



EUROPEAN COMMISSION
HEALTH AND CONSUMERS DIRECTORATE-GENERAL

Director General

SANCO/10274/2013

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

Survey programme for Avian Influenza

Ireland

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

* in accordance with Council Decision 2009/470/EC

Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.2

1. Identification of the programme

Member state : IRELAND

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) :

The Department of Agriculture, Food and the Marine (DAFM) will be the designated central authority in charge of supervision, coordination and implementation of the surveillance programme for Avian Influenza in the Republic of Ireland.

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2.1.2 System in place for the registration of holdings

(max. 32000 chars) :

DAFM introduced registration of all poultry and other captive bird holdings in 2005. Holdings containing birds of any type and number must be registered with the DAFM under S.I. No. 42 of 2008. Registration is carried out at the local District Veterinary Office. The register is maintained on the Animal Health Computer System (AHCS).

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

(max. 32000 chars) :

The objectives of the surveillance programmes for avian influenza in poultry are to inform the competent authority (DAFM) of circulating avian influenza virus with a view to controlling the disease in accordance with Directive 2005/94/EC by the annual detection through active surveillance for:

- Low pathogenic avian influenza (LPAI) of subtypes H5 and H7 in gallinaceous birds (namely chickens, turkeys, guinea fowl, pheasants, partridges and quails) and ratites thereby complementing other existing detection systems;
- LPAI of subtypes H5 and H7 and highly pathogenic avian influenza (HPAI) in domestic waterfowl (namely ducks, geese and mallards for re-stocking supplies of game)

Surveillance based on representative sampling as defined in Annex I of Commission Decision 2010/367/EU shall be carried out between 1 January 2013 and 31 December 2013. Sampling of poultry holdings and serological testing will be carried out by DAFM staff to detect the presence of antibodies to avian influenza virus. Sampling will be stratified throughout Ireland (NUTS2 regions: IE01 and IE02) so that it is representative of the whole member state.

The general requirements are:

- Sampling will coincide with seasonal production where appropriate for certain poultry categories.
- Samples collected for other purposes will be used where possible.
- Testing will be carried out at the National Reference Laboratory (NRL) for avian influenza.
- All results will be sent to Community Reference Laboratory (CRL) for avian influenza for collation.
- The CRL will provide technical support and diagnostic reagents.

The number of holdings to be sampled from each category within a region (NUTS2 code: IE01 and IE02) will be sufficient to give a 95% confidence of detecting at least one infected holding if the prevalence of infected holdings is 5%. The number of holdings to be sampled from each target population category within a region are outlined in Sections 2.2.1 and 2.2.2 and were calculated according to the tables 1 and 2 in Annex I of Commission decision 2010/367/EU. A total of 287 holdings will be sampled.

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This will amount to approximately 6540 samples at 20 samples per house for duck and goose holdings or 10 samples per house for other species and an average of 2 houses per site (with double HI tests per sample).

The number of samples to be tested per house on each turkey or chicken holding will be sufficient to give a 95% confidence of detecting at least one infected bird if the prevalence of infected birds is at least 30% (minimum 10 samples). Samplers will be asked to take 12 samples per house, to allow for a proportion of samples being unsuitable for testing. In the case of ducks and geese, 20 samples per holding will be taken. Birds kept outdoors will be targeted where possible.

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

(max. 32000 chars) :

The approximate numbers of domestic fowl and turkeys on commercial sites, according to DAFM databases, is shown in Table A (attached). The number varies according to the time of year e.g. commercial turkeys are more numerous in the months leading up to Christmas. The approximate proportions of the different species are as follows: domestic fowl 90%, turkeys 8% and ducks < 1%. The population of poultry in June 2000 was 13.96 million (CSO Farm Census). This is the most recent year for which a complete farm census by region was carried out.

Figures for the numbers of commercial poultry holdings in each region are available from DAFM commercial poultry databases in March 2012, and are shown in Annex I (attached). Commercial poultry holdings are defined as those that supply approved slaughter plants or local abattoirs, approved/registered hatcheries or registered packing centres and dealers. DAFM introduced registration of all poultry and other captive bird holdings in 2005. In March 2012, 10,866 holdings have been registered. Of these just over 9,800 are considered as backyard flocks. The map in Annex II shows the number of commercial poultry holdings and backyard flocks in each county, as well as in each NUTS2 code region (IE01 and IE02). There are no commercial farmed game (ostrich or quail) holdings in Ireland.

