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REPORT OF THE MEETING OF THE OIE WORKING GROUP ON WILDLIFE DISEASES

Paris, 28 – 31 January 2008

The meeting of the OIE Working Group for Wildlife Diseases (WGWD) was held from the 28 to 31 January, 2008, at the OIE headquarters in Paris. The meeting was chaired by Dr Roy Bengis, and Prof. Ted Leighton was appointed as rapporteur.

The agenda and list of participants in the *ad hoc* Working Group meeting are given in Appendices I and II

1. Outline and purpose of the meeting

Dr. Bernard Vallat, Director General of the OIE, welcomed the members of the Group and emphasized that pathogens that infect wildlife are growing in importance in OIE programs. The OIE has an increasing need for expert advice with respect to wildlife. *Compartmentalization* and *zoning* are two aspects of particular importance with respect to pathogens that infect wild animals. He urged the Group to review the wildlife related aspects of priority diseases such as foot and mouth disease, classical and African swine fever and to assess if all the relevant aspects, especially those related to trade, are sufficiently addressed. Dr vallat emphasised the importance of establishing good working relationships and contacts with non-governmental organisations involved with wildlife such as hunting organisations. He also urged the Group to review their working procedures to enably more direct and interactive input in relation to wildlife related aspects. Dr. Brückner noted that there is also a general need for inclusion of wildlife in various aspects of the OIE Standards. The Group was urged to reflect on the broad needs of the OIE with respect to wildlife, and to propose a program of activities to meet OIE needs.

2. Wildlife in relation to the strategic objectives of the OIE

The Working Group engaged in intensive and detailed discussions about the place and significance of wild animals and their pathogens to the full range of OIE programs and activities. The OIE List of Diseases was reviewed and provisionally categorized with respect to wildlife involvement (Appendix III). The Working Group also identified several pathogens in wildlife as of particular importance to the OIE program:

<table>
<tr><th>First Priority</th><th colspan="2">Second Priority</th></tr>
<tr><td>Avian influenza (HPAI)</td><td rowspan="2">Bluetongue/EHD:</td><td rowspan="2">Emerging in Europe and North America</td></tr>
<tr><td>Bovine Tuberculosis</td></tr>
<tr><td>Classical Swine Fever</td><td rowspan="2">CWD:</td><td rowspan="2">Emerging in North America</td></tr>
<tr><td>African Swine Fever</td></tr>
<tr><td>Foot and Mouth Disease</td><td rowspan="2">Rift Valley Fever:</td><td rowspan="2">Emerging in Africa (Europe at risk)</td></tr>
<tr><td>Newcastle Disease</td></tr>
<tr><td rowspan="3">Rabies</td><td>Tularemia:</td><td>Possibly emerging in Europe, North America</td></tr>
<tr><td>West Nile Virus:</td><td>Emerging in several places</td></tr>
<tr><td>Peste des petits ruminants:</td><td>No longer in the shadow of Rinderpest, significant large area affected</td></tr>
</table>

The Working Group proposed a list of OIE needs with respect to wildlife and then listed these in order of priority with respect to OIE global responsibilities. Following these discussions, the Working Group developed a list of priority wildlife issues for the OIE and then created a work plan for the Working Group for the next three years that could address these issues. (See item 8, below)

3. OIE Collaborating Centre on Wildlife Diseases - Program proposal

The Working Group reviewed the three-year program proposal of the OIE Collaborating Centre on Wildlife Disease, Surveillance and Monitoring, Epidemiology and Management. Project 1 (Regional Seminars) and the International Wildlife Disease Incident Network are of particular importance to the OIE wildlife priorities identified by the Working Group. The Working Group will seek assistance from the Collaborating Centre to create a global directory of wildlife health and disease expertise to aid the WGWD in identifying international experts on wildlife disease topics. The WGWD fully supports the three-year program proposal of the OIE Collaborating Centre.

4. Response and matters arising from the 2007 report of the WGWD to the OIE international committee

Dr. Artois reported on his presentations on the work of the Working Group to both the Scientific Commission and to the International Committee. The report was well-received and the Working Group was encouraged to continue its work. The Working Group reports to the Scientific Commission and it is anticipated that this will bring the Working Group more directly into the central activities of the OIE. It was also confirmed by the Director General at the general Session that representation from Latin America and Asia would be secured for the Working Group. Delegates were again urged to appoint national wildlife focal points.

