



EUROPEAN COMMISSION
HEALTH AND CONSUMERS DIRECTORATE-GENERAL

Director General

SANCO/10293/2013

*Programmes for the eradication, control and monitoring of certain
animal diseases and zoonoses*

Survey programme for Avian Influenza

United Kingdom

Approved* for 2013 by Commission Decision 2012/761/EU

* in accordance with Council Decision 2009/470/EC

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version : 2.2

1. Identification of the programme

Member state : UNITED KINGDOM

Disease : avian influenza in poultry and wild birds

Request of Community co-financing from beginning of:

2013

to end of

2013

1.1 Contact

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2. Description and implementation of the surveillance programme in poultry

2.1.1 Designation of the central authority in charge of supervising and coordinating the departments responsible for implementing the programme

(max. 32000 chars) :

Defra coordinates the departments and agencies responsible for implementing the programme and is responsible for making policy decisions.

The National Reference Laboratory (NRL) for Avian Influenza & Newcastle Disease at AHVLA Weybridge is responsible for all aspects of laboratory testing and reporting of laboratory results to Defra for samples collected in Great Britain (GB), as well as for any samples referred by DARD/AFBI, Northern Ireland, and provision of technical advice and consultancy.

The Epidemiology, Surveillance and Risk and the Data Systems groups at AHVLA Weybridge are

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responsible for epidemiological analysis of poultry data for survey design and for analysis of results. In Northern Ireland (NI), DARD Veterinary Service is responsible for collecting samples for submission to AFBI Stoney Road, with any positive findings sent to AHVLA Weybridge for further testing. Survey progress and final data are sent to AHVLA Weybridge for collation into the UK returns to the European Commission.

In GB, the field staff of AHVLA (formerly the Animal Health agency) are responsible for the collection of blood samples from eligible poultry flocks within the designated timeframe and submitting these for laboratory testing at the NRL at AHVLA Weybridge.

2.1.2 System in place for the registration of holdings

(max. 32000 chars) :

In Great Britain, poultry flock registration is compulsory for owners keeping 50 or more poultry on a premises; this includes premises that are stocked with more than 50 birds for only part of the year. Owners of smaller flocks may register on a voluntary basis. In Northern Ireland (NI) all poultry owners must register with the NI bird register.

2.1.3 Design (risk based or surveillance based on representative sampling)

(max. 32000 chars) :

The UK poultry survey for avian influenza (AI) viruses of subtype H5 and H7 is a risk-based, targeted serological survey based on the provisions of and criteria and guidelines in Commission Decision 2010/367/EU. As such, the risk-based surveillance (RBS) approach represents an active surveillance framework that complements existing early detection - passive surveillance - systems for detection of avian notifiable disease in domestic poultry (1, 2). It is also relevant to note that scanning surveillance approaches may be less sensitive for detecting AI in ducks and geese (anseriformes) compared to other domestic poultry such as turkeys and chickens (galliformes).

The choice of RBS approach has been determined by assessment at Member State level of criteria and risk factors listed in Section 4.1 of Decision 2010/367/EU. This includes consideration of relevant risk pathways for infection of poultry flocks (incursion and secondary spread) in the UK, specifically:

- (i) Direct or indirect contact with wild birds, particularly migratory species of waterfowl;
- (ii) Direct or indirect contact with infected poultry;
- (iii) Between flock movements of poultry, poultry products, personnel and fomites.

Therefore, the RBS approach comprises sampling targeted towards those poultry holdings in the UK

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considered to be at greater risk of infection with AI with regard to the risk pathways outlined above, available data and with exclusion of specified poultry production types on the basis of perceived risk of infection with AI – see sections 2.1.3.2 and 2.2 below.

Serum samples are screened for the presence of antibodies to avian influenza viruses of subtypes H5 and H7. Following a positive serological result, movement restrictions are served on the premises and further field and laboratory investigations are carried out to establish whether active infection is present or not.

The objectives of the avian influenza RBS in domestic poultry are to:

- Detect LPAI of subtypes H5 and H7 in galliformes or anseriformes birds;
- Detect LPAI of subtypes H5 and H7 and highly pathogenic avian influenza (HPAI) in domestic waterfowl;
- To target this surveillance at higher risk poultry populations, relating to specified risk factors – see below.

1) For example, Article 2 of Commission Decision 2005/734/EC of 19 October 2005 laying down biosecurity measures to reduce the risk of transmission of highly pathogenic avian influenza caused by Influenza virus A subtype H5N1 from birds living in the wild to poultry and other captive birds and providing for an early detection system in areas at particular risk: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:274:0105:0107:EN:PDF>

2) Chapter II(2) of the Annex to Commission Decision 2006/437/EC of 4 August 2006 approving a Diagnostic Manual for avian influenza as provided for in Council Directive 2005/94/EC: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_237/l_23720060831en00010027.pdf

2.1.3.1 Short description of predominant poultry population and types of poultry production

(max. 32000 chars) :

The UK poultry population is characterised by several different poultry species and production categories, as well as different types of flock management/husbandry system. In brief, poultry flocks in the UK can be categorised as backyard/hobby flocks or commercial flocks. The UK poultry population is also characterised by different poultry species, as follows:

- Domestic chickens - breeder, layer and broiler flocks.
- Turkeys - fattener (meat-type) and breeder flocks.
- Ducks - breeder, meat and layer flocks.
- Geese - breeder, meat and layer flocks.
- Feathered game classified as poultry - breeders and rearer flocks of pheasants, partridges and ducks reared for shooting.
- Other minor poultry species including: guinea fowl, quail, pigeons reared for meat, ostriches, emus, rheas, cassowaries and kiwis.

Typically in the UK, backyard/hobby flocks have access to accommodation and the outdoors and have

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only a few birds. Commercial poultry flocks may be exclusively reared indoors or may be managed as so-called free-range systems and are also large in size. For example, the vast majority of commercial chicken (broiler) and turkey meat production flocks and chicken/turkey breeder flocks are housed at all times. In contrast, approximately 45% of the commercial table egg layer flocks in the UK are free-range.

As described in section 2.1.2 above, in Great Britain, poultry flock registration is compulsory for owners keeping 50 or more poultry on a premises; this includes premises that are stocked with more than 50 birds for only part of the year. Owners of smaller flocks may register on a voluntary basis. In Northern Ireland (NI) all poultry owners must register with the NI bird register.

For the purposes of the design and approaches of the UK AI Poultry Survey, available national poultry population data sources, specifically the Great Britain Poultry Register (GBPR) and the Northern Ireland poultry register are assessed in conjunction with relevant risk factors and risk pathways, as described in section 2.1.3.2 below.

The UK commercial poultry industry is a large, highly coordinated and vertically integrated livestock and food production industry comprising several major sectors (Table 1). Additional information regarding poultry demographics in Great Britain is also provided in the attached document 'AHVLA_Poultry_GBPR_2012'.

Table 1: Summary Profile of the UK Poultry Industry & Demographics

Sector: Broiler (3)

Consumer Product: Meat

No. of holdings (1): 2,350

No. of birds on holdings (millions) (1): 110

No. of birds placed annually (millions) (2): 900

Sector: Layer (3)

Consumer Product: Table eggs

No. of holdings (1): 6,050

No. of birds on holdings (millions) (1): 40

No. of birds placed annually (millions) (2): 35

Sector: Turkey

Consumer Product: Meat

No. of holdings (1): 1,250

No. of birds on holdings (millions) (1): 9

No. of birds placed annually (millions) (2): 16

Sector: Duck/Goose

Consumer Product: Meat & Table eggs/Meat

No. of holdings (1): 2,550

No. of birds on holdings (millions) (1): 6/0.1

No. of birds placed annually (millions) (2): 14/0.3

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Sector: Game

Consumer Product: Sport & Meat

No. of holdings (1): 8,300

No. of birds on holdings (millions) (1): 50

No. of birds placed annually (millions) (2): 30

Sector: Total

No. of holdings (1): 20,500

No. of birds on holdings (millions) (1): 215.1

No. of birds placed annually (millions) (2): 995.3

1) No. of holdings and No. of Birds on Holdings refers to poultry populations at specific points in time, derived from UK Agricultural Census (01 June 2011), GB Poultry Register (GBPR - 01 Jan 2012; legal obligation to register flocks >50 birds) and Northern Ireland poultry population (Jan 2012) figures. In addition, GBPR records show 16,000 holdings with less than 50 birds were registered voluntarily, totalling 280,000 birds.

2) No. of birds placed annually - from Defra Food statistics: <http://www.defra.gov.uk/statistics/foodfarm/food/>

3) Broiler and layer sectors refer to the whole chicken production chain – breeders, layer pullets in-rear, hens in-lay and broiler meat-type chickens.

2.1.3.2 Criteria and risk factors for risk based surveillance(1)

(max. 32000 chars) :

UK Risk based surveillance (RBS) Survey design

Briefly, the design of the UK RBS approach for the AI poultry survey comprises five parts:

1. Analysis of existing guidelines and datasets: Analysis of criteria and risk factors listed in Section 4.1 of Commission Decision 2010/367/EU with reference to available national poultry population data sources, specifically the Great Britain Poultry Register (GBPR) and the Northern Ireland (NI) poultry register, and relevant risk factors and risk pathways.

