

## OPINION

### **of the French Food Safety Agency on assessment of the risk to poultry and captive birds in mainland France from infection by the highly pathogenic *Influenza* virus from wild birds and measures to be taken according to a risk scale**

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#### **Review of Mandates**

The French Food Safety Agency (Afssa) was requested on 25 August 2006 by fax jointly by the Ministry for Agriculture and Fisheries and the Ministry for Health and Solidarity to assess the risk of captive birds in mainland France being infected by the highly pathogenic *influenza* virus from wild birds and measures to be taken according to a risk scale.

#### **Opinion of the “Avian *Influenza*” Emergency Joint Expert Group**

The “Avian *Influenza*” emergency joint expert group met on 28 August 2006 and on 04 and 07 September 2006 by teleconferences and produced the following opinion:

#### **Context and review of previous mandates**

- *Since the identification of cases of HP avian influenza H5N1 virus in wild birds in Western Siberia, similar cases occurred in wild birds in autumn 2005 at the borders of Europe and in the spring of 2006 in most Member states of the European Union including France. Sporadic outbreaks were identified in farms in areas in which wild birds were infected.*
- *An initial assessment presented in the opinion of 25 August 2005<sup>1</sup> stressed the high risk of the virus being transmitted to farms from contact between wild birds and poultry or captive birds and recommended that protective measures be increased for farms in order to minimise contact with wild birds, in view to reduce the risk of virus introduction via this route.*
- *Since then, other assessments have been conducted by the Avian Influenza joint expert group following changes in the international, national and local epidemiological situation. These have led to a gradual and continuing adjustment of the recommendations on surveillance and protective measures to be applied to the different captive birds in mainland France (poultry, ornamental birds, backyard holdings, farmed game, decoy birds and pigeons).*

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<sup>1</sup> Opinion 2005-SA-0258 on the assessment of the risk of the highly pathogenic *Influenza* virus being introduced by wild birds and on the assessment of certain protection systems on bird farms.

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- *In view of the analyses shown in the opinion of 11 May 2006<sup>2</sup> “the risk assessment of infection of birds in mainland France is such that the risk may be considered to be negligible outside of the Dombes area ... until the end of the period before the autumn migrations”. Data available on active and passive surveillance conducted over recent months in the Dombes do not show this area to be a potential source of infection for the whole country. The only source of infection of captive birds over the whole country from wild birds therefore remains the introduction of the virus as a result of migratory or non-migratory movements.*
- *The autumn migration movements of wild birds from countries located in the north of the European continent, which are of major importance in terms of the epidemiology of influenza, have already begun or are about to take place and include the national mainland. A new assessment of risk from migratory or non-migratory movements of wild birds to birds held in captivity<sup>3</sup> in mainland France is therefore needed.*
- *Each of the previous assessments was conducted on an individual case basis depending on the question raised and on the epidemiological situation at the time. The latest opinions have changed progressively, benefiting of the hindsight gained on the progress of the epizootic towards defining different levels of risk of transmission of the highly pathogenic avian influenza virus to poultry in compliance with scenarios produced from the national and international epidemiological situation.*
- *From the experience gained since August 2005 on the progression of the epidemiological situation, assessment of risk and measures set at ground level, an analytical grid was produced to define, according to simple epidemiological indicators, the associated risk level and the measures to be taken for each level of risk. This grid was then submitted to the Agency for a joint expert evaluation. The risk of transmission of the highly pathogenic avian influenza H5N1 virus in the current situation and for the weeks to come will be assessed and replaced in this risk scale.*
- *It should be noted however that the HP avian influenza H5N1 virus could be introduced into the national territory from sources other than wild birds and that it is difficult therefore to predict all the possible epidemiological situations in the context of the ongoing Asian HP avian influenza H5N1 pandemic.*

### Questions posed

*The following require assessment:*

- *the proposed risk scale,*
- *current risk with reference to this scale, and the change in this risk,*
- *planned measures, according to the different levels proposed.*

### Method

*The joint expert assessment was conducted by the “avian influenza” emergency joint expert group which met on 28 August 2006 to examine the technical annex described in the first section above, and then on 04 and 07 September 2006 to discuss a draft opinion by teleconference, which was validated on 11 September 2006.*

*The expert assessment was based on the following documents:*

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<sup>2</sup> Afssa opinion on the reassessment of risk from the highly pathogenic Avian Influenza H5N1 virus in light of available national and international epidemiological data, updating the previous recommendations, and on the appropriateness of whether or not to maintain specific measures.

