

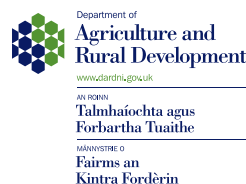
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# Poultry in the United Kingdom

The Genetic Resources of the National Flocks



November 2010



Cover: Red Dorking male (photograph John Ballard, courtesy of The Cobthorn Trust)

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# 1. Introduction

Domestic poultry form the most important sector of livestock keeping worldwide, the production of meat and eggs being a major contributor to human nutrition. Taking into account the economic, social and cultural aspects of poultry keeping underlines the huge significance of this sector. There are some 17 billion domestic chickens worldwide, being equivalent to a ratio of 2.5 of these birds for every human (FAO 2007). There are approximately 29 million laying hens and 116 million broilers in the UK at any one time (DEFRA 2009). In England alone there are 6.14 million breeding fowls, 4.9 million turkeys, 2 million ducks and 105,000 geese. Approximately 750 million broilers are slaughtered annually, producing 1.13 million metric tonnes carcass weight (DEFRA 2009).

The Domestic Poultry population in the UK is comprised of several different species, mainly fowls, turkeys, ducks and geese, with lesser use made of species such as guinea fowl and quail. Poultry genetic resources in the UK are kept by either commercial breeding companies with a very well defined pyramid structure including elite populations and several multiplication tiers (e.g., Laughlin 2007), or by individual or groups of keepers with many varied but interconnected systems, forming a rather complicated web.

Although the UK poultry industry has been reviewed by previous reports (DEFRA 2006a and DEFRA 2006b), these have largely concentrated on the management of poultry keeping and production as a whole, with particular reference to disease risk, biosecurity and food production issues. The most recent figures from the GB Poultry Register show a total of 24,677 premises as registered keepers of poultry (DEFRA 2009). However, no attempt has been made to assess and quantify the genetic resources represented in the national flocks. This report aims to bring together the knowledge of these genetic resources, their origins and current status.

Currently 1132 breeds of poultry are recognised worldwide with 58% of those held in Europe. 204 breeds of fowls in Europe are already identified as critical and 34 have been declared as extinct. Globally, 156 of the breeds are regarded as 'transboundary' (FAO 2007).

## 2. Poultry keeping systems

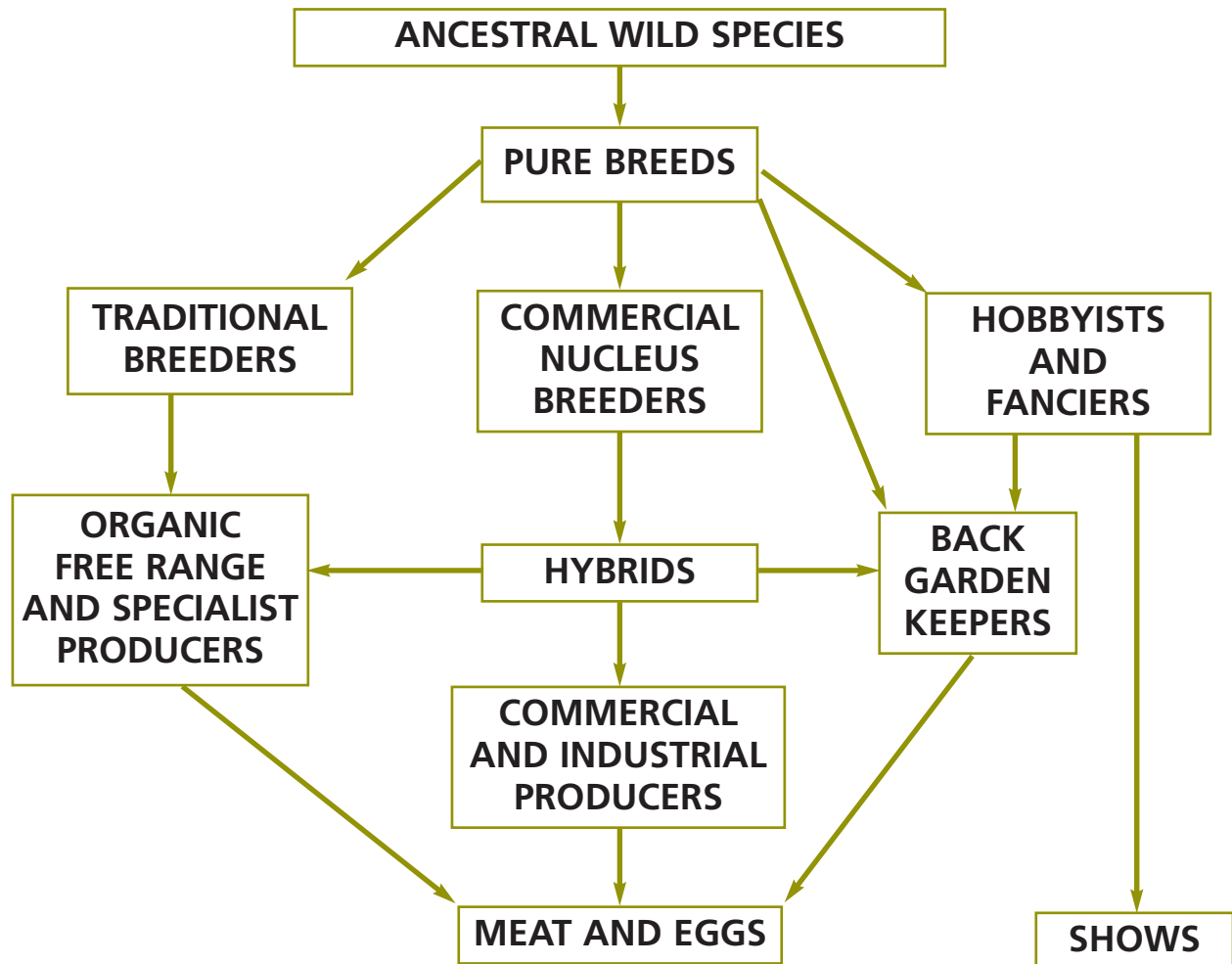
In terms of end product (meat and eggs), the vast majority is produced by large commercial enterprises in intensive or industrial systems. For example, over ninety percent of the broiler stock of the UK is produced by two large international breeding companies (DEFRA 2006a). However, there is significant involvement and growing interest in traditional, free range and organic systems as well as many private individuals producing for their own household consumption. This last group is quite distinct and does not have any equivalent in the large livestock species. All these groups rely on production stock derived in some way from the pure breeds developed over several previous centuries. The management and structure of poultry keeping in the UK has been described in reports on both the commercial poultry (DEFRA 2006a) and the hobby and fancy poultry sectors (DEFRA 2006b). Although the number of premises registered as having poultry approaches 25,000, it is well known that many, if not a greater number of owners with less than 50 birds are not registered in any way.