5. Global wildlife disease situation

A total of 48 annual wildlife disease questionnaires, out of a possible 172, were received by 30 January 2008. The response rate by Members was lower than in previous years. Forty-one countries which had reported to OIE in previous years did not send in a report this year. It is hoped that by incorporating the reports on wildlife diseases within the WAHIS, it would improve the reporting on the global occurrence of diseases of wildlife. In the reports that were submitted, more than 1,100 different disease occurrences were reported. A complete tabulation of diseases reported is in Appendix IV. Some examples of diseases reported were:

- **Bat Lyssaviruses**

  Bat lyssavirus was reported from 4 different countries (Australia, Denmark, Germany, UK). In Australia, six Black Flying Fox (*P. alecto*), one Grey-headed Flying Fox (*P. poliocephalus*) and one Spectacled Flying Fox (*P. consipicallatus*) tested positive for ABLV in NSW and Queensland. The diagnosis was confirmed using clinical signs, histopathology, PCR and/or FAT.

  A fatal human case of Duvenhage virus (Lyssavirus-Genotype 4) was confirmed in the Netherlands, 4 weeks after the victim had been scratched by a small bat while holidaying in Kenya. This is only the third case of human Duvenhage virus infection ever recorded. The two previous cases were recorded in South Africa in 1970 and 2006.

- **Bovine tuberculosis**

  Bovine tuberculosis (*Mycobacterium bovis*) was reported from 12 different countries (Canada, El Salvador, France, Ireland, Italy, Myanmar, South Africa, Chinese Taipei, UK, USA, Zimbabwe, Zambia).

  In South Africa, bovine tuberculosis (BTB) in buffalo has now spread throughout the entire length of the Kruger National Park (KNP), with clinical cases finally being detected in the far north, close to the Limpopo river. BTB was also confirmed in 13 lions (P*anthera leo)*, 18 buffalo, and 3 greater kudu (*Tragelaphus strepsiceros)* in the KNP . Elsewhere in the country, BTB was confirmed in approximately 50 buffalo and a single lion in Hluhluwe / Imfolosi Park, where a test and slaughter technique is being used to manage BTB in buffalo. On private game ranches in South Africa, BTB was also confirmed in 5 buffalo, a lion, a bushbuck (*Tragelaphus scriptus*) and an impala. *Mycobacterium bovis* infection has also been confirmed to be circulating and maintained in a suricate subpopulation in the Kalahari district of Northern Cape Province in South Africa.

Bovine TB continues to smolder in the Kafue / Lochinvar region of Zambia, and in 2007, 14 cases were confirmed in Kafue lechwe (*Kobus leche)* and one case in an impala. In the Queen Elizabeth National Park in Uganda, BTB continues to cycle in buffalo and warthog (*Phacochoerus africanus)*.

In Eastern Africa, BTB has been detected opportunistically in the Serengeti ecosystem, where passive surveillance is being carried out. Bovine tuberculosis was reported in two captive lions in Zimbabwe.

In the United States, in northwestern Minnesota, bovine TB infection has been confirmed in 8 cattle herds and 17 wild white-tailed deer since 2005, including 4 deer taken by hunters during November 2007. In wild deer, BTB prevalence appears very low and confined to a small geographic area. The *M. bovis* isolates from deer and cattle are similar and genetically consistent with strains from the southwestern USA and Mexico. Deer population reduction efforts continue in the affected in order to reduce exposure of susceptible deer and to prevent potential deer to deer and deer to cattle transmission of *M. bovis*. Additional information on countries that detected bovine tuberculosis and the mammalian species involved are in Appendix IV.

Human tuberculosis (*M. tuberculosis* infection)

M. tuberculosis infection was confirmed in three baboons (*Papio ursinus)* in the Western Cape Province of South Africa

- **Cyanobacterial bio-intoxication**

  Mortalities involving at least 9 white rhinoceros (*Ceratotherium simum*), 10 zebra (*Equus burchelli*) and 10 blue wildebeest (*Connochaetes taurinus*) were reported in the Kruger National Park, South Africa.