<sup>3</sup> All birds, excluding free wild birds.

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- *the technical annex accompanying the mandate, on the measures to be applied in compliance with the different level of exposure of poultry and captive birds to the highly pathogenic influenza virus circulating in wild birds.*
- *the Afssa opinions on avian influenza, in particular the opinions dated 25 August 2005<sup>4</sup> and 12 July 2006<sup>5</sup>.*
- *the list of bird species at greatest risk of transmission of the HP H5N1 virus in Europe (urgent preliminary assessment of ornithological data on the spread of Avian influenza in Europe, report to the European Commission, May 2006).*
- *passive surveillance data on bird deaths in France until the end of week 35 (source: DGAI).*
- *informal information received on the “sentinel” birds surveillance programme.*
- *the cases of wild bird and domestic bird infection declared in Europe as of 07 September 2006.*
- *the OIE warnings and Promed dispatches as of 07 September 2006.*

### **Discussion**

*Current knowledge obtained since Autumn 2005 on the spread of the epizootic in Europe has shown that the level of risk varies both according to the bird farming concerned and over time and space, and that the surveillance and protection measures for farms must be adapted to comply with the estimated level of risk.*

*Different risk levels of infection of captive birds kept in mainland France by the highly pathogenic influenza virus can be defined for the coming weeks or months and the measures to be taken may be proposed according to a risk scale.*

#### **1. Assessment of the proposed risk scale**

*The risk scale and criteria which define it are considered to be satisfactory overall and consistent with those used for the previous risk assessments of the introduction of the HP avian influenza H5N1 virus. It also takes account of changes in risk factors over the year depending on migration periods (North/South and South/North) and between these periods.*

*However, a few modifications are proposed below:*

- *The criteria used to establish the level of risk have been changed slightly, taking account of three factors: i) the situation in the leaving areas for wild birds, ii) in the migratory corridors and iii) in France (table I). The purpose of this change is to clarify the definitions of risk level proposed in the table shown in annex I (the use of “and” or “or” may be understood differently). In addition, these factors can be amended slightly by an incidence parameter: a rapid and large rise in the number of cases results in an immediately higher level of risk: nevertheless, breaking down level 3 according to the number of cases has not been adopted because of the lack of scientific justification for the proposed thresholds (5 cases). On the contrary, the concept of an area representing a specific ecological unit is preserved and the number of affected areas (one or more) is a factor used to distinguish between levels 3a and 3b.*

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<sup>4</sup> *Opinion 2005-SA-0258 on the assessment of the risk of introducing the highly pathogenic influenza virus from wild birds and assessment of specific protection devices for bird farms.*

<sup>5</sup> *Afssa opinion 2006-SA-0180 on the assessment of risk of transmission of the HP avian influenza H5N1 virus to human beings and poultry by birds used as shooting decoys, on establishing the list of areas in which the use of decoys may be considered and on the suitability of the biosafety measures to be applied.*

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- It is proposed that level 1 be broken down into two parts representing slightly different levels of risk (absence/presence of cases in the leaving areas for wild birds passing through France) although the measures to be applied remain identical.
- In addition, a level 0 may be defined as the absence of a worrying international situation (absence of epizootic). However, this situation does not appear convenient for the coming months and it is not therefore needed in the table.

**Table I: Criteria to be used to establish the risk scale**

<i>Cases present in leaving areas for wild birds passing through France</i>	<i>Cases present in the migratory corridors of wild birds passing through France</i>	<i>Presence of cases in France</i>	<b>Risk level</b>
No	No	No	<b>Level 1 a</b>
Yes	No	No	<b>Level 1 b</b>
Yes or No	Yes ( <i>non-neighbouring countries</i> )	No	<b>Level 2 a</b>
Yes or no	Yes ( <i>neighbouring countries</i> )	No	<b>Level 2b</b>
Yes or No	Yes or No	Yes only one area***	<b>Level 3 a</b>
Yes or No	Yes or No	Yes several areas concerned	<b>Level 3 b</b>

\* The term case in this table refers to the development of HP AI only in the wild population.