The genetic resources represented by the pure breeds of poultry form the basis for all the current poultry keeping and production systems. Breeding stocks are held by three principal groups of owners: 1) multinational and industrial, 2) traditional and pedigree, 3) hobbyists and fanciers. The multinational and industrial breeding companies maintain stocks of a limited number of breeds and elite pedigreed populations from which they derive the nucleus breeders for the hybrids used in both meat and egg production. The traditional and pedigree breeders also maintain their stocks of some of the same breeds, while the hobbyists and fanciers maintain stocks of the full range of breeds.

Although some private individuals make use of pure breeds for home consumption, plus some of the traditional free range producers, many actually use the same commercial hybrids as are used in the industrial systems for both meat and eggs. The overall flow of genetic material throughout poultry keeping in the UK is shown in **Fig.1** based on the situation in fowls under domestication. **Fig.1** illustrates the derivation of the genetic resources and the utilisation by the various sectors of keepers and producers. In numerical terms, the production of meat and eggs to the consumer is more than ninety percent by the sequence of commercial nucleus breeders – hybrids – commercial and industrial producers, exceeding all the other sectors combined.

## 2. Poultry keeping systems

Fig 1: Gene Flow from ancestral wild species to end product or use under domestication



## 3. Species Accounts

### 3.1 The Domestic Fowl (*Gallus gallus domesticus*)



**Red Junglefowl male**

(Photograph John Corder, Courtesy of The Cobthorn Trust)



**Red Junglefowl female**

(Photograph John Corder, Courtesy of The Cobthorn Trust)

Domestication of the principal poultry species, Domestic Fowl (*Gallus gallus*), has been in place for as much as 7,500-8,000 years b.p. (West & Zhou 1988). It is generally accepted that domestic fowls are derived from a single wild species, the Red Junglefowl (*Gallus gallus*), with five regional subspecies which account for some of the basic variations in the resultant domestic breeds (Madge & McGowan 2002).

#### 3.1.1 Fowls



**Commercial Breeding Stock, Aviagen Ltd.**

*Commercial Breeding Stock, Aviagen Ltd*

The vast majority of commercial fowls (breeds maintained by multinational, industrial breeders and producers) are derived from a limited number of original breeds. Principal amongst these are Leghorns, Rhode Island Red, New Hampshire, Plymouth Rock and Cornish or Indian Game. Production strains derived from such breeds and their hybrids totally dominate the industry and are produced by an even smaller number of multinational companies. Laughlin, (2007) provides a description of the structure of the ownership of commercial poultry genetic resources. These lines represent a very important and significant genetic resource for the continuing production of meat and eggs. In the UK there is one company (Aviagen) keeping fully pedigreed (spanning over 50 years) genetic resources for meat type fowls.

The presence of any particular breed or strain is not recorded outside the companies which hold them and there is no interaction between these commercial sector stocks and the stocks held by breed organisations.

There are major differences between countries in terms of the breeds in use and their relative status. An example of this would be the Australorp (Australian Orpington) which was derived from the Black Orpington which is found in several countries as a production bird although a critically rare breed in the UK. The breed holds the world record for egg production at 364 eggs in 365 days.