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

(max. 32000 chars) :

NA

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- (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) :

A representative sampling scheme of the following poultry species and production categories will be stratified throughout the country:

• Laying hens

• Free range laying hens

• Chicken breeders

• Turkey breeders

• Duck breeders

• Geese breeders

• Fattening turkeys (including holdings with more than one species on the holding)

• Fattening ducks (including holdings with more than one species on the holding)

• Fattening geese (including holdings with more than one species on the holding)

• Free range broilers (Broilers other than free-range birds will not be included in this survey, as their short life means that they are unlikely to sero-convert before they are slaughtered)

- (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 : Free range broilers

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
IE01	85	28	20	1 120	Haemagglutination-inhibition-test (HI)
IE02	78	25	20	1 000	Haemagglutination-inhibition-test (HI)
Total	163	53	40	2 120	
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 : fattening turkeys

delete this category

NUJTS (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
IE01	59	36	20	1 440	Haemagglutination-inhibition-test (HI)
IE02	29	17	20	680	Haemagglutination-inhibition-test (HI)
Total	88	53	40	2 120	
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 : chicken breeders

delete this category

NUJTS (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
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IE01	54	25	20	1 000	Haemagglutination-inhibition-test (HI)	X
IE02	61	28	20	1 120	Haemagglutination-inhibition-test (HI)	X
Total	115	53	40	2 120		
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 : turkey 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	
IE01	2	2	20	80	Haemagglutination-inhibition-test (HI)	X
IE02	0	0	20	0	Haemagglutination-inhibition-test (HI)	X
Total	2	2	40	80		
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 : laying hens

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	
IE01	36	28	20	1 120	Haemagglutination-inhibition-test (HI)	X
IE02	6	6	20	280	Haemagglutination-inhibition-test (HI)	X
Total	42	34	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 : free range laying hens

delete this category

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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
IE01	95	35	20	1 400	Haemagglutination-inhibition-test (HI)
IE02	48	18	20	720	Haemagglutination-inhibition-test (HI)
Total	143	53	40	2 120	
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 : backyard flocks

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
IE01	4 333	0	0	0 NA	
IE02	5 330	0	0	0 NA	
Total	9 663	0	0	0	

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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 (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		10 216	248	240	9 960				

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

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Category : duck breeders

delete this category

NUITS (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
IE01	2	2	40	160	Haemagglutination-inhibition-test (HI)
IE02	0	0	40	0	Haemagglutination-inhibition-test (HI)
Total	2	2	80	160	
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

delete this category

NUITS (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
IE01	0	0	40	0	Haemagglutination-inhibition-test (HI)
IE02	1	1	40	80	Haemagglutination-inhibition-test (HI)
Total	1	1	80	80	

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Add a new row	
<p>(a) <i>Holdings or herds or flocks or establishments as appropriate.</i></p> <p>(b) <i>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</i></p>	

Category : fattening ducks

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
IE01	11	11	40	880	Haemagglutination-inhibition-test (HI)
IE02	9	9	40	720	Haemagglutination-inhibition-test (HI)
Total	20	20	80	1 600	

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 (2) code can not be used, region as defined in the programme by the Member State is requested*

Category : fattening geese

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
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IE01	4	4	4	40	320	Haemagglutination-inhibition-test (HI)	X
IE02	12	12	12	40	960	Haemagglutination-inhibition-test (HI)	X
Total	16	16	16	80	1 280		
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

Add a category

Total	39	39	39	320	3 120		
Ducks and geese							

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Grand Total	10 255	287	560	13 080	
Poultry + Ducks/Geese					

2.3 Sampling procedures, sampling periods and frequency of testing

(max. 32000 chars) :

Blood samples for serological testing will be taken from poultry (including ducks and geese). Commercial turkeys and ducks will be sampled in the slaughter plant, or if this is not possible fattening turkeys will be sampled on farm. Testing of breeding birds will be carried out on samples submitted under the Poultry Health Programme. Commercial layers and back yard flocks will be sampled on-farm. Sampling will take place between 1 January 2013 and 31 December 2013.

â•ç Sampling will coincide with seasonal production where appropriate for certain poultry categories.

â•ç Samples collected for other purposes will be used where possible. The sampling of poultry holdings shall be carried out annually.

Sampling for virological testing shall only be used to follow-up serological positive testing results for avian influenza. In the event that samples are taken for virological examination, pooling of up to 5 samples from the same holding will be permitted. In the case of duck farms, 10 swabs will be taken from each holding.