\*\* Belgium, the Netherlands, Luxembourg, Germany, Switzerland, United Kingdom, Ireland, Italy, Spain, Portugal, etc.

\*\*\* Area: ecological unit

**2 Estimation of current risk level and predictable developments**

Currently (start of September):

Very little information is available about the situation of the highly pathogenic Asian avian influenza H5N1 in the Baltic Sea, Northern Europe, Black Sea and Caspian Sea areas. Recent press releases have described cases of infection in wild birds in the south of Western Siberia (Omsk region), in Anatidae gathering and mating areas.. This information does not allow a precise evaluation of the current situation.. Although no information is provided on the infection, in their gathering and leaving areas (Northern Siberia), of Anatidae liable to migrate via the East Atlantic corridor to Western Europe and to winter in France, it should not be forgotten that cases of HP H5N1 were identified up to the end of last spring in wild birds in this region and that questions remain as to the possible persistence of the virus in the environment and in this animal reservoir. In view of these doubts about possible cases in these migration leaving areas,, the risk of the virus being introduced directly into mainland France from wild birds can be deemed to be “negligible” (level 1b in the proposed grid). This assessment however should be considered firstly as one made at a single moment in time and which may be questioned at any stage, and secondly as being limited as the currently lacking information could change the assessment of the risk of the infection developing in France.

Change

*This risk may change considerably in the months of September and October with the full effect of migration of anseriforms, particularly fuligula (pochard and tufted duck). In addition, during the next period possible non-migratory movements (within the European continent) of sensitive aquatic birds (swans, ducks) already seen in the previous autumn and winter and particularly during times of significant climate disturbance will need to be taken in to account.*

*The change in level of risk during this period can only therefore be assessed in real time in light of the available information. This justifies the prospective establishment of a risk scale linking the corresponding prevention measures to each of the predefined levels of risk.*

*Thus, data obtained from the national and international surveillance systems can be converted into proportionate and timely management measures complying with the change in risk level.*

**3 Assessment of planned measures depending on the different levels proposed**

*A few changes in form have been proposed. These are shown in shaded text in the tables in the annex. Firstly these involve an additional column for specific measures for decoy birds, . Only the general surveillance and protection measures for poultry farms are retained in the column for measures over all of France.*

*The communication activities proposed in the third column of the first table shown in the documents accompanying the mandate have not been evaluated, as this assessment does not fall within the scope of the expert scientific valuation. Communication should be tailored to the situation, risk level and public involved (professionals, general public etc.). For easier reading, the lines on communication have been removed from the modified tables.*

*The measures proposed in compliance with the different risk levels have been analysed, leading to various comments..*

- *The measures set for risk level 1 are ongoing measures which should be maintained throughout a period of highly pathogenic avian influenza pandemic. These measures are already in place in France and in the European Union and provide a high level of protection, appropriate to cover both risk level 1a and risk level 1b as soon as risk level 1a is reached. No additional measures are therefore proposed for level 1b, although the risk level is slightly higher than 1a.*
- *From risk level 2a onwards, certain measures must be reinforced, particularly active and passive surveillance of wild birds. Indeed, passive surveillance of wild bird deaths was the best indicator of the presence of the HP H5N1 virus in France last year. In addition, it is proposed that pigeon racing departing from or flying over a country (not neighbouring France) in which cases have developed in wild birds should be prohibited from this level onwards. In practice this situation only affects long distance races starting from or flying over affected countries which do not neighbour France.*
- *Risk level 2b is characterised by geographical proximity of the risk. The spread of the epizootic in February 2006 showed that under some conditions the infection could spread very quickly from one country to another. The measures proposed at this level are therefore designed to pre-empt possible introduction of the virus into France and must be increased compared to the earlier level, particularly in terms of measures intended to provide early detection of poultry farm infections and to protect poultry. Consequently, some measures initially proposed for level 3a may already be put in place from level 2b onwards, such as reinforced surveillance of farms where poultry is not kept inside, based on warning criteria and, in high risk areas, the confinement of backyard holdings, ornamental birds and commercially farmed poultry and the vaccination of ornamental birds which cannot be kept inside..*

