'Moderate' and 20% for the 'Low' category.

Table A3 shows the likelihood of an area of land being either Grade 1, 2 or 3a, details of the likelihood categories can be found in Box 2. The areas of England which are likely to have high proportions of BMV land are predominantly found in the East of England, followed by the East and West Midlands, and Yorkshire and the Humber.

Table A3
Shows the hectares of land within England which fall into 'High', 'Moderate' or 'Low' likelihood of being BMV land. Data: Likelihood of 'Best and most versatile' (BMV) land/ALC Strategic Map

Region	High	Moderate	Low
East Midlands	540,193	481,762	341,292
East of England	945,344	431,137	216,432
London	8,057	6,164	7,831
North East	75,387	199,734	431,093
North West	240,429	232,307	679,513
South East	410,838	625,829	430,315
South West	477,820	667,416	938,988
West Midlands	519,162	392,691	187,285
Yorkshire and the Humber	511,336	241,719	573,304
Total	3,728,566.00	3,278,759.00	3,806,053.00

Our analysis found that it is likely that 18,772 hectares of BMV land have been used for development since 2010 — this is equivalent to 0.44% of the total BMV land available in England (Table A4) according to this dataset. Two regions, the East Midlands and West Midlands, have had the greatest BMV land losses in total terms and as a proportion of the amount of BMV land they have available, with 4,194 hectares (0.72%) and 3,631 hectares (0.72%), respectively. Figure A1 shows that the general trend since 2010 has been an increase in the use of BMV land for development (with particular peaks in 2019 and 2022) and that the usage of High Likelihood land has been increasing in particular. It is important to note that the relatively smaller numbers in the 'Low' category is likely due to our development dataset being based on the 'Provisional' BMV dataset, and as a result will not be a complete picture of all development on BMV land.

Table A4

Shows the hectares of land within England which fall into 'High', 'Moderate' or 'Low' likelihood of being BMV land which have been developed, along with the percentage of this development as a proportion of the amount of that land type available in that region. Data: Likelihood of 'Best and most versatile' (BMV) land; ALC Strategic Map; Glenigan.

Region	High	Moderate	Low	Total
East Midlands	3,215 (0.99)	834 (0.43)	145 (0.21)	4,194 (0.72)
East of England	1,790 (0.32)	438 (0.25)	131 (0.30)	2,360 (0.30)
London	10 (0.20)	48 (1.95)	15 (0.99)	73 (0.83)
North East	89 (0.20)	286 (0.36)	225 (0.26)	601 (0.28)
North West	760 (0.53)	419 (0.45)	114 (0.08)	1,292 (0.35)
South East	1,044 (0.42)	601 (0.24)	222 (0.26)	1,867 (0.32)
South West	713 (0.25)	473 (0.18)	382 (0.20)	1,568 (0.21)
West Midlands	813 (0.26)	2,762 (1.76)	56 (0.15)	3,631 (0.72)
Yorkshire and the Humber	1,276 (0.42)	1,755 (1.82)	156 (0.14)	3,187 (0.62)
Total	9,709 (0.43)	7,617 (0.58)	1,446 (0.19)	18,772 (0.44)

Figure A1

Shows the hectares of land within England which fall into 'High', 'Moderate' or 'Low' likelihood of being BMV land which have been developed. Error bars show variation within the likelihood category. Trendline shows the rate of 'High' probability land being developed since 2010. Data: Likelihood of 'Best and most versatile' (BMV) land/ALC Strategic Map/ Glenigan