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

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

All testing will be carried out at the National Reference Laboratory at the Central Veterinary Research Laboratory, Backweston Campus, Staccumny Lane, Celbridge, Co. Kildare. The Community Reference Laboratory (CRL), Weybridge, UK will provide technical support and antigen reagents. Laboratory testing will be carried out in accordance with the diagnostic procedures for confirmation and differential diagnosis of avian influenza laid down in the avian influenza diagnostic manual (Commission Decision 2006/437/EC). Serological screening will be carried out using the haemagglutination inhibition (HI) test (including in ducks and geese). A double (H5/H7) HI test will be carried out on each sample. The H5 strains used in the HI test will be: Initial Teal/England/7894/06 (H5N3), N3 elimination Chicken/Scotland/59 (H5N1). The H7 strains used in the HI test will be: Initial Turkey/England/64777 (H7N7), N7 elimination African Starling/983/79 (H7N1).

All positive serological findings will be retrospectively investigated on the holdings, in accordance with Directive 2005/94/EC, and the conclusions reported to the Commission and the CRL. Samples found positive for H5 or H7 in poultry will be reported to the Commission. Samples found positive for highly pathogenic avian influenza will be notified immediately in accordance with Council Directive 82/894/EC via the Animal Disease Notification System. The measures on confirmation of HPAI as laid down in Council Directive 2005/94/EC will be applied in the event that HPAI is confirmed. In the event of confirmation of HPAI H5N1 the additional measures laid down in Commission Decision 2006/415/EC will be applied. Directive 2005/94/EC will be applied if LPAI is confirmed.

All serological and virological results will be sent to the Community Reference Laboratory (CRL) for collation. The results will be submitted half yearly by the end of the month following the end of each half year, in the format laid down by the Commission.

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) :

DAFM will be the designated central authority in charge of supervision, coordination and implementation of the surveillance programme for Avian Influenza in wild birds in the Republic of Ireland. DAFM is assisted in the collection of active wild bird samples by hunters (members of the Regional Game Councils). Active surveillance is not required under Commission decision 2010/367/EU, therefore details are not included in this plan.

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

(max. 32000 chars) :

Sampling of wild birds will be passive surveillance only, although wild birds found dead or moribund in Monaghan, Cavan, Louth, Limerick, Clare and Wexford will be targeted because of the density of commercial poultry and the proximity of waterfowl.

3.1.3 Estimation of the local and/or migratory wildlife population

(max. 32000 chars) :

Ireland has an abundance of wetlands - both coastal and inland. Water bird counts are taken at some 690 sites annually, as part of the Irish Wetland Bird Survey. Sites of international importance, supporting a mean of more than 20,000 birds in the 1998/99 to 2002/3 surveys are as follows:

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- Wexford Harbour & Sloba
- Dundalk Bay
- Shannon & Fergus Estuary
- Lough Foyle
- Lough Corrib
- Dublin Bay
- Little Brosna Callows
- Tralee Bay, Lough Gill & Akeragh Lough
- Lough Swilly
- Ballymacoda
- Shannon Callows
- Rogerstown Estuary

Waterbirds wintering in Ireland include wild fowl (swans, geese, ducks, divers, grebes and cormorant), waders (includes oystercatcher, plover, lapwing, sandpiper, curlew and woodcock) and gulls. Almost 140 water bird species have been recorded, of which 58 species occur in significant numbers at a variety of sites (33 wildfowl, 20 wader, 5 gull). Overall, 20 waterbird species occur in internationally important numbers at one or more wetland sites. There are 18 waterbird species on the quarry list (three goose species, 12 ducks, and three waders), and the hunting of most of these species is confined to the period 1 September to 31 January.

Most wintering waterbird species in Ireland are migratory and arrive between July and early November. There are two principal flyways: the East Atlantic Flyway and the Eastern or Baltic Flyway. The east Atlantic Flyway includes Iceland and Greenland which are also used as staging areas for species that breed further west in the Canadian Arctic. Species that use this flyway include the Light-bellied brent goose and Greenland white fronted goose. The eastern flyway extends from Scandinavia to Siberia. Birds that breed in Siberia migrate from there in a southwesterly direction along the Arctic Ocean shoreline or across the tundra to the Baltic Sea and then on to the North Sea and countries of north Western Europe. The breeding origin of most species wintering in Ireland, are countries in northerly (Arctic) latitudes. However, Ireland supports small numbers of some species during the breeding season. These are considered as partial migrants (some remain all year in Ireland, whilst others migrate further south in winter).

During winter, there is regular movement of waterbirds between roosting and feeding sites. Many swans and geese fly up to 20 km to wetland roosts at night. Large-scale movements also occur, which are directly related to weather conditions. In particular, during cold snaps, species move from inland wetlands to larger riverine or coastal locations, which are less likely to freeze. In cold weather periods in Europe, a number of species from northern Europe and Britain move west to Ireland. In extreme situations, wigeon and teal move south to France and Iberia, where they may mix with populations breeding on the Black Sea/Mediterranean.