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- *the measures proposed for risk levels 3a and 3b are considered to be satisfactory overall and appropriate for these levels of risk. However, increased protection (confinement or equivalent system) for all poultry farms should only be applied in specific risk areas from level 3a onwards, and over the whole country for level 3b. This type of measure is proposed for the whole country from level 3a onwards for ornamental birds and backyard poultry. Increased clinical surveillance of farms based on warning criteria is also proposed to be extended to all poultry farms from level 3a onwards (including those which are kept inside or protected by equivalent systems). The application of additional measures (bird scarers, scheduled outings etc.) would remain limited to non-confined farms.*

*In addition, the following general comments may also be made:*

- *The degree of application of confinement falls with the risk level, provided that this is combined with appropriate biosafety measures. For a given overall risk level, when confinement is recommended but is not used, or without the necessary biosafety measures (e.g. in specific production sectors), the level of risk for this sector concerned is increased. In this case, and when it is necessary to increase the safety level (risk levels 3a and 3b) other measures to reduce risk, particularly vaccination<sup>6</sup> (for species in which a vaccination has been shown to provide protection<sup>7</sup>) may be considered for non-confineable farms located in threatened areas contiguous with the infected area(s).*
- *Systems “equivalent” to confinement (nets etc.) and additional measures (bird scarers<sup>8</sup>, scheduled outings, etc.) intended to protect farms are not equivalent to confinement but are only palliative methods which are variably effective. A detailed analysis of the most appropriate measures for each type of production is outside the scope of this opinion but could be conducted in close collaboration with the people concerned.*

### **Conclusions and recommendations**

*The avian influenza emergency joint expert group met on 28 August and on 04 and 07 September 2006 by teleconference and approved the proposed risk scale for infection with the highly pathogenic influenza virus originating from wild birds to which captive birds on mainland France are exposed and the measures linked to these, accompanied by proposed modifications (shown in the two annexes to this opinion).*

*In addition, it considers that the current risk for captive birds in mainland France being infected by the highly pathogenic influenza H5N1 virus from wild birds is negligible and situated at level 1b of the modified risk scale.*

*It stresses however that the assessment of the risk level of the HP avian influenza H5N1 virus being introduced from wild birds into poultry farms is based on an analysis of the epidemiological situation of HP avian influenza H5N1 in countries from which migratory flights leave, or those crossed by migratory corridors. This assessment can only be conducted in real time, on the basis of the available information. The definition of the different risk levels is itself liable to change depending on the precise context of developing cases of avian influenza such as, for example, a sudden increase in the incidence of cases. It cannot be considered to be set in stone for the coming months.*

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<sup>6</sup> *If this measure were adopted it should be pre-empted (renewal of TAU, stockpiling of vaccines etc.).*

<sup>7</sup> *Vaccination opinion 2005-SA-0258 of 03/11/2005 on the appropriateness of vaccinating domestic poultry and captive birds in zoological parks against highly pathogenic avian influenza.*

<sup>8</sup> *The annex of opinion 2005-SA-0318 states that auditory or visual devices are ineffective or only effective for a limited period.*

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*As a result, the use of the proposed grid both to define a level of risk depending on a given situation and to determine the associated measures should be preceded in all cases by a critical analysis of the available information, in order to identify possible differences between an actual situation and a predicted situation.*

*Finally, in order to assess the epidemiological situation for HP avian influenza H5N1 more accurately, the experts stress the importance of real time communication of available information (even if negative) on the epidemiological situation in the countries which migrating birds leave or those involved in the migratory corridors for wild birds passing through France, as well as in France (ongoing surveillance programmes).*

**Key words:** *Avian Influenza, wild birds, domestic birds, ornamental birds, game birds, decoy birds , pigeons.*

### **Opinion of the French Food Safety Agency**

The analytical information enables Afssa to provide a response to the mandate from the Ministry for Agriculture and Fisheries and from the Ministry for Health and Solidarity on the assessment of the level of risk of infection of captive birds in mainland France from the highly pathogenic influenza virus originating from wild birds and the measures to be taken depending on a risk scale.