## 3. Species Accounts

In recent years new and different types of hybrids for the production of both meat and eggs have been developed and aimed at the traditional, organic, free range and back garden producers. These include brands such as Bluebells, Black Rocks, Columbian Blacktails, Speckledy and Cotswold Legbars (which have been specifically bred to produce eggs in many different colours).

### 3.1.2 Miniature Fowls

The miniature breeds of fowls, often termed 'bantam', are not necessarily of the same genetic origin as the full sized fowls of the same name. Many have been made as facsimile versions of the larger breed simply to meet the demand of fanciers who wish to keep birds on a very small scale. In the production of these miniature or bantam versions existing bantam breeds are often crossbred to produce the phenotype desired, the process being accomplished without any genetic connection to the larger version. In some cases the miniature versions can be produced by selectively breeding down the size of the original full size fowl, but some crossbreeding with existing bantam breeds usually takes place (Silk 1949).



**Miniature Old English Game fowls**

*(Photographs John Tarren, courtesy The David Scrivener Archive)*

An important role was played by some of the miniature versions of the mainstream utility breeds during the Second World War. People with only small gardens or backyards were able to keep a few of these miniature or bantam versions of breeds which could produce valuable supplies of eggs and meat at a time of great difficulty and shortage. The utilitarian properties of some of these particular breeds have continued to this day.

The miniature breeds form a specific genetic resource, having a genetic origin distinct from both their large fowl counterparts and the True Bantam breeds, while still maintaining production abilities.

### 3.1.3 True Bantams

The True Bantams are those breeds of small fowls which have been developed only at that size and do not have any large fowl counterpart. This group includes some of the oldest known distinct breeds of domestic fowls and some with unique characteristics. As such they represent a different genetic resource from both the large fowl breeds and the miniature breeds. Although generally kept for ornamental purposes, some of these breeds are known to have valuable traits which are of use in a variety of circumstances.



**Sebright Bantam cock**

*(Photographs John Tarren, courtesy The David Scrivener Archive)*



## 3. Species Accounts

### 3.2 Turkeys



**Norfolk Black Turkeys**

(Photograph, Janice Houghton-Wallace, Courtesy of The Turkey Trust)

Other major poultry species is that there are far fewer distinct breeds, many different named turkey breeds are in reality merely colour variants of a very small number of basic types. As in fowls, in the UK there is one company (Aviagen) keeping fully pedigreed genetic resources for turkeys.

Domestic turkeys are derived from the American Wild Turkey (*Meleagris gallopavo*) which is currently recognised as a single species having six regional subspecies (Madge & McGowan 2002).

The basic structure of turkey keeping and production is the same as that for fowls and the flow of genetic resources is similar to that shown in **Fig. 1**, although there are far fewer turkeys kept for anything other than meat production. Something of an upsurge in interest in turkey keeping has taken place in recent years as a result of the renewed demand for traditional free range farm turkeys and the formation of the Turkey Club in 2001.

One feature of turkeys which is not found in the



**Khaki Campbell Drake**

(Photographs John Tarren, courtesy The David Scrivener Archive)

flow of genetic resources is the same as shown in **Fig.1**. Commercial hybrid meat ducks are mostly based on the Aylesbury and Pekin breeds, with the specific hybrids with Muscovy mentioned above. There are very few duck egg producers, but these are more likely to use straight breeds such as Campbell or Indian Runner.

### 3.3 Ducks

There are two distinct lineages in the domestic breeds of ducks present in the UK. Most breeds are thought to be developed from the domestication of the Common Mallard (*Anas platyrhynchos*), but the Muscovy and related breeds are descended from the South American Musk Duck (*Cairina moschata*) which is from a completely different group of wild species (Roberts 2008). The commercially produced hybrids between the two, such as the Barbary, are noted for their rapid meat production, but are infertile.

Again the basic structure of the population and

## 3. Species Accounts

### 3.4 Geese

As with ducks, domestic geese are from two separate species domestications, most breeds being from the Greylag Goose (*Anser anser*), but the African and Chinese breeds from the Asiatic Swan Goose (*Anser cygnoides*) (Roberts 2008).

Unlike ducks there is virtually no specific egg production in geese, although the Chinese breed is much the most productive in this respect. The geese for meat production are now generally hybrids developed from several breeds in much the same way as the meat breeds of fowls.



**Pilgrim Geese**

(Photographs John Tarren, courtesy The David Scrivener Archive)

### 3.5 Minor Species

A number of other species contribute to domesticated poultry keeping and it is worth noting that these are included in many other countries' national reports and in the FAO considerations (FAO 2007). Principal amongst these are the Guinea Fowl and the Domestic Quail, but some account is often taken of the pheasants reared for sporting interests. Guinea Fowl are domesticated from the Common or Helmeted Guinea Fowl (*Numida meleagris*). Guinea Fowl form part of the 'Other poultry' data in DEFRA statistics and as such are part of the 4.5 million birds in that category. Most Guinea Fowl production is meat for the niche markets. There is no significant sale of eggs, nor is there any competitive exhibiting of this species. Domestic Guinea Fowl in the UK are really only colour variants of the wild species, no specific breed separation having taken place. Although in some countries, e.g. Germany, there is a written breed standard and the birds are shown, this is not the case in the UK and the species is not currently catered for by the Poultry Club of Great Britain.