2. Risk matrix: Development of a risk matrix relevant to a UK RBS plan for the AI poultry survey. Following part 1 analyses, four specific risk factors were identified for inclusion in the risk matrix, as follows:

(i) Location of poultry holdings, incorporating a risk-based analysis that describes high priority surveillance counties, or so-called Blue Counties - BC - that were derived by identifying:

(a) Areas where commercial poultry are at greatest risk of an incursion of AI virus from wild birds;

(b) Areas in which specified wild bird species (n=24) of the orders Anseriforme (ducks, geese, swans) and Charadriiforme (gulls, terns, waders) are most abundant;

(c) County areas in which the first two factors coincide or overlap.

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A map showing the high priority surveillance counties - or 'Blue Counties' - of Great Britain is available at: <http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/atoz/ai/wildbirds/surveymap.htm>. In NI, all counties are 'Blue Counties'. Further description regarding so-called Blue Counties in GB is provided below.

(ii) Water body on the poultry premises – WB.

(iii) Mixed poultry species holding, where one of the poultry species is waterfowl – MSW.

(iv) Free-range (or equivalent management system) – FR.

3. Estimate of the numbers of holdings required for survey selection and recruitment: The numbers of holdings for each poultry production category available for selection and recruitment by AH field staff during the 2011 and 2012 AI poultry surveys were compared to the number of holdings sampled. Hence, an estimate of the numbers of poultry holdings required for the 2013 survey was derived.

4. Exclusion criteria: Justifications for the omission of certain poultry production types on the basis of perceived risk of infection with AI (in line with the provisions of Decision 2010/367/EU). The criteria and associated rationale were derived from expert opinion and are described more fully in section 2.2, paragraph 2(b) below.

5. Sampling frame: Integration of the combined outputs from parts 1-4 above to develop a proposed sampling frame for 2013 AI poultry survey in UK. Further details are also provided in section 2.2 and Tables 2.2.1 and 2.2.2 below.

The following types of poultry are included in the survey:

- o Domestic chickens - layer flocks, including free-range. Breeder flocks are subject to exclusion criteria (see section 2.2 below). Broilers are not included.

- o Turkeys - fattener (meat type) flocks. Breeder flocks are subject to exclusion criteria (see section 2.2 below).

- o Ducks - breeder, meat and layer flocks.

- o Geese - breeder, meat and layer flocks.

- o Feathered game classified as poultry - breeders flocks of pheasants and partridges and flocks of ducks reared for shooting.

Backyard flocks are not included.

Summary description of 'Blue Counties' in GB

The design of the RBS approach for the UK AI poultry survey describes so-called Blue Counties of Great Britain (GB), after Snow et al, (2007). Risk-based surveillance for H5N1 avian influenza virus in wild birds in Great Britain. Veterinary Record, 161, 775-781: <http://veterinaryrecord.bmj.com/content/161/23/775.full.pdf>. Snow et al, (2007) defined the high priority surveillance counties - or 'Blue Counties' - of GB as follows:

"A single map showing priority areas for surveillance was constructed by calculating the product of the score of wild bird abundance and the score for poultry risk in each 10 km square. The scores were then categorised to give ranks from 1 to 6, with a rank of 6 indicating that there were either no poultry or no

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wild birds present in the 10 km square, and the ranks from 5 to 1 indicating risks in increasing order of priority for surveillance.

All the 10 km squares in the top rank, that is, approximately the top 20 per cent of the scored squares, are defined as priority squares for surveillance. Such squares combine a high abundance score for the 24 wild bird species of interest and high densities of higher-risk poultry holdings.

To create county level maps, incursion scores were calculated for each county as the average score for all 10km squares with any land within the county boundary i.e. if a square falls on the boundary between two counties it is counted twice.

In consultation with policy makers, epidemiologists and ornithologists, the high priority surveillance counties (Blue Counties) were then identified as the top one third of all counties in GB ranked according to average score for 10km squares (those with the highest average incursion risk scores). In addition, to ensure adequate geographical coverage the top scoring one third of counties in Scotland were also highlighted along with the Scottish Borders region. The Isle of Anglesey and Devon were selected because of the exceptionally high poultry and wild bird scores for these areas and for geographical coverage.

Using these criteria for selecting priority counties, 40% of the counties in GB have been selected as priority counties for targeted surveillance.

(1) Including maps showing target sampling sites identified as being particularly at risk for the introduction of avian influenza virus, taking into account criteria set out in point 4 of Annex I to Commission Decision 2010/367/EC.

2.2 Target populations (2)

(max. 32000 chars) :

As described in section 2.1.3.2 above, the following types of poultry are included in the survey:

- o Domestic chickens - layer flocks, including free-range. Breeder flocks are subject to exclusion criteria (see below). Broilers are not included.

- o Turkeys - fattener (meat type) flocks. Breeder flocks are subject to exclusion criteria (see below).

- o Ducks - breeder, meat and layer flocks.

- o Geese - breeder, meat and layer flocks.

- o Feathered game classified as poultry - breeders flocks of pheasants and partridges and flocks of ducks reared for shooting.

Backyard flocks are not included.

Target populations of poultry flocks in England, Wales, Scotland and Northern Ireland are then assessed based on the RBS approach and design described above (section 2.1.3.2) and the following criteria,

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including flock exemptions and exclusions:

1. Selection of premises in England, Wales, Scotland and Northern Ireland

As described above, the risk matrix developed in part 2 of the Survey Design process includes the four specified risk factors - (i) to (iv) - as risk strata. Premises in each class of poultry will be (as far as is possible) selected for assessment and inclusion in the survey based on the existence of relevant risk factors. This process will be applied for each administrative area of the UK.

'Blue County' (BC) forms the primary and universal risk stratum, and is a minimum risk factor requirement for determining selection of UK poultry holdings for all poultry production categories for assessment and recruitment to the survey. Three other risk strata are also defined which incorporate BC and at least one, two or three of the other risk factors described above, namely: WB, MSW and FR.

The total number of available poultry holdings will be estimated from GBPR and available poultry population data for Northern Ireland for each poultry production category for each of the risk strata. In addition, based on UK recruitment and eligibility data from previous national poultry surveys (AHVLA and DARDNI) it is possible to estimate the minimum number of holdings required for selection for each poultry production category.

Poultry holdings will then be assessed and recruited to optimise the number of available holdings 'of greatest risk'. This will start with those holdings that are confirmed during the survey recruitment process to fall within the risk stratum defined as 'poultry holdings located within a Blue County'. A number of additional risk factors (being free-range (or an equivalent management system); having a water body on the premises; being a mixed species holding, where one of the other species is waterfowl) will then be assessed. Premises will then be determined as being eligible for recruitment and sampling, or ineligible, in which case sampling will not take place.

The planned number of poultry holdings to be sampled in each respective poultry category represents a maximum number of holdings that are estimated to be characterised by: (i) the specified risk factors described previously, and (ii) the estimated total numbers of available poultry flocks, as determined from retrospective analysis of GBPR and NI poultry population data. Therefore, during the recruitment process a greater or lesser number of poultry premises in each poultry category may actually be confirmed to have the relevant risk factor(s). Hence, if fewer 'at risk' holdings are identified as being eligible during the course of the survey period, fewer premises than the planned maximum number for that poultry category (as outlined in Tables 2.2.1 and 2.2.2 below) will be sampled.

Selection of premises is carried out by the Epidemiology, Surveillance and Risk and the Data Systems groups at AHVLA Weybridge for England, Scotland and Wales, and by the Department for Agriculture and Rural Development (DARD) for Northern Ireland. Recruitment and sampling of premises are performed by AHVLA and DARD field staff.

2. Criteria for assessing premises (including exemptions and exclusions)

(a) Assessment criteria. In addition to individual poultry premises being selected and then assessed as eligible for recruitment based on the methods described in sections 2.2 above, premises will also be assessed based on the total number of birds on the premises, for a given species, even when they are in separate flocks, specifically:

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- Ducks and feathered gallinaceous game (pheasants, partridges and game ducks) - premises containing at least 50 birds;
- Geese - premises containing at least 40 birds;
- Turkeys - premises containing at least 500 birds;
- Chickens - premises containing at least 500 birds

(b) Exemption and Exclusion criteria. Premises and flocks above the “parent” level in the production hierarchy (ie. grandparent or above) are excluded from the survey because these premises have high levels of biosecurity.

Chicken breeder and turkey breeder premises and flocks will also typically be excluded on the basis of three factors, specifically:

(i) Biosecurity and flock management standards: The inherent nature of this poultry production category and the high financial value of individual birds and the economic value of breeder flocks as a whole means that higher biosecurity standards and conditions are operated on such premises.

(ii) Flock performance and monitoring: Production targets and associated indices/data are well defined and closely monitored for breeders. Therefore, any deviations from expected performance and/or presentations of unexplained clinical disease are likely to be detected promptly and appropriate action and investigations initiated in a timely manner.