Legend: ■ High ■ Moderate ■ Low ·········· 'High' useage trend
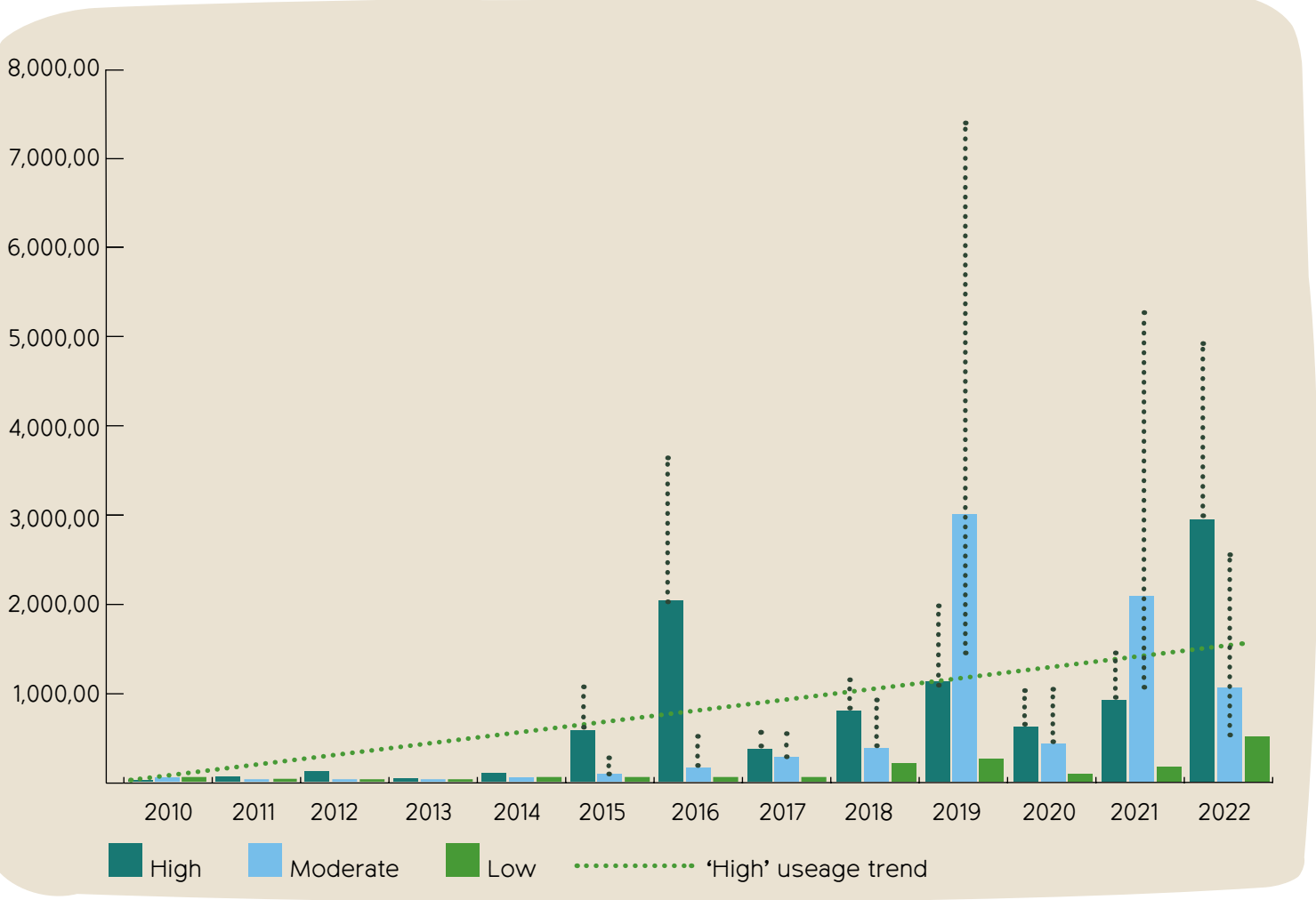
Explanatory note re Digital ALC data

There are four digital Agricultural Land Classification (ALC) datasets:

- Provisional ALC 1:250,000 dataset. Also available to view and down load from the website www.magic.gov.uk (select 'interactive map' then 'landscape' topic and a scale of 1:250 001 to view).

- Pre 1988 ALC site data – individual sites surveyed in more detail by MAFF (including subdivisions of Grade 3 Land) before 1988; individual sites mapped at varying scales and level of detail from 1:5,000 to 1:50,000 (typically 1:10,000). Older data for land assessed under 'old' ALC guidelines which have now been superseded. Original paper maps and reports have been scanned by DCS and held in 'Filestore' (password access). Survey files and other soil records are stored with TNT.

- Post 1988 ALC site data - individual sites surveyed in more detail by MAFF (including subdivisions of Grade 3 Land) between 1989 and 1999; individual sites mapped at varying scales and level of detail from 1:5,000 to 1:50,000 (typically 1:10,000). The most detailed and up to date dataset. Original paper maps and reports have been scanned by DCS and held in 'Filestore' (password access). Survey files and other soil records are stored with TNT.