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

(max. 32000 chars):

The objective of the surveillance programmes for avian influenza in wild birds is the timely detection of HPAI of the subtype H5N1 in wild birds in order to protect poultry in poultry holdings and safeguard veterinary public health.

The survey will comprise of passive surveillance of moribund wild birds or wild birds found dead. This will be primarily directed towards target species (Annex IV). This list was updated in April 2011 in accordance with Annex II Part 2 of Commission decision 2010/367/EU. Dead birds found in areas close to the sea, lakes and waterways, especially in areas with a high density of poultry holdings will be targeted. In the event of an outbreak of HPAI H5N1, other species that may act as bridge species between higher risk species such as migratory water fowl and poultry will also be sampled. The list of species in Annex IV will be amended in line with up-to-date information received from the Commission. They may include species that act as scavengers (corvidae, some raptors) and some passerine species. This will be carried out in cooperation with the National Parks and Wildlife Service and BirdWatch Ireland. Samples notified by the public, National Parks and Wildlife Service or Birdwatch Ireland will be collected by DAFM staff.

A total of up to 500 samples will be taken. (NB. The number of birds that are found dead and reported is subject to many variables that cannot be predicted e.g. weather, media coverage, public interest and perception)

Testing of samples will be carried out at the NRL. All results shall be sent to the CRL for collation (every 6 months) by the end of the month following the reporting period i.e. 31st July and 31st January). The CRL shall provide technical support and keep a stock of diagnostic reagents. Antigens for use in the surveillance will be supplied to NRL by the CRL to ensure uniformity. All avian influenza virus isolates of cases in wild birds will be submitted to the CRL in accordance with Community legislation, unless a derogation according to paragraph 4 of Chapter V under Differential diagnosis in the avian influenza Diagnostic Manual laid down in Decision 2006/437/EC is granted. Viruses of H5/H7 subtype will be submitted without delay and will be subjected to the standard characterisation tests (nucleotide sequencing/IVPI) according to the said diagnostic manual.

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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
IE01 & IE02	500	500	0	500
Total	500	500	0	500
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.

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3.3 Sampling procedures and sampling periods

max 32000 chars :

Oropharyngeal swabs and cloacal swabs, containing faeces or fresh faeces will be taken from hunted birds. Tissue samples (from the brain, heart, lung, kidney and intestines) will be taken from birds found dead. Pooling of up to 5 samples from birds of the same species collected at the same site at the same time will be permitted in the laboratory. Where pooled samples are taken, it will be ensured that individual samples can be retested, in the event of a positive finding in order to verify the species, location and date of sampling.

Samples will be transported to the CVRL in transport medium at 4°C within 48 hours. All negative and positive results will be reported quarterly to the Commission. In the event that HPAI H5N1 is suspected or confirmed, the measures laid down in Commission Decision 2006/563/EC will be applied. Within the high-risk area, active surveillance will be carried out on wild birds of both high-risk and low-risk species. Co-financing for hunted birds (active surveillance) will not be sought in 2013.

3.4 Laboratory testing : description of the laboratory tests used

max 32000 chars :

For wild birds, the polymerase chain reaction (PCR) test will be used. Samples will be screened with the RRT PCR (M gene) test, with rapid testing of positives for H5 and H7 (within 2 weeks). Virus isolation test will be carried out on all positive samples. All viruses isolated will be sent to the CRL. H5 and H7 subtypes will be subjected to characterisation (nucleotide sequencing) to determine whether they are highly pathogenic or low pathogenic at the NRL. Characterisation of neuraminidase will be carried out at the CRL. The results will be submitted half yearly by the end of the month following the end of each half year, in the format laid down by the Commission.

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

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max 32000 chars :

Outbreaks of both highly pathogenic and low pathogenic avian influenza have historically occurred in Ireland. The last outbreak of highly pathogenic avian influenza occurred in 1983. There have been 6 introductions of low pathogenic avian influenza into poultry flocks since that time. Low pathogenic strains of avian influenza have also been isolated from wild birds in each year of the EU survey. A list of all isolates of avian influenza that have been detected in Ireland is given in Table B (attached).

There have been no outbreaks of HPAI or LPAI in Ireland in poultry in the last 5 years. A single flock (representing 0.3% of flocks tested) was positive on serological testing in 2009. This was a free range layer flock of 5,400 birds in Co. Waterford in the Southeast of the country (NUTS IE02), which was sampled in October. On epidemiological investigation, the flock had no history of clinical signs in the birds and no evidence of increased mortalities or drop in egg production. Further testing confirmed low seropositive results for H5, and the results of PCR tests carried out on cloacal and oro-pharyngeal swabs were negative.