- **Leishmaniasis**

  In Australia, in 2000, a novel *Leishmania* sp. that caused cutaneous lesions in captive Red Kangaroos (*Macropus rufus*) was reported in the North. The same *Leishmania sp*. now has been identified in Northern Territory captive Northern Wallaroos (*M. robustus*). A simple Protein A ELISA also has identified circulating antibodies to *Leishmania* antigens in Agile Wallabies (*M. agilis*), Antilopine Wallaroos (*M. antilopinus*) and Northern Wallaroos (*M. robustus*) from the Northern Territory.

- **Simian-associated zoonoses**

  Ebola hemorrhagic fever Research in Gabon has demonstrated that Ebolavirus strains A & B, are circulating and may be recombining to form new emerging strains.

  An ongoing outbreak of Ebola hemorrhagic fever in the Bundibugyo region of Uganda has claimed the lives of 37 people, including a doctor and 4 health workers. Dead primates (unspecified) also have been found in the area.

  An outbreak of Marburg hemorrhagic fever occurred in mine workers in the Kamwenge district of Uganda. In follow up research, the Marburg virus was isolated from a fruit bat for the first time. Most virus isolations have been obtained from primates.

  An outbreak of monkey pox in humans was reported from Likouola region in the Democratic Republic of Congo. At least 60 cases have been confirmed. This zoonotic infection appears to be related to the bush meat trade, when infected primates, rodents and squirrels are butchered or eaten.

- **Crocodile Diseases**

  - Trichinellosis was diagnosed in 6 Nile crocodiles (*Crocodylus niloticus*) in Zimbabwe.
  - Deficiency related aortic aneurisms and encephalopathies were diagnosed in captive crocodiles in Zimbabwe.
  - Hepatitis caused by *Adenovirus* infection was reported in farmed crocodiles in Zimbabwe.

- Coccidiosis also was diagnosed in farmed crocodiles in Zimbabwe.
- A single outbreak of viral-type meningo-encephalitis was diagnosed at one crocodile facility in Zimbabwe.
- In South Africa, husbandry – related stress resulted in septicaemias caused by *E. coli,* Salmonellas (B Group, Aeromonas and Morganella in farmed crocodiles. *Edwardsiella tarda* pneumonia and *Mycoplasma crocodyli* polyarthritis were also reported.
- Fatal salmonellosis (unspecified) was reported in a crocodile in Botswana

- **Diclofenac in Africa**

The Working Group noted with concern that the non-steroidal anti-inflammatory drug, *diclofenac*, was recently introduced for veterinary use in eastern Africa, placing at risk the many species of vulture in Africa which share the lethal sensitivity to this drug with the *Gyps* vultures of the Indian sub-continent. This drug is fatal to these birds in the very low doses which they receive from consuming carcasses of livestock treated with the drug prior to death. These Asian birds face potential extinction as a direct consequence of the use of this drug. The same fate may face similar species in Africa if the drug is widely used there.

The Working Group recommended to the Scientific Commission that the OIE use its meetings and influence to reduce or eliminate the use of this drug in livestock in Africa as well as the Indian subcontinent, and to work with countries to identify suitable substitutes which do not have important ecological consequences.

5. Diseases of special concern

- **Highly Pathogenic Avian Influenza**

In 2007, the OIE was notified of several HPAI H5N1 outbreaks in wild birds: Peoples'Republic of China, Czech Republic, Egypt, France, Germany, Hong Kong, Japan, Nigeria, Pakistan, Poland as well as the UK early in January 2008.

After the large outbreak in Europe late in the winter of 2005-2006, this continent remained apparently free of the clinical infection in wild birds until the summer of 2007. The OIE was notified of the following outbreaks in wild water birds: 307 in Germany (from 24 June onward), 1 in the Czech Republic (from 26 June onward; now resolved), and 3 in France (from 28 June onward, now resolved).

In addition to the Mute Swan (*Cygnus olor*), a species frequently affected in the winter of 20052006, it appears that the Black-Necked Grebe (*Podiceps nigricollis)* was primarily affected in Germany.