(iii) Host susceptibility: Galliforme poultry, specifically domestic chickens and turkeys, are recognised to be more susceptible to avian influenza infection than anseriforme poultry (ducks and geese). Therefore, clinical disease presentations are likely to be evident and/or detected. Clearly this also assumes that poultry are not routinely vaccinated for AI, in line with UK and EU policy.

It should be noted that some chicken breeder and turkey breeder premises may initially be selected for inclusion in the survey on the basis of being identified as having a number of the specified risk factors that form the risk matrix strata (as per see sections 2.1.3.2 and 2.2 above). During the survey recruitment process, the eligibility of individual premises will be assessed and confirmed against the relevant risk factors. Following this local assessment, final recruitment of the holding for sampling will be decided. Therefore, subject to this assessment process none (or only a proportion) of the selected chicken breeder or turkey breeder premises may be sampled.

Premises containing more than one poultry species, including those mixed poultry species premises where one of the poultry species is waterfowl – designated as risk factor MSW in section 2.1.3.2 above - are deemed to be of higher risk. If selected, then only the type of poultry for which the selection has been made will be sampled. There will be no sampling of other, secondary species on the premises from that selection.

(2) including MS specific exceptional circumstances as described in Annex I point 3 of Commission Decision 2010/367/EU)

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2.2.1 POULTRY HOLDINGS (a) (except ducks, geese and farmed game birds (waterfowl e.g. mallards) to be sampled

Serological investigation according to Annex I to Commission Decision 2010/367/EU

Category : laying hens

delete this category

NUITS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of tests	Method of laboratory analysis	
England	913	49	10	980	Haemagglutination-inhibition-test (HI)	X
Scotland	78	3	10	60	Haemagglutination-inhibition-test (HI)	X
Wales	1	0	10	0	Haemagglutination-inhibition-test (HI)	X
Northern Ireland	146	8	10	160	Haemagglutination-inhibition-test (HI)	X
Total	1 138	60	40	1 200		
Add a new row						

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- (a) Holdings or herds or flocks or establishments as appropriate.
 (b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested
 (c) Total number of holdings of one category of poultry in concerned NUTS 2 region.

Category : chicken breeders

delete this category

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of tests	Method of laboratory analysis	
England	246	7	10	140	Haemagglutination-inhibition-test (HI)	X
Scotland	15	0	10	0	Haemagglutination-inhibition-test (HI)	X
Wales	11	0	10	0	Haemagglutination-inhibition-test (HI)	X
Northern Ireland	113	3	10	60	Haemagglutination-inhibition-test (HI)	X
Total	385	10	40	200		

Add a new row

- (a) Holdings or herds or flocks or establishments as appropriate.
 (b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested
 (c) Total number of holdings of one category of poultry in concerned NUTS 2 region.

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Category : turkey breeders and fattening

delete this category

NUITS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of tests	Method of laboratory analysis	
England	402	62	10	1 240	Haemagglutination-inhibition-test (HI)	X
Scotland	4	0	10	0	Haemagglutination-inhibition-test (HI)	X
Wales	1	0	10	0	Haemagglutination-inhibition-test (HI)	X
Northern Ireland	54	8	10	160	Haemagglutination-inhibition-test (HI)	X
Total	461	70	40	1 400		
Add a new row						

- (a) Holdings or herds or flocks or establishments as appropriate.
- (b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested
- (c) Total number of holdings of one category of poultry in concerned NUTS 2 region.

Category : farmed game birds (gallinaceous)

delete this category

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NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of tests	Method of laboratory analysis	
England	471	36	10	720	Haemagglutination-inhibition-test (HI)	X
Scotland	43	3	10	60	Haemagglutination-inhibition-test (HI)	X
Wales	4	1	10	20	Haemagglutination-inhibition-test (HI)	X
Northern Ireland	0	0	0	0	Haemagglutination-inhibition-test (HI)	X
Total	518	40	30	800		
Add a new row						

(a) Holdings or herds or flocks or establishments as appropriate.

(b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested

(c) Total number of holdings of one category of poultry in concerned NUTS 2 region.

Add a category

Total Poultry	2 502	180	150	3 600		

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2.2.2 DUCKS, GEESE AND FARMED GAME BIRDS (WATERFOWL e.g. MALLARD) HOLDINGS (a) to be sampled.

Serological investigation according to Annex I to Commission Decision 2010/367/EU

Category : duck breeders, fattening and game

delete this category

NUJTS (2) (b)	Total number of duck and geese holdings	Total number of duck and geese holdings to be sampled	Number of samples per holding	Total number of tests	Method of laboratory analysis	
England	624	112	20	4 480	Haemagglutination-inhibition-test (HI)	X
Scotland	40	4	20	160	Haemagglutination-inhibition-test (HI)	X
Wales	6	1	20	40	Haemagglutination-inhibition-test (HI)	X
Northern Ireland	10	3	20	120	Haemagglutination-inhibition-test (HI)	X
Total	680	120	80	4 800		

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Add a new row

(a) *Holdings or herds or flocks or establishments as appropriate.*
 (b) *Refers to the location of the holding of origin. In case NUTS (2) code can not be used, region as defined in the programme by the Member State is requested*

Category : geese breeders and fattening

delete this category

NUTS (2) (b)	Total number of duck and geese holdings	Total number of duck and geese holdings to be sampled	Number of samples per holding	Total number of tests	Method of laboratory analysis	
England	181	54	20	2 160	Haemagglutination-inhibition-test (HI)	X
Scotland	3	1	20	40	Haemagglutination-inhibition-test (HI)	X
Wales	2	1	20	40	Haemagglutination-inhibition-test (HI)	X
Northern Ireland	8	4	20	160	Haemagglutination-inhibition-test (HI)	X
Total	194	60	80	2 400		

Add a new row

(a) *Holdings or herds or flocks or establishments as appropriate.*
 (b) *Refers to the location of the holding of origin. In case NUTS (2) code can not be used, region as defined in the programme by the Member State is requested*

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Add a category

Total Ducks and geese	874	180	160	7 200				

Grand Total Poultry + Ducks/Geese	3 376	360	310	10 800				

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2.3 Sampling procedures, sampling periods and frequency of testing

(max. 32000 chars):

Maximum numbers of poultry premises to be recruited and sampled across the UK

Premises for recruitment will be selected based on applying the RBS design and approaches and the method described in sections 2.1.3.2 and 2.2 above. During the survey recruitment process, the eligibility of individual selected premises will be assessed and confirmed against the relevant risk factors by AHVLA and DARD field staff. Following this local assessment, final recruitment of the holding for sampling will be decided. The planned maximum number of premises for each of the poultry production category - as outlined in Tables 2.2.1 and 2.2.2 above - will be recruited for sampling, subject to there being sufficient available qualifying 'at risk' premises. Hence, if fewer available qualifying 'at risk' premises are identified as being eligible during the course of the survey period, fewer flocks than the planned maximum number for that poultry category will be eligible for sampling.

For chicken layer, turkey fattener and goose holdings, the UK will recruit a maximum of 60 eligible premises respectively. For duck holdings (reared for sport shooting and ducks that are not being reared for sport shooting) the UK will recruit a maximum of 120 eligible premises (40 and 80 premises respectively). In addition, a maximum of 40 pheasant and partridge (gallinaceous game) eligible premises will be recruited - see Table 2.2.1 and Tables 2.2.2.

As described previously, chicken and turkey breeder premises and flocks are subject to survey exemption and exclusion criteria, as described in section 2.2, para 2(b) above. Specifically, it should be noted that some chicken and/or turkey breeder premises may initially be selected for inclusion in the survey on the basis of being identified as having specified risk factors that form the risk matrix strata (as per sections 2.1.3.2 above).

During the survey recruitment process, the eligibility of individual turkey breeder premises (up to a maximum of ten turkey breeder holdings and ten chicken breeder holdings) will be assessed and confirmed against the relevant risk factors. Following this local assessment, final recruitment of the turkey breeder holding for sampling will be decided.

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Therefore, subject to this assessment process none (or only a proportion) of the selected chicken and/or turkey breeder premises may be sampled. This may therefore result in less than the maximum of 20 chicken and/or turkey breeder flocks being sampled in the UK.

Sampling

Blood samples for serological testing are collected in accordance with Decision 2010/367/EU, whereby a minimum of ten birds on each premises will be sampled, except in the case of ducks, geese and mallards (game ducks) whereby a minimum of 20 birds on each premises will be sampled.

In addition:

- For galliforme poultry holdings if more than one flock/group is present, five birds will be sampled per separate flock/group.
- For duck, game duck and goose holdings if more than four flocks/groups are present, five birds will be sampled per separate flock/group. If two flocks/groups are present, samples will be collected from ten birds in each group. If three separate flocks/groups are present on the holding, samples will be collected from seven birds in each group.

Therefore, in Tables 2.2.1 and 2.2.2 above, for each poultry category, the 'Total number of samples per holding' represents a minimum number of samples that may be collected per holding. Hence, the 'Total number of tests' calculated in Tables 2.2.1 and 2.2.2 above also represents an underestimate, also being the minimum totals, based on the within flock sampling frames outlined above for galliforme and anseriforme poultry holdings respectively.