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

(max. 32000 chars) :

Surveillance of wild birds for avian influenza has been carried out since 2003. The results of the surveys for the last 5 years are shown in Tables C and D (attached). The birds that were positive were all ducks (teal, wigeon or mallards) and positive for LPAI.

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

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(max. 32000 chars) :

Arrangements to notify the Department of Agriculture, Food and the Marine of any unusual mortalities in wild birds have been made with the following organisations:

- National Parks and Wildlife Service (NPWS which is part of the Department of Environment, Heritage and Local Government)
- National Association of Regional Game Councils
- BirdWatch Ireland

The list of target species has been circulated to staff/members of these organisations.

A protocol for cooperation has been agreed between the NPWS and DAFM. This was updated in April 2007 and circulated to NPWS and DAFM staff.

The list of target species and a poster showing pictures of the most common of these species is available on the DAFM website. The list has been circulated to DAFM District Offices, Local Authorities and local libraries.

An avian influenza help-line to deal with reports of dead wild birds is operated by DAFM. DAFM veterinary and technical staff at local level are available to recover dead wild birds.

7. Costs

7.1 Detailed analysis of the costs

7.1.1 Poultry

(max. 32000 chars) :

The detailed analysis of the costs for the survey in poultry is set out in Annex V (attached).

Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.2

7.1.2 Wild birds

(max. 32000 chars):

The detailed analysis of the costs for the survey in wild birds is set out in Annex VI (attached).

Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.2

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)	6 100	8	48800
Haemagglutination-inhibition-test (HI) for H7 (specify number of tests for H7)	6 100	8	48800
Virus isolation test	0	0	0
PCR test	0	0	0
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	5 880	0.5	2940		
Other measures					
	Number of samples	Unitary cost in €	Total cost (€)		
Other please specify here	0	0	0		X
Total poultry Testing + Sampling + Other measures	18 080		100 540,00 €		

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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	50	60	3000	
PCR test	1 000	11	11000	
Other please specify here	0	0	0	
				Add a new row
Sampling				
Number of samples		Unitary cost in €	Total cost (€)	
Samples	500	5	2500	
Other measures				

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Other please specify here	Number	Unitary cost in €	Total cost (€)
	0	0	0
			Add a new row
Total wild birds Testing + Sampling + Other measures	1550		16 500,00 €
Grand Total Poultry + Wild birds	19630		117 040,00 €

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.

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Category	Species	No. holdings (2012)	Approximate No. birds
Broilers	Commercial Broilers	311	12,718,280
	Commercial Duck	5*	327,400
	Commercial Geese	16	9,407
	Turkey	81	844,140
	Total	413	13,899,227
Breeders	GGP broiler breeding	3	37,500
	GGP broiler rearing	1	20,000
	GP broiler breeding	2	25,000
	GP broiler rearing	1	20,000
	PS broiler breeding	75	966,330
	PS broiler rearing	33	568,000
	PS turkey breeding	2	7,000
	PS turkey rearing	2	37,000
	Layer breeding	0	0
		Total	119
Commercial layers	Caged	39	751,711
	Free range/barn/organic	148	773,183
	Layer pullets	40	839,300
	Total	227	2,364,194
	Grand Total	759	17,944,251

*Does not include small duck holdings slaughtered by local authorities

Table A: Approximate population of commercial fowl & turkeys in Ireland (DAFM Databases 2012)

Year	Subtype	Pathogenicity	Flocks from which isolates were detected
1983	H5N8	HPAI	2 commercial turkey 1 broiler 1 duck
1987	H9N2	LPAI	1 turkey breeder
1989	H7N7	LPAI	1 broiler breeder 1 commercial turkey
1991	H6N2	LPAI	1 broiler breeder
1993	H3N8 H9N3	LPAI	1 imported mallard ducks
1995	H7N7	LPAI	2 commercial turkeys
1997	H9N2	LPAI	1 breeding pheasants
1998	H7N7	LPAI	28 commercial turkeys 2 commercial turkeys (NI) 1 broiler breeder

Table B: Isolates of avian influenza viruses from poultry in Ireland

	Wild Birds Sampled	Wild Birds Positive
Jan-Dec 2007	728 birds (PCR +/- VIT)	4 LPAI (3 H5)
Jan-Dec 2008	383 birds (PCR +/- VIT)	2 LPAI (1 H6, 1 not H5/7)
Jan-Dec 2009	188 birds (PCR +/- VIT)	3 LPAI (2 H5, 1 not H5/7))
Jan-Dec 2010	151 birds (PCR +/- VIT)	1 LPAI (not H5/7)
Jan-Dec 2011	100 birds (PCR +/- VIT)	All negative