Commercial domestic quail descend from the Japanese Quail (*Coturnix japonica*) and pheasants reared for sporting purposes are the product of the various forms of the species in the genus *Phasianus*. Neither quail nor pheasants are considered in this report.

## 4. Breed Organisations

The Poultry Club of Great Britain is the parent body for all breeds of fowls, waterfowl and turkeys. It is responsible for the recognition of breeds, all breed standards and is the body to which poultry breed organisations are affiliated.

In total there are more than 280 breeds of poultry kept in the UK (33 duck, 23 geese, 124 fowls, 63 miniature fowls, 20 true bantam fowls and 18 turkeys), all but a few recently imported exotics being officially recognised as breeds and standardised by the Poultry Club of Great Britain. There are 53 breed organisations, including six which are responsible for groups of breeds, such as The Rare Poultry Society, the Asian Hardfeather Club and the Turkey Club (which represents the interests of all turkey breeds).

The waterfowl situation is very complex. All breeds of ducks are covered by both the British Waterfowl Association (BWA) and the Domestic Waterfowl Club (DWC) plus a few individual Breed Societies. All breeds of geese are also covered by both BWA and DWC plus the Goose Club. In addition there is a Scottish Waterfowl Club.

There is currently no organisation in the UK responsible for the stocks of Guinea Fowl, although there is the Guinea Fowl International Association.

## 5. Data Recording and Registration

There is currently no pedigree registration, nor individual identity recording for any of these breeds. The Poultry Club does have a closed ringing scheme which is used by many exhibition breeders and the National Poultry Collection operates a wingtagging system allied to its individual pedigree recording. The Poultry Club ringing scheme records the identity of the breeder purchasing the rings but does not record the breed for which they will be used. Rings are simply ordered in whatever size the breeder specifies.

Information for the individual breed reports has been gathered from all the various breed organisations, the majority of which do not record how many birds their members actually keep. Some breed organisations do operate a census system, but this is not universally supported by the members, so that population numbers are not complete, as is obvious in the statistics in the Annex to this report. In addition some breeds have significant numbers of birds which are kept completely outside the breed organisation system. There being no pedigree registration, birds both from breeders in the breed organisation and from those outside are sold as purebred examples of the breed concerned.

There is no record of the stocks of different breeds held in any national sense and there is effectively no connection between the stocks held by breed organisation members and those stocks held by the commercial industry. From the very limited data available it is clear that some breeds of poultry are in critically low numbers and that some production strains are held by only one or two breeders. This means that identification and monitoring of this type of poultry genetic resources is seriously data deficient, presenting a very real difficulty in managing or protecting those genetic resources.

On the other hand, stocks held by fowl or turkey breeding organisations are fully pedigreed with records spanning over 50 years, kept under extremely tight biosecure environments and with both large absolute (e.g., placing around 500,000 chickens per year) and genetic populations sizes (see table in item 7.7). Both fowl and turkey commercial genetic resources are kept and managed to ensure their long-term sustainability.

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## 7. Annex: Current situation for individual breeds and strains

The breed organisations for all breeds recorded in the 2002 National Report, or recognised since, were contacted and surveyed for the population data on their breeds. It is clear that in many cases significant breeding stocks are held by owners not involved in the breed organisations, which is also indicated in the individual tables. The population numbers for the Rare Poultry Society are those in the 2009 census returns from members. In all cases, the numbers given are only those known to, or recorded with the breed organisation. Many of the breeds with nil returns are known to be present, but are currently unrecorded with the breed organisations. It is therefore important to stress that the figures given are only those birds recorded and that a greater number will be likely to be found with keepers outside any formal organisation. Breed organisation membership is often given as a total and not separated into large fowl and miniatures where both sizes exist.

1. Breed	2. Number of males	3. Number of females	4. Breed Organisation	5. Number of Members	6. Significant Stocks outside Organisation
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### 7.1 Fowl breeds

Breed	Males	Females	Breed Organisation	Members	Other Stocks
Altsteirer	NR	NR	RPS	nil	No
Ameraucana	nil	nil	RPS	nil	NP
American Game	NR	NR	RPS	nil	No
Ancona <sup>3</sup>	20	55	BS, *S	72	No
Andalusian <sup>3</sup>	16	58	RPS	9	No
Appenzeller Barthuhner	3	6	RPS	1	No
Appenzeller Spitzhauben	27	99	RPS	7	No
Araucana	100	450	BS	200	No
Araucana (Rumpless)	included	included	BS	included	No
Ardennes	3	21	RPS	1	No
Asil	250	250	AHS	25	Yes
Augsburger	nil	nil	RPS	nil	NP
Australorp <sup>3</sup>	20	40	BS	6	No
Ayam Cemani	NR	NR	RPS	nil	No
Barnevelder	90	290	BS	49	Yes
Barnebar	1	6	RPS	1	No
Belgian Game	5	15	RPS	1	No
Bergische Crower	NR	NR	RPS	1	No
Bielefelder	NR	NR	RPS	nil	No
Brabanter	nil	nil	RPS	nil	NP
Braekel	2	5	RPS	1	No
Brahma	100-150	200-250	BS	20	No