The timing of sampling is informed by the seasonality of production, especially for turkeys, geese and feathered game and birds may be sampled as close to slaughter age as practicable, and where appropriate.

Samples may be collected on farms or at slaughterhouses. If the samples are to be collected in a slaughterhouse, then the birds are selected at random from the entire batch.

2.4. Laboratory testing : description of the laboratory tests used and follow up investigations

Description of the used serological tests : (max 32000 chars)

Laboratory tests conducted for the AI surveillance programme in domestic poultry will be conducted at the National Reference Laboratory (NRL) for Avian Influenza, Animal Health and Veterinary Laboratories Agency (AHVLA), Weybridge for samples collected from poultry flocks in Great Britain. Samples collected from poultry flocks in Northern Ireland will be tested by the Agri-Food and Biosciences Institute (AFBI). Serum samples are screened for the

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presence of antibodies to avian influenza viruses of subtypes H5 and H7 by haemagglutination inhibition (HI) tests. If a positive serological result is recorded by the screening HI tests, confirmatory HI serological testing (using a heterologous neuraminidase component) is performed. All testing is performed in accordance with extant, specified EU guidelines (Annex I to Commission Decision 2010/367/EU on the implementation of surveillance programmes for avian influenza in poultry and wild birds to be carried out in the Member States and amending Decision 2004/450/EC). If positive confirmatory serological (HI) test results are recorded, further laboratory investigations are undertaken on samples submitted from follow-up field sampling of the flock. This is carried out to establish whether active AI virus infection is present, and forms part of local epidemiological investigations.

The diagnostic tests utilised comprise serological (HI) tests, molecular real time reverse transcription polymerase chain reaction (RT-PCR) methods, and attempted virus isolation in embryonated fowls' eggs, as appropriate. If a virus is isolated serologically, molecular and virus characterisation methods used will be consistent with procedures laid down in the EU diagnostic manual/Commission guidelines.

In summary, the laboratory test portfolio utilised at AHVLA Weybridge comprises:

- Haemagglutination Inhibition (HI) tests for orthomyxoviruses - presence of antibodies to influenza A virus subtypes H5 and H7 in serum (poultry).
- Real time RT-PCR for Avian Influenza - screening test for matrix gene of all influenza A virus: for the detection of the matrix gene of any influenza A virus in clinical specimens and amplified samples.
- Real time RT-PCR for Avian Influenza - detects Eurasian H5 AI virus: for the detection of the H5 subtype of avian influenza (AI) virus in clinical specimens and amplified samples.
- Real time RT-PCR for Avian Influenza - detects Eurasian H7 AI virus (HA2 region amplification): for the detection of the H7 gene (HA2 region) of any H7 influenza A virus in clinical specimens and amplified samples.
- Virus isolation and detection in embryonated fowls' eggs.
- Determination and analysis of nucleotide sequence (and deduced amino acid sequence) of specific regions of the genome of AI viruses.

3. Description and implementation of the surveillance programme in wild birds

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3.1.1 Designation of the central authority in charge of supervising and coordinating the departments responsible for implementing the programme and relevant collaborating partners (e.g. epidemiologists, ornithologists, nature bird observation and hunter organisations).

(max. 32000 chars) :

Defra coordinates the departments responsible for implementing the programme and is responsible for making policy decisions.

The National Reference Laboratory (NRL) for Avian Influenza & Newcastle Disease at AHVLA Weybridge is responsible for all aspects of laboratory testing and reporting of laboratory results to Defra for samples collected in Great Britain (GB), as well as for any samples referred by DARD/AFBI, Northern Ireland, and provision of technical advice and consultancy.

The Epidemiology, Surveillance and Risk and the Data Systems groups at AHVLA Weybridge are responsible for epidemiological analysis of wild bird survey and sampling data.

In Northern Ireland (NI), all samples are sent to AFBI Stoney Road, with any positive findings sent to AHVLA Weybridge for further testing. Final data are sent to AHVLA Weybridge for collation into the UK returns to the European Commission.

Technical ornithological advice is provided by a panel of ornithological experts from government agencies and from non-governmental organisations. In GB, a number of designated organisations are responsible for collecting wild bird carcasses/samples within designated timeframes and submitting these for either sampling at AHVLA Regional Laboratories (in England and Wales) or SAC Surveillance Centres (in Scotland), or for laboratory testing at AHVLA Weybridge.

3.1.2 Description and delimitation of the geographical and administrative areas in which the programme is to be applied

(max. 32000 chars) :

This is based on a risk assessment and may vary annually based on current expert scientific advice.

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3.1.3 Estimation of the local and/or migratory wildlife population

(max. 32000 chars):

Expert ornithological advice has been sought on details of the migrating wild bird population. Wetland Bird Survey (WEBS) data has been used as a baseline for any statistical analyses.

In brief, there are about 79 million breeding pairs of wild birds in Great Britain, of about 227 species. The bulk of the numbers result from a relatively small number of more abundant species: the 50 most abundant represent about 95% of the total; the 10 most abundant represent about 57% of the total; and the single most abundant species, the Wren, alone represents about 10% of the total.

The majority of breeding birds in GB are resident all-year-round, but about 8.7 million pairs are of 63 species of long-distance migrants, mostly wintering in Africa. Of these, about 25% of the pairs are of a single species, the Willow Warbler.

The breeding birds can also be broken down into the following broad categories:

- Passerines ("songbirds") - 81.4%
- Near-passerines (mostly pigeons/doves) - 9.5%
- Seabirds (gulls, terns, auks, skuas, petrels, etc) - 4.2%
- Gamebirds (grouse, partridges, pheasants) - 3.2%
- Waterbirds (ducks, geese, swans, grebes, waders) - 1.4%
- Raptors (diurnal birds of prey) - 0.2%

The winter numbers of most species are not well known. The exception is for many of the wintering waterbirds, which are well monitored. About 12.5 million waterbirds (this total now including gulls also) winter in Great Britain. Many of these arrive from areas to the north and east which are too cold in the winter to support the birds.

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The timing of arrival and departure of migrant birds varies between species, and also between years depending on weather conditions.

3.2 Design, criteria, risk factors and target population(3)

(max. 32000 chars) :

The UK AI wild bird surveillance (AIWBS) programme is risk-based and targeted and operates all-year-round. It is a virological survey and is based on the 'Target Species' list of wild birds detailed in Decision 2010/367/EU, Annex II Part 2. In addition, in Great Britain expert ornithological and epidemiological advice and assessments have determined further higher risk wild bird species that may also be targeted.

The AIWBS programme involves screening samples taken from the following:

- Wild birds found dead during regular warden patrols of targeted selected wetland areas/reserves (n=250).
- Unusually high mortality events in any wild bird species (so-called mass mortality incidents – see below) reported by warden patrols or by members of the public in any county of GB or any area of Northern Ireland (NI), as appropriate.

In addition, provisions may be made for specific targeted or enhanced AIWBS activities in response to outbreaks of notifiable avian influenza in poultry, in particular HPAI H5N1, or incidents of H5N1 HPAI in wild birds in GB. Such measures would be implemented based on current scientific, epidemiological and ornithological expert opinion and advice, as required.

N.B. The strategy for UK AIWBS is informed by the prevailing national and international disease situation and current scientific opinion. It is possible that any significant changes to either of these will lead to changes in survey design.

Objectives of surveillance

To protect domestic poultry from HPAI H5N1 infection derived from wild birds by detecting a change in risk to domestic poultry due to HPAI H5N1

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incidents in wild birds.

Surveillance design

1. Active patrolling of wetland reserves for wild birds found dead

Approximately 250 sites have been chosen across the UK based on a variety of factors including the abundance of target species of water birds, proximity to poultry areas and the presence of a site warden. Sites are patrolled on a regular basis by wardens to detect dead wild birds belonging to the target species. Based on risk assessment the frequency of these patrols and number of sites may be increased or decreased. The frequency and number of patrols may be increased in an area following a detection of notifiable avian influenza, particularly H5N1 HPAI in wild birds or domestic poultry. Samples from wild birds found dead in Great Britain are sent to AHVLA Weybridge for AI screening. In NI samples are submitted to AFBI, Stoney Road, Belfast with any positive findings sent to the NRL, AHVLA Weybridge for further testing.