Table C. Results of avian influenza surveys carried out in wild birds in Ireland (2007-2011)

Year	Subtype	Pathogenicity	Birds from which isolates were detected
2007	H5 (3)	LPAI	Wild shot teal
	Not H5 or H7 (subtypes not determined)	LPAI	Wild shot teal
2008	H6	LPAI	Wild shot teal
	Not H5 or H7 (subtypes not determined)	LPAI	Wild shot teal
2009	H5	LPAI	Wild shot wigeon
	Not H5 or H7 (subtypes not determined)	LPAI	Wild shot teal
2010	Not H5 or H7 (subtypes not determined)	LPAI	Wild shot teal
2011	N/A	N/A	All negative

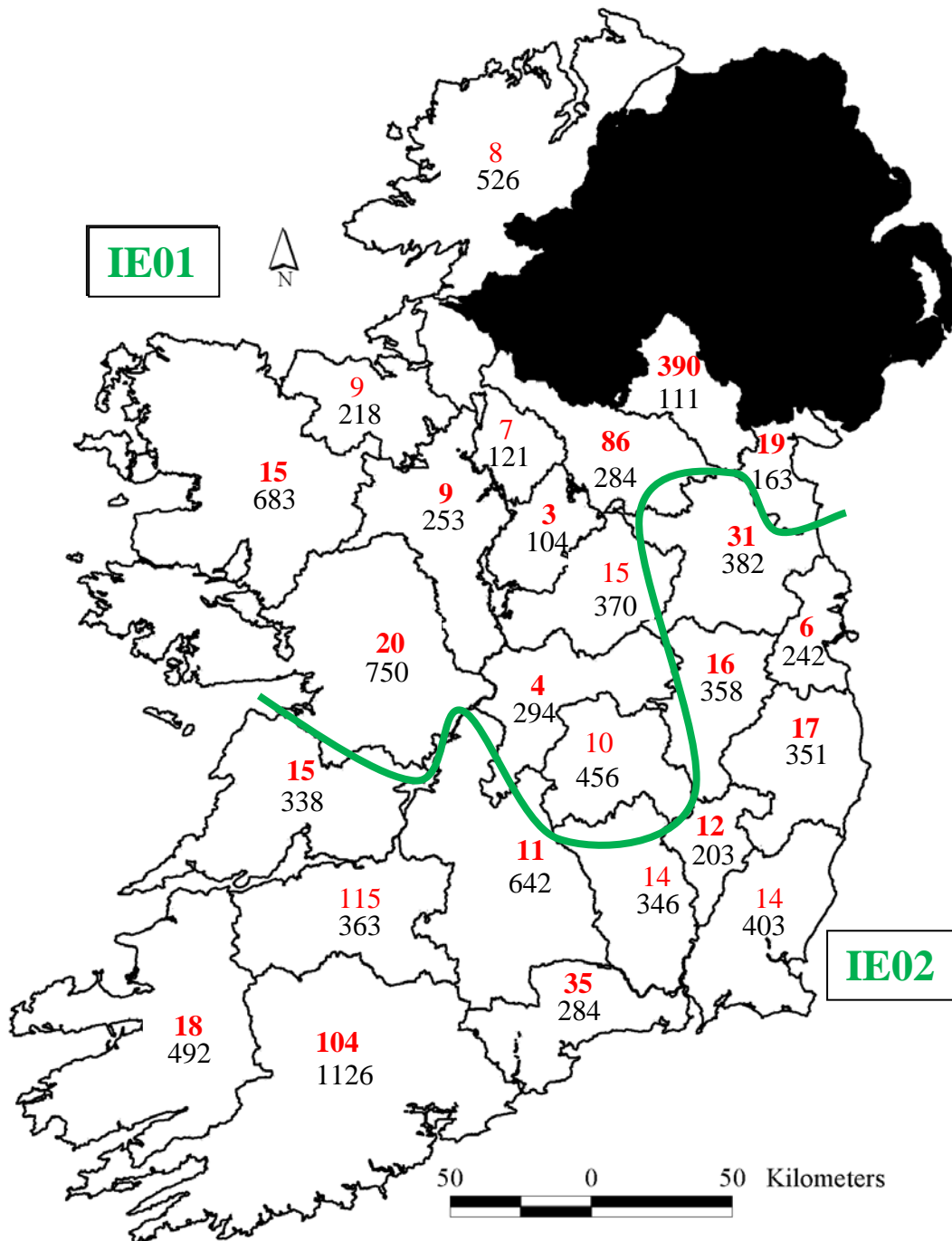
Table D. Avian influenza viruses isolated from wild birds in Ireland (2007-2011)

