

The Cattle Book 2008

Descriptive statistics of cattle numbers in Great Britain on 1 June 2008



British Cattle
Movement Service



Llywodraeth Cynulliad Cymru
Welsh Assembly Government



The Scottish
Government



defra
Department for Environment
Food and Rural Affairs

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Introduction

Welcome to The Cattle Book 2008

The purpose of the Cattle Book is to describe the size, distribution and other relevant characteristics of the cattle population in a standardised, quality-assured format. The publication supports the interpretation of veterinary surveillance data, the design and management of disease control activities and presents statistics and analyses of interest to a wide range of stakeholders.

This publication has been produced by Defra's Farming Statistics team and the Rapid Analysis and Detection of Animal-Related Risks (RADAR) team. RADAR data has been used in all tables, with additional breakdowns provided by combining it with June Survey of Agriculture and Horticulture data. Data shown in this publication refers to Great Britain (GB) (England, Scotland and Wales) unless otherwise stated and relates to the position as of 1 June 2008, except when a time series is shown. The data covers all premises that have registered their cattle with British Cattle Movement Service (BCMS). Official Scottish cattle figures are collected through the June Survey rather than RADAR. For more detail on this, please see the Appendix showing official Scottish cattle figures.

The Cattle Book is intended to be an easy-to-use and informative reference booklet about the cattle population of Great Britain. It provides statistics about the cattle population that can be used to predict the effect of disease outbreaks, plan resources for dealing with an exotic disease outbreak and assess the impact of policies that affect the cattle population.

All cattle data reported in this document was extracted from the RADAR system of surveillance management information. This system is part of the implementation of the Veterinary Surveillance Strategy (VSS), part of Defra's Animal Health and Welfare Strategy (AHWS). RADAR captures and processes data from a range of sources including the BCMS Cattle Tracing System (CTS).

It is mandatory for every bovine animal to have a passport and ear tag and for owners to report every movement of these animals onto and off their premises. This is done to enable all cattle in GB to be traceable for disease control purposes. The CTS records births, deaths and all movements of cattle as well as breed types and gender. RADAR takes this data and processes it so that population statistics can be derived and analysed.

Cattle population data is presented here in a number of different formats including density maps, tables and charts. Many of the data items are summarised at the country or Animal Health Divisional Office (AHDO) boundary level, in order to allow for local interpretation of the information displayed. For each data output a brief summary is presented to direct the reader to specific points of interest and to any data issues.

Tables and maps that deal with numbers of cattle may be useful for planning and disease control locally, whilst density and 'animal days at risk' outputs may be more useful for estimating disease risk. All outputs are reviewed to assess their quality and any limitations to the data are clearly indicated. Explanatory notes are given at the beginning of each section and at the back of this booklet.

For more information about the statistical analysis in this document, please contact statistics@defra.gsi.gov.uk and for more information about the background and further uses of the data, please contact vetsurveillance@defra.gsi.gov.uk

Summary

- There were 77,774 premises in Great Britain recorded as holding cattle on 1 June 2008.
- On these premises 8,868,469 cattle were recorded on RADAR as being present on 1 June 2008. Around 97% of these cattle were on permanent agricultural holdings or grazed on common land – see the table below.
- Between 1 June 2003 and 1 June 2008 there was an 11% fall in the number of cattle premises but only a 6% fall in the number of cattle.
- Around 21% of cattle were on premises that keep over 500 cattle, but these premises accounted for only 3% of all premises. However, nearly 50% of premises kept less than 50 cattle.
- In GB the areas with the most cattle were western England, south-western Wales and south-western Scotland.
- The majority of beef cattle are concentrated in the south-west of England, east and south-west of Wales and the north-east of Scotland. The majority of the dairy herd are concentrated in central and south-west England and south-west Wales.
- The most common breed types in GB were black and white (Holstein, Friesian and cross-bred animals of these breeds) which accounted for 32% of cattle, and Limousin and Limousin crosses (21% of all cattle).

Overview of GB cattle numbers on 1 June 2008

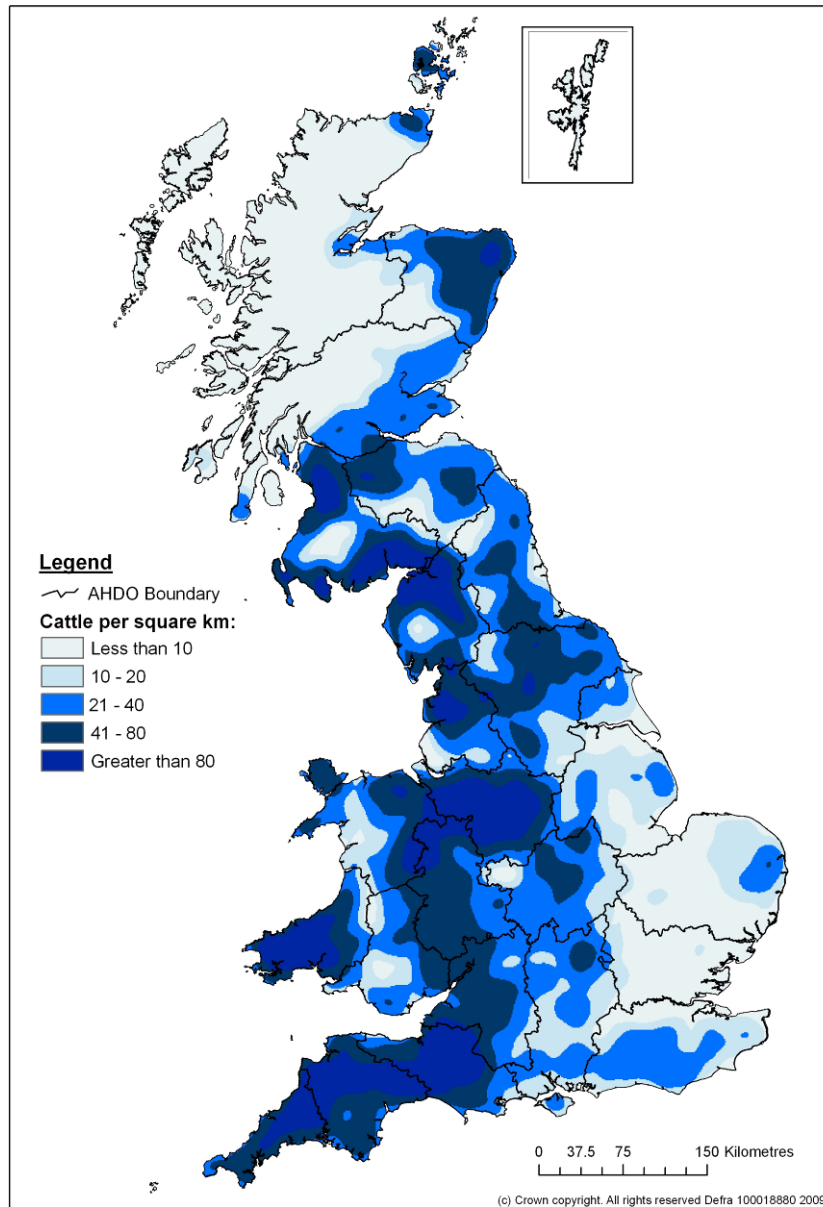
Cattle	On permanent agricultural holdings or common land	Elsewhere*
All female cattle	6,211,157	206,732
Aged 2 years or more	3,738,855	180,549
Total breeding herd (cattle which have calved)	3,014,180	56,063
Beef	1,375,684	26,839
Dairy	1,567,492	26,457
Dual or unknown purpose	71,004	2,767
Other female cattle (not calved or in calf for the first time)	724,675	124,486
Beef	355,852	98,442
Dairy	352,057	24,354
Dual or unknown purpose	16,766	1,690
Aged between 1 and 2 years	1,183,234	16,597
Beef	779,116	14,639
Dairy	384,361	1,775
Dual or unknown purpose	19,757	183
Less than 1 year	1,289,068	9,586
Beef	873,467	8,255
Dairy	394,916	1,160
Dual or unknown purpose	20,685	171
All male cattle	2,328,934	121,646
Aged 2 years or more	340,587	89,174
Aged between 1 and 2 years	874,961	16,135
Less than 1 year	1,113,386	16,337
Total cattle and calves	8,540,091	328,378
	8,868,469	

* 'Elsewhere' includes temporary agricultural holdings, slaughterhouses, markets, export centres, showgrounds, knackers yards, and so on. For a full list, see section 1.4.

1. Cattle Population

Methodology note: Within RADAR, raw data from the Cattle Tracing System is transformed to provide estimates of the cattle population at a point in time. Where doubts exist regarding an animal's whereabouts, for example if it was in transit overnight or because of a missing movement record, then an 'unknown' location is recorded. Not all premises have sufficiently accurate address information to be mapped or allocated to a country or Animal Health Divisional Office. These are classified as being in an 'unknown' geographical boundary. Please see the [Methodology](#) chapter for more details.

1.1. Cattle population density at 1 June 2008



- The figure above shows the number of cattle per square km across GB at 1 June 2008. The areas with the greatest concentration of cattle were generally on the west side of Great Britain. This includes the areas around Strathclyde, Dumfries & Galloway, Cumbria, Cheshire, Dyfed and Devon & Cornwall. Areas with the sparsest cattle densities (less than 10 per square kilometre) included the areas around northwest Scotland and East Anglia.
- This map is produced using 8.2 million cattle on 72 thousand premises. Seven per cent of premises are excluded – 0.1% of holdings have not been geo-referenced, while a further 7.0% have been geo-referenced by using the centre of their parish so have been included in the relevant AHDO in later tables, but not in the map above.

Cattle Population (continued)

1.2. Distribution of cattle by AHDO at 1 June 2008

Animal Health Divisional Office	Total number of cattle	Percent of GB total
Bury St Edmunds	155,246	2%
Carlisle	472,302	5%
Chelmsford	60,468	1%
Exeter	582,850	7%
Gloucester	370,970	4%
Leeds	509,062	6%
Leicester	260,593	3%
Lincoln	196,543	2%
Newcastle	277,060	3%
Preston	256,476	3%
Reading	259,500	3%
Reigate	198,575	2%
Stafford	653,398	7%
Taunton	497,805	6%
Truro	342,811	4%
Worcester	445,781	5%
ENGLAND	5,539,440	62%
Ayr	681,743	8%
Galashiels	290,944	3%
Inverness	242,663	3%
Inverurie	382,454	4%
Perth	331,823	4%
SCOTLAND	1,929,627	22%
Caernarfon	446,448	5%
Cardiff	219,642	2%
Carmarthen	503,173	6%
WALES	1,169,263	13%
AHDO not specified	230,139	3%
GREAT BRITAIN	8,868,469	100%

- The table above shows the distribution of cattle in GB by AHDO. Note that the AHDO was not specified within RADAR for around 3% of cattle. See the [Methodology](#) chapter and [note 6](#) in the Frequently Asked Questions (FAQ) section for more details.
- Ayr and Stafford AHDO areas contained the largest numbers of cattle of the AHDOs in GB. Chelmsford had the smallest number of cattle.

Cattle Population (continued)

1.3. Distribution of cattle by NUTS2 area at 1 June 2008

NUTS2 area	Total Cattle
Bedfordshire and Hertfordshire	28,963
Berkshire, Buckinghamshire and Oxfordshire	164,333
Cheshire	229,922
Cornwall and Isles of Scilly	342,609
Cumbria	471,250
Derbyshire and Nottinghamshire	233,159
Devon	583,623
Dorset and Somerset	496,691
East Anglia	154,975
East Riding and North Lincolnshire	57,517
Essex	29,792
Gloucestershire, Wiltshire and North Somerset	370,848
Greater Manchester	28,774
Hampshire and Isle of Wight	96,102
Herefordshire, Worcestershire and Warwickshire	250,184
Kent	63,307
Lancashire	223,923
Leicestershire, Rutland and Northamptonshire	188,303
Lincolnshire	90,902
London (Inner and Outer)	2,431
Merseyside	7,541
North Yorkshire	394,215
Northumberland and Tyne and Wear	163,814
Shropshire and Staffordshire	490,751
South Yorkshire	39,137
Surrey, East and West Sussex	134,973
Tees Valley and Durham	114,445
West Midlands	7,761
West Yorkshire	74,882
ENGLAND	5,535,127

NUTS2 area	Total Cattle
Eastern Scotland	434,565
Highlands and Islands	332,761
North Eastern Scotland	356,372
South Western Scotland	801,745
SCOTLAND	1,925,443

NUTS2 area	Total Cattle
East Wales	374,978
West Wales and The Valleys	795,769
WALES	1,170,747

Country	Total Cattle
England	5,535,127
Scotland	1,925,443
Wales	1,170,747
NUTS2 region not specified	237,152
GREAT BRITAIN	8,868,469

- These tables show the number of cattle in GB using the Nomenclature for Units of Territorial Statistics (NUTS) classification. NUTS2 represents counties or groups of counties in England and groups of unitary authorities in Scotland and Wales.
- In England this table emphasises the concentration of cattle in the South West with Devon (584 thousand cattle) and Dorset and Somerset (497 thousand) being the areas with the most cattle. In Wales, around two thirds of cattle were in the west of the country. In Scotland, the South West region had the highest number of cattle.
- Note that there are some small differences in the country totals when compared with the AHDO analysis. This is because for a small number of holdings the AHDO is known but the NUTS2 area is not, and vice versa.

Cattle Population (continued)

1.4. Cattle population by type of premises at 1 June 2008

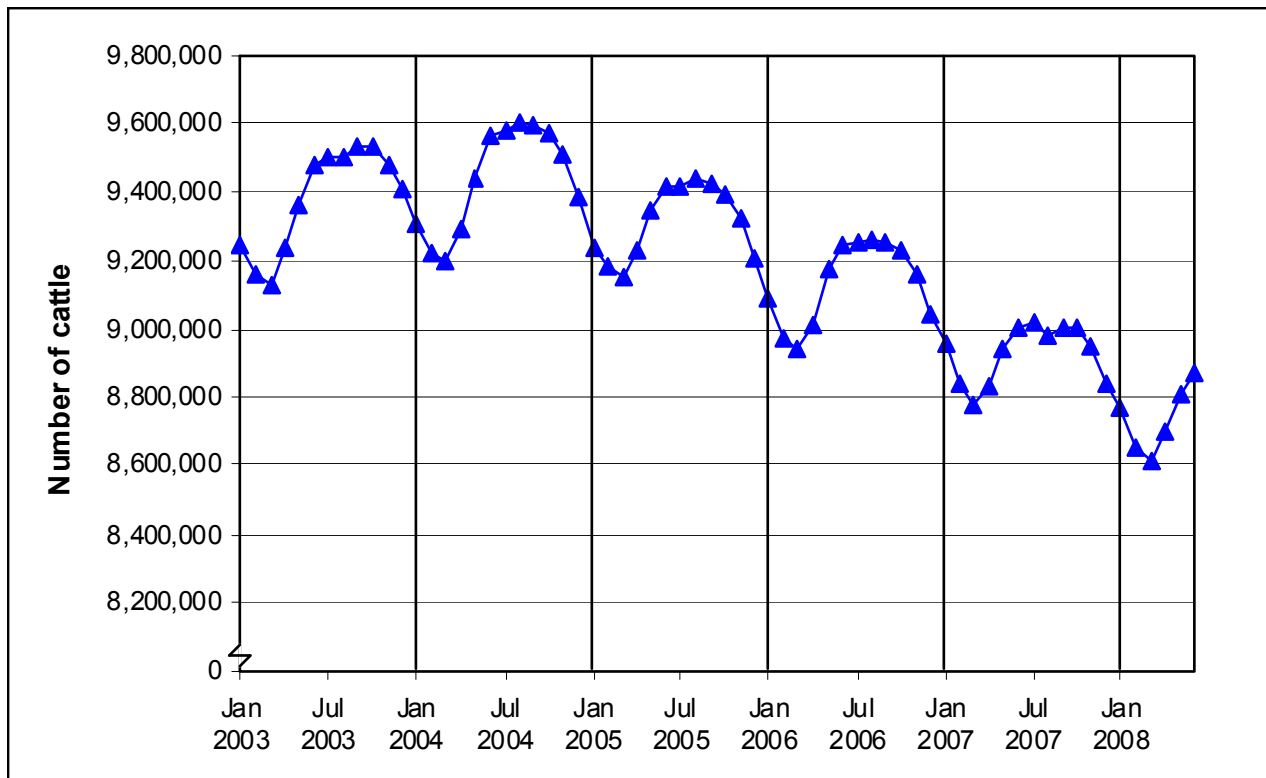
Location on 1 June 2008	Total Cattle
Agricultural Holding*	8,518,740
Landless Keeper	79,331
Slaughterhouse (Red Meat)	37,049
Market	1,896
Export Assembly Centre	1,623
Collection Centre BSE material	438
Hunt Kennel	340
Knackers Yard	316
Other	327
Location type not specified	228,409
GREAT BRITAIN	8,868,469

* includes permanent and temporary agricultural holdings.

- On any one day during the year cattle may be present on a variety of premises. The table above shows the situation across GB on 1 June 2008 when the vast majority (97%) of cattle were either on agricultural holdings or on land kept by landless keepers (who own cattle but rent in their land). The exact distribution of cattle across premises will vary slightly depending on which day is selected.

Cattle Population (continued)

1.5. Total number of cattle on the first day of each month, 1 January 2003 to 1 June 2008



- This graph shows how total cattle numbers vary over months and years.
- There is a seasonal pattern, with cattle numbers peaking around July each year. Due to the short range of the vertical axis, fluctuations in cattle numbers are not as pronounced as the graph implies. In 2007 for example, there were 2.7% more cattle at 1 July 2007 (the month with the most cattle) than there were in March 2007 (the month with the fewest cattle).
- There has been a gradual overall reduction in numbers from mid 2004. The total number of cattle in Great Britain on 1 June 2008 (8.9 million) was 7% lower than 1 June 2004 (when the cattle population was 9.6 million).