Later in the year in Poland, 10 outbreaks were recorded in November (now resolved) and four mute swans recently were found infected in the Southern part of the UK. The sporadic distribution of these outbreaks in Europe suggests that the HPAI H5N1 virus may silently propagate amongst wild waterfowl. Most recent outbreaks in wild birds have no apparent direct (or documented) epidemiological link with outbreaks in proximity to poultry farms.

In Japan HPAI H5N1 was found in a mountain hawk eagle.

On the African Continent, highly pathogenic avian influenza (HPAI) involving the H5N1 virus has been reported in poultry in Benin. No wild bird cases were reported.

Additional information including numbers and scientific names of affected birds, as well as methods of diagnosis (Appendix IV).

- **Low pathogenic avian influenza**

In Australia, coordinated surveillance of wild birds is providing valuable information concerning circulating AI virus subtypes. During the period 2005-2007 no HPAI viruses were detected among approximately 10,000 samples tested. However, results indicate that many low pathogenic subtypes are present at low a level. Major surveillance activities for avian influenza in wild birds are continuing. Wild bird mortality events have been investigated for the presence of avian influenza virus with negative results.

In New Zealand, a comprehensive surveillance program for avian influenza has been undertaken for many years. Results are similar to Australia. No HPAI has been detected but a range of LPAI subtypes have been found among approximately 5,000 samples tested.

In South Africa, low pathogenicity avian influenza virus infections were detected in ostrich (H6N8) and Egyptian goose (*Alopochen aegyptiacus)* (H1N8), and H5N8 was isolated from a swift tern (S*terna bergii)* during routine surveillance activities. Low pathogenic avian influenza viruses were detected in samples from 408 waterfowl in Zambia.

In Europe, in France there were 949 dead birds and 1288 live birds tested. Seven H5 subtype viruses of low pathogenicity were detected. More than 3,000 wild birds were sampled in the UK and several viruses of low pathogenicity were recovered.

In the United States, a total of 247,529 samples from wild birds or their environments have been tested for highly pathogenic avian influenza subtype H5N1 since 1 April 2006. From 1 April 2006 – 31 March 2007, some 164,553 samples were tested: 49,000 from live wild birds, 63,100 from hunter-killed birds, 2,200 from wild birds from morbidity/mortality investigations, 600 sentinel birds, and 50,200 environmental samples consisting of feces or water. Since 1 April 2007, a total of 81,993 samples from these same five types of sources were tested. Highly pathogenic avian influenza viruses have not been detected in any of the samples. However, H5N1 avian influenza virus of low pathogenicity has been detected on 12 occasions. Sample collection and testing continue to be conducted through cooperative efforts of numerous state and federal wildlife and animal health agencies.

Additional information on countries that detected LPAI and the avian species involved in surveillance (Appendix IV).

- **African swine fever**

In Zambia and Kenya, domestic pigs suffered severe outbreaks of African swine fever (ASF) that apparently originated from sylvatic maintenance cycles in wild porcines and argasid ticks. More than 1,000 pigs died in these outbreaks.

In Europe, ASF was reported for the first time in the Caucasus region in June 2007, when several outbreaks were recorded in free-range domestic and family owned pigs from Georgia. Within two months, the disease spread westward in the country and ,since then, has been reported also in Armenia and Azerbaijan.

Concern was expressed that the virus could be transmitted by direct or tick-mediated contacts to wild boar (*Sus scrofa*), a widespread species susceptible to ASF infection, and they would become ASF reservoirs, making disease eradicate difficult. Unfortunately, early in November, the infection was diagnosed in several wild boar, both clinically affected and apparently healthy boar culled for control, in the Russian Republic of Dagestan, close to the border of Georgia.

- **Bluetongue and Epizootic hemorrhagic disease**

In Europe, deer have tested seropositively for antibodies against bluetongue virus (BTV) in Germany and Italy, and BTV was isolated from one deer in each of these countries.

In the United States, during late summer and early autumn of 2007, a very large orbiviral epizootic occurred in numerous states in the eastern and central to western portions of the country. The primary species affected was white-tailed deer (*Odocoileus virginianus*) with additional wild ruminants, such as mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana)* and others. Epizootic hemorrhagic disease virus (EHDV) – serotype 2 caused the vast majority of cases. Additional virus types isolated in low numbers included EHDV-1, BTV types-10,11, and 17, as well as EHDV-6, which is not regarded as endemic in the USA, but which also was isolated from white-tailed deer in 2006. Other non-endemic orbiviruses (BTV-1 and BTV-3) have been isolated from wild deer in the USA in the last 4 years emphasizing the importance of thorough wildlife mortality investigations.