- Likelihood of 'Best and most versatile' (BMV) land – (sometimes referred to as ALC Strategic Map) is derived from existing ALC, ALC climate data and Soil Association data (not current NSRI dataset but that originally digitised by FRCA from the published paper soil maps).

Defra is nominally the owner of all this data but Natural England acts as its guardian. Natural England is the only body holding the data, including all the paper site survey records which support them, and is the main source of expertise. (Julie Holloway is the national lead and Defra would refer all enquiries they receive to Julie).

The attached explanatory leaflet gives further background http://naturalengland.etraderstores.com/naturalenglandshop/product.aspx?ProductID=88ff926a-3177-4090-aecb-00e6c9030b29. The work on minerals and waste planning referred to in this leaflet is a statutory Natural England responsibility so we also use the data for day to day planning advice. It is also underpins the technical advice which Natural England uses to assist planners and others, including Defra, the public and consultants on soils and agricultural land in land use planning and related land evaluation work.

Natural England releases most of this ALC data in a digital format (subject to restrictions on the likelihood of BMV land dataset and pre 88 ALC data). As the digital requests are relatively few it is either done through the national GI Unit or (more commonly) from the GI people in Reading or Bristol, who used to have national responsibility for this. There is a protocol for the release of ALC data which is currently being updated, but there is a working draft, currently on the 'N' Drive at N:\Evidence\Science Development & Delivery\Geology, Landscape & Soils\ALC (filename: draft ALC data release procedure NE version Nov 08).

Gill Shaw is also running a project to get the site data more readily accessible including links to the scanned original site maps and reports (of which there are approximately 6000).

Digital Data supply:

1. Natural England can supply Provisional ALC data (stored on Natural England repositories) to contractors and/or the public. It is also available on www.magic.gov.uk to download.

2. If people receive requests for the Pre or Post 1988 digital datasets (site specific surveys which include subdivisions of Grade 3 land) or 'Likelihood of best and most versatile land' data, they may wish to consult either Julie Holloway or Gill Shaw in the first instance.

3. The 'Likelihood of best and most versatile land' dataset should be accompanied by an explanatory note. Due to licence restrictions the digital dataset can only be supplied to public bodies or their contractors. There is no licence restriction on paper map extracts.

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References

[1] National Planning Policy Framework, paragraph paragraph 174 [b] available at: www.gov.uk/guidance/national-planning-policy-framework

[2] Government food strategy, available at: www.assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1082026/government-food-strategy.pdf

[3] Guide to assessing development proposals on agricultural land, available at: www.gov.uk/government/publications/agricultural-land-assess-proposals-for-development/guide-to-assessing-development-proposals-on-agricultural-land

[4] Planning Practice Guidance for the natural environment, available at: www.gov.uk/guidance/natural-environment

[5] 25 Year Environment Plan, available at: www.gov.uk/government/publications/25-year-environment-plan

[6] Defra Soil Research Programme 'Review of the weight that should be given to the protection of best and most versatile (BMV) land' (2010)

[7] Natural England Technical Information Note TIN049, Second edition, 19 December 2012, Agricultural Land Classification: protecting the best and most versatile agricultural land

[8] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/183194/defra-stats-foodfarm-landuselivestock-farmingstats-june-statsrelease-junefinalengland2012-121101.pdf

[9] Food Foundation, Veg Facts in Brief 2020, available at:www.foodfoundation.org.uk/sites/default/files/2021-09/Pease-Please-Veg-Facts-2020-In-Brief-spreads-1.pdf

[10] DEFRA. Horticulture Statistics 2018.

[11] Based on the 400g of fruit and vegetables requirement for a an adult a day

[12] UK Parliament, House of Lords, Food Security, 13 June 2022, available at: https://hansard.parliament.uk/lords/2022-06-13/debates/932BFEF8-7348-40B1-B709-79CB78E6CE5F/FoodSecurity

[13] a spatial dataset of areas of land estimated to be at 1% or greater risk of flooding each year from rivers, or a 0.5% or greater chance from the sea when flood defences are ignored

[14] Met Office, Climate Change in the UK, available at: https://www.metoffice.gov.uk/weather/climate-change/climate-change-in-the-uk

[15] Flood Map for Planning (Rivers and Sea) - Flood Zone 3, available at: https://data.gov.uk/dataset/bed63fc1-dd26-4685-b143-2941088923b3/flood-map-for-planning-rivers-and-sea-flood-zone-3