2. Cattle Premises

Methodology note: A cattle premises is defined as any premises that has a bovine animal registered as being present on it on at least one day of the year. A snapshot of 1 June has been used in many cases in the Cattle Book though the number of cattle and premises can vary across the year. The address of some premises could not be geo-referenced and so have not been included. Please see the [Methodology](#) chapter for more details.

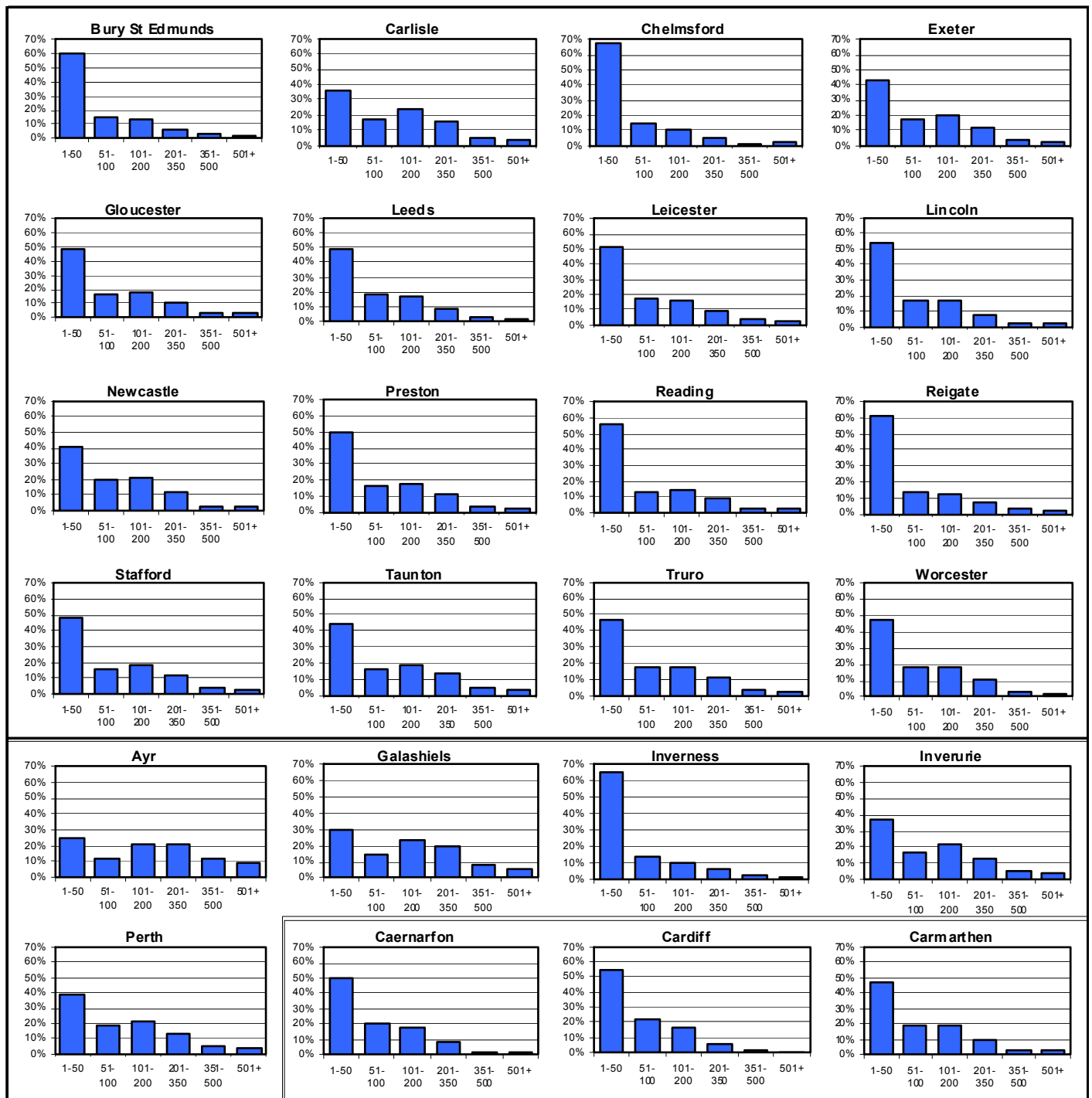
2.1. The number of cattle premises by size band and AHDO at 1 June 2008

Animal Health Divisional Office	Premises Size (in terms of number of cattle)							Cattle per premises	
	1-50	51-100	101-200	201-350	351-500	501+	All	Mean	Median
Bury St Edmunds	1,113	267	235	124	58	35	1,832	85	28
Carlisle	1,231	581	805	540	164	118	3,439	137	92
Chelmsford	621	135	98	44	11	18	927	65	21
Exeter	2,146	863	995	617	198	134	4,953	118	67
Gloucester	1,573	526	567	365	129	101	3,261	114	54
Leeds	2,599	992	911	487	162	94	5,245	97	51
Leicester	1,363	451	432	254	83	60	2,643	99	47
Lincoln	1,223	386	374	179	52	37	2,251	87	41
Newcastle	961	469	487	276	73	68	2,334	119	71
Preston	1,307	432	452	284	81	42	2,598	99	50
Reading	1,503	364	379	247	83	80	2,656	98	35
Reigate	1,413	329	283	171	69	53	2,318	86	29
Stafford	2,845	938	1,049	691	219	166	5,908	111	55
Taunton	1,755	622	709	543	185	139	3,953	126	65
Truro	1,472	533	569	348	106	88	3,116	110	57
Worcester	1,994	763	773	472	128	99	4,229	105	56
ENGLAND	25,119	8,651	9,118	5,642	1,801	1,332	51,663	107	53
Ayr	746	337	610	637	361	287	2,978	229	165
Galashiels	472	230	373	322	129	92	1,618	180	122
Inverness	2,274	480	362	230	67	52	3,465	70	23
Inverurie	972	442	572	347	145	124	2,602	147	85
Perth	957	457	518	329	123	99	2,483	134	79
SCOTLAND	5,421	1,946	2,435	1,865	825	654	13,146	147	77
Caernarfon	2,564	1,069	917	410	105	52	5,117	52	50
Cardiff	1,612	667	484	155	42	27	2,987	27	44
Carmarthen	2,281	884	897	450	167	120	4,799	120	56
WALES	6,457	2,620	2,298	1,015	314	199	12,903	91	50
AHDO not specified	-	-	-	-	-	-	62	71	8
GREAT BRITAIN	36,997	13,217	13,851	8,522	2,940	2,185	77,774	114	56

- The table above shows the number of premises in each size category, the total number of premises and the mean and median numbers of cattle per premises for each AHDO and aggregates for England, Scotland, Wales and GB. The table shows the position at 1 June 2008. Cattle move in and out of grazing facilities depending on the time of year so the number and distribution of premises that record keeping cattle across the year may vary.
- Several premises may make up one farm or business. It is possible for a farm or business to have premises in more than one AHDO.

Cattle Premises (continued)

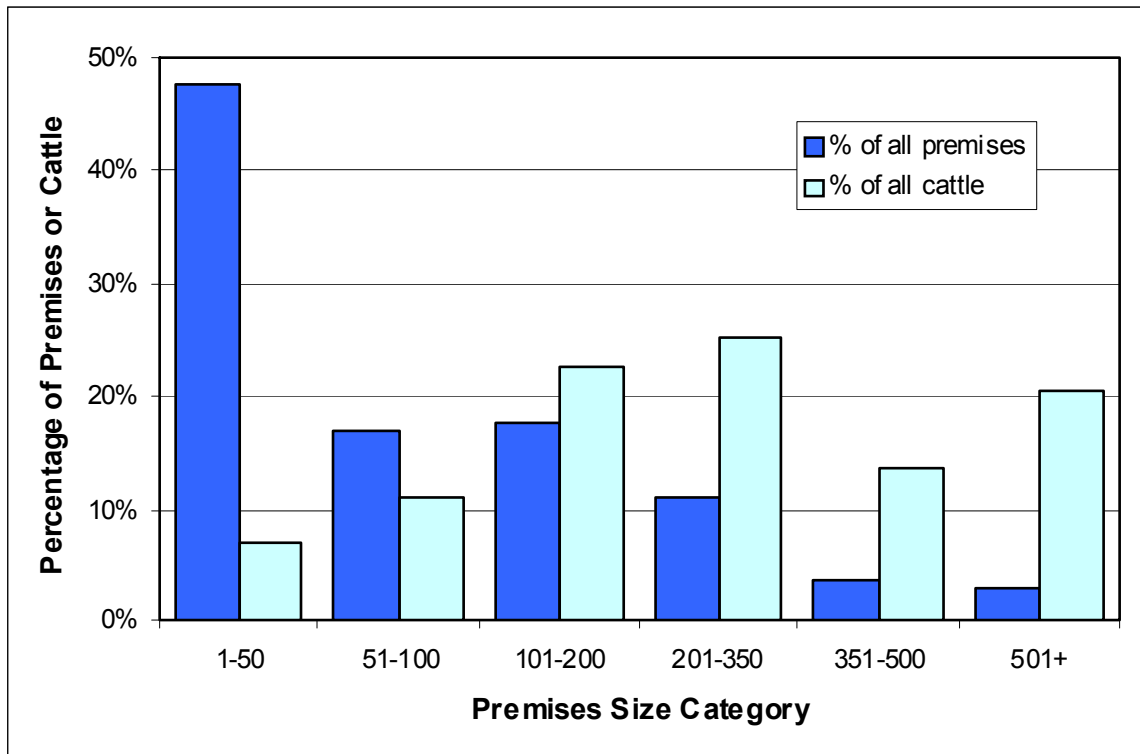
2.2. Percentage of premises in each size category by AHDO at 1 June 2008



- Note that the x-axis on each chart represents the premises size category (e.g. for Bury St Edmunds 61% of premises had between 1 and 50 cattle at 1 June 2008).

Cattle Premises (continued)

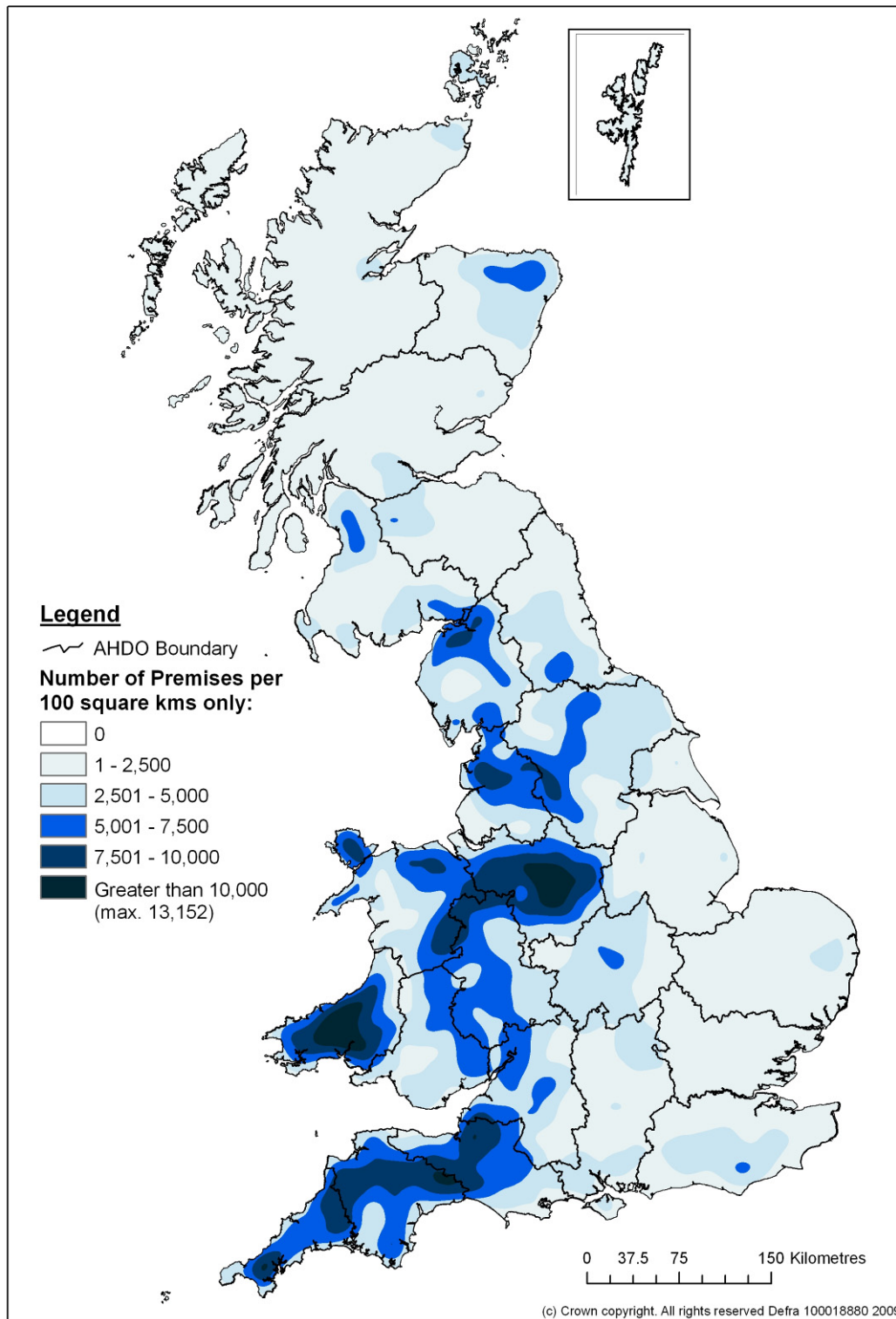
2.3. Percentage of cattle premises and cattle numbers by premises size at 1 June 2008



- The figure above shows that 48% of premises had between 1 and 50 cattle, but they only kept 7% of all cattle in Great Britain.
- Only 3% of cattle premises had over 500 cattle, but these premises accounted for 21% of all cattle in Great Britain.
- Some disease risks are associated with the number of cattle kept, as different farming practices may be used on premises of different sizes. The premises size categories have been chosen following discussion with industry representatives to provide a breakdown of herd size which is relevant to industry practices.

Cattle Premises (continued)

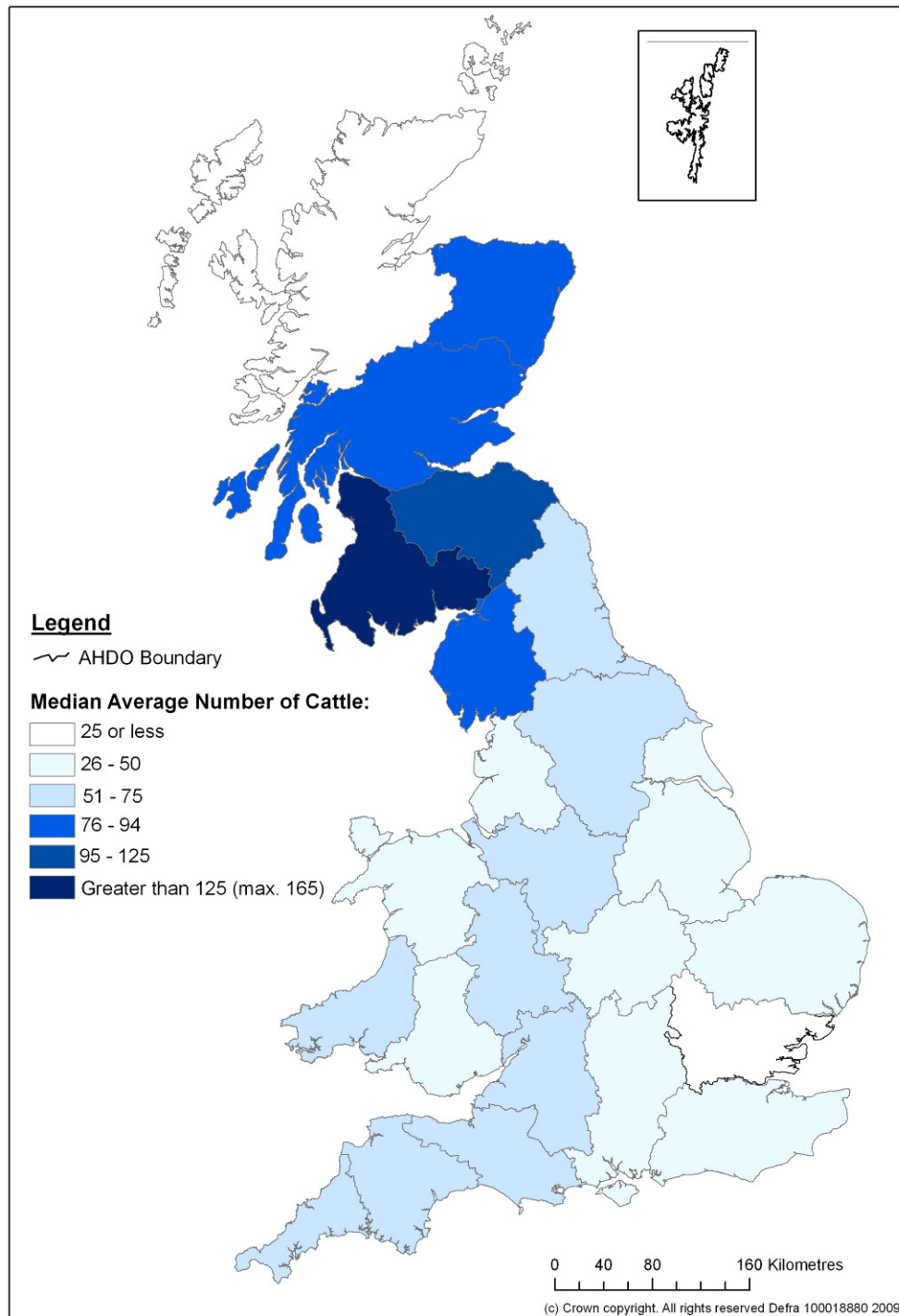
2.4. Density map of cattle premises at 1 June 2008



- The areas of greatest premises density were in the west and south-west of England and Wales with a small, high density area in the north-east of Scotland. These broadly coincide with the areas of greatest cattle density seen in chapter 1.
- This map is produced using 72 thousand premises. Around 7% of premises do not have accurate grid references recorded and so have been excluded.