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**Annexes I and II**

**ANNEX 1: MEASURES<sup>9</sup> TO BE TAKEN DEPENDING ON THE DIFFERENT LEVELS OF RISK OF EXPOSURE OF CAPTIVE BIRDS<sup>10</sup> TO THE HIGHLY PATHOGENIC INFLUENZA VIRUS CIRCULATING IN THE WILD POPULATION**

The measures to be taken for a risk level are cumulative for higher risk levels

Risk level	Definition of risk level depending on cases identified in wild birds	Measures over all of France: 1/surveillance measures, 2/ farm protection measures	Specific at risk areas		Specific measures for all of France			
			delineation	Measures in the at risk areas	birds released (racing pigeons)	ornamental birds (excluding zoological parks)	backyard holdings	decoy birds
1a	- no cases in France  - <u>no cases in flight starting areas</u>  - no cases in the migratory corridors of wild birds passing through France, before the actual start of migration	surveillance of wild bird deaths  active surveillance of wild birds and poultry (in particular specific surveillance of mallard farms)	no at risk area					biosafety measures for decoy birds
	- no cases in France  - <u>proven or possible cases present in the starting areas for migratory flights</u>  - <u>no cases</u> in the migratory corridors of wild birds passing through France, before the actual start of migration	clinical surveillance of farms  <u>application of farm protection measures (protected feeds and water and not using surface water)</u>  vaccination of birds in zoological parks						

<sup>9</sup> these measures do not prevent animal health measures being applied around an outbreak or case of infection detected in wild birds: these animal health measures and the border protection measures (movement control, specific health conditions) are not discussed in this document.

<sup>10</sup> captive birds held in mainland France



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Risk level	Definition of risk level depending on cases identified in wild birds	Measures over all of France: 1/surveillance measures, 2/ farm protection measures	Specific at risk areas		Specific measures for all of France			
			delineation	Measures in the at risk areas	bird released (racing pigeons)	ornamental birds (excluding zoological parks)	backyard holdings	decoy birds
2a	- no cases in France  - cases present in the migratory corridors of wild birds passing through France in countries <b>not neighbouring</b> mainland France.	Increased active and passive surveillance (surveillance of deaths) in wild birds	no at risk area		Prohibition of races starting or flying over a country in which cases have developed			Prohibition of transport of decoy birds and increased biosafety by shoots
2b	- no cases in France  - cases present in the migratory corridors of wild birds passing through France in countries <b>neighbouring</b> <sup>11</sup> mainland France.	surveillance of <b>wild birds</b> unchanged compared to previous level.  <b>increased surveillance in non-confined farms based on warning criteria (cf. note 17).</b>  prohibition of attending bird meets of birds from at risk areas <sup>12</sup>	the 46 “wet land” areas defined as priority 1 to 3 <sup>13</sup> placed at risk, including the “wading” communes and the neighbouring communes	1/ bird meets prohibited <sup>14</sup> 2/ increased protection of <b>poultry and ornamental birds farms and backyard holdings</b> (confinement <sup>15</sup> or equivalent system <sup>16</sup> ). 3/ vaccination of non-confineable ornamental birds not protected by netting. 4/ pigeon competitions cannot leave or arrive in an at risk area. 5/ pigeons may leave by derogation under the direct supervision of the holder 6/ specific surveillance of circulation of the AI virus in mallard farms increased				Prohibition of use of decoy birds for shooting although this prohibition may only apply to part of the territory or to some categories of decoy bird birds if a risk assessment concludes that prohibition is not necessary for controlling the risk in the remainder of the territory

<sup>11</sup> Belgium, the Netherlands, Luxembourg, Germany, Switzerland, United Kingdom, Ireland, Italy, Spain, Portugal

<sup>12</sup> by derogation, ornamental birds belonging to species known to be raised invariably in closed bird farms and coming from at risk areas may attend bird meets.

<sup>13</sup> hierarchical list of the main wetland areas receiving the largest gatherings of migratory birds in France drawn up by ONCFS and communicated by letter to AFSSA on 11 November 2005

<sup>14</sup> by derogation, ornamental birds belonging to species known to be raised invariably in closed bird farms may be organised in wetland areas.

<sup>15</sup> confinement of a farm involves an enclosed roof and side walls which prevent any birds entering.

<sup>16</sup> a system equivalent to confinement may be the positioning of nets covering the entire area to which the birds have access: these systems must provide wild birds with no opportunity to perch above the area; in particular the supports and poles must have points on their upper surface.