2. Reporting of abnormal or mass mortality in wild birds

A reporting system allows members of the public or staff at a wetland/reserve site to report high mortality events in wild birds, so-called mass mortality incidents. Briefly, a mass mortality incident is defined as involving five or more wild birds of any species in any location (county) of GB. Following a report being made by a member of the public or staff at a wetland/reserve site, standardised case selection criteria are applied. Depending on circumstances, samples will be collected. This may comprise in-field sampling by collection of oropharyngeal (buccal) and cloacal swabs from each bird found dead, or sample collection from the wild bird carcase at an AHVLA or SAC regional laboratory. For the latter, collection of carcasses is performed by a designated collection organisation, or less frequently, alternative arrangements may be made involving government veterinary services. In all cases, the carcase location is geo-referenced and, where appropriate, carcasses will be transported to a AHVLA Regional Laboratory (in England and Wales) or a SAC Surveillance Centre (in Scotland) where speciation is carried out and, wherever possible, tissue samples collected for AI screening; these are sent to the NRL, AHVLA Weybridge. In NI samples are submitted to AFBI Stoney Road, Belfast with any positive findings sent to the NRL, AHVLA Weybridge for further testing. Reports that are made by a member of the public that do not fulfil the 'mass mortality incident' criteria will not be investigated unless additional or extenuating circumstances are identified. Such cases may then be assessed by veterinary staff at the AHVLA Regional Laboratories (or SAC Disease Surveillance Centres in Scotland). Investigations are then progressed on a case-by-case basis against standardised case selection criteria.

Mortality levels and detection rates are likely to vary in wild birds. To allow for resource planning a weekly ceiling is set for the number of birds submitted in GB. The system allows for targeting surveillance effort to specific regions based on a risk assessment; regionally ceilings may be set within the GB ceiling or in certain regions the ceiling may be abolished i.e. following a case of a detection of H5N1 HPAI or other notifiable avian influenza outbreaks where enhanced surveillance is required. In NI, the number of submissions is monitored to ensure resource capability is not exceeded.

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- (3) Areas at risk (wetlands in particular where links with high density poultry populations), previous positive findings as referred to in point 2 of Part 1 of Annex II to Commission Decision 2010/367/EC should be taken into account and if possible complemented by a map.

3.2.1 WILD BIRDS focussed on target species

Investigations according to the surveillance programme set out in Part 2 of Annex II to Decision 2010/367/EC

NUTS (2) code/region (a)	Wild birds to be sampled (b)	Total number of birds to be sampled	Estimated total number of samples to be taken for active surveillance (c)	Estimated total number of samples to be taken for passive surveillance
UK	See above	800	50	750
Total	0	800	50	750
Add a new row				

(a) Refers to the place of collection of birds/samples. In case NUTS 2 (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member State is requested. Please fill-in these values directly in the field.

(b) General description of the wild birds are intended to be sampled in the framework of the active and passive surveillance.

(c) Voluntary, to be included for information purposes, not eligible for cofinancing.

3.3 Sampling procedures and sampling periods

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max 32000 chars :

The AIWBS programme involves two main strands of passive (scanning) surveillance activity that operate all-year-round and result in the collection of samples from wild birds found dead for laboratory testing to determine AI status (see section 3.4), namely:

- Warden patrols of targeted selected wetland areas/reserves (n=250).
- Reporting and investigation of unusually high mortality events in any wild bird species (so-called mass mortality incidents – as above) reported by warden patrols or by members of the public in any county of GB or any area of Northern Ireland (NI), as appropriate.

These activities are also dependent on numerous other factors such as public awareness, the current AI status of the country/area, media coverage and those affecting wild bird health (eg. the prevailing climatic conditions, time of year, available food sources, other diseases/health status etc.).

For birds submitted to AHVLA-RLs and SAC Disease Surveillance Centres, a veterinary post-mortem examination will typically be performed with collection of appropriate samples for AI testing, based on the state of carcase decomposition/quality. All work associated with the post-mortem examination, sampling and identification of those wild birds submitted to AHVLA-RLs/SAC is carried out in accordance with standardised instructions and standard operating procedures (SOPs) within recognised quality frameworks.

The laboratory sampling specifically for AIV (and subsequent AIV testing at VLA Weybridge) is conducted based on one of two methods:

Method 1: 'Tissues' method: opening the carcase as part of routine diagnostic post-mortem examination and harvesting seven tissues (whenever practically possible) as two separate tissues pools for AIV testing (Pool 1: brain, liver, spleen, trachea, lung, kidney; Pool 2: bulked intestine).

Method 2: 'Two swab' method: oropharyngeal and cloacal swabs collected (whenever practically possible) for AIV testing from each individual bird without opening the carcase.

Wild bird carcases, specifically collected for AIV surveillance, will first have been reported to a dedicated Helpline. These may be wild birds found dead and submitted as a result of Warden Patrol activities, or following reports made by members of the public. In each case a specific, standardised algorithm is applied to the reported incident, which provides for decision-making by the Helpline to accept or reject the report. The algorithm provides specific targeted surveillance criteria (wild bird species, location of incident, number of birds affected etc.), which are based on current scientific and epidemiological evidence. All reported incidents are logged by the Helpline and are individually allocated a unique Helpline reference number. If the Helpline accepts the reported incident the wild bird carcase(s) are collected by dedicated collection agencies and delivered to an AHVLA/SAC laboratory,

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accompanied by a specific submission form (form WSF1). In addition, the Warden Patrol organisation may collect swabs (oropharyngeal and cloacal) from the 'found dead' wild bird, and submit these (with a completed WSF-1 form) direct to AHVLA Weybridge.

Following receipt at an AHVLA/SAC laboratory, wild bird carcase submissions are allocated an individual AHVLA-RL/SAC unique case reference and sampled in accordance with standing, standardised instructions. Samples are subsequently despatched to the NRL at AHVLA Weybridge for testing for the presence of AIVs by real time RT-PCR tests (RRT-PCR); in the first instance by matrix (M) gene real time RT-PCR as a screening test – see section 3.4 below.

3.4 Laboratory testing : description of the laboratory tests used

max 32000 chars :

Laboratory tests conducted for the AI surveillance programme in wild birds will be conducted at the National Reference Laboratory (NRL) for Avian Influenza, Animal Health and Veterinary Laboratories Agency (AHVLA), Weybridge for samples collected from wild birds in Great Britain. Samples collected from wild birds in Northern Ireland are tested by AFBI. The diagnostic tests utilised comprise real time reverse transcription polymerase chain reaction (RT-PCR) methods, and attempted virus isolation in embryonated fowls' eggs. If a virus is isolated serological, molecular and virus characterisation methods used will be consistent with procedures laid down in the EU diagnostic manual/Commission guidelines.

In summary, the laboratory test portfolio utilised at AHVLA Weybridge comprises:

- Real time RT-PCR for Avian Influenza - screening test for matrix gene of all influenza A virus: for the detection of the matrix gene of any influenza A virus in clinical specimens and amplified samples.
- Real time RT-PCR for Avian Influenza - detects Eurasian H5 AI virus: for the detection of the H5 subtype of avian influenza (AI) virus in clinical specimens and amplified samples.
- Real time RT-PCR for Avian Influenza - detects N1 component of AI virus: for the detection of the N1 subtype of avian influenza (AI) virus in clinical specimens and amplified samples.
- Virus isolation and detection in embryonated fowls' eggs.
- Determination and analysis of nucleotide sequence (and deduced amino acid sequence) of specific regions of the genome of AI viruses.

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4. Description of the epidemiological situation of the disease in poultry during the last five years

max 32000 chars:

In the last five years (2007 to 2011) there have been four outbreaks of notifiable avian influenza in poultry in the UK, where virus has been isolated. Below is a list of these outbreaks, in descending chronological order:

- Outbreak of H7N7 HPAI in Oxfordshire, England in June 2008 was confirmed on 4 June 2008 on a single infected premises (IP) of free-range laying hens. Clinical evidence from the farm's records supports virological and serological data that the HPAI infection derived from a pre-existing H7 LPAI virus present on the premises.
- Outbreak of H5N1 HPAI on a large-scale free-range turkey/duck/geese holding in Suffolk, England (confirmed on 13 November 2007). On IP1, infection was confirmed in turkeys and ducks, but not in geese. Epidemiological links were established and as a result of this, another infected turkey premises was identified. The maximum prevalence of infection in this group was 10%. Genetic analyses of the virus isolates from the poultry on the two IPs indicated that the birds were infected from a single source. The isolate had the closest genetic identity to an isolate from wild birds in the Czech Republic detected in mid-2007.
- An outbreak of H7N2 LPAI in backyard poultry in Corwen, Wales (confirmed on 24 May 2007). The outbreak also had a second linked IP in England (St Helens, Merseyside). The second IP was found as a result of market tracing carried out by the veterinary authorities.
- An outbreak of H5N1 HPAI in an intensive turkey premises in Holton, Suffolk (confirmed 3 February 2007). The farm consisted of 22 enclosed, fan-ventilated houses, which held a total of 159,000 birds. The farm was adjacent to a complex of plants including a slaughterhouse, cutting plant, meat products plant and a cold store. The isolated virus was sequenced and shown to be notably similar (almost 100% homologous) to that recovered from outbreaks of H5N1 HPAI in Hungary in domestic geese in January 2007.