Cattle Premises (continued)

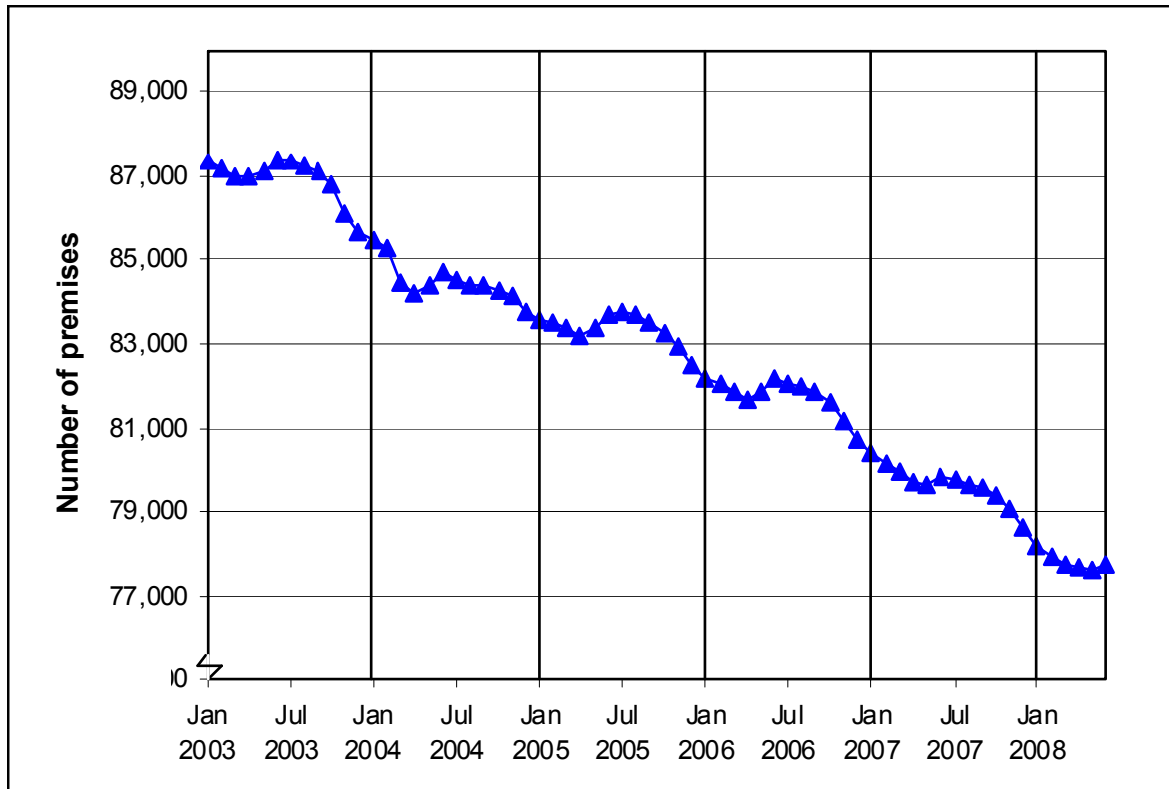
2.5. Median number of cattle per premises by AHDO at 1 June 2008



- This map shows the median number of cattle per premises (only premises which had cattle on 1 June 2008 are included) for each Animal Health Divisional Office.
- The AHDOs of Ayr, Galashiels, Carlisle, Inverurie and Perth had the highest median number of cattle per premises.
- The median is the middle value when all values are listed in ascending order. The median is used to avoid a small number of very small or very large farms skewing the results.

Cattle Premises (continued)

2.6. Total number of cattle premises on the first day of each month, Jan-2003 to Jun-2008

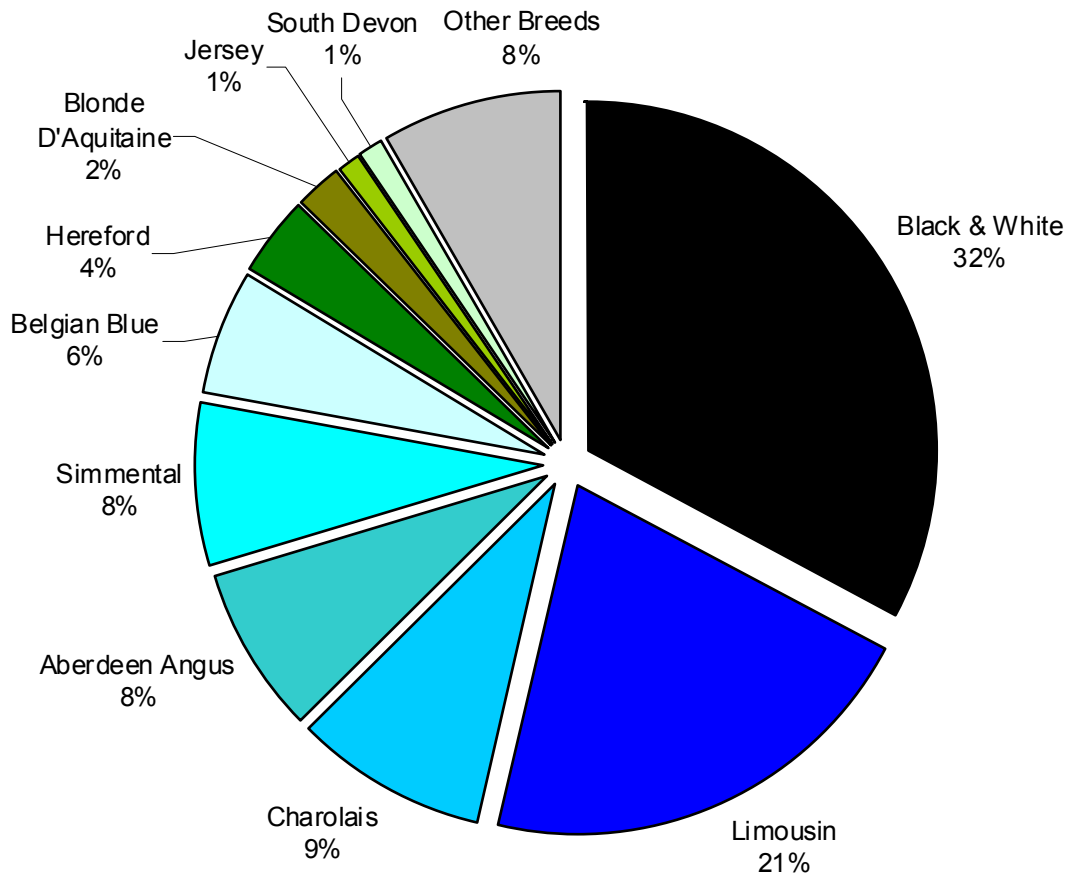


- This time series shows the number of cattle premises in Great Britain on the first of the month from January 2003 to June 2008.
- The number of premises has fallen over the period. From June 2003 to June 2008 there was an 11% fall in the number of cattle premises. Over the same period the number of cattle fell by 6%. This means that there has been a modest increase in the mean number of cattle per premises (from 108 in June 2003 to 114 in June 2008).
- Note that the x-y axis intersection of this chart does not begin at zero for the number of holdings.

3. Cattle Breeds

Methodology note: The cattle breed is specified by the keeper, on farm, and is usually based on the breed of the sire. A very small number of cattle do not have a breed specified on their passport and are classed an 'unknown' breed. Where cattle are not purebred they are classified as crossbreeds. Please see the [Methodology](#) chapter for more details.

3.1. Proportion of cattle by registered breed on 1 June 2008



- This pie chart shows the 10 most common breeds of cattle, with a further 'other breeds' category for the remaining breeds. Pure breeds and cross-breeds have been combined.
- The 'Black & White' category contains Friesian, Holstein Friesian, British Friesian and Holstein breeds. These are sometimes difficult to distinguish and so have been combined.
- After combining the pure and cross-breeds, there were 87 different breeds of cattle registered on 1 June 2008. Black & White and Limousin cattle accounted for over half of all cattle in Great Britain. Nearly 19 thousand cattle were of unspecified breed (0.2% of the total cattle population).
- There were a total of 4.0 million pure bred cattle and 4.8 million cross-bred cattle on 1 June 2008.
- The distribution of cattle breeds shown is very similar to that of 1 June 2007. The breed distribution does not vary greatly year on year because herd breeding and rearing programmes generally run over several years.

Cattle Breeds (continued)

3.2. Number of cattle by registered breed on 1 June 2008

Breed (including crosses)	Cattle
Black & White	2,903,880
Limousin	1,847,982
Charolais	799,667
Aberdeen Angus	680,843
Simmental	673,125
Belgian Blue	497,965
Hereford	340,438
Blonde D'Aquitaine	195,164
Jersey	98,428
South Devon	95,991
Ayrshire	63,356
Welsh Black	59,851
Saler	59,313
Shorthorn	52,491
Highland	41,022
Devon	40,284
Beef Shorthorn	31,620
Meuse Rhine Issel	30,188
Montbeliarde	29,318
Galloway	28,128
Dexter	26,587
Stabiliser	25,649
Sussex	23,262
Brown Swiss	19,582
Luing	17,994
Longhorn	17,379
Guernsey	16,319
Other*	133,706
Breed not specified	18,937
Total	8,868,469

*of which...

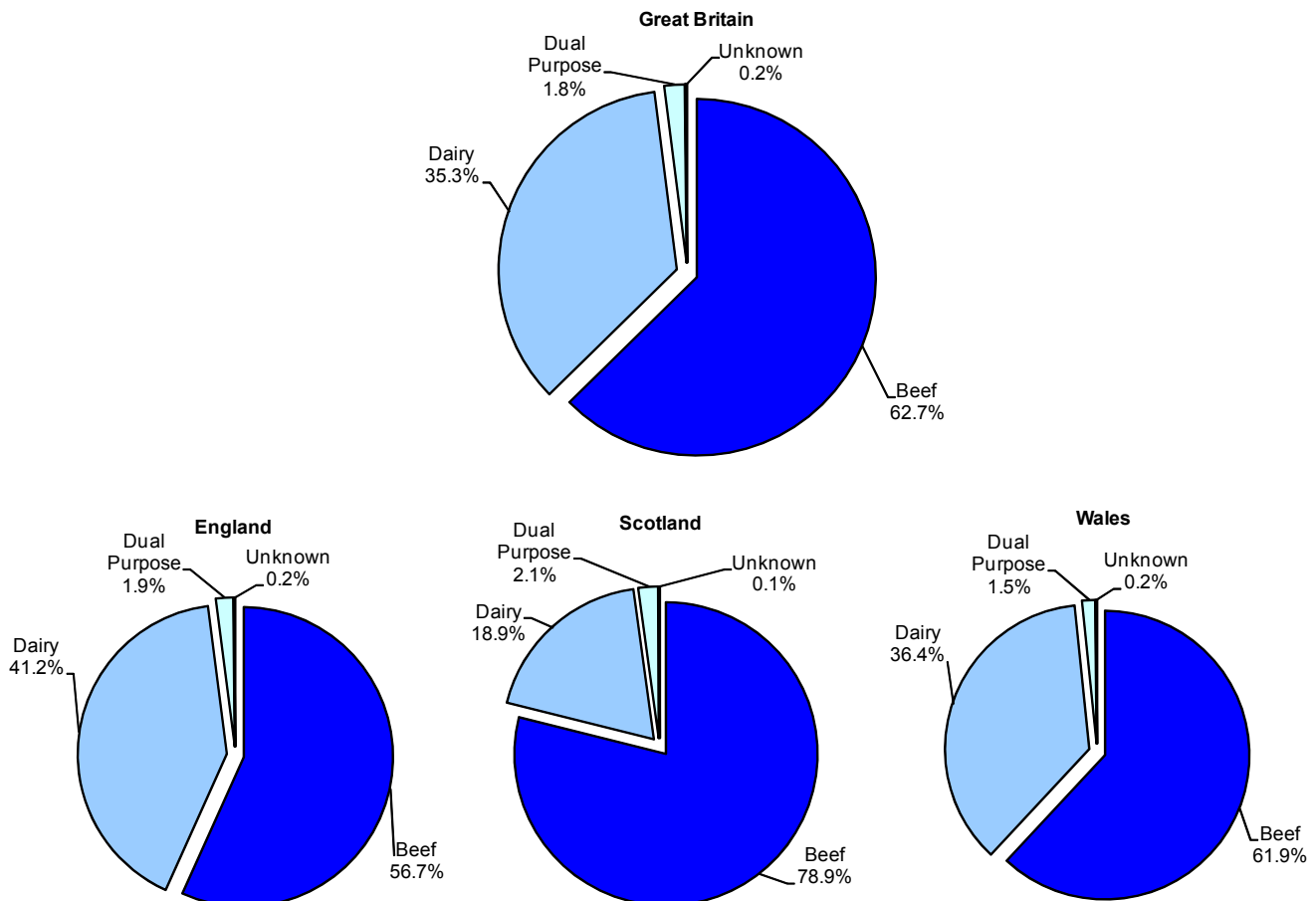
Pure bred rare breeds	Cattle
Lincoln Red	6,669
British White	5,482
White Park	2,948
Shetland	2,094
Gloucester	1,665
Whitebred Shorthorn	833
Irish Moiled	736
Others rare breeds	243
Total pure bred rare breeds	20,670

- This list extends the data seen in the previous pie chart to the top 27 most frequent breeds of cattle. It also shows some of the rare breeds that are included in the 'Other' category of the main table. For more information about the classification of rare breeds please see the FAQ section.
- The recording of the number and location of rare breed cattle through RADAR is of importance for contingency planning in disease outbreaks as well as providing useful information on changes in the industry.
- There were 18,937 cattle (0.2% of the total cattle population) without a breed recorded at all or recorded as an unknown beef or dairy breed type.

4. Cattle Breed Purpose

Methodology note: From the cattle breed recorded on the animal's passport, RADAR categorises the animal to a purpose (i.e. beef, dairy or dual). Unknown breed purposes come from unassigned or unrecorded breed types. Please see the [Methodology](#) chapter for more details.

4.1. Proportion of cattle by breed purpose at 1 June 2008

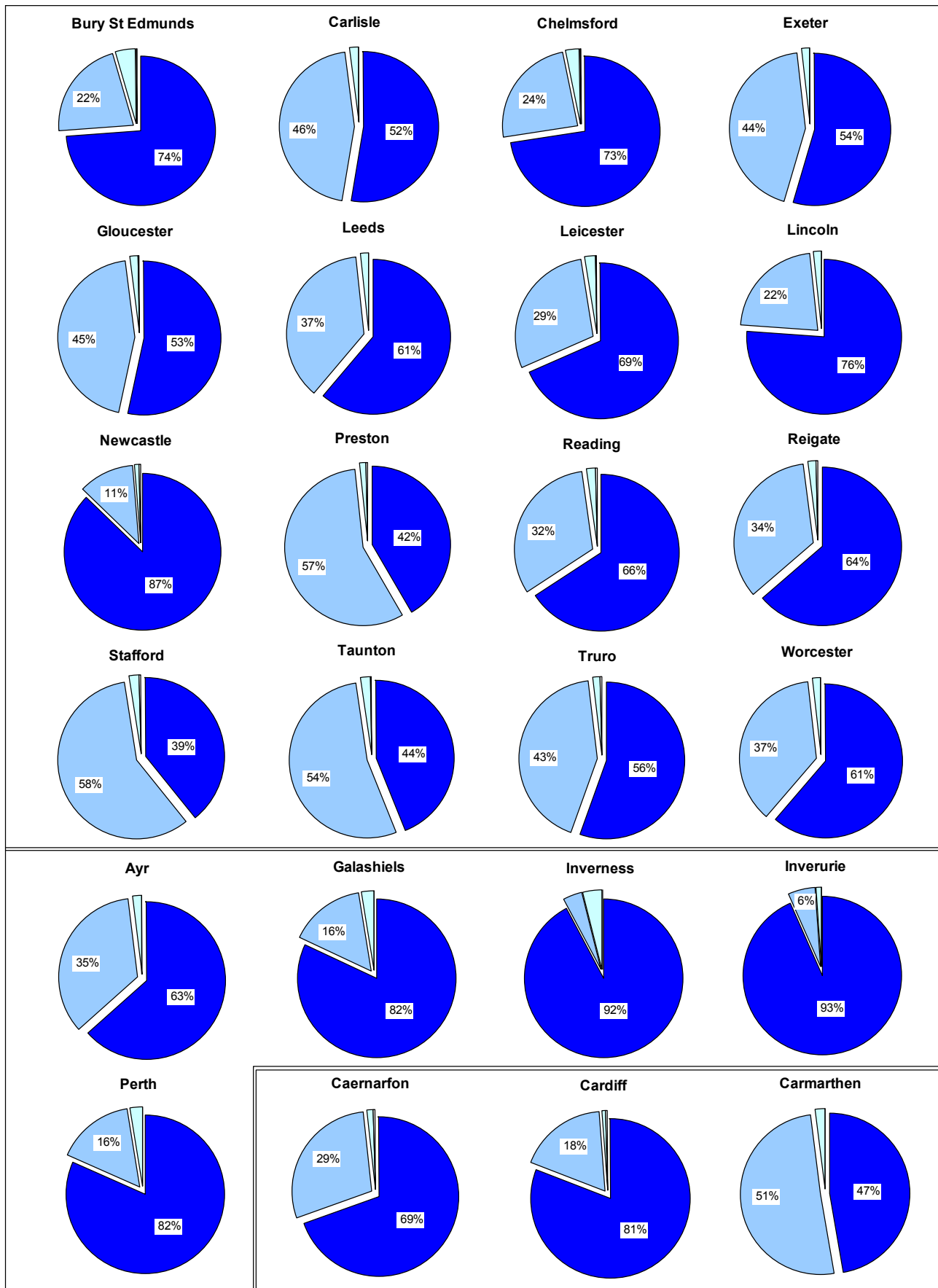


- The breed purpose for the majority of cattle in GB is for beef production. These cattle make up around two thirds of the cattle population. Note that for this analysis RADAR allocates a breed purpose to each breed. This only gives an indication of the use of the animals, as, for example, male calves of a dairy breed may be used for the production of beef.
- There were 14,523 cattle at 1 June 2008 which did not have a breed recorded and so could not be allocated to a breed purpose (a further 4,414 did not have a specific breed recorded but did have an indication of the breed purpose so are included in the analysis above). Nearly 164 thousand cattle were categorised as dual purpose.
- Scotland has a much greater proportion of cattle with a beef breed (79%) than England (57%) or Wales (62%).