## 7. Annex: Current situation for individual breeds and strains

Breed	Males	Females	Breed Organisation	Members	Other Stocks
Brazilian Shamo	nil	nil	RPS	nil	NP
Breda	nil	nil	RPS	nil	NP
Bresse	nil	nil	RPS	nil	NP
Brockbar	nil	nil	RPS	nil	E
Brussbar <sup>3</sup>	5 <sup>2</sup>	7 <sup>2</sup>	RPS	1 <sup>2</sup>	No
Buckeye	2	10	RPS	1	No
Cambar	nil	nil	RPS	nil	E
Campine <sup>3</sup>	20	47	RPS	6	No
Canadian Game	nil	nil	RPS	nil	No
Caussade	nil	nil	RPS	nil	No
Chantecler	NR	NR	RPS	nil	No
Cobar	nil	nil	RPS	nil	No
Cochin <sup>3</sup>	125	500	BS	50	No
Coveney White	nil	nil	RPS	nil	E
Crested Legbar <sup>3</sup>	13	61	RPS	8	Yes
Creve Couer	9	13	RPS	2	No
Croad Langshan <sup>3</sup>	90	760	BS	120	No
Dandarawi	6	9	RPS	2	No
Delaware	NR	NR	RPS	nil	No
Denizli	NR	NR	RPS	nil	Yes
Derbyshire Redcap <sup>3</sup>	144	493	BS	53	No
Dominique	6	23	RPS	5	No
Dorbar	nil	nil	RPS	nil	E
Dorking <sup>3</sup>	292	680	BS	111	No
Dorset	nil	nil	RPS	nil	E
Drentse	NR	NR	RPS	nil	No
Exmoor	nil	nil	RPS	nil	E
Faverolle <sup>3</sup>	80	160	BS	40	No
Fayoumi	4	21	RPS	2	No
Friesian	14	54	RPS	8	No
Frizzle	20-200	40-400	BS	not given	No
German Langshan	10	20	BS	2	No
Golden Essex	nil	nil	RPS	nil	E
Hamburgh <sup>3</sup>	40	100	BS	104	No
Houdan	11	30	RPS	5	No
Indian/Cornish Game <sup>3</sup>	39	94	BS	58	Yes

## 7. Annex: Current situation for individual breeds and strains

Breed	Males	Females	Breed Organisation	Members	Other Stocks
Ixworth <sup>3</sup>	27	70	RPS	10	Yes
Java	4	20	RPS	1	No
Jersey Giant	20	49	RPS	6	No
Jurlower	NR	NR	RPS	nil	No
Kinpa	10	10	AHC	3	No
Koeyoshi	NR	NR	RPS	nil	No
Kraienköppe	2	2	RPS	1	No
Kulang	75	75	AHC	10	Yes
Kurokashiwa	8	15	RPS	4	No
La Fleche	8	24	RPS	5	No
Lakenvelder	6	11	RPS	4	No
Legbar <sup>3</sup>	NR	NR	RPS	nil	Yes
Leghorn <sup>3</sup>	150	750	BS	160	Yes
Lincolnshire Buff	30	60-70	BS	10	No
Malay <sup>3</sup>	75	75	AHC	15	Yes
Malgache	30	30	AHC	5	No
Malines	NR	NR	RPS	nil	No
Mantes	4	16	RPS	1	No
Marans (English type) <sup>3</sup>	800	2000	BS	280	Yes
Marans (French type)	400	1800	BS	see above	Yes
Marsh Daisy <sup>3</sup>	52	150	RPS	19	Yes
Minohiki	NR	NR	RPS	nil	No
Minorca <sup>3</sup>	160	400	BS	80	No
Modern Game <sup>3</sup>	50	180	BS	as bantam	No
Modern Langshan <sup>3</sup>	7	15	RPS	1	No
Niederrheiner	NR	NR	RPS	nil	No
New Hampshire Red	180	460	BS	66	No
Norfolk Grey	14	37	RPS	9	No
North Holland Blue <sup>3</sup>	9	21	RPS	3	No
Old English Game <sup>3</sup>	100s <sup>1</sup>	1000s <sup>1</sup>	BS, *S	unknown <sup>1</sup>	Yes
Old English Pheasant Fowl <sup>3</sup>	27	103	RPS	11	Yes
Onagadori	nil	nil	RPS	nil	NP
Orloff	9	21	RPS	5	No
Orpington <sup>3</sup>	200	500	BS	108	Yes
Orpington (Buff) <sup>3</sup>	110	350	BS	119	Yes
Owlbeard	7	22	RPS	2	No