There have also been detections of antibodies to avian influenza viruses of subtypes H5 and H7 during the course of the UK poultry survey each year. During the 2011 poultry survey, antibodies to avian influenza viruses of subtypes H5 and H7 were detected from a total of five premises. More specifically, three duck premises were identified as showing a serological response against H5, and one duck and one goose flock were identified as having a serological response to H7. During the 2010 poultry survey three duck premises and one game duck site were identified as showing a serological response against H5. In 2009, two duck premises were identified as showing a serological response against H5 or H7 antibodies by HI test. In 2008, eight premises (three duck flocks and five geese flocks) were identified as showing a serological response against H5 or H7 antibodies by HI test. In 2007, antibodies to avian influenza viruses of subtypes H5 and H7 were detected in flocks of ducks, geese and quail. Three premises with ducks, six premises containing geese

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and a single quail premises had low levels of serological response. In 2006 antibodies to H5 were detected in a flock of free-range geese and antibodies to avian influenza viruses of subtypes H5 and H7 were detected in a flock of free-range ducks. Each year all cases with an H5 or H7 serological reactor (by HI test) were followed up, re-sampled and underwent further field investigation and testing. None of the further tests showed positive results indicating the absence of active infection on these premises. The most likely explanation is that these birds had prior exposure to LPAI viruses of subtypes H5 and H7.

5. Description of the epidemiological situation of the disease in wild birds during the last five years

(max. 32000 chars):

A programme of AIWBS has been active in the UK since October 2005. In the last five years (2007 to 2011) there has been one incident where Eurasian lineage H5N1 HPNAI has been detected in wild birds in the UK. In January 2008, H5N1 HPNAI was detected in three Mute swans (*Cygnus olor*) in Abbotsbury, Dorset. During the course of this incident (January/February 2008) virus was detected from a total of ten Mute swans and one Canada goose (*Branta canadensis*) within the 3km Wild Bird Control Area. No evidence of spread to the local poultry population was detected.

As expected, evidence of influenza A virus infection and isolation of numerous LPAI viruses of varying subtypes has been identified from a variety of wild birds, predominately waterfowl (*Anatidae* spp), as part of the AI wild bird surveillance programme. Measures in place as regards the notification of the disease.

6. Measures in place as regards the notification of the disease

(max. 32000 chars):

It is a legal obligation for anyone suspecting the presence of an avian notifiable disease in poultry or other captive birds to contact Government Veterinary Authorities. Anyone suspecting a notifiable disease must report this to a local AHVLA Regional Office. Anyone suspecting a notifiable disease must report this, by law, to a local AHVLA Regional Office in GB or to DARD in Northern Ireland.

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7. Costs

7.1 Detailed analysis of the costs

7.1.1 Poultry

(max. 32000 chars):

Information regarding the detailed information and breakdown of the estimated costs for the AI Poultry survey in the UK is detailed in Table 7.2.1 below. Cost calculations are based on conversion of the national currency GB pounds (GBP) sterling (£) to Euros using the exchange rate of 1.22524228 Euros per £1 GBP, as of 27 April 2012. The laboratory testing methods are based on the information provided in section 2.4 above.

7.1.2 Wild birds

(max. 32000 chars):

Information regarding the detailed information and breakdown of the estimated costs for the AI Wild Bird survey in the UK is detailed in Table 7.2.2 below. Cost calculations are based on conversion of the national currency GB pounds (GBP) sterling (£) to Euros using the exchange rate of 1.22524228 Euros per £1 GBP, as of 27 April 2012. The laboratory testing methods are based on the information provided in section 3.4 above.

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7.2 Summary of the costs

7.2.1 Poultry surveillance

Detailed analysis of the cost of the programme - poultry

Laboratory testing	Number of tests	Unitary test cost (per method) in €	Total cost (€)
ELISA test	0	0	0
agar gel immune diffusion test	0	0	0
Haemagglutination-inhibition-test (HI) for H5 (specify number of tests for H5)	10 000	7.72	77200
Haemagglutination-inhibition-test (HI) for H7 (specify number of tests for H7)	10 000	7.72	77200
Virus isolation test	10	92.51	925.1
PCR test	700	28.18	19726
Other please specify here	0	0	0
Add a new row			

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Sampling				
	Number of samples	Unitary cost in €	Total cost (€)	
Samples	10 710	0	0	
Other measures				
	Number of samples	Unitary cost in €	Total cost (€)	
Sample collection by AHVLA field staff	1	548,910	548910	X
AHVLA epidemiological expertise, data management, admin and consultancy	1	114,700	114700	X
			Add a new row	
Total poultry Testing + Sampling + Other measures	31 422		838 661,10 €	

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7.2.2 Wild bird surveillance

Detail analysis of the cost of the programme - wild birds

Laboratory testing				
Methods of laboratory analysis	Number of tests	Unitary test cost (per method) in €	Total cost (€)	
Virus isolation test	40	92.51	3700.4	
PCR test	1 800	28.18	50724	
AIV Sequencing	10	279.36	2793.6	
Intravenous pathogenicity index (IVPI) test	3	260.36	781.08	
				Add a new row
Sampling				
	Number of samples	Unitary cost in €	Total cost (€)	
Samples	750	0	0	

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Other measures	Number	Unitary cost in €	Total cost (€)	
Post-mortem laboratory sampling	750	108.18	81135	X
Cost paid by the UK Government to wild bird delivery/collection agents	1	171,534	171534	X
AH/LA epidemiological expertise, data management, admin and consultancy	1	93509	93509	X
			Add a new row	
Total wild birds Testing + Sampling + Other measures	3350		138 353,00 €	
Grand Total Poultry + Wild birds	34772		977 014,10 €	

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Attachments

IMPORTANT :

- 1) The more files you attach, the longer it takes to upload them .
- 2) This attachment files should have one of the format listed here : .zip, .jpg, .jpeg, .tiff, .tif, .xls, .doc, .bmp, .pna.
- 3) The total file size of the attached files should not exceed 2 500Kb (+- 2.5 Mb). You will receive a message while attaching when you try to load too much.
- 4) IT CAN TAKE **SEVERAL MINUTES TO UPLOAD** ALL THE ATTACHED FILES. Don't interrupt the uploading by closing the pdf and wait until you have received a Submission Number!
- 5) Zip files cannot be opened (by clicking on the Open button). All other file formats can be opened.

Great Britain Poultry Register (GBPR) Statistics: 2012

The following summarises demographic information about the poultry population of Great Britain (GB) in 2012 based on analysis of information extracted from the GB Poultry Register (Table 1). These data are also presented as a poultry density distribution (per km²) for traditional poultry species, comprising chickens, turkeys, ducks and geese (Figure 1) and for game birds, comprising pheasants and partridges (Figure 2). Both figures include location markers for the AHVLA Regional Laboratories and Surveillance Centres and SAC Disease Surveillance Centres as of January 2012, and administrative (county and unitary authority) boundaries.

Table 1. GB poultry demographics as of 01 January 2012

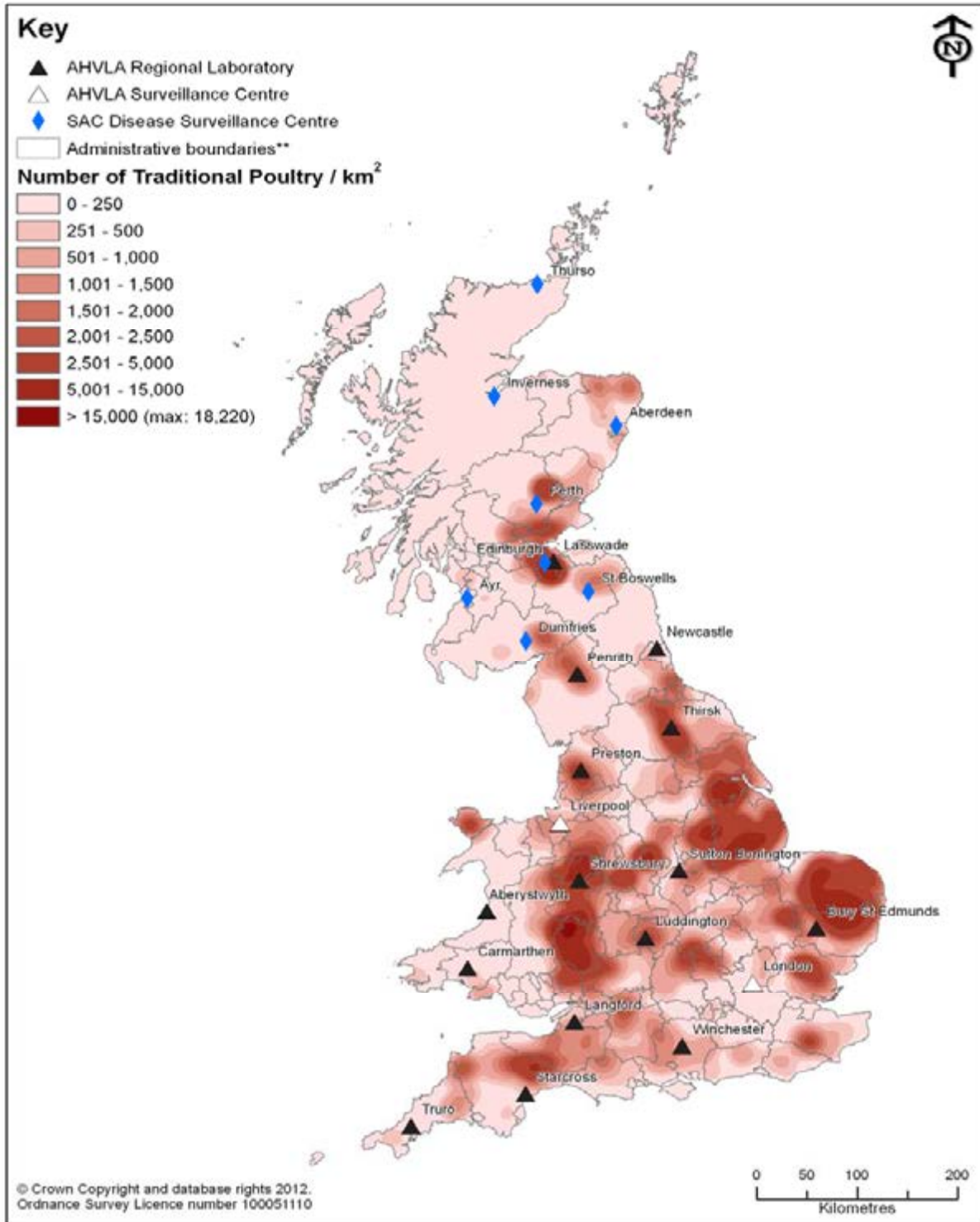
GBPR 01-Jan-12	England		Scotland		Wales		Total	
	Premises	Birds	Premises	Birds	Premises	Birds	Premises	Birds
Layers and layer breeders (chickens)	4941	32,602,369	401	5,934,889	377	1,469,225	5,734	40,014,413
Broilers and broilers breeders (chickens)	1681	115,765,513	191	13,740,998	129	7,510,055	2,003	137,362,566
Turkeys	1,157	9,103,598	44	29,811	76	368,323	1,274	9,501,882
Ducks and geese	2,163	5,830,432	255	161,330	150	71,413	2,575	6,053,794
Game birds*	6988	42,554,500	1,020	5,383,215	337	2,701,831	8,355	50,675,146
Total premises with 50 or more birds**	16,926	205,856,412	1,911	25,239,512	1,069	12,120,847	19,941	243,607,801
Flocks registered with GBPR with less than 50 birds	14,036	237,5121	1,150	19,173	1148	20,686	16,388	278,464