Cattle Breed Purpose (continued)

4.2. Proportion of cattle by breed purpose in each AHDO at 1 June 2008

■ Beef ■ Dairy ■ Dual Purpose □ Unknown



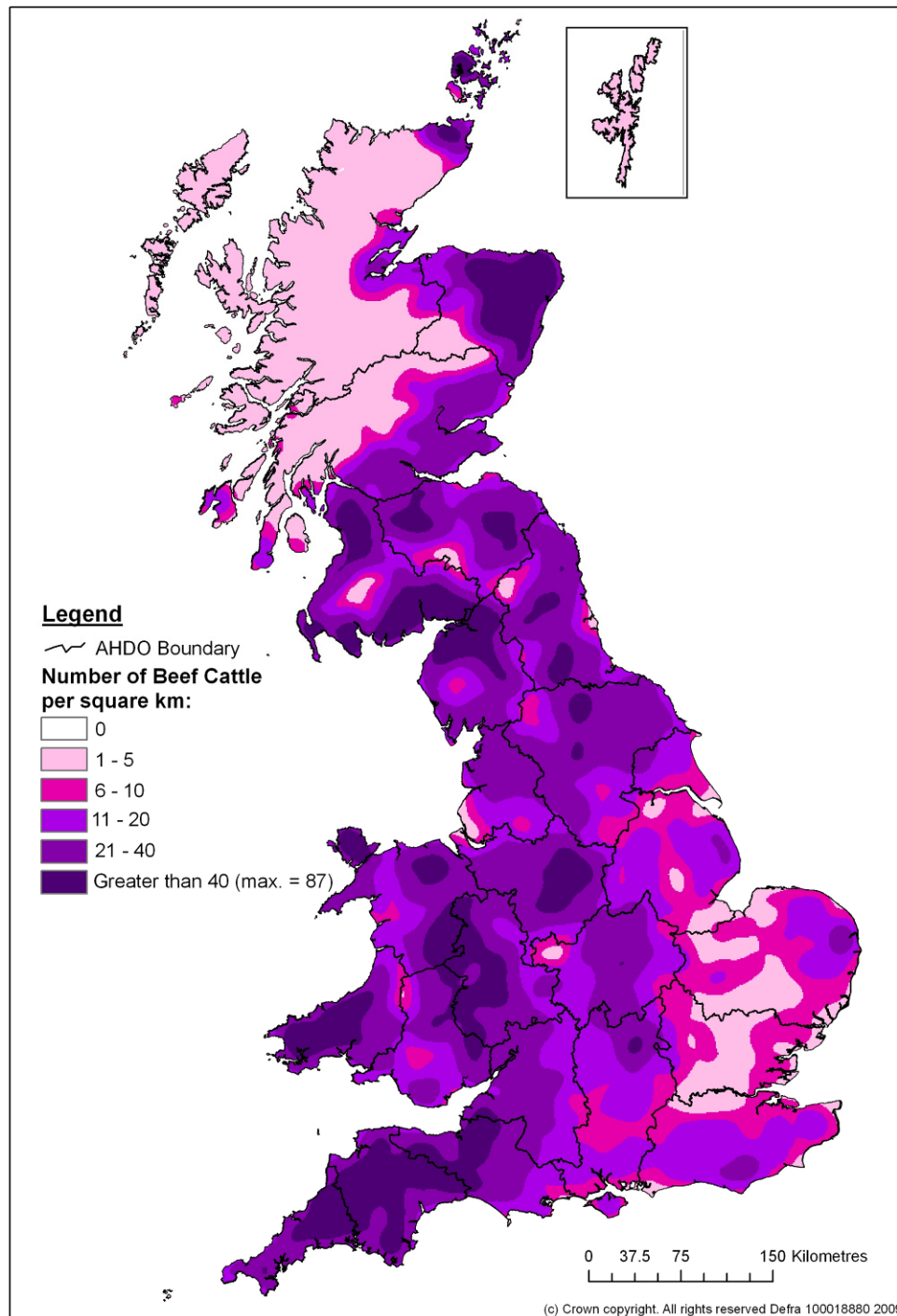
Cattle Breed Purpose (continued)

4.3. Numbers and percentages of cattle by breed purpose in each AHDO at 1 June 2008

Animal Health Divisional Office	Beef		Dairy		Dual Purpose		Unknown		Total
Bury St Edmunds	114,770	(74%)	33,587	(22%)	6,620	(4%)	269	(0.2%)	155,246
Carlisle	247,793	(52%)	215,089	(46%)	8,905	(2%)	515	(0.1%)	472,302
Chelmsford	43,920	(73%)	14,778	(24%)	1,649	(3%)	121	(0.2%)	60,468
Exeter	316,847	(54%)	256,208	(44%)	9,067	(2%)	728	(0.1%)	582,850
Gloucester	197,743	(53%)	165,502	(45%)	7,148	(2%)	577	(0.2%)	370,970
Leeds	310,959	(61%)	190,058	(37%)	7,464	(1%)	581	(0.1%)	509,062
Leicester	178,348	(68%)	75,479	(29%)	6,363	(2%)	403	(0.2%)	260,593
Lincoln	149,846	(76%)	43,438	(22%)	3,034	(2%)	225	(0.1%)	196,543
Newcastle	241,645	(87%)	31,285	(11%)	3,733	(1%)	397	(0.1%)	277,060
Preston	106,851	(42%)	145,322	(57%)	3,658	(1%)	645	(0.3%)	256,476
Reading	170,814	(66%)	82,736	(32%)	5,524	(2%)	426	(0.2%)	259,500
Reigate	126,307	(64%)	68,485	(34%)	3,332	(2%)	451	(0.2%)	198,575
Stafford	255,680	(39%)	382,198	(58%)	14,130	(2%)	1,390	(0.2%)	653,398
Taunton	218,475	(44%)	267,716	(54%)	10,585	(2%)	1,029	(0.2%)	497,805
Truro	190,432	(56%)	145,932	(43%)	5,900	(2%)	547	(0.2%)	342,811
Worcester	272,356	(61%)	165,922	(37%)	6,894	(2%)	609	(0.1%)	445,781
ENGLAND	3,142,786	(57%)	2,283,735	(41%)	104,006	(2%)	8,913	(0.2%)	5,539,440
Ayr	432,455	(63%)	236,747	(35%)	11,899	(2%)	642	(0.1%)	681,743
Galashiels	238,082	(82%)	45,890	(16%)	6,841	(2%)	131	(0.0%)	290,944
Inverness	223,864	(92%)	9,604	(4%)	9,010	(4%)	185	(0.1%)	242,663
Inverurie	356,719	(93%)	21,179	(6%)	4,378	(1%)	178	(0.0%)	382,454
Perth	271,267	(82%)	52,031	(16%)	8,288	(2%)	237	(0.1%)	331,823
SCOTLAND	1,522,387	(79%)	365,451	(19%)	40,416	(2%)	1,373	(0.1%)	1,929,627
Caernarfon	309,768	(69%)	129,241	(29%)	6,577	(1%)	862	(0.2%)	446,448
Cardiff	177,291	(81%)	40,049	(18%)	1,904	(1%)	398	(0.2%)	219,642
Carmarthen	237,168	(47%)	256,729	(51%)	8,579	(2%)	697	(0.1%)	503,173
WALES	724,227	(62%)	426,019	(36%)	17,060	(1%)	1,957	(0.2%)	1,169,263
AHDO not specified	167,706	(73%)	57,801	(25%)	2,332	(1%)	2,300	(1.0%)	230,139
GREAT BRITAIN	5,557,106	(63%)	3,133,006	(35%)	163,814	(2%)	14,543	(0.2%)	8,868,469

Cattle Breed Purpose (continued)

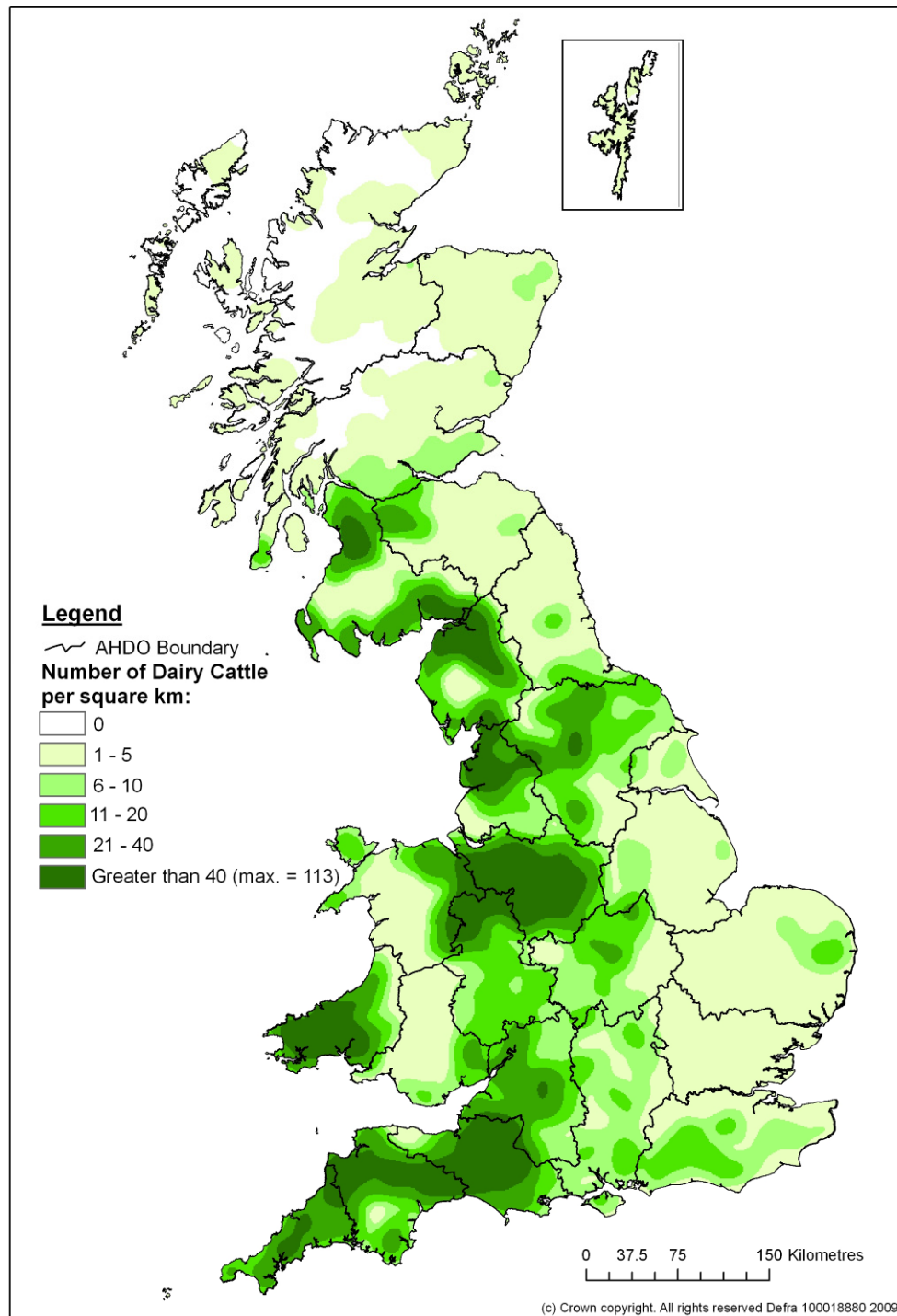
4.4. Density map of beef breed cattle at 1 June 2008



- The map shows that the areas of greatest density of beef cattle are around the south west and west of England and north east Scotland.
- There was a total of 5,557,106 beef cattle on about 73,160 premises as at 1 June 2008.
- Some premises do not have accurate grid references recorded and so have been excluded from the map. These account for 7% of premises with beef cattle.
- Beef cattle appear more evenly distributed than dairy across GB (see below).

Cattle Breed Purpose (continued)

4.5. Density map of dairy breed cattle at 1 June 2008



- The areas with the greatest concentration of dairy cattle are the west and south west of England, the south-western tip of Wales and south-western Scotland.
- There were 3,133,006 dairy cattle on about 30,970 premises as at 1 June 2008.
- Some premises do not have accurate grid references recorded and so have been excluded from the map. These account for 6% of all premises with dairy cattle.

Cattle Breed Purpose (continued)

4.6. Proportion of cattle in England by breed purpose and farm size at 1 June 2008

Farm size	Distribution of cattle premises	Cattle Breed Purpose			% Male cattle	% Total cattle
		% Beef cattle (Female)	% Dairy cattle (Female)	% Dual purpose cattle (Female)		
Very Small (Spare Time)	34%	9%	1%	14%	8%	6%
Very Small (Part Time)	17%	14%	1%	11%	12%	9%
Small	20%	24%	8%	18%	22%	18%
Medium	12%	17%	15%	17%	17%	16%
Large	11%	19%	30%	20%	21%	24%
Very Large	7%	16%	45%	21%	20%	28%
All	100%	100%	100%	100%	100%	100%

- By combining RADAR data with Defra's June Survey of Agriculture and Horticulture we can analyse the data in other ways. The June Survey covers all farms in England and asks about all of their land and livestock activity.
- The farm size bands are calculated for every holding using data collected in the Defra June Survey of Agriculture. The farm size is based on Standard Labour Requirements (SLR's)- the theoretical number of full time workers needed to run a holding based on the levels of crop and livestock activity. For further details, please see the [Methodology](#) chapter.
- The table above shows that the highest numbers of cattle (28%) are on the largest size holdings (requiring more than 5 full time equivalent workers to run the holding). Female dairy cattle are also predominant on the largest holdings, but female beef cattle are more evenly spread across the size groups, with the largest numbers (24%) being on small holdings (requiring between 1 and 2 full time equivalent workers).

Cattle Breed Purpose (continued)

4.7. Cattle numbers in England by breed purpose and main farm type at 1 June 2008

Main Farm Type (most prevalent first)	Distribution of cattle premises	Cattle Breed Purpose			% Male cattle	% Total cattle
		% Beef cattle (Female)	% Dairy cattle (Female)	% Dual purpose cattle (Female)		
Dairy - Lowland	17%	8%	73%	44%	17%	35%
Grazing livestock - Lowland	36%	36%	3%	20%	34%	23%
Cropping, Cattle & Sheep	7%	14%	1%	4%	15%	9%
Dairy - LFA	4%	2%	14%	11%	3%	7%
Cereals	9%	9%	1%	3%	9%	6%
Grazing livestock - DA	7%	8%	0%	4%	6%	4%
Mixed livestock - SDA	4%	8%	0%	3%	4%	4%
General cropping	3%	4%	1%	2%	5%	3%
Cropping & Dairy	1%	1%	6%	2%	1%	3%
Beef - SDA	3%	5%	0%	2%	3%	3%
Other farm types	7%	3%	1%	3%	3%	2%
Sheep - SDA	2%	2%	0%	0%	1%	1%
All	100%	100%	100%	100%	100%	100%

Notes: LFA: Less Favoured Area
DA: Disadvantaged Area
SDA: Severely Disadvantaged Area

- By combining RADAR data with Defra's June Survey of Agriculture and Horticulture we can examine how the distribution of cattle varies by the standard Main Farm Types. The Main Farm Type indicates which activities make up two-thirds or more of the holding's economic profitability.
- This table shows that the highest numbers of cattle (35% and 23%) are on specialist lowland dairy holdings and lowland grazing livestock holdings. The majority of female dairy cattle are on specialist dairy holdings in the lowlands and uplands (73% and 14%, respectively). Female beef cattle are more evenly spread among the farm types, with the most predominant numbers (36%) being on lowland grazing livestock holdings.
- See the [glossary](#) for further information about Less Favoured Areas.

5. Cattle Age

Methodology note: It is a legal requirement to register the date of birth on all cattle passports in CTS. This allows the analysis of the cattle population by age or age groups for any given snapshot. Please see the [Methodology](#) chapter for more details.