- **Rift Valley fever**

Climatically, 2007 was a *La Niña* year, characterized by above average rainfall in eastern and tropical Africa. Typically, outbreaks of vector borne diseases are associated with the wet climatic conditions, and in eastern Africa, three major outbreaks of Rift Valley fever occurred.

Early in the year the first clinical outbreak was reported in the Arusha and Tanga regions of Tanzania where cases were first reported in small stock and later in humans. A total of fifty eight human cases were subsequently identified and these resulted in 14 deaths.

A second major epidemic of Rift Valley fever was reported in livestock and humans in the north eastern Province of Kenya (Garissa and Ijara districts), and in southern Somalia. These areas experienced extremely heavy rainfalls with flooding, which stimulates the hatch of dormant Aedine mosquito eggs which are infected with the RVF virus. A total of 354 human cases were reported which resulted in 106 mortalities.

Later in the year (October), a third RVF outbreak was reported in the White Nile, Sinnar and Gezira states of Sudan. More than 125 human cases were recorded with at least 60 mortalities.

Strangely, there were no reports of disease amongst animals until November, when the outbreak was reported to OIE as a result of ELISA positive reactions in sheep. It is thought that mechanical needle transmission of RVF may have occurred during vaccination campaigns in some affected countries.

Significant numbers of African buffalo have been found to be seropositive for exposure to the causative virus and results of additional serological tests are pending. Of historical note, an abortion storm occurred in 1999 in a buffalo breeding project in South Africa in the Kruger Park and RVF virus was isolated.

6. Review of *ad hoc* Group reports

6.1. A*d hoc* Group on Climate Change and Surveillance for Vector-borne Diseases

The Working Group reviewed the report from the ad hoc Group and recommended its acceptance by the Scientific Commission. It noted the Terms of Reference and the broad mandate with respect to climate change. These terms of reference were considered highly appropriate and necessary for the OIE.

The Working Group agreed with the need for to the OIE to provide practical guidelines for surveillance of vectors to veterinary services. Vector-borne diseases are likely to become increasingly important in association with climate change, and wild animals often contribute to the circulation and maintenance of vector-borne pathogens. Members should be urged to report and investigate the occurrence of vector-borne diseases in wild animals as well as domestic animals. The Working Group reiterated the need to continue to participate in this *ad hoc* Group.

The Working Group wishes to draw the attention of the Scientific Commission to the current world crisis in expertise on vector taxonomy and ecology. The number of competent taxonomists capable of identifying arthropod vectors to the species level is critically small and is decreasing. Experts in the general biology of these species also are very few in number. Global animal health capacity in this area is marginal and requires serious and immediate attention.

6.2. *Ad hoc* Group on Epidemiology/Newcastle Disease/Avian Influenza

The Working Group reviewed the report of the *ad hoc* Group. The Working Group agreed with the general points made in the report but requested a re-consideration of two statements:

Item 3, 1 paragraph, sentence: “The reason countries are carrying out surveillance in wild birds is basically for public health and consumer interest.” The Group indicated that surveillance for AI and ND in wild birds is carried out for a range of very legitimate and important reasons beyond those referred to in the sentence in question, including vigilance and early detection of highly pathogenic strains of these viruses and acquisition of information on the prevalence and genetic composition of virus strains in wildlife that inform risk assessment and biosecurity considerations in commercial poultry.

Item 3, paragraph 8:

– "... objectives of the surveillance shall be clearly defined." - the word "shall" is an inappropriate imperative and the word "should" is more appropriate here.

– "... on the possible exposure of free ranging poultry." The words "free-ranging" are inappropriate here. Their use assumes fully effective biosecurity in housed poultry, and this certainly often is not true. The words "free ranging" should be removed.

The Working Group recommended that it be given the opportunity to review the OIE Guidelines for surveillance of Avian Influenza and for Newcastle Disease to assess whether wild birds are appropriately included within these Guidelines.