*Game birds = pheasants and partridges

**As of 01 January 2012, of the total premises with 50 or more birds, there were 35 poultry premises, holding a total of 391,030 birds in the GBPR that had not been able to have country coordinates assigned by RADAR (Rapid Analysis and Detection of Animal-related Risks).

- The sum of the premises column will not equal the total, as some premises will have multiple species.
- Turkeys and game birds numbers alter by month. For these premises the GBPR requires that the number of birds entered on the form is the number of birds 'usually present on the premises'.
- Small flocks with fewer than 50 birds do not have to register with the GBPR, so "backyard" flocks are under-represented.
- Species not included in this report, but registered on the GBPR are guinea fowl, quail, pigeons reared for meat, ostriches, emus, rheas, cassowaries and kiwis.
- Data extracted from the GB poultry register on 04 January 2012.

Figure 1. Traditional poultry density distribution on 1st January 2012



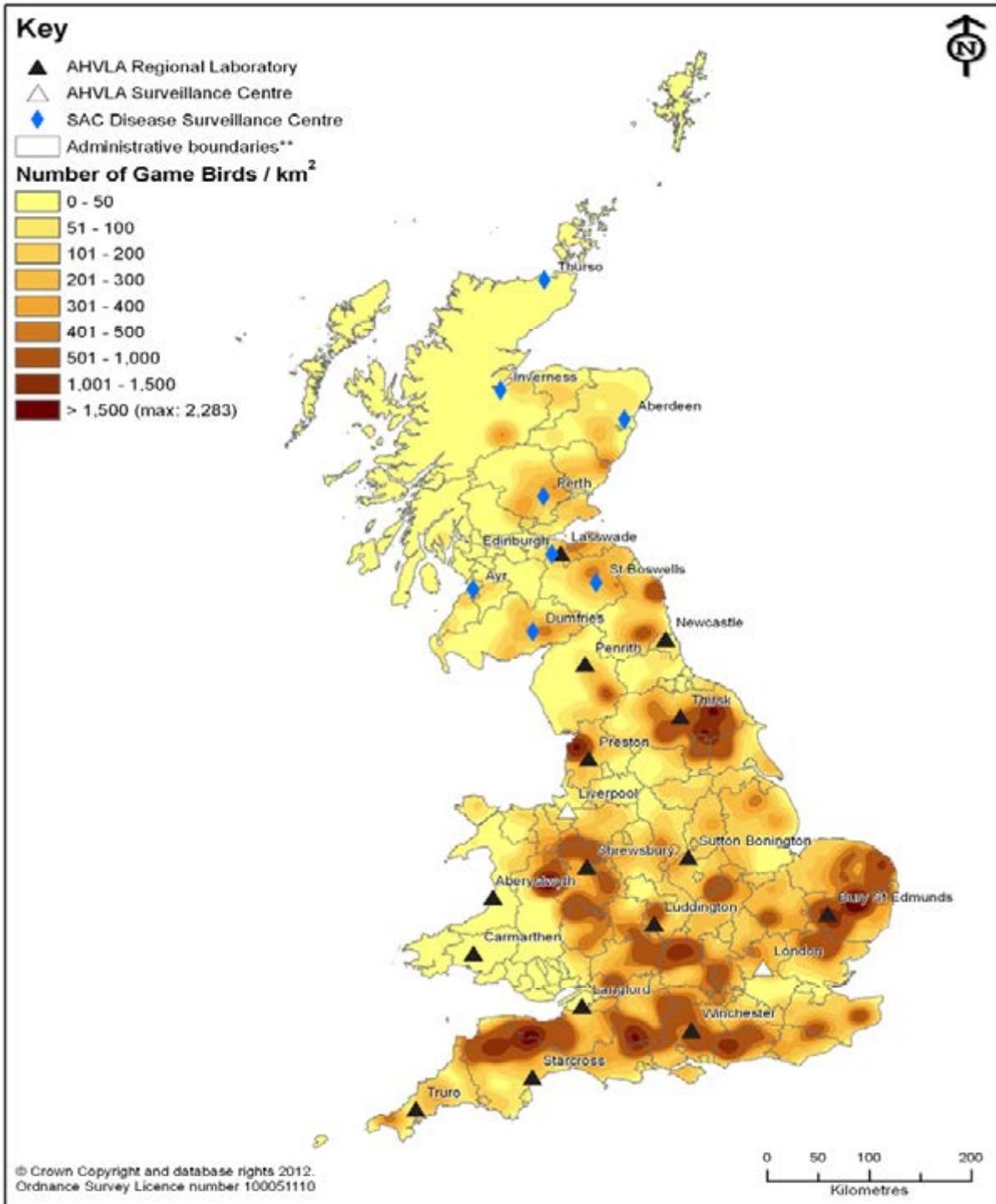
CREATOR: DSG GIS

DATE: 11/01/2012

Traditional Poultry* Density on 1st January 2012

* Traditional Poultry are defined as Chickens, Turkeys, Geese and Ducks
** Counties and Unitary Authorities