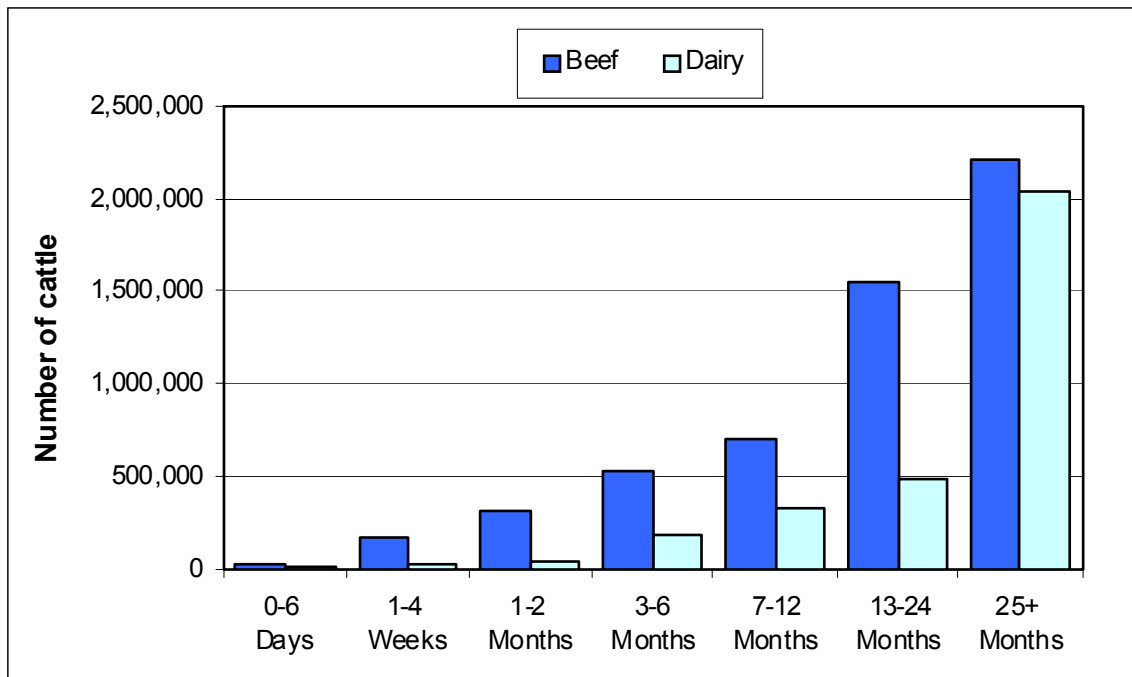
5.1. Total number of cattle by age category and AHDO at 1 June 2008

Animal Health Divisional Office	0-6 Days	1-4 Weeks	1-2 Months	3-6 Months	7-12 Months	13-24 Months	25+ Months	Un-known	Total
Bury St Edmunds	652	3,158	6,604	16,853	18,541	43,260	66,162	16	155,246
Carlisle	2,876	12,768	19,819	35,475	65,653	100,620	235,047	44	472,302
Chelmsford	273	888	2,388	5,941	7,361	16,807	26,804	6	60,468
Exeter	2,877	12,554	22,746	46,137	72,658	139,200	286,670	8	582,850
Gloucester	1,578	6,770	13,011	31,913	47,440	90,509	179,713	16	370,950
Leeds	2,589	11,201	19,307	44,676	66,736	136,850	227,547	44	508,950
Leicester	1,124	4,768	10,268	24,457	30,443	73,834	115,486	30	260,410
Lincoln	640	3,295	7,140	23,256	24,547	56,067	81,800	4	196,749
Newcastle	1,564	8,207	15,938	25,482	34,567	71,483	119,921	14	277,176
Preston	1,230	5,592	7,604	17,774	35,881	55,341	133,026	19	256,467
Reading	1,053	4,560	9,863	24,415	32,362	69,546	117,639	7	259,445
Reigate	903	3,813	8,312	18,391	25,281	47,294	94,889	18	198,901
Stafford	3,737	13,833	19,277	48,701	80,387	134,533	352,912	18	653,398
Taunton	2,249	9,956	17,121	41,331	61,497	101,726	263,529	41	497,450
Truro	1,858	7,710	14,323	28,469	40,853	80,663	168,920	15	342,811
Worcester	2,128	8,952	17,915	40,550	53,179	112,084	210,747	34	445,589
ENGLAND	27,331	118,025	211,636	473,821	697,386	1,329,817	2,680,812	334	5,539,162
Ayr	4,245	21,607	37,168	47,408	84,264	158,158	328,853	40	681,743
Galashiels	2,099	11,375	21,099	20,061	35,050	70,689	130,556	18	290,947
Inverness	2,055	10,135	19,281	27,885	20,995	50,470	111,790	35	242,646
Inverurie	1,719	8,495	18,081	34,038	39,148	128,855	152,111	7	382,454
Perth	2,012	10,093	21,718	31,766	34,308	79,216	152,726	18	331,857
SCOTLAND	12,130	61,705	117,347	161,158	213,765	487,388	876,036	118	1,929,647
Caernarfon	3,197	13,432	20,734	31,520	56,641	105,628	214,959	25	446,136
Cardiff	1,439	6,542	12,110	18,589	28,677	48,896	103,375	11	219,639
Carmarthen	2,740	11,201	16,310	37,355	61,485	107,710	266,359	16	503,176
WALES	7,376	31,175	49,154	87,464	146,803	262,234	584,693	52	1,168,951
AHDO not specified	20	420	1,664	5,066	4,931	11,488	207,117	3	230,709
GREAT BRITAIN	46,857	211,325	379,801	727,509	1,062,885	2,090,927	4,348,658	507	8,868,469
% of GB Total	1%	2%	4%	8%	12%	24%	49%	0%	100%

- These age categories have been chosen to reflect epidemiologically distinct age groups within the cattle population (for more information see the FAQ section).

Cattle Age (continued)

5.2. Total number of cattle by age category and breed purpose at 1 June 2008

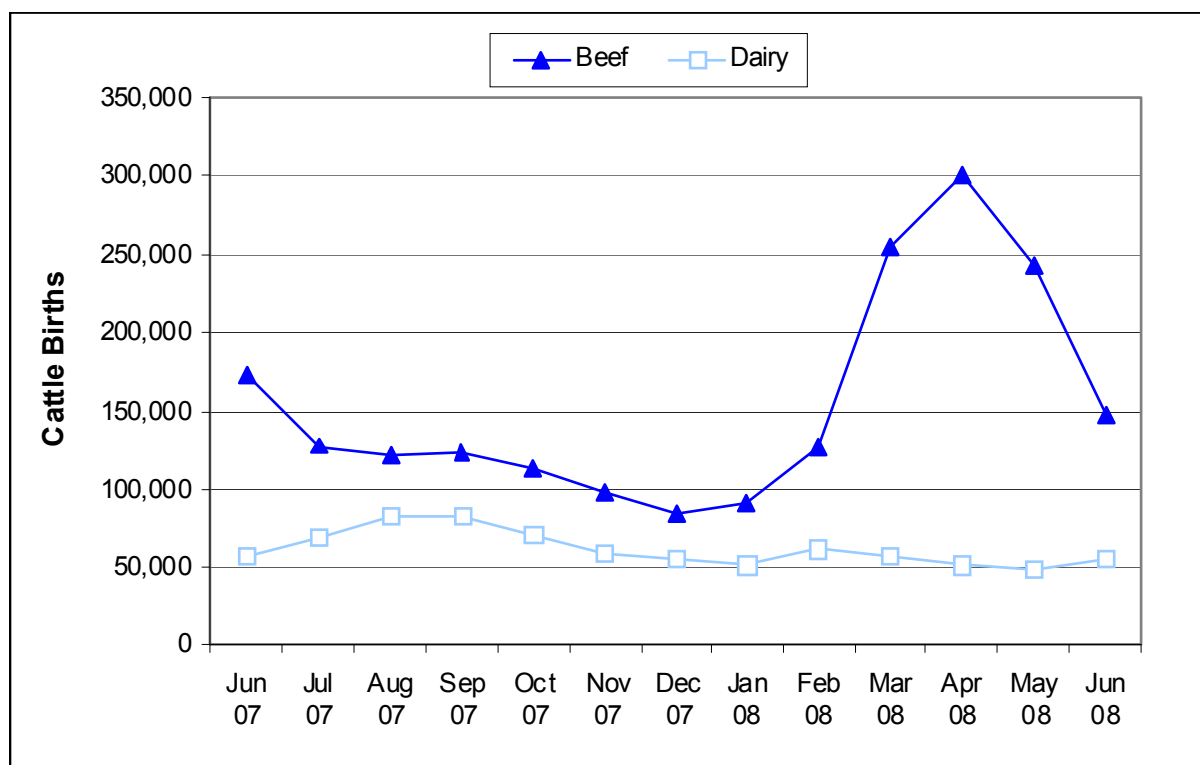


- The data shows the number of cattle in each RADAR age category by breed purpose on 1 June 2008 (there were 457 dairy or beef breed cattle with an unknown age which do not appear in the chart).
- For most age categories there were at least as twice as many beef cattle as dairy. There were, however, similar numbers of adult beef and dairy cattle (25 months and over).
- This data is a snapshot on 1 June 2008 and does not show seasonal changes in these distributions. Due to the structure of the industry and market forces the number of beef cattle are greatest around the middle of the year while the number of dairy animals stays relatively constant throughout the year.

6. Cattle Births and Mortality

Methodology note: Keepers are legally obliged to supply data on cattle births and deaths. On-farm calf mortality risk is defined as the number of calf deaths per 100,000 calf days at risk on agricultural premises. For the purpose of the Cattle Book, a calf is defined as an animal up to 6 months of age. Slaughterhouses are not regarded as an agricultural premises. The number of calf days at a premises is the number of animals at that location multiplied by the number of days they were present. Please see the [Methodology](#) chapter for more details.

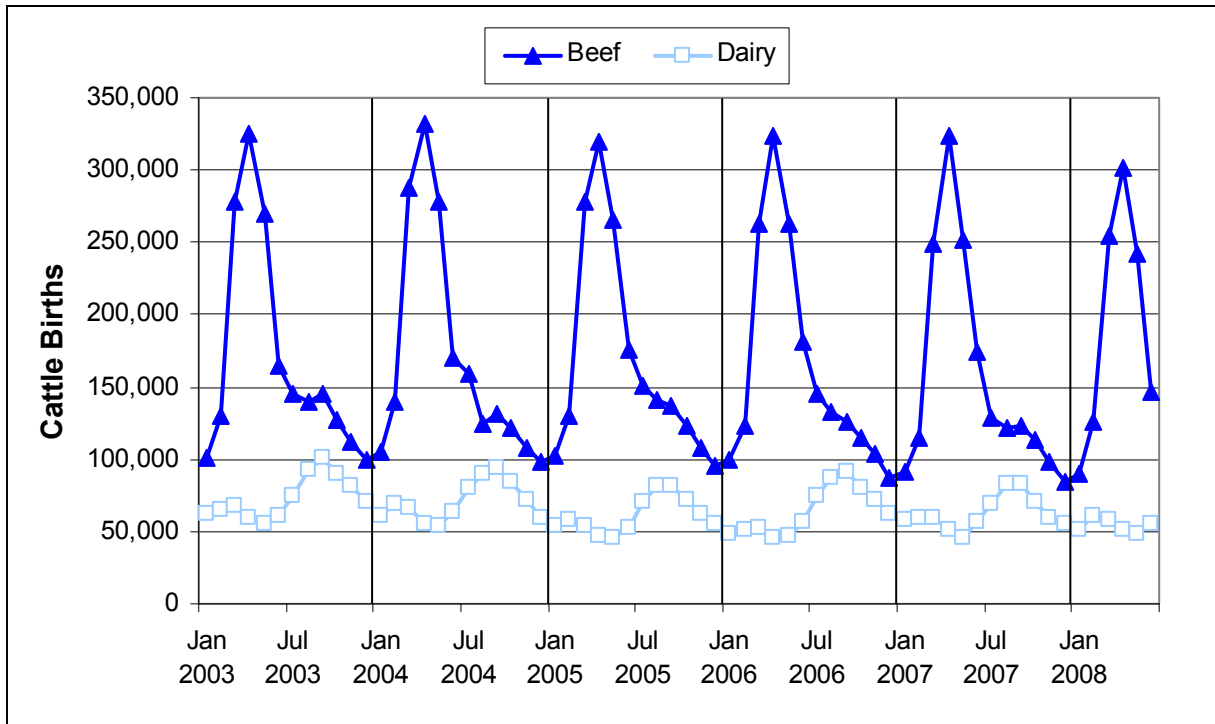
6.1. Cattle births per month from June 2007 to June 2008



- This figure shows monthly cattle births from June 2007 to June 2008 (i.e. covering the period 1 June 2006 to 30 June 2008).
- Births of beef calves peak in the spring (March to May). The number of beef calf births in April 2008 was more than three and a half times the number of births in December 2007 (the month with the lowest number of births).
- There is less seasonal variation in the births of dairy calves though the number of births in late summer / early autumn is higher than in the rest of the year. This helps maintain milk production at a steadier rate than if all cows calved in spring. The number of dairy calf births in the month with the highest number of births (August 2007) was almost double that of the month with the lowest number of births (May 2008).
- At all points in the year to June 2008, beef births remained above dairy births, reflecting the greater number of beef cattle.

Cattle Births and Mortality (continued)

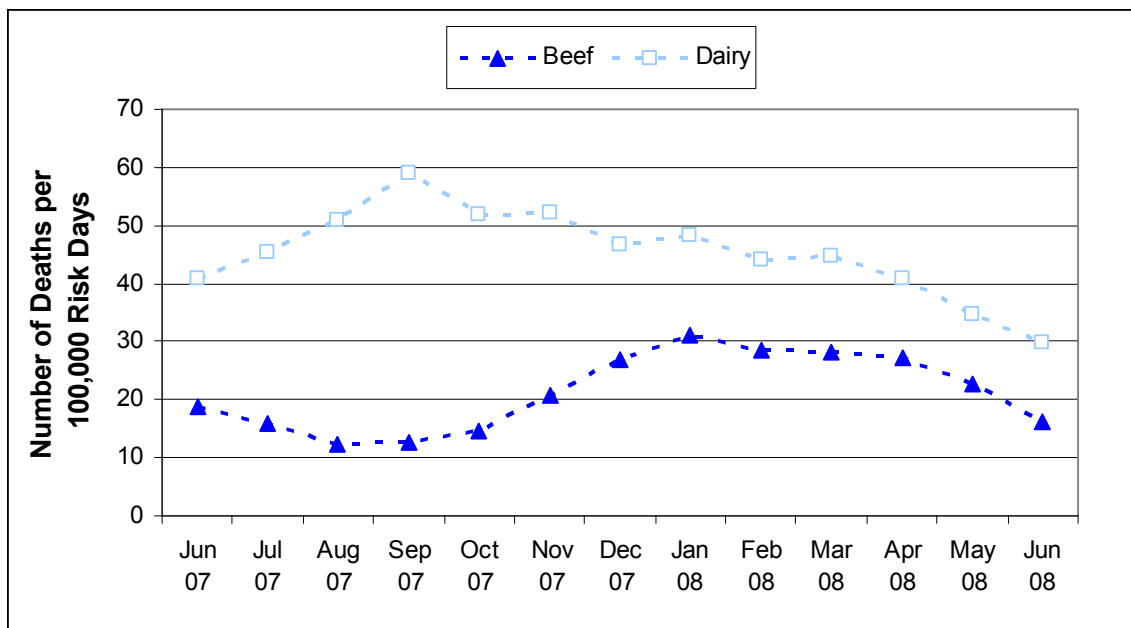
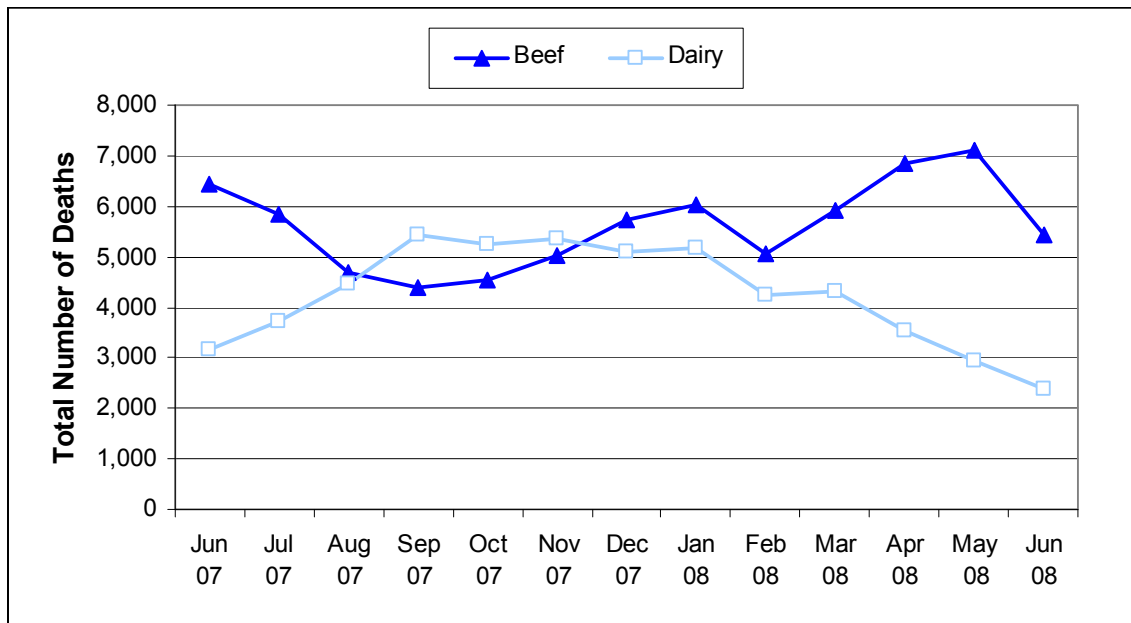
6.2. Cattle births per month from January 2003 to June 2008



- This figure shows the total number of births per month between January 2003 and June 2008 (i.e. covering the period 1 January 2003 to 30 June 2008). This shows that the pattern seen for the one-year time series (in figure 6.1) is typical of the monthly distribution of beef and dairy births.
- Beef cattle show a spring calving pattern with the largest number of monthly births in April. In contrast, an autumn calving pattern is seen for dairy cattle with the largest number of births occurring in August or September.
- It should be remembered that some months have fewer days than others, slightly distorting the patterns shown.