## 7. Annex: Current situation for individual breeds and strains

Breed	Males	Females	Breed Organisation	Members	Other Stocks
Penedesencas	NR	NR	RPS	nil	Yes
Plymouth Rock	100	300	BS, *S	200	No
Polish	35	90	BS	50	No
Rhode Island Red	55	150	BS, *S	130	Yes
Rhodebar <sup>3</sup>	8	16	RPS	5	No
Rumpless Game <sup>3</sup>	4	6	RPS	1	No
Satsumadori	35	35	AHC	7	No
Scots Dumpy <sup>3</sup>	200	400-500	BS	125	No
Scots Grey <sup>3</sup>	50	200	BS	36	No
Shamo	1000	1000	AHC	100	Yes
Shôkokur	NR	NR	RPS	nil	No
Sicilian Buttercup	5	17	RPS	4	No
Sicilian Flowerbird	nil	nil	RPS	nil	NP
Silkie	250	280	BS	158	Yes
Spanish <sup>3</sup>	10	29	RPS	3	No
Spanish Game	2	10	RPS	1	No
Sulmtaler	3	8	RPS	2	No
Sultan <sup>3</sup>	18	42	RPS	9	No
Sumatra Game	15	50	RPS	6	No
Sussex <sup>3</sup>	100	300	BS, *S	150	Yes
Taiwanese Shamo	60	60	AHC	10	Yes
Thai Game	35	35	AHC	7	No
Thuringian	nil	2	RPS	1	No
Tomaru	NR	NR	RPS	nil	No
Totenko	12	13	RPS	2	No
Transylvanian Naked Neck	29	50	RPS	3	Yes
Venezuelan Game	nil	nil	RPS	nil	NP
Vorwerk	13	48	RPS	7	No
Welbar <sup>3</sup>	3	24	RPS	2	No
Welsummer	800	>3000	BS	230	Yes
Wyandotte	>300	>500	BS	229	Yes
Wybar	nil	nil	RPS	nil	E
Yamato Gunkei	200	200	AHC	40	Yes
Yokohama (British type)	29	58	RPS	5	No
Yokohama (German type)	included	included	RPS	included	No
Yorkshire Hornet	nil	nil	RPS	nil	E

## 7. Annex: Current situation for individual breeds and strains

### 7.2 Miniature Fowl breeds

Breed	Males	Females	Breed Organisation	Members	Other Stocks
Ancona <sup>3</sup>	90	250	BS	see fowl	No
Andalusian	1	2	RPS	1	No
Araucana (British)	50	200	BS	see fowl	No
Ardennes	3	5	RPS	1	No
Asil	30	90	AHC	see fowl	No
Australorp <sup>3</sup>	300	700	BS	120	No
Barnevelder	140	290	BS	see fowl	No
Brahma	40-60	150-200	BS	see fowl	No
Campine	nil	nil	RPS	nil	NP
Creve Coeur	nil	nil	RPS	nil	NP
Croad Langshan	45	176	BS	see fowl	No
Derbyshire Redcap <sup>3</sup>	20	45	BS	see fowl	No
Dominique	1	2	RPS	1	No
Dorking <sup>3</sup>	44	135	BS	see fowl	No
Faverolle	240	400	BS	see fowl	No
Friesian	NR	NR	RPS	nil	No
Frizzle	>500	>1000	BS	see fowl	Yes
German Langshan	120	400	BS	40	No
Groninger	5	10	RPS	1	No
Hamburgh <sup>3</sup>	360	900	BS	see fowl	No
Houdan	5	13	RPS	3	No
Indian/Cornish Game <sup>3</sup>	42	82	BS	see fowl	No
Ixworth	nil	nil	RPS	nil	E
Kraienköppe	NR	NR	RPS	nil	No
La Fleche	nil	nil	RPS	nil	NP
Lakenvelder	NR	NR	RPS	nil	No
Legbar	nil	nil	RPS	nil	E
Leghorn <sup>3</sup>	780	3720	BS	160	Yes
Malay	25	25	AHC	see fowl	Yes
Marans	20	60	BS	see fowl	No

## 7. Annex: Current situation for individual breeds and strains

Breed	Males	Females	Breed Organisation	Members	Other Stocks
Minorca <sup>3</sup>	140	350	BS	see fowl	No
Modern Game <sup>3</sup>	>2000	>4500	BS	120	No
Modern Langshan	nil	nil	RPS	nil	E
New Hampshire Red	120	350	BS	see fowl	No
Old English Game <sup>3</sup>	950	2850	BS	190	Yes
Orloff	NR	NR	RPS	nil	Yes
Orpington <sup>3</sup>	240	600	BS	see fowl	Yes
Orpington (Buff) <sup>3</sup>	35	110	BS	see fowl	Yes
Plymouth Rock	1000	2500	BS	see fowl	No
Polish	200	500	BS	see fowl	Yes
Rhode Island Red	300	800	BS	see fowl	No
Rhodebar	5	14	RPS	3	No
Rumpless Game <sup>3</sup>	16	33	RPS	4	Yes
Scots Dumpy <sup>3</sup>	40	100	BS	see fowl	No
Scots Grey <sup>3</sup>	30	154	BS	see fowl	No
Shamo	see fowl	see fowl	AHC	see fowl	Yes
Sicilian Buttercup	2	5	RPS	2	No
Silkie	180	250	BS	see fowl	Yes
Spanish	NR	NR	RPS	nil	No
Sulmtaler	8	13	RPS	3	No
Sultan	nil	nil	RPS	nil	NP
Sumatra Game	8	26	RPS	4	No
Sussex <sup>3</sup>	300	700	BS	see fowl	Yes
Thuringian Bearded	11	28	RPS	3	No
Transylvanian Naked Neck	24	71	RPS	4	No
Vorwerk	5	10	RPS	1	No
Welbar	5	9	RPS	2	No
Welsummer	120	350	BS	see fowl	No
Wyandotte	>600	>1000	BS	see fowl	Yes
Wybar	6	8	RPS	1	No
Yamato	see fowl	see fowl	AHC	see fowl	No
Yokohama (English type)	55	135	RPS	11	No
Yokohama (German type)	included	included	RPS	included	No