Figure 2. Game bird density distribution on 1st January 2012



CREATOR: DSG GIS

DATE: 11/01/2012

Game Bird* Density on 1st January 2012

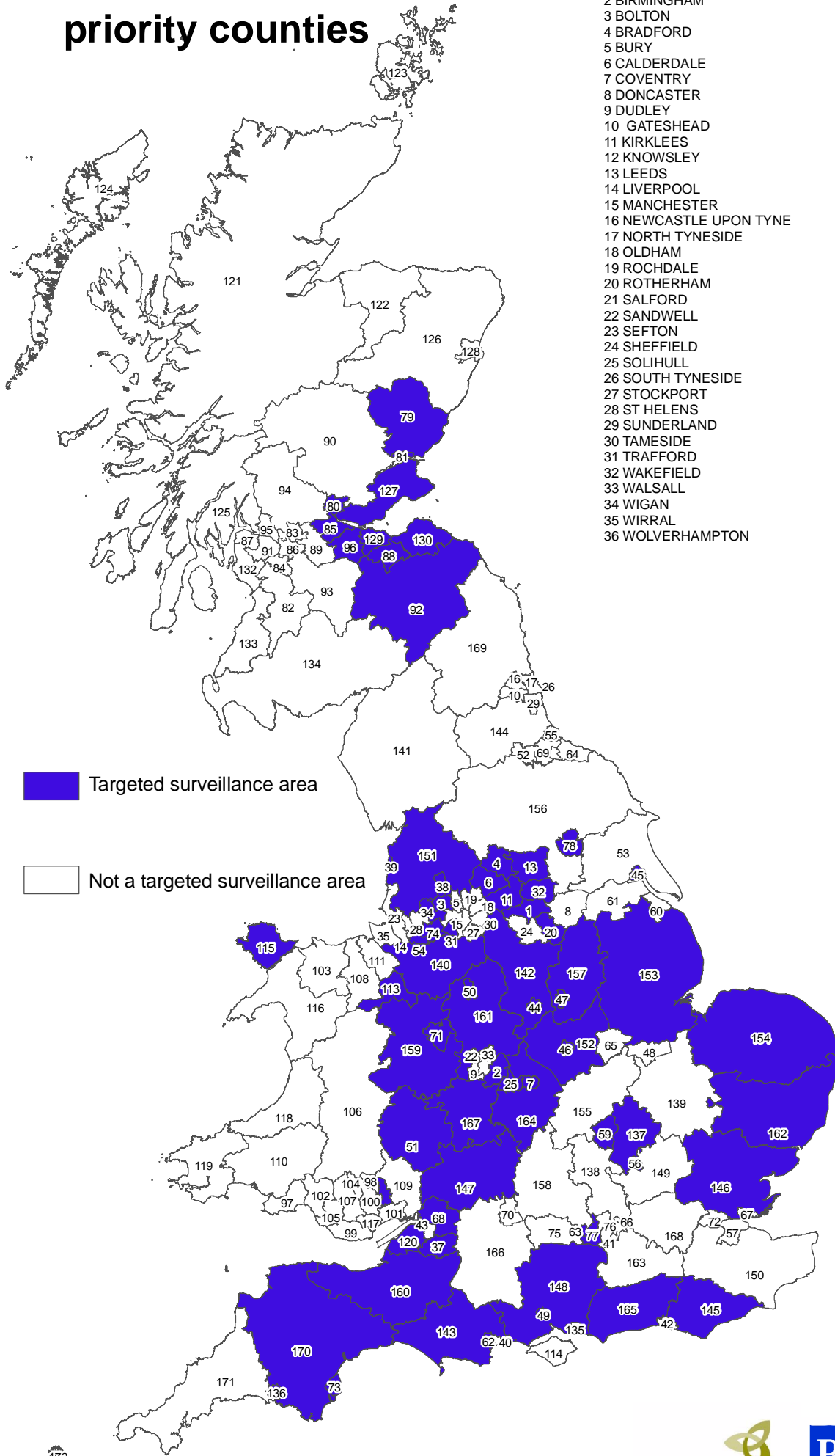
* Game Birds are defined as Pheasants and Partridges
** Counties and Unitary Authorities

GBPR metadata for this report

Category and Definition	Quality description
<p>Relevance of report [degree to which data meets user needs in terms of currency, geographical coverage, content and detail]</p>	<ul style="list-style-type: none"> - spatial coverage: Poultry premises in Great Britain (GB) registered on GBPR. - temporal coverage: GBPR historic - 01 January 2012 - date acquired: From the GBPR - historic on 03 January 2012 - detail: It is only mandatory for premises with 50 or more birds to register on the GBPR. Some premises with fewer birds have registered voluntarily but many will not be represented. Excludes de-registered poultry premises.
<p>Accuracy and Precision [extent of data error and bias]</p>	<ul style="list-style-type: none"> - sampling issues: It is only mandatory for premises with 50 or more birds to register on the GBPR. Some premises with fewer birds have registered voluntarily, but many will not be represented. Significant under-reporting, but level unknown. Distribution of flocks is also unknown, but may be similar to that provided here. - processing: Nil. - omissions: Excludes de-registered poultry premises. - measurement: GBPR data is captured in several ways but all capture the same detail. - assumptions: An assumption has been made that any premises that keep greater than 49 birds any of which are kept as 'free range' will have registered this on the GB Poultry Register
<p>Comparability [how well these data can be compared with data taken from the same dataset and with similar data from other sources]</p>	<ul style="list-style-type: none"> - within dataset comparability: As the GBPR is updated daily this report can be rerun and compared over time. Premises were assigned to country by the coordinates provided by RADAR. The report can also be broken down into different spatial domains as necessary or could be created by using the CPH number as a proxy for the country of a premise. - other dataset comparability: This report could be compared to other sources of poultry data such as the Agricultural survey (includes premises with less than 50 birds) June 2011 would be nearest comparison, although this dataset has different data acquisition methodologies.
<p>Coherence [degree to which data can be or have been merged with other data sources]</p>	<ul style="list-style-type: none"> - disparate source: This report comes from one single data source, the GB Poultry Register. - difference in datasets: This report could be combined with other datasets and reports to produce a more detailed picture of the industry or to show a greater spatial extent.

Wild bird surveillance priority counties

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- METROPOLITAN DISTRICTS**
- 1 BARNSELY
 - 2 BIRMINGHAM
 - 3 BOLTON
 - 4 BRADFORD
 - 5 BURY
 - 6 CALDERDALE
 - 7 COVENTRY
 - 8 DONCASTER
 - 9 DUDLEY
 - 10 GATESHEAD
 - 11 KIRKLEES
 - 12 KNOWSLEY
 - 13 LEEDS
 - 14 LIVERPOOL
 - 15 MANCHESTER
 - 16 NEWCASTLE UPON TYNE
 - 17 NORTH TYNESIDE
 - 18 OLDHAM
 - 19 ROCHDALE
 - 20 ROTHERHAM
 - 21 SALFORD
 - 22 SANDWELL
 - 23 SEFTON
 - 24 SHEFFIELD
 - 25 SOLIHULL
 - 26 SOUTH TYNESIDE
 - 27 STOCKPORT
 - 28 ST HELENS
 - 29 SUNDERLAND
 - 30 TAMESIDE
 - 31 TRAFFORD
 - 32 WAKEFIELD
 - 33 WALSALL
 - 34 WIGAN
 - 35 WIRRAL
 - 36 WOLVERHAMPTON

- UNITARY AUTHORITIES**
- 37 BATH AND NORTH EAST SOMERSE
 - 38 BLACKBURN WITH DARWEN
 - 39 BLACKPOOL
 - 40 BOURNEMOUTH
 - 41 BRACKNELL FOREST
 - 42 BRIGHTON AND HOVE
 - 43 CITY OF BRISTOL
 - 44 CITY OF DERBY
 - 45 CITY OF KINGSTON UPON HULL
 - 46 CITY OF LEICESTER
 - 47 CITY OF NOTTINGHAM
 - 48 CITY OF PETERBOROUGH
 - 49 CITY OF SOUTHAMPTON
 - 50 CITY OF STOKE-ON-TRENT
 - 51 COUNTY OF HER FORDSHIRE
 - 52 DARLINGTON
 - 53 EAST RIDING OF YORKSHIRE
 - 54 HALTON
 - 55 HARTLEPOOL
 - 56 LUTON
 - 57 MEDWAY
 - 58 MIDDLESBROUGH
 - 59 MILTON KEYNES
 - 60 NORTH EAST LINCOLNSHIRE
 - 61 NORTH LINCOLNSHIRE
 - 62 POOLE
 - 63 READING
 - 64 REDCAR AND CLEVELAND
 - 65 RUTLAND
 - 66 SLOUGH
 - 67 SOUTHEND-ON-SEA
 - 68 SOUTH GLOUCESTERSHIRE
 - 69 STOCKTON-ON-TEES
 - 70 SWINDON
 - 71 TELFORD AND WREKIN
 - 72 THURROCK
 - 73 TORBAY
 - 74 WARRINGTON
 - 75 WEST BERKSHIRE
 - 76 WINDSOR AND MAIDENHEAD
 - 77 WOKINGHAM
 - 78 YORK
 - 79 ANGUS
 - 80 CL CKMANNASHIRE
 - 81 DUNDEE CITY
 - 82 EAST AYRSHIRE
 - 83 EAST DUNBARTONSHIRE
 - 84 EAST RENFREWSHIRE
 - 85 FALKIRK

- COUNTIES**
- 137 BEDFORDSHIRE
 - 138 BUCKINGHAMSHIRE
 - 139 CAMBRIDGESHIRE
 - 140 CHESHIRE
 - 141 CUMBRIA
 - 142 DERBYSHIRE
 - 143 DORSET
 - 144 DURHAM
 - 145 EAST SUSSEX
 - 146 ESSEX
 - 147 GLOUCESTERSHIRE
 - 148 HAMPSHIRE
 - 149 HERTFORDSHIRE
 - 150 KENT
 - 151 LANCASHIRE
 - 152 LEICESTERSHIRE
 - 153 LINCOLNSHIRE
 - 154 NORFOLK
 - 155 NORTHAMPTONSHIRE
 - 156 NORTH YORKSHIRE
 - 157 NOTTINGHAMSHIRE
 - 158 OXFORDSHIRE
 - 159 SHROPSHIRE
 - 160 SOMERSET
 - 161 STAFFORDSHIRE
 - 162 SUFFOLK
 - 163 SURREY
 - 164 WARWICKSHIRE
 - 165 WEST SUSSEX
 - 166 WILTSHIRE
 - 167 WORCESTERSHIRE
 - 169 NORTHUMBERLAND
 - 170 DEVON
 - 171 CORNWALL
 - 172 ISLES OF SCILLY

- GREATER LONDON AUTHORITY**
- 168 GREATER LONDON AUTHORITY