Cattle Births and Mortality (continued)

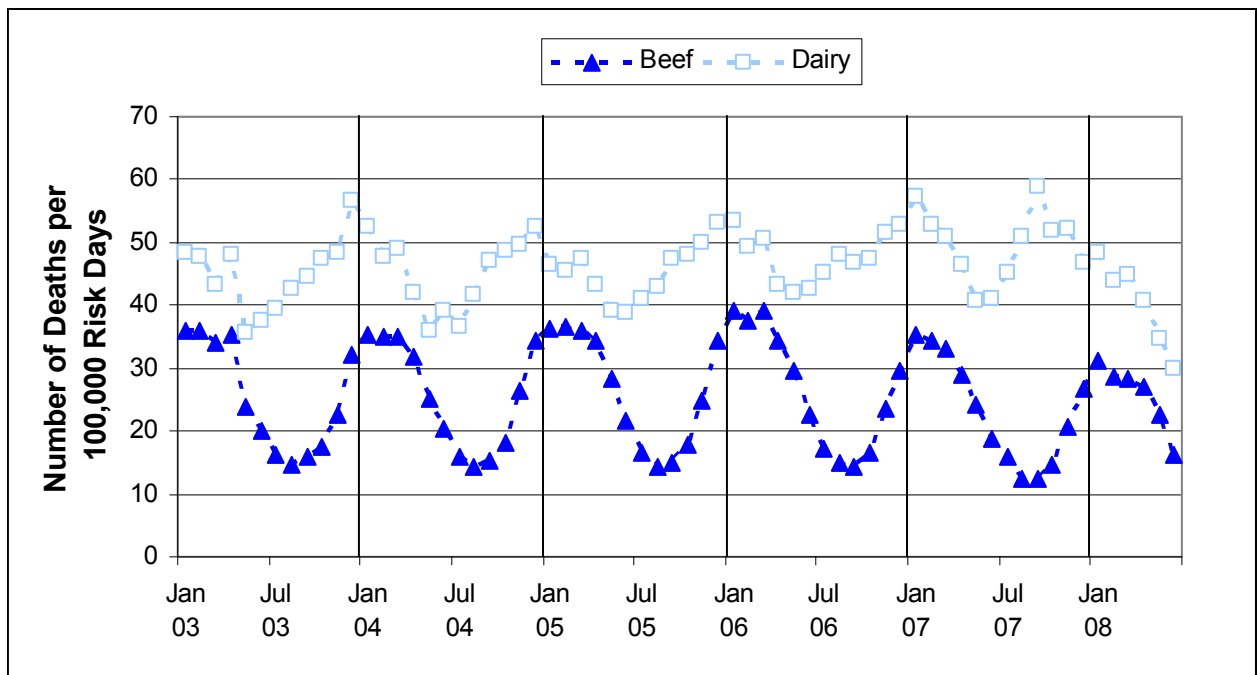
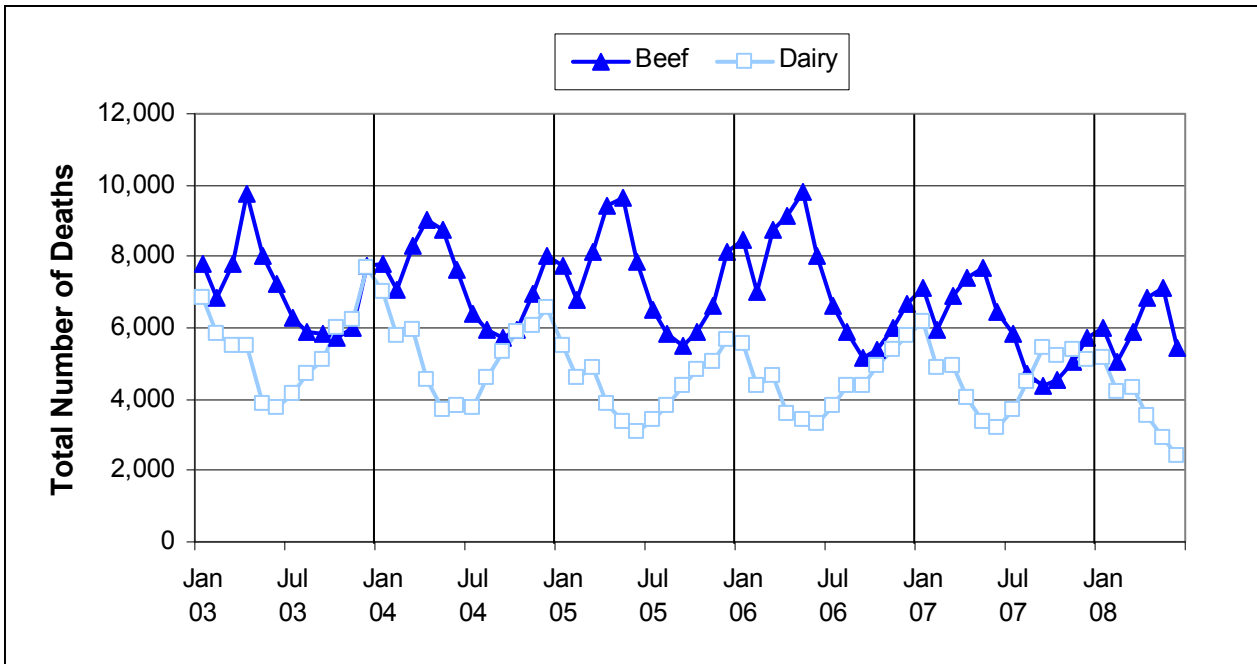
6.3. Calf on-farm deaths per month from June 2007 to June 2008



- The top graph shows the actual number of calf on-farm deaths. The bottom graph shows the number of calf deaths per 100,000 risk days (see the [Methodology](#) chapter for an explanation of how risk was calculated). Cattle under six months old of age are classed as calves.
- Although more beef breed calves die, reflecting their greater number, dairy breed calves appear to have a higher *risk* of dying in their first six months of life, with approximately one in seven dairy breed calves and approximately one in thirteen beef breed calves dying on farm each year. The highest number of deaths occur within the first few months of the calf's life. There is also a potential seasonal effect, with inherent accompanying management changes such as housing in autumn, that may influence observed mortality rates.
- When comparing the beef and dairy figures differences in farming methods between the industries, economic pressures and differences in the registration of calves (with the legal requirement for age at registration being higher for beef than dairy animals) should be considered.

Cattle Births and Mortality (continued)

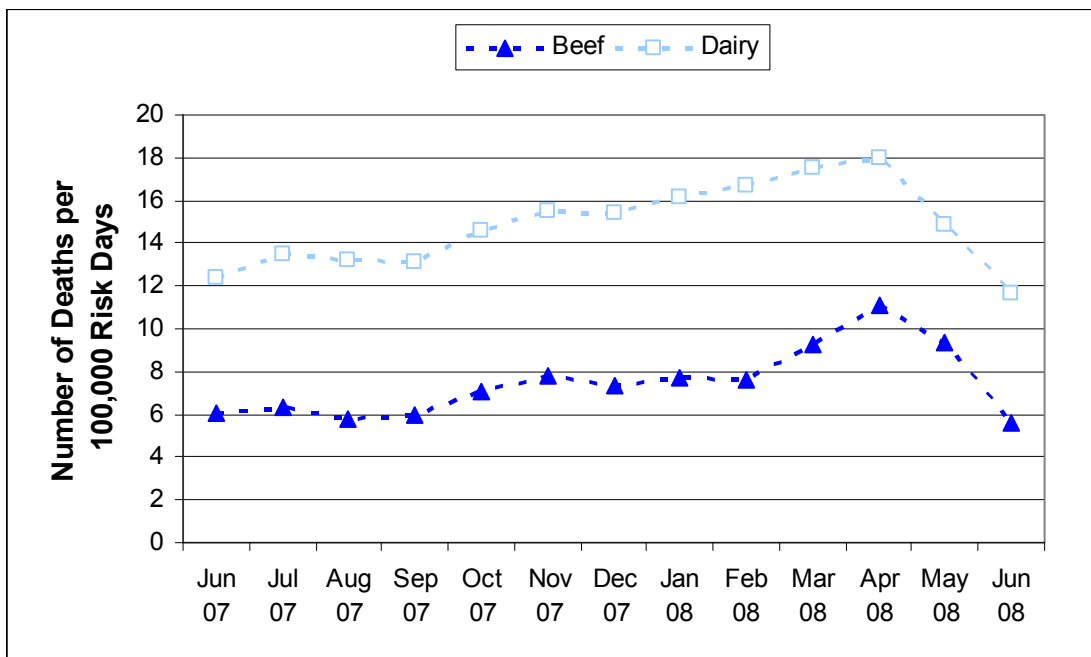
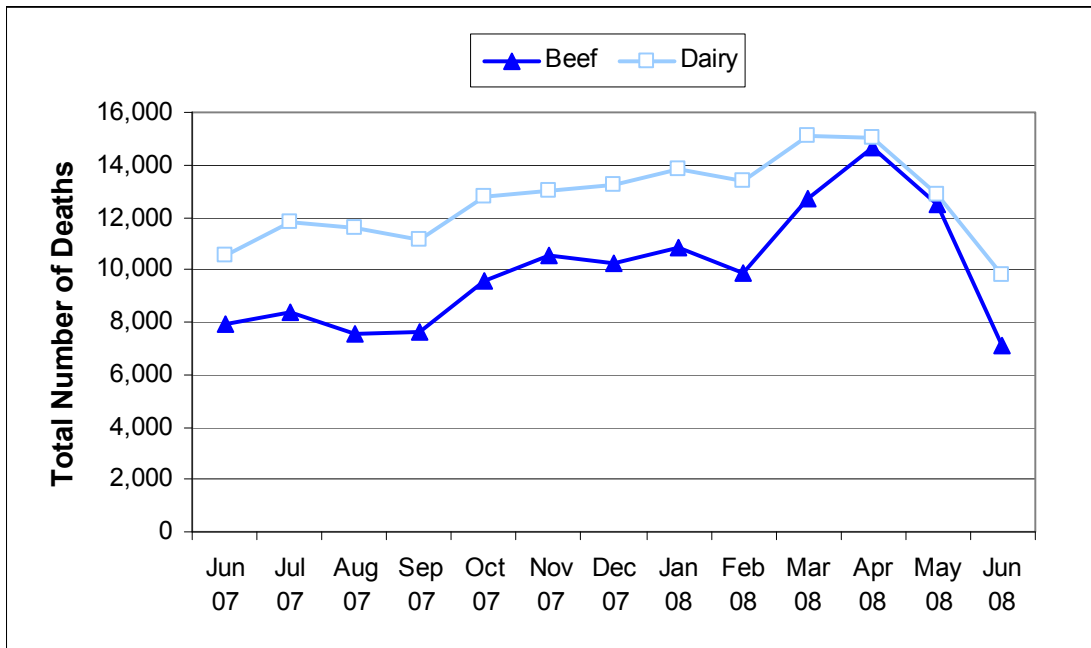
6.4. Calf on-farm deaths per month from January 2003 to June 2008



- The patterns seen in section 6.3 are repeated here over a longer period. Mortality rates for beef cattle are lower than those of dairy throughout the period shown.
- Number of calf on-farm deaths and mortality rates show a clear seasonal pattern for both dairy and beef cattle, with the risk of death, based on the number of days at risk, being greatest over the winter months.

Cattle Births and Mortality (continued)

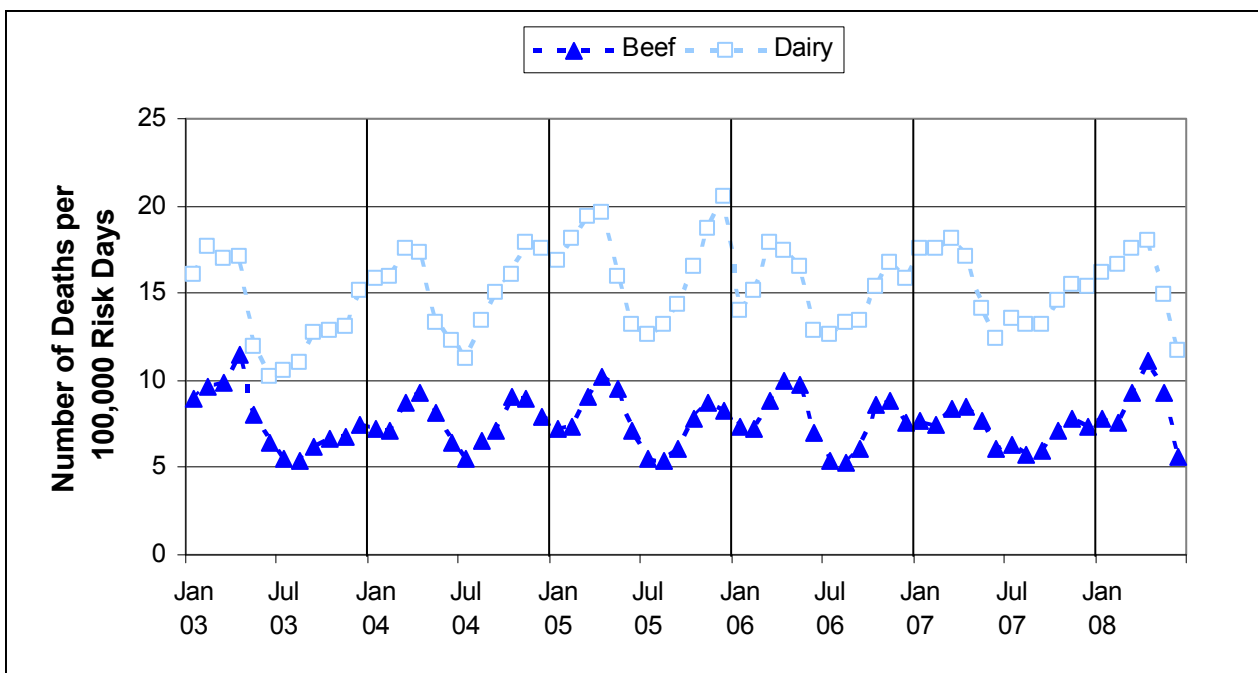
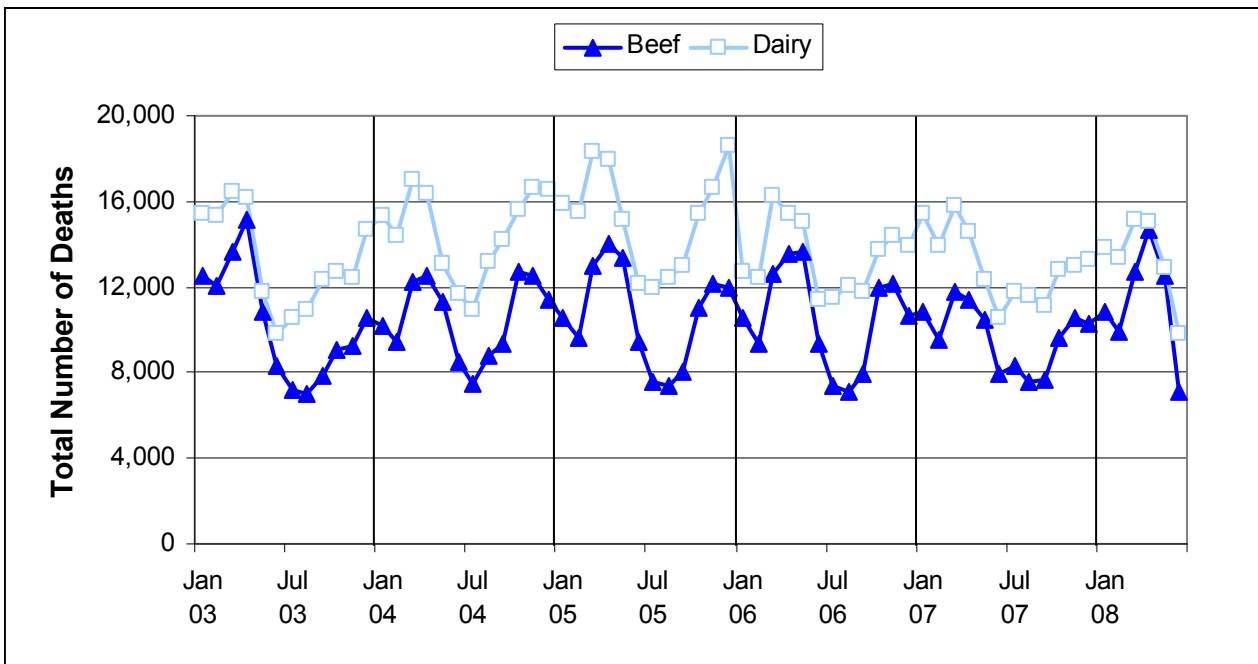
6.5. Cattle over 6 months of age on-farm deaths per month from June 2006 to June 2008



- These graphs show the number of on-farm deaths (top) and on-farm deaths per 100,000 animal risk days (bottom) for each month between June 2007 and June 2008 for beef breed and dairy breed cattle over 6 months of age. This is a one-year snapshot of the data.
- The graph showing the deaths per 100,000 days at risk shows how likely it is that an animal over 6 months of age will die on farm. This headline figure will be affected by a number of factors including the production objectives of the industry, economic pressures, age and the productive lifespan of the animals.
- The data shows that there is a seasonal trend in total numbers of deaths and risk of death. The greatest numbers of deaths occur in the spring for beef cattle and in winter for dairy cattle. The risk of death is greatest over the spring months for both dairy and beef cattle.