6.3. *Ad hoc* Group on wildlife disease surveillance

The Group reviewed the report of the *ad hoc* Group and noted the proposal to complete review and revision of existing surveillance guidelines for specific diseases in order to include wildlife appropriately in each. It also took note of the proposal that a document be prepared which gives guidelines and practical examples of how to undertake disease surveillance in wild animals.

The WGWD agreed with these two proposals.

7. Epidemic potential of wildlife diseases

The working group discussed the concept and usefulness of weighting various disease determinants to assist in calculating the epidemic potential of infectious diseases in wildlife. It was decided that although it would be useful to be able to rank diseases according to their epidemic potential, the actual weighting of the agent, host, and environmental determinants would require some detailed mathematical modeling, which is beyond the expertise of the working group. The concept will be taken up with an appropriate academic epidemiological department.

8. Reporting of wildlife diseases through WAHIS

The Head of the OIE Animal Health Information Department, Dr. Karim Ben Jebara, joined the meeting and presented a proposal by which the reporting of pathogens in wildlife through the questionnaire of the Working Group could be incorporated into the WAHIS system. The Working Group agreed that the questionnaire, and related data entry and reporting functions, should be implemented on WAHIS and that wildlife focal points should be encouraged to report wildlife disease occurrences though WAHIS. Both paper and WAHIS versions of the questionnaire will be used in 2008.

The Working Group will work with Dr. Ben Jebara to implement this new reporting method during 2008. The Working Group itself will provide some of the information required by the OIE but it is proposed that a small *ad hoc* Group that includes Working Group members/wildlife experts be established to work directly with the Department on the details of implementation. The Working Group should also determine the output on wild animal pathogens that will be needed from the WAHIS system and how this new method of acquiring information on wildlife pathogens will affect future reports by the Working Group to the International Committee.

9. Proposed Terms of Reference and work plan for the Working Group (2008 to 2011)

The Group discussed in detail the formulation of a new work plan for the next three years, including a rationale, renewed terms of reference, and mode of operation. The Work Plan identifies priorities for the Working Group and the specific activities it will undertake in 2008-2011. The full work plan is reflected in Appendix V.

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…/Appendices

MEETING OF THE OIE WORKING GROUP ON WILDLIFE DISEASES

Paris, 28 – 31 January 2008

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Agenda

1) **Welcome, household matters and analysis of Agenda time-frames –** *Dr Vallat/ Gideon Brückner & Roy Bengis*

2) **Wildlife in the Global OIE Program – strategic discussion between the WDWG and the OIE Central Bureau with regards to OIE needs and the future structure, role, direction and responsibilities of the Working Group for Wildlife Diseases –** *Dr Vallat /Gideon Brückner to lead.*

3) **Collaborating Centre for Wildlife Disease Surveillance and Monitoring, Epidemiology and Management: Review of Program Proposal 2008 – 2010** *Ted Leighton to lead.*

4) **Response and Matters arising from the 2007 report of the WDWG to the General Assembly –** *Marc Artois*

5) **Global wildlife disease situation: Regional wildlife disease reports –** *Torsten Mörner to lead: Each region to report highlights. Also to include:*

   Specific Issue updates such as:

   - ***Diclofenac – Asia and Africa –*** *Mike Woodford and Roy Bengis*
   - ***Avian Influenza –*** *Chris Bunn, Torsten Mörner & Marc Artois*

6) **Vector-born animal and zoonotic diseases of international concern – extra limital emergence and the Climate Change link (*Blue tongue, Rift Valley fever, African swine fever)-*** *General Discussion*

   - **Networking with other Working Groups (Epidemiology, Surveillance, Climate Change and Zoonoses). Reports on recent meetings of the Working Groups on 1) Wildlife Disease Surveillance (23 – 25 January, 2008) and 2) Climate Change and Surveillance for Vector – Borne Diseases –** *brief reports by WDWG members who attended these two meetings*

7) **Epidemic potential of Wildlife Diseases: Concept of weighting disease determinants –** *Roy Bengis to introduce an idea.*

8) **Future changes in reporting and recording Wildlife Diseases: The transition from the Questionnaire to WAHIS. –***General Discussion*

   - **Sub-group