## 7. Annex: Current situation for individual breeds and strains

### 7.3 True Bantam breeds

Breed	Males	Females	Breed Organisation	Members	Other Stocks
Belgian Bantams	600	1100	BS	101	Yes
Barbu D'Anvers	included	included	BS	included	Yes
Barbu D'Everberg	included	included	BS	included	No
Barbu De Grubbe	included	included	BS	included	No
Barbu D'Uccle	included	included	BS	included	Yes
Barbu De Watermael	included	included	BS	included	Yes
Booted (Old English) <sup>3</sup>	3	5	RPS	1	No
Burmese	14 <sup>2</sup>	18 <sup>2</sup>	RPS	1 <sup>2</sup>	No
Dutch	600	1800	BS	120	No
Japanese	1000	2000	BS	100	Yes
Ko Shamo	1750	1750	AHS	175	Yes
Nankin <sup>3</sup>	18	50	RPS	8	No
Nankin Shamo	nil	nil	AHS	nil	NP
Ohiki	7	5	RPS	2	No
Pekin	>1000	>4000	BS, *S	160	Yes
Rosecomb <sup>3</sup>	60	96	BS, *S	47	No
Sabelpoot (Continental Booted)	43	104	RPS	19	Yes
Sebright <sup>3</sup>	400	1000	BS	120	No
Serama	450	1200	BS	87	Yes
Tuzo	150	150	AHS	30	No
Yakido	NR	NR	AHS	nil	No

## 7. Annex: Current situation for individual breeds and strains

### 7.4 Duck breeds

All breeds of duck are covered by both the British Waterfowl Association and the Domestic Waterfowl Club, plus individual breed clubs in some instances and there is also a Scottish Waterfowl Club. It is therefore very difficult to determine how much overlap is present in the numbers reported by the different organisations.

Breed	Males	Females	Breed Organisation	Members	Other Stocks
Abacot Ranger	7	25	BWA, DWC	3	No
Aylesbury <sup>3</sup>	12	30	BWA, DWC	5	Yes
Baldwin	nil	nil	BWA, DWC	nil	E
Bali	14	29	BWA, DWC	3	No
Black East Indian <sup>3</sup>	35	80	BWA, DWC	9	Yes
Blue Swedish	7	24	BWA, DWC	3	No
Call (Decoy)	>1000	>2000	BS, BWA, DWC	280	Yes
Campbell <sup>3</sup>	20	400	BWA, DWC	8	Yes
Cayuga	15	35	BWA, DWC	7	No
Crested <sup>3</sup>	25	60	BWA, DWC	8	No
Crested Miniature	10	30	BWA, DWC	4	No
Duclair (Rouen)	nil	nil	BWA, DWC	nil	NP
Gimbsheimer	nil	nil	BWA, DWC	nil	NP
Hookbill	8	30	BWA, DWC	3	No
Huttegem	nil	nil	BWA, DWC	nil	NP
Indian Runner	100s	1000s	BS, BWA, DWC	>40	Yes
Maggie <sup>3</sup>	12	50	BWA, DWC	5	No
Muscovy	60	>100	BWA, DWC	15	Yes
Orpington <sup>3</sup>	8	50	BWA, DWC	4	No
Overberg	NR	NR	BWA, DWC	nil	No
Pekin	30	70	BWA, DWC	10	Yes
Penguin	nil	nil	BWA, DWC	nil	E
Pommern	nil	nil	BWA, DWC	nil	NP
Rouen <sup>3</sup>	12	40	BWA, DWC	5	No
Rouen Clair	5	20	BWA, DWC	3	No
Saxony	15	55	BWA, DWC	8	Yes
Shetland <sup>3</sup>	NR	NR	BWA, DWC	nil	Yes
Silver Appleyard <sup>3</sup>	7	25	BWA, DWC	3	No
Silver Appleyard Miniature	15	30	BWA, DWC	4	Yes
Silver Bantam Duck <sup>3</sup>	NR	NR	BWA, DWC	nil	Yes
Stanbridge White <sup>3</sup>	10	30	BWA, DWC	3	No
Streicher	see	Abacot	BWA, DWC	Ranger	No
Welsh Harlequin	10	55	BWA, DWC	6	Yes
Whaylesbury	nil	nil	BWA, DWC	nil	E ?