Cattle Births and Mortality (continued)

6.6. Cattle over 6 months of age on-farm deaths per month from January 2003 to June 2008

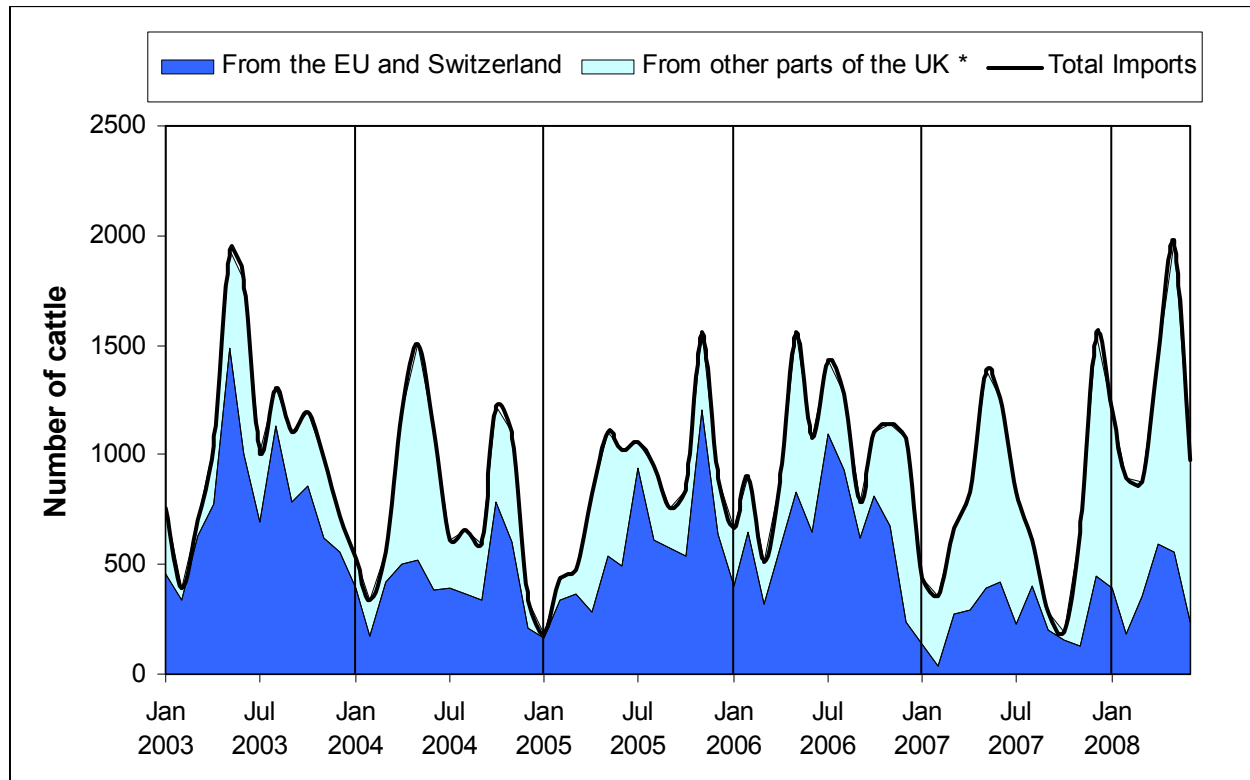


- These graphs show the number of on-farm deaths (top) and on-farm deaths per 100,000 animal risk days (bottom) for each month between January 2003 and June 2008 for beef breed and dairy breed cattle over 6 months of age.
- The data from section 6.5 is included here along with further years.
- The data appears to show similar seasonal fluctuations in the monthly total number of on-farm deaths and on-farm deaths per 100,000 animal risk days. The largest numbers of on-farm deaths and the greatest risk of death occur over the spring and winter months and the least occur during the summer months.

7. Cattle Movements

Methodology note: The following shows movements of live cattle into Great Britain from Northern Ireland, the Isle of Man, Jersey and Guernsey (as although these are part of the UK cattle population they are separate epidemiological herds), and imports from countries outside the United Kingdom. Also shown is data on exports from GB to countries outside the UK (i.e. movements from GB to Northern Ireland, the Isle of Man, Jersey and Guernsey are not included). Please see the [Methodology](#) chapter for more details.

7.1. Cattle moved into Great Britain per month from January 2003 to June 2008



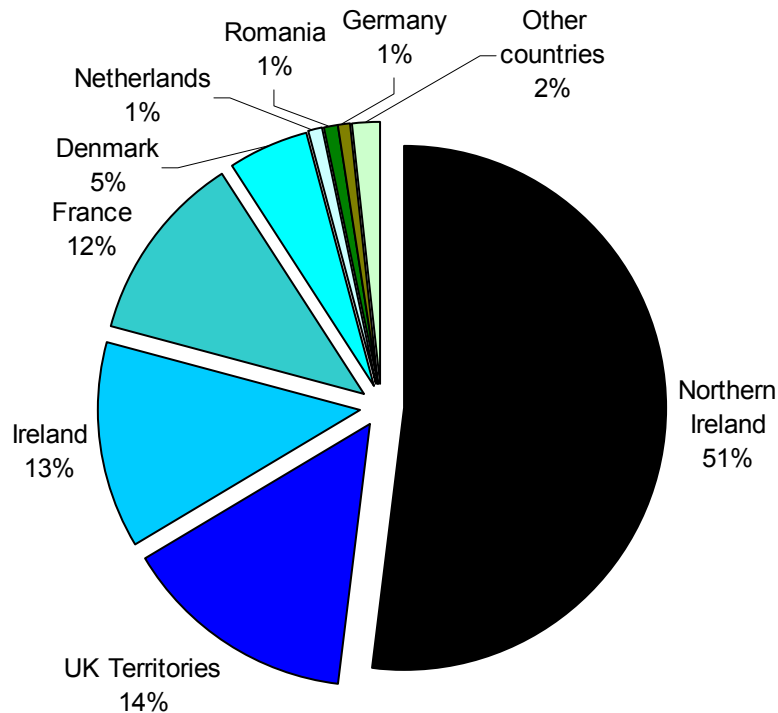
- This graph shows the number of cattle moved into Great Britain in each month from January 2003 to June 2008. Until 2006 most cattle came from countries in the EU, but since then most cattle have come from other parts of the United Kingdom, particularly Northern Ireland, possibly as the result of Bluetongue. The total number of cattle moved into Great Britain averaged around 930 each month over the period. The number of cattle moved into Great Britain in each 12 month period from July to the following June are shown below.

12 months from July to June	From the EU and Switzerland	From other parts of the UK *	Total Imports
2003/04	7,037	4,528	11,565
2004/05	4,866	3,699	8,565
2005/06	7,932	3,734	11,666
2006/07	5,916	5,834	11,750
2007/08	3,870	7,624	11,494

* Northern Ireland, Jersey, Guernsey and Isle of Man

Cattle Movements (continued)

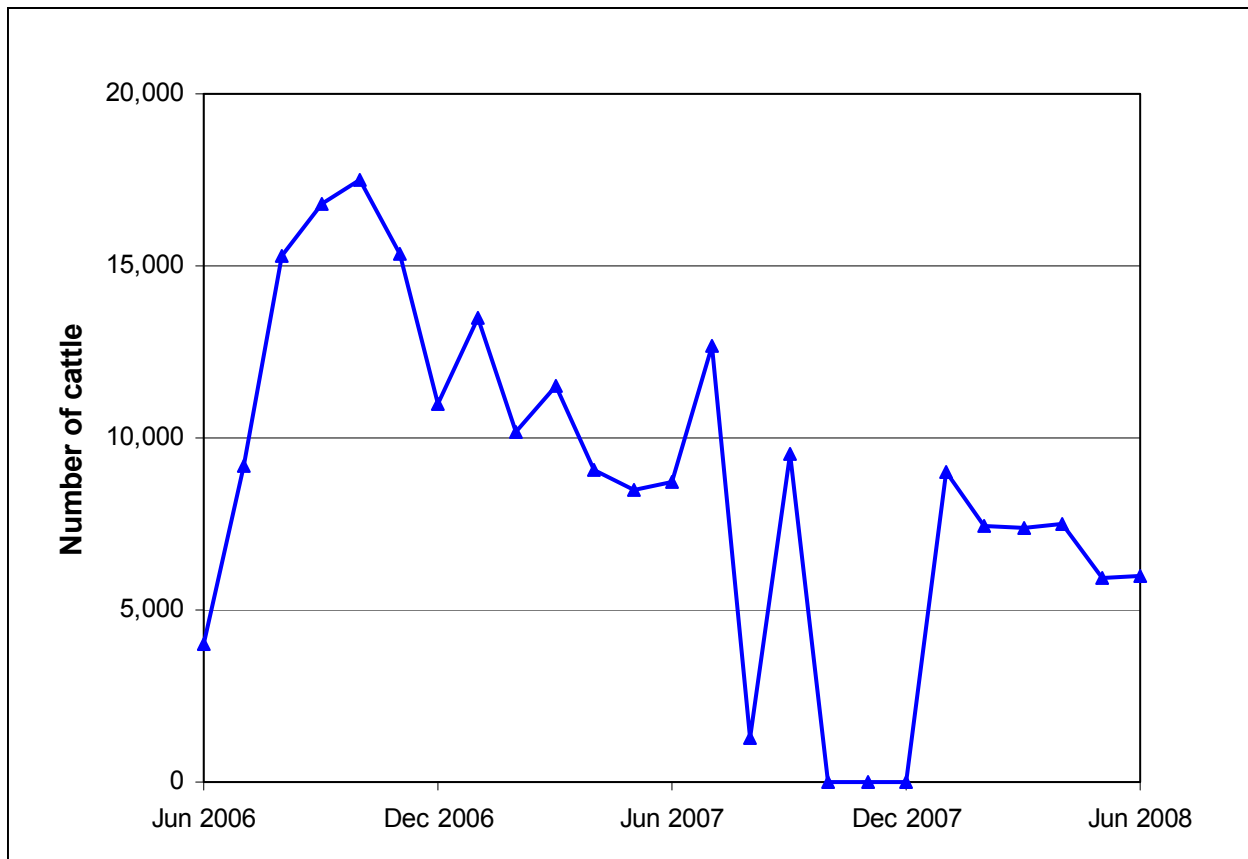
7.2. Cattle moved into Great Britain by country from 1 July 2007 to 30 June 2008



- The figure shows the origin of cattle that were moved into GB between 1 July 2007 and 30 June 2008. A total of 11,494 cattle were moved into GB this period.
- Cattle from Northern Ireland and the UK territories (i.e. Isle of Man, Jersey and Guernsey) accounted for 66% of all movements into Great Britain between 1 July 2007 and 30 June 2008. Cattle from Ireland (13%), France (12%), and Denmark (5%) made up the bulk of the remainder.
- The few cattle that came from outside the European Union in this period, all came from Switzerland.

Cattle Movements (continued)

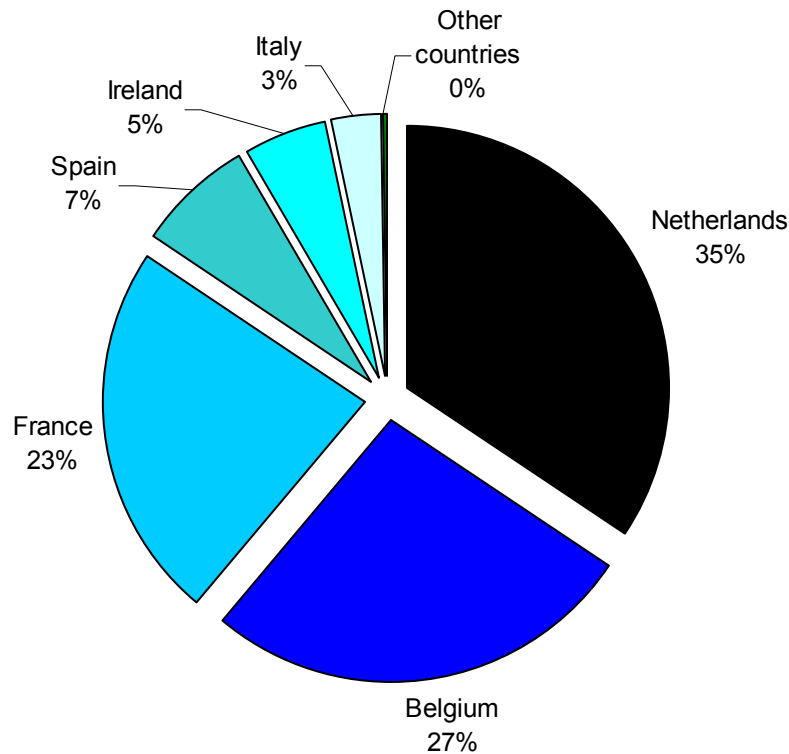
7.3. Cattle exported from Great Britain per month from June 2006 to June 2008



- The chart above shows the number of cattle exported from GB each month from June 2006 to June 2008 (i.e. covering the period 1 June 2006 to 30 June 2008).
- Cattle exports resumed in May 2006 following a ban started in March 1996 to control the spread of BSE. The data shows that exports increased for several months after the ban was lifted and peaked in October 2006 at 17,479 animals. The impact of outbreak of Foot and Mouth disease that started on 3rd August 2007, and the resulting export ban, can be seen between August and December 2007. The export ban was lifted temporarily in September 2007, but was then re-imposed when further cases of Foot and Mouth disease were discovered.
- Cattle moved from Great Britain to Northern Ireland, Isle of Man, Jersey or Guernsey are not included in this chart.

Cattle Movements (continued)

7.4. Cattle exported from Great Britain by country from 1 July 2007 to 30 June 2008



- The figure shows the number and destination of cattle that were exported from Great Britain between 1 July 2007 and 30 June 2008. A total of 66,764 cattle were exported in this period.
- Exports from Great Britain to the Netherlands accounted for 35% of all exports from Great Britain between 1 July 2007 and 30 June 2008. Exports to Belgium (27%), France (23%) and Spain (7%) made up the bulk of the remainder.
- In this time period no cattle were exported to countries outside the European Union.
- Movements from Great Britain to Northern Ireland, the Isle of Man, Jersey and Guernsey are not included in these figures.

Methodology

This section gives an overview of the methodology used to create the outputs in this document. The methods should be borne in mind when drawing conclusions from the data. More details on the RADAR dataset can be found at

<http://www.defra.gov.uk/animalh/diseases/vetsurveillance/radar/index.htm>

Chapter 1: Cattle Population

The RADAR Cattle Population Dataset uses data, taken at monthly intervals, from the Cattle Tracing System (CTS) to provide population statistics for GB. The legal requirement to record births of cattle came into force in July 1996 when all newborn cattle were recorded with an individual passport number as part of the Cattle Passport System (CPS). No movement data was collected initially, but since 1998 it has been a requirement to register movements. It was only after January 2001 that it became a legal requirement to report all cattle movements, except those in CTS linked holdings.

Within RADAR the raw CTS data (i.e. cattle passport numbers, holding location and movements of animals from birth to death) undergo a series of transformations so that the size and composition of the cattle population at any given time can be obtained. Such data can be aggregated to different administrative and geographical entities, for example country, region, county etc.

The number of cattle present at any location is calculated in a two stage process in RADAR. During stage one the CTS movement records are transformed to create a 'life history' for each animal. Each record of the animal's life history represents a 'stay' at a particular location between two specified dates. The structure of the movement data is such that one movement record holds data about either the departing location or the receiving location, but not both. To be able to calculate a population the movement data needs to undergo 'pairing'. However, some records cannot be paired (due to missing movements) whilst other records can be paired but with different degrees of certainty based on the accuracy of data provided e.g. anomalous address or dates associated with movements. An algorithm has been developed in RADAR to deal with these issues. Where doubt exists regarding the animal's whereabouts, for example if it was in transit overnight or because of a missing movement record, then a stay at an 'unknown' location is recorded. Other rules within the algorithm are used to deal with further inconsistencies in the movement data.

During stage two the animal's life history records are processed to determine the number of animals that were present at a location on a selected date at one minute past midnight (00.01AM). Where an animal was in transit at one minute past midnight on the date in question it will not register as being on any holding. It is in fact deemed as being at an 'unknown' location until it is registered at its destination holding and will therefore not be included in any spatial analysis.

The RADAR system attempts to give all cattle premises a map reference based on the address that is supplied to CTS. As some of these addresses do not contain sufficiently accurate information they will not be given a map reference and hence cannot be mapped. As a result these premises cannot be aggregated by country or Animal Health Divisional Office (AHDO) and will instead be classified as being in an 'unknown' regional boundary. More information about the selection of AHDO boundaries is available in the FAQ section of this publication and on the RADAR website:

<http://www.defra.gov.uk/animalh/diseases/vetsurveillance/reports/geo-units.htm>

Chapter 2: Cattle Premises

A cattle premises is defined as any premises that has a bovine animal registered as being present on it on at least one day of the year. Therefore, any premises that has a seasonal variation in its cattle population may be misrepresented in any given snapshot. However, such premises will be present in trend analyses.

The British Cattle Movement Service classifies all premises that keep cattle either overnight or for a transitory period according to one of several different location type categories such as agricultural holdings, slaughterhouses, markets etc.

Certain premises are exempt from the requirement to submit a movement record to CTS, therefore, the precise location of cattle is not known, although they are known as 'linked premises' which in general will be in close proximity to each other and managed together. Premises reported here are unique.

Some movements of cattle may occur which do not require an animal to 'overnight' on a premises. For example, if an animal moves on and off a market on the same day, the market will not be classed as a cattle holding in the usual way. For this reason RADAR has developed a concept of 'transitory' stays on holdings. Another example of a premises that will not necessarily keep animals overnight are slaughterhouses. Again, these premises will show transitory movements but not necessarily be classed as a cattle holding. Such 'transitory' premises have not been included in this Book.

For all spatial analyses there will be a proportion of premises that cannot be included. Such holdings do not have sufficient address information to be accurately mapped by RADAR.

It should be noted that for the purposes of the Cattle Book, a 'small' premises is a premises with a small number of cattle, a 'large' premises has a large number of cattle registered to it. This does not necessarily reflect the parcel of land occupied by the business.

Following consultation with stakeholders, the boundaries of the premises size categories used in the Cattle Book have been chosen in an attempt to group holdings in a meaningful way, whilst taking account of the proportions of the premises and cattle that fall into each of the categories. Premises size is a known and established risk factor for many diseases and is associated with different management practices and production types. To some extent, categorisation will oversimplify the analysis of any dataset but it is required to enable management of the analyses.

Chapter 3: Cattle Breeds

Cattle breed is specified by the keeper, on farm, usually based on the breed of the sire and registered at birth on its passport. There are 330 recognised breeds according to the British Cattle Movement Service (BCMS). A very small number of cattle do not have a breed specified on their passport. Where cattle are not purebred (i.e. their parents are of different breeds) they are classified as "cross-breeds". In the analyses presented in the Cattle Book the pure and cross-breeds have been combined. After combining, there were 95 different breeds of cattle registered on 1 June 2008.

More information on how breeds are calculated is available at:

<http://www.defra.gov.uk/animalh/diseases/vetsurveillance/species/cattle/table.htm>

Chapter 4: Cattle Breed Purpose

From the cattle breed recorded on an animal's passport, RADAR categorises the animal to a purpose (i.e. beef, dairy or dual). The allocation is based on the primary purpose for the breed, so it

is possible that a breed type that we have called “beef” is actually being used for dairy and vice versa. For example, male calves of a dairy breed will generally be used for the production of beef.