ANNEX I COMMERCIAL POULTRY SITES IN IRELAND (2012 DAFM Database)

Type of holding	NUTS2 code		Total
	IE01 (Cavan, Donegal, Galway, Laois, Leitrim, Longford, Louth, Mayo, Monaghan, Offaly, Roscommon, Sligo and Westmeath)	IE02 (Carlow, Clare, Cork, Dublin, Kerry, Kildare, Kilkenny, Limerick, Meath, Tipperary, Waterford, Wexford and Wicklow)	
Mixed species commercial fatteners including ducks or geese	10	18	28
Mixed species commercial fatteners including turkeys	10	12	22
Commercial broiler (free range)	85	78	163
Commercial duck	4	1	5
Commercial goose	0	2	2
Commercial turkey	49	18	67
Commercial layer (housed)	7	6	13
Commercial layer (free range)	137	64	201
Chicken breeder	54	61	115
Duck breeder	2	0	2
Goose breeder	0	1	1
Turkey breeder	2	0	2
*Commercial broiler (housed)	108	40	148
*Commercial layer rearing	35	4	39
*Turkey breeder rearing	2	0	2
*Commercial turkey rearing	4	6	10
*Duck layer	7	5	12
*Duck breeder rearing	1	0	1
Total	517	316	833

*These holding types will not be included in the sampling under the avian influenza survey plan for Ireland 2013

ANNEX II
NUMBER OF COMMERCIAL & BACKYARD FLOCKS
IN EACH COUNTY (from AHCS data March 2012)



KEY:

Upper number = number of commercial poultry holdings (from DAFM 2012)

Lower number = number of back yard flocks (from AHCS 2012)

ANNEX III
NUMBER OF COMMERCIAL FLOCKS TO BE SAMPLED IN EACH REGION

Type of holding to be sampled	NUTS2 code		Total
	IE01	IE02	
Commercial broiler (free range)	28	25	53
Commercial turkey*	36	17	53
Commercial duck*	11	9	20
Commercial goose*	4	12	16
Commercial layer (housed)	28	6	34
Commercial layer (free range)	35	18	53
Chicken breeder	25	28	53
Turkey breeder	2	0	2
Duck breeder	2	0	2
Goose breeder	0	1	1
Total	171	116	287

*Holdings with mixed species including commercial turkey/ducks/geese are included in the number of commercial turkey/duck/goose holdings to be tested respectively