## 7. Annex: Current situation for individual breeds and strains

### 7.5 Goose breeds

All breeds of goose are covered by the British Waterfowl Association, the Domestic Waterfowl Club and the Goose Club, plus the Scottish Waterfowl Club. As in ducks, it is therefore very difficult to determine how much overlap is present in the numbers reported by the different organisations.

Breed	Males	Females	Breed Organisation	Members	Other Stocks
African	26	28	GC, BWA, DWC	23	Yes
American Buff	10	10	GC, BWA, DWC	10	Yes
Brecon Buff <sup>3</sup>	40	45	GC, BWA, DWC	32	Yes
Buffback	10	10	GC, BWA, DWC	8	Yes
Celler	NR	NR	GC, BWA, DWC	nil	No
Chinese <sup>3</sup>	204	203	GC, BWA, DWC	25	Yes
Czech	25	55	GC, BWA, DWC	11	Yes
Diepholzer	1	1	GC, BWA, DWC	1	No
Elsasser	nil	nil	GC, BWA, DWC	nil	NP
Embden	30	30	GC, BWA, DWC	45	Yes
Faroese	10	10	GC, BWA, DWC	2	No
Frankisch	3	3	GC, BWA, DWC	1	No
Greyback <sup>3</sup>	10	10	GC, BWA, DWC	5	Yes
Pilgrim	30	40	GC, BWA, DWC	14	Yes
Pomeranian	11	10	GC, BWA, DWC	8	Yes
Roman	40	50	GC, BWA, DWC	23	Yes
Sebastopol (curly)	50	60	GC, BWA, DWC	18	Yes
Sebastopol (smooth)	included	included	GC, BWA, DWC	included	Yes
Shetland <sup>3</sup>	5	5	GC, BWA, DWC	2	Yes
Skane	2	2	GC, BWA, DWC	1	Yes
Steinbacher	42	52	GC, BWA, DWC	20	Yes
Toulouse	56	66	GC, BWA, DWC	44	Yes
West of England <sup>3</sup>	30	35	GC, BWA, DWC	16	Yes

## 7. Annex: Current situation for individual breeds and strains

### 7.6 Turkey breeds

All Turkeys are covered by the Turkey Club, which has 160 members across the various types. There is considerable difference of opinion as to which varieties of Turkeys genuinely merit being treated as distinct breeds.

Breed	Males	Females	Breed Organisation	Members	Other Stocks
Beltsville	nil	nil	TC	nil	E ?
Bourbon Red	30	100	TC		No
British Blue/Slate/Lavender	20	80	TC		No
British White	10	35	TC		No
Broad Breasted Bronze	150	>500	TC		Yes
Broad Breasted White	1800	>5000	TC		Yes
Bronze, American Mammoth <sup>3</sup>	nil	nil	TC	nil	included in Bronze
Bronze, Cambridge <sup>3</sup>	nil	nil	TC	nil	included in Bronze
Bronze, Standard <sup>3</sup>	120	350	TC		Yes
Buff <sup>3</sup>	10	30	TC		No
Cornish Palm	7	20	TC		not recognised
Crimson Dawn	nil	nil	TC		included in Bronze
Crolwitzer/Pied	50	130	TC		Yes
Holland	nil	nil	TC	nil	E
Narragansett	10	15	TC		No
Nebraskan Spotted	10	<20	TC		No
Norfolk Black <sup>3</sup>	180	300	TC		No
Ronquieres	nil	nil	TC	nil	NP

### 7.7 Commercial lines

All commercial lines appear to be held in self contained populations with effective population sizes in excess of  $N_e$  50. They may or may not relate to the separately identified breeds in 7.1-7.6, equally some of these lines may constitute breeds in their own right by the definition currently determined by the National Standing Committee on Farm Animal Genetic Resources, although not connected to any recognised breed organisation. Any self-contained lines which have been in existence for more than 40 years may actually constitute a 'native' population under the terms of the definitions of the National Standing Committee of Farm Animal Genetic Resources.

Organisation	Species	Number of lines held	$N_e$ of lines	Number of birds
Aviagen	Fowl	>30	50-150	not given
Aviagen	Turkey	>40	50-150	not given
Kelly Turkeys	Turkey	11	not given	not given
Cherry Valley	Duck	1 (Pekin)	not given	not given

## 7. Annex: Current situation for individual breeds and strains

### **7.8 Guinea Fowl**

There being no organisation responsible for Guinea Fowl in the UK, it is not currently possible to assess the numbers of Guinea Fowl kept, nor the number of keepers.



## Abbreviations

AHS = The Asian Hardfeather Club

BS = Individual Breed Society

BWA = British Waterfowl Association

DWC = Domestic Waterfowl Club

E = Believed Extinct

GC = The Goose Club

NP = No longer thought present in UK

NR = None recorded with breed organisations

PCGB = The Poultry Club of Great Britain

RPS = Rare Poultry Society

TC = The Turkey Club

\*S = Additional Breed Society for Scotland

<sup>1</sup> = Estimate only, data specifically refused by breed organisation

<sup>2</sup> = Total known population held in National Poultry Collection

<sup>3</sup> = Established population qualifying as genetic resource native to UK

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