Information from the June Survey of Agriculture and Horticulture allows a farm size band to be calculated. The following table is used to categories farms according to how many full time equivalent (FTE) workers are theoretically required to run the farm.

Farm Size Band		Number of Full Time Equivalent (FTE) workers
Very Small	Spare Time	Less than ½ FTE
Very Small	Part Time	½ ≤ FTE < 1
Small	Full Time	1 ≤ FTE < 2
Medium	Full Time	2 ≤ FTE < 3
Large	Full Time	3 ≤ FTE < 5
Very Large	Full Time	5 or more FTE

Chapter 5: Cattle Age

It became a legal requirement for the date of birth to be registered on all cattle passports in CTS from 1998 onwards so that cattle ages could be assessed. Because RADAR holds a record of every animal’s date of birth, it is possible to analyse the population by epidemiologically important age groups for any given snapshot.

Chapter 6: Cattle Births and Mortality

The legal requirement to record births of cattle came into force in July 1996 when, all newborn cattle were recorded with an individual passport number as part of the Cattle Passport System (CPS). It was only after January 2001 that it became a legal requirement to report cattle deaths also. However, quality of data by gender and anecdotal evidence suggest that some cattle births and deaths, such as male dairy calf neonatal mortality, are not recorded with equal rigour.

On-farm calf mortality rate is defined as the number of calf deaths per 100,000 calf days at risk on agricultural premises. It is calculated using the number of calf deaths divided by the number of calf days in the period. The number of calf days in the period represents 1 day for each animal each day. For example, if 5 animals were present on a location for 20 days the sum of animal days would be 100. Conversely, if 20 animals were present on a location for 5 days the sum of animal days would also be 100. This means, for any specified risk to the cattle in an area, that areas with a high density of cattle can be compared directly with areas with a low density of cattle.

On-farm mortality was calculated by only analysing premises that were registered as being an agricultural premises. Therefore, this data excludes deaths at slaughter houses.

For the purpose of the analyses in the Cattle Book, a calf is defined as an animal up to 6 months of age.

Chapter 7: Cattle Movements

The RADAR data contains details about cattle moved into Great Britain from Northern Ireland, the Isle of Man, Jersey, Guernsey and imports from countries outside the UK. Data on Northern Ireland and UK territories are included separately because these are considered as separate epidemiological herds. Also shown is data on exports from GB to countries outside the UK (i.e. movements from GB to Northern Ireland, the Isle of Man, Jersey and Guernsey are not included).

Frequently asked questions

The following commonly asked questions may aid to clarification of the contents of this publication.

1. What is RADAR?

RADAR stands for “Rapid Analysis and Detection of Animal-related Risks”. The RADAR system brings together key surveillance information collected in other systems about animal populations, diseases and conditions in a structured and consistent way. It contains current, accurate information about the number and location of animals. This allows a better understanding of animal disease in the UK and the risks posed by them. This information helps in the control of animal related diseases. The RADAR system contains information on a variety of different datasets (not just cattle populations) including poultry, diagnostic data from veterinary laboratories, animal licensing movements and the England June Survey of Agriculture.

2. What is the CTS?

CTS is the Cattle Tracing System. It is a computer database which registers all cattle and their movements. Owners of cattle must report all births and imports of cattle, their subsequent movements and eventual death or slaughter. It is run by BCMS.

3. Why is the coverage of the Cattle Book limited to Great Britain and does not include Northern Ireland?

RADAR captures and processes data from the British Cattle Movement Service’s (BCMS) Cattle Tracing System (CTS). CTS was set up, in Great Britain, following the BSE epidemic and in advance of European Union legislation (EC Directive 97/12. Article 14) requiring that Member States maintain a computerised system for tracing the movements of individual cattle. A system meeting these requirements was already in place in Northern Ireland and, hence, the coverage of CTS is limited to GB rather than the UK as a whole.

4. What is the definition of a cattle premises used for time trend and snapshot purposes in the Cattle Book?

A cattle premises is defined as any premises that had a bovine animal registered as being present on it at one minute past midnight on the date in question. A cattle premises captured by a trend analysis will have had cattle at some point over a period of time (for example, at any point over the course of a specified year).

5. How is an individual cattle premises identified in CTS and RADAR?

Each premises in CTS is given its own individual identifier. The majority of cattle premises are given their own individual 9-digit County, Parish, Holding (CPH) number by the Rural Payments Agency in England, the Welsh Assembly Government or the Scottish Government, based on their location in GB. This should be the location at which the cattle are kept. However, sometimes an issued CPH number may not be the same as the CPH number of the location where the animal is being kept. Animals can be registered to a ‘landless’ keeper i.e. they have an owner who doesn’t actually own any land. Hence, some animals will be recorded as being present at the keepers address and not where it is actually being kept. RADAR attempts to keep track of such situations but it is apparent that this is not always successful. Alternative 4-digit identifier numbers are used for slaughterhouses with the first digit indicating which country it is located in. Additionally markets are distinguished by a numerical, 5-digit identifier and show grounds by a 5-digit identifier beginning with an ‘S’.

6. What is meant by location “not specified”?

Due to the nature of CTS data capture methodology, the RADAR system cannot adequately transform all of the movement data effectively. Where this happens a small proportion of cattle will fall into a location “not specified” category (e.g. “AHDO not specified”). This can refer to cattle which are at premises where the location or address details are incomplete when the snapshot is taken. Also for some cattle there is insufficient data in CTS about the animal’s whereabouts on the particular day the snapshot is taken. The precise geographic location was unknown for less than 1 per cent of cattle at 1 June 2008. This is a considerable improvement on the data in the 2006 Cattle Book where the precise location of 22 per cent of cattle was unknown.

7. What is an Animal Health Divisional Office (AHDO) and why does the RADAR Cattle Book use these administrative boundaries?

AHDOs are the regional offices maintained by Animal Health, known formerly as the State Veterinary Service (SVS). These have been chosen as the principal geographical regions used in the Cattle Book as information displayed in this way will prove particularly useful for professionals within Animal Health when viewing population data within their geographical areas of responsibility.

8. Why do the time series graphs in the Cattle Book begin on 1 January 2003?

The time series graphs have been chosen to begin on 1 January 2003 as the cattle industry and the data pertaining to cattle populations during 2001 and 2002 were affected by the 2001 outbreak of Foot and Mouth Disease, which resulted in distorted population trends. More information about this disease outbreak is available on the Defra website at:

<http://www.defra.gov.uk/animalh/diseases/fmd/2001/index.htm>

9. What is the rationale underpinning the selection of the boundaries of the cattle holding size categories?

Following consultation with stakeholders, the boundaries of the premises size categories used in the Cattle Book have been chosen in an attempt to group holdings in a way that is meaningful in the context of the cattle industry, whilst taking account of the proportions of the premises and cattle that fall into each of the categories.

10. How were the age group categories used in the Cattle Book defined?

The age group categories have been created to reflect the structure of the cattle industry in GB and cattle disease age-related susceptibility. Thus, for instance, the 0-6 day category represents neonatal animals, whilst animals over 24 months are considered to be adults. The development of the age categories involved discussion with stakeholders and data providers to identify the most epidemiologically appropriate categories that can be used when assessing statistics relating to cattle health and disease. Any cattle that were born pre-1996 have been issued an automatic birth date on CTS of 11/11/11 and therefore although they are classified in RADAR as adult, their age cannot be ascertained. In 2000, BCMS under the Cattle Registration Project (CRP), captured details of all such animals. There were a maximum of 569,796 such animals in Feb 2001. This number has been gradually decreasing over time as these animals die, so the quality of the data improves.

11. What is meant by an unknown breed-purpose?

An unknown breed purpose is given to an animal when, either no breed has been specified at birth or the animal is registered as a breed whose purpose is unknown. The categorisation of breed purpose was developed in discussion with industry representatives and represents the most likely use of cattle of the specified breed. Cattle of dual breed purpose may be used equally for beef or dairy production.

12. What is meant by a pure breed bovine animal?

A pure breed is the product of parents of the same breed, but due to the heterogeneity of the GB population, a bovine animal can only really be considered as truly pure bred or “pedigree” if its details are registered in the breed herd book. This information is not recorded in CTS data and hence it is not possible to incorporate the true number of pure bred animals or pedigree animals in the data analysis. As a result, for simplicity, the registered pure bred animals and cross bred animals have been combined to give an overall idea of the contribution of that breed to the national herd.

13. What is meant by a rare breed bovine animal?

The numbers of all native breeds of cattle are monitored by the Rare Breeds Survival Trust. The current situation within the breed is defined by the organisation, based on conservation criteria, dividing them into categories of critical, endangered, vulnerable, at risk, minority and mainstream. This is based predominantly on registered breeding female population size (the numeric thresholds serve as a guideline) as well as population genetic factors and current trends in breed density and distribution. The list of rare breeds includes all those that fall into categories of critical to minority. The Kerry is also include as a rare breed as, although of Irish origin, can be found in the UK and historically has been a part of British agriculture. For more information, visit the Rare Breeds Survival Trust website: <http://www.rbst.org.uk/>

14. How are density maps produced?

Density maps are produced using an advanced computing GIS technique known as kernel smoothing. Simply, this uses a series of points with attributes, in this case number of cattle, and searches for the next point with cattle over a given distance. It then allows a smoothed representation of the cattle over the area based on the numbers at the points.

15. Why does the RADAR Cattle Book take 1 June as the date for the snapshot?

The 1st of June has been selected so that the snapshot data presented in the RADAR Cattle Book may be more usefully compared with data, obtained for other livestock species, captured by the annual June Survey of Agriculture. In addition, some analyses presented in the RADAR Cattle Book also include time series graphs incorporating data recorded during different months over a number of years.

16. Why are there differences between RADAR and June Survey data?

The June Surveys in England and Wales adopted data from RADAR rather than asking survey questions from 2008. European requirements placed upon all Member States require cattle broken down into set categories that differ slightly from those available from CTS via RADAR. For June Survey purposes, dual purpose and unknown cattle types have been allocated to either beef or dairy by a series of calculations that reflect what other breed purposes are on the holdings. Scotland have not yet adopted RADAR data for their official estimates and still use survey questions.

Glossary

The abbreviations and technical terms used in this publication are explained here.

Animal days

The number of animal days in the period represents 1 day for each animal each day. For example, if 5 animals were present on a location for 20 days the sum of animal days would be 100.

Animal Health

Formerly the State Veterinary Service. A GB wide organisation dealing with animal health, public health, animal welfare and international trade. Animal Health maintains its state of readiness to manage outbreaks of animal disease; controls and eradicates animal diseases, providing advice on disease prevention; implements and enforces national and EU legislation on animal welfare carrying out welfare visits to farms and markets; provides advice on requirements for importing and exporting animals. Animal Health staff liaise with farmers, local authorities, private veterinary surgeons, market operators, transporters, slaughterhouses and many other groups, as well as the general public.

Animal Health Divisional Office (AHDO)

Regional offices maintained by Animal Health. There are 16 AHDOs in England, 3 in Wales and 5 in Scotland. They provide the local contact point for most official Animal Health matters, such as imports or exports, notifiable diseases, farm animal welfare, or compulsory testing programmes.

British Cattle Movement Service (BCMS)

The British Cattle Movement Service (BCMS) is part of the Rural Payments Agency (RPA). RPA is an Executive Agency of the Defra. BCMS runs the Cattle Tracing System.

Calf

For the purpose of the Cattle Book, a calf is an animal up to 6 months of age.

Cattle passport

A document which contains information about the identity of a bovine animal. Cattle passports contain information specified by EU law (for example, date of birth, breed, maternal details) and are used to record cattle movements and notify them to the Cattle Tracing System.

Cattle Tracing System (CTS)

A computer database which registers all cattle in Great Britain and their movements. Owners of cattle must report all births and imports of cattle, their subsequent movements and eventual death or slaughter. CTS was set up, in Great Britain, in advance of European Union legislation (EC Directive 97/12. Article 14) requiring that Member States maintain a computerised system for tracing the movements of individual cattle. A system meeting these requirements was already in place in Northern Ireland and, hence, the coverage of CTS is limited to GB rather than the UK as a whole.

CPH

Each holding in CTS is given its own individual identifier. The majority of cattle premises are given their own individual 9-digit County, Parish, Holding (CPH) number based on their location in GB by the RITA system.

Cross / cross-bred

Cattle whose parents or grandparents have been from different breeds (e.g. Limousin cross).

Density

Average number within an area of fixed size. This is a direct comparison of the intensity of the population.

Disadvantaged Area (DA)

See Less Favoured Area.

Geographical Information System (GIS)

A computer system capable of assembling, storing, manipulating, and displaying geographically referenced information (i.e. spatial data).

Georeferenced location

This refers to the map reference given to a premises where the supplied address has been complete and accurate enough for RADAR to match it to a Post Office Address point and then locate this point on a map.

Less Favoured Areas (LFA)

Less Favoured Areas are made up of Severely Disadvantaged Areas (SDA) and Disadvantaged Areas (DA). LFA's are areas where characteristics such as geology, altitude and climate make it more difficult for farmers to compete. The SDA is the portion (over 70%) of the LFA where the combination of these characteristics is the most severe. LFA's are designated under European Law. The Hill Farm Allowance is payable to beef and sheep producers in the SDA (and prior to 2008 the DA) to recognise the difficulties faced in these areas and to help preserve the upland environment by ensuring the SDA is managed in a sustainable way.

Nomenclature for Units of Territorial Statistics (NUTS)

Nomenclature for Units of Territorial Statistics. Standardised European Union classification for geographical areas of land based on human population. In Great Britain, the NUTS1 regions are the Government Office regions in England (of which there are 9) and the whole of Scotland, and of Wales. The NUTS2 regions are counties or groups of counties in England (30) and groups of unitary authorities in Scotland (4) and Wales (2).

Population

This usually means the total number of animals of a defined type being considered in a specific area or as a group. Examples of animal populations are "all the lambs in a county", or "all the rabbits in a wood", or "all the dairy cows in the UK". Sometimes it refers to a number of farms instead of a number of animals. So the "population" might be "all the pig farms in Scotland".

Rapid Analysis and Detection of Animal-related Risks (RADAR)

RADAR is an information management system which collects and collates veterinary surveillance data from many different sources around the UK. It makes it possible to analyse this information and publish reports highlighting threats to public health and animal health and welfare, the risks they pose and the areas at risk.

RPA

Rural Payments Agency, an Executive Agency of Defra.

Severely Disadvantaged Areas (SDA)

See Less Favoured Areas

Targeted surveillance

This involves carrying out specific projects or surveys to collect information about a particular disease. The aim is usually to estimate how much of the disease there is in a given population of animals, or to provide sound evidence that the disease does not occur.

TRACES

The EU TRAdE Control and Export System. This is the system used for notifying Member States of movements of live animals, and certain other commodities into or through their territories.

Transitory location

These are premises where cattle move on and off on the same day and hence do not accrue an 'animal day' on one specified premises.

VLA

Veterinary Laboratories Agency (an executive agency of Defra).

Appendix: Official Scottish cattle numbers

In Scotland, official statistics on cattle originate from the June Agricultural Census and December Agricultural Survey. The Scottish devolved administration is aware of the use of CTS data in this report, although has not adopted them as their official estimates. The official Scottish figures are shown here and have been converted into the same headings as used in England and Wales:

Number of Cattle in Scotland as at 1 June 2008, including main and minor holdings

Cattle Type	Number
All female cattle	1,321,708
Aged 2 years or more	773,545
Total breeding herd (cattle which have calved)	657,435
Beef	465,175
Dairy	192,260
Other female cattle (not calved or in calf for the first time)	116,110
Beef	74,410
Dairy	41,700
Aged between 1 and 2 years	268,726
Beef	190,855
Dairy	77,871
Less than 1 year	279,437
All male cattle	533,041
Aged 2 years or more	62,611
Aged between 1 and 2 years	208,253
Less than 1 year	262,177
Total cattle and calves	1,854,749

Source: The Scottish Government Rural and Environment Research and Analysis Directorate

- The total cattle registered on Scottish agricultural holdings using CTS data is 1,910,381. This is 3.0% more than recorded in the official figures above.
- Official Scottish cattle results can be found online at <http://www.scotland.gov.uk/Publications/2008/10/agriccensus2008>

Further information

The following sources of additional information may be useful to readers of this publication:

Previous editions of the Cattle Book (2006 and 2007)

<http://www.defra.gov.uk/animalh/diseases/vetsurveillance/species/cattle/dataset.htm>

June Survey of Agriculture – England Results

https://statistics.defra.gov.uk/esg/statnot/jun08_final_eng.pdf

June Survey of Agriculture – Scotland Results

<http://www.scotland.gov.uk/Publications/2008/10/agriccensus2008>

June Survey of Agriculture – Wales Results

<http://wales.gov.uk/docs/statistics/2008/081119sdr1892008en.pdf?lang=en>

Cattle Populations in Northern Ireland

<http://www.dardni.gov.uk/index/publications/pubs-dard-statistics/pubs-dard-statistics-cattle-populations.htm>

June Survey of Agriculture – UK Results

https://statistics.defra.gov.uk/esg/statnot/june_uk.pdf

UK Slaughter Statistics

<https://statistics.defra.gov.uk/esg/statnot/slaughpn.pdf>

Quarterly Supplies and Totals for Domestic Usage of Meat in the UK - link to dataset

<https://statistics.defra.gov.uk/esg/datasets/qtrmeat.xls>

Agriculture in the United Kingdom Publication

<https://statistics.defra.gov.uk/esg/publications/auk/default.asp>

RADAR

<http://www.defra.gov.uk/animalh/diseases/vetsurveillance/radar/index.htm>

Rare Breed Survival Trust

<http://www.rbst.org.uk/>

British Cattle Movement Service

<http://www.bcms.gov.uk>

Interactive map of Animal Health Divisional Office areas

<http://www.defra.gov.uk/animalhealth/about-us/contact-us/search/map.asp>