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Risk level	Definition of risk level depending on cases identified in wild birds	Measures over all of France: 1/surveillance measures, 2/ farm protection measures	Specific at risk areas		Specific measures for all of France			
			delineation	Measures in the at risk areas	bird released (racing pigeons)	ornamental birds (excluding zoological parks)	backyard holdings	decoy birds
3a	- cases present in <u>France</u> - in a <u>single area</u>	Increased surveillance for all farms based on warning criteria <sup>17</sup> combined if possible for non-confined bird farms not protected by equivalent systems with the application of additional measures intended to avoid contact with wild birds (bird scarers, hours spent outside, etc.)  Prohibition of any bird meets (except for ornamental bird species known to be raised in closed bird farms)	the 98 wet land areas defined by ONCFS (“waders” communes and neighbouring communes) put at risk	increased protection of bird farms (confinement <sup>18</sup> or equivalent system <sup>19</sup> ) Vaccination proposed for some types of farms <sup>20</sup> which cannot be confined <sup>21</sup>	Prohibition of races over the entire territory.  Flying permitted by derogation under the direct supervision of the holder	increased protection of farms (confinement or equivalent system) or vaccination of non-confineable ornamental birds not protected by netting	increased protection of farms (confinement or equivalent system)	Prohibition of the use of decoy birds for shooting in the ecological area affected. This prohibition may be extended to part or all of the country.

<sup>17</sup> the increased surveillance of farms based on warning criteria involves the intervention of a veterinary practitioner when the warning criteria (deaths, reduced consumption or egg production) are reached; if symptoms or other signs may be related to the influenza virus the veterinary practitioner will make a declaration to DDSV.

<sup>18</sup> confinement of a farm involves an enclosed roof and side walls which prevent any birds entering.

<sup>19</sup> a system equivalent to confinement may be the positioning of nets covering the entire area to which the birds have access: these systems must provide wild birds with no opportunity to perch above the area; in particular the supports and poles must have points on their upper surface.

<sup>20</sup> for species in which vaccination has been shown to provide protection

<sup>21</sup> this measure would be limited to the threatened area: area contiguous to identified cases excluding the perimeter of infection.

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3b	<ul style="list-style-type: none"> <li>- cases <u>present in France</u></li> <li>- in <u>two or more areas</u></li> </ul>	Increased protection of all bird farms (confinement or equivalent system).			Flying permitted by derogation under the direct supervision of the holder			Total prohibition of the use of decoy birds over the whole of France with no exceptions.
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**ANNEX II: SUMMARY TABLE OF MEASURES TO BE TAKEN DEPENDING ON RISK<sup>22</sup>, TYPES OF FARMS AND AREAS**

Risk level		1a	1b	2a	2b	3a	3b
surveillance of wild bird deaths	T h r o u g h o u t  e n t I r r e  F r a n c e	+	+	++ <sup>23</sup>	+++	+++	+++
active surveillance of wild birds and poultry		+	+	++	++	++	++
clinical surveillance of farms		+	+	+	++ <sup>24</sup>	+++	+++
specific surveillance of mallard farms		+	+	+	++	++	++
protection of drinking water and food		+	+	+	+	+	+
prohibition of the use of surface water		+	+	+	+	+	+
application of additional measures designed to avoid contact with wild birds in non-confined farms					+	++	+++
biosafety measures for holders of decoy birds		+	+	++	+++	+++	+++
vaccination in zoological parks		+	+	+	+	+	+
extension of specific at risk areas + 46 areas and ++ 98 areas concerned					+	++	++
confinement <sup>25</sup> of farms or equivalent protection system (netting)	specific at risk areas				+	+	+
	throughout France						
prohibition of bird meets	specific at risk areas				+	+	
	throughout France				confer <sup>26</sup>		
prohibition of racing pigeon competitions	specific at risk areas				+		
	throughout France				confer <sup>27</sup>		
possible vaccination of ornamental birds	specific at risk areas				+		
	throughout France						
confinement or equivalent system for poultry and ornamental birds	specific at risk areas				+		
	throughout France						

<sup>22</sup> The measures to be taken for a risk level are cumulative for higher risk levels

<sup>23</sup> Movement from one cross to two crosses or from two crosses to three crosses indicates increased measures and/or cumulation of certain measures

<sup>24</sup> Increased surveillance of farms based on warning criteria

<sup>25</sup> Bird flying under the direct supervision of their holder remain permitted by derogation

<sup>26</sup> Prohibition of attendance at bird meets only affects birds from specific at risk areas

<sup>27</sup> Prohibition of races starting or flying over a country in which cases have developed in wild birds.