ANNEX IV: TARGET SPECIES OF WILD BIRDS WITH THE GREATEST RISK FOR AVIAN INFLUENZA IN IRELAND

COMMON NAME	SPECIES	TYPE	STATUS IN IRELAND	HABITAT
Mute swan	<i>Cygnus olor</i>	Swan	Resident	Freshwater & coast
Whooper swan	<i>Cygnus cygnus</i>	Swan	Winter immigrant	Freshwater & coast
Greylag goose	<i>Anser anser</i>	Goose	Resident & winter immigrant	Estuaries, freshwater & arable land
Canada goose	<i>Branta canadensis</i>	Goose	Resident	Freshwater, estuary, arable land
Shelduck	<i>Tadorna tadorna</i>	Dabbling duck	Resident, moult & winter immigrant	Estuaries
Wigeon	<i>Anas penelope</i>	Dabbling duck	Winter immigrant	Freshwater & estuaries
Gadwall	<i>Anas strepera</i>	Dabbling duck	Breeding & winter immigrant	Freshwater & coast
Teal	<i>Anas crecca</i>	Dabbling duck	Breeding & winter immigrant	Freshwater & coast
Mallard	<i>Anas platyrhynchos</i>	Dabbling duck	Resident & winter immigrant	Freshwater & coast
Pintail	<i>Anas acuta</i>	Dabbling duck	Winter immigrant	Freshwater & coast
Shoveler	<i>Anas clypeata</i>	Dabbling duck	Resident & winter immigrant	Freshwater & coast
Pochard	<i>Aythya ferina</i>	Diving duck	Winter immigrant (some resident)	Freshwater
Tufted duck	<i>Aythya fuligula</i>	Diving duck	Breeding & winter immigrant	Freshwater
Goldeneye	<i>Bucephala clangula</i>	Diving duck	Winter immigrant	Freshwater & coast
Coot	<i>Fulica atra</i>	Rail	Breeding & winter immigrant	Freshwater & estuaries
Moorhen	<i>Gallinula chloropus</i>	Rail	Resident (some winter immigrants)	Freshwater
Golden plover	<i>Pluvialis apricaria</i>	Wader	Breeding & winter immigrant	Uplands and coast
Lapwing	<i>Vanellus vanellus</i>	Wader	Breeding & winter immigrant	Farmland and coast
Curlew	<i>Numenius arquata</i>	Wader	Breeding	Inland and coast
Black-headed gull	<i>Larus ridibundus</i>	Gull	Breeding & winter immigrant	Freshwater, farmland and coast
Common gull	<i>Larus canus</i>	Gull	Breeding & winter immigrant	Freshwater, farmland and coast
Lesser black-backed gull	<i>Larus fuscus</i>	Gull	Breeding & winter immigrant	Larger lakes and coast
Herring gull	<i>Larus argentatus</i>	Gull	Breeding & winter immigrant	Larger lakes and coast
Greater black-backed gull	<i>Larus marinus</i>	Gull	Resident	Larger lakes and coast
Little grebe	<i>Tachybaptus ruficollis</i>	Grebe	Resident	Freshwater and coast
Great crested grebe	<i>Podiceps cristatus</i>	Grebe	Breeding & winter immigrant	Freshwater and coast
Cormorant	<i>Phalacrocorax carbo</i>	Cormorant	Breeding & winter emigrant	Coast and freshwater
Light-bellied brent goose	<i>Branta branta hrota</i>	Goose	Winter immigrant	Estuaries, coast, grassland
Greater White-fronted Goose	<i>Anser albifrons albifrons</i>	Goose	Winter migrant	Coast & inland wetlands & grassland
Brent Goose	<i>Branta bernicla</i>	Goose	Winter migrant	Coastal wetlands & grassland
Barnacle Goose	<i>Branta leucopsis</i>	Goose	Winter migrant	Coastal wetlands, islands, grassland
Grey Heron	<i>Ardea cinerea</i>	Heron	Resident & Winter migrant	Estuaries, coast, grassland
Eurasian Sparrowhawk	<i>Accipiter nisus</i>	Raptor	Resident	Common & widespread
Common Buzzard	<i>Buteo buteo</i>	Raptor	Resident	Scarce but expanding distribution
Peregrine Falcon	<i>Falco peregrinus</i>	Raptor	Resident	Scarce, widespread
Common Kestrel	<i>Falco tinnunculus</i>	Raptor	Resident	Common & widespread
Black-tailed Godwit	<i>Limosa limosa</i>	Wader	Winter migrant	Coast & inland wetlands & grassland
Eurasian Magpie	<i>Pica pica</i>	Crow	Resident	Common & widespread

ANNEX V
ESTIMATED ACTUAL COSTS OF SAMPLING AND TESTING POULTRY

Total Estimated <u>Actual</u> Costs of Sampling and Testing		
Estimated costs of laboratory testing:		
Method of laboratory analysis	Number tests performed per method	Costs (€)
Serological testing of commercial poultry	6540 @ €15,20 (double HI) (287 holdings x ave. 2 houses x 10 samples; 20 samples per house for duck and goose holdings)	99.408,00
	Subtotal	99.408,00
1.1. Estimated costs of sampling:		
	Specific costs	Costs
Sampling	Equipment & postage	1.000,00
	Collection costs (on-farm) 287 commercial holdings @ €20/holding	5.740,00
	Subtotal	6.740,00
Sampling & testing	GRAND TOTAL	106.148,00

Total estimated actual costs for sampling and testing of poultry: €106.148,00

Maximum reimbursable costs per test under CD 2010/712:

Double HI	€12
PCR	€20
VIT	€40

ANNEX VI
ESTIMATED ACTUAL COSTS OF SAMPLING AND TESTING WILD BIRDS

Total Estimated <u>Actual</u> Costs of Sampling and Testing		
Estimated costs of laboratory testing:		
Method of laboratory analysis	Number tests performed per method	Costs (€)
Serological pre-screening		
PCR	1000 @ €10.50 500 birds* @ 2 tests/bird	10.500,00
HI test for H5/H7		
Virus isolation test	50 @ €60	3.000,00
Airport charges (isolates to CRL)		200
	Subtotal	€13.700,00
1.2. Estimated costs of sampling:		
	Specific costs	Costs (€)
Sampling	Equipment & postage	800,00
	Collection costs 500 passive @ ave. €70	35.000,00
	Subtotal	35.800,00
	GRAND TOTAL	€49.500,00

*Passive surveillance numbers will vary, depending on public awareness and interest, and also media coverage. Reports from the public are made to an Avian Influenza Helpline. Birds of targeted species are collected by DAFM staff, and delivered to one of 6 Regional Veterinary Laboratories for sampling. Each submission consists of 1.3 birds on average. Estimates of €90/submission and €70/bird have been made, based on claims made in 2006.

Total estimated actual costs for sampling and testing of wild birds: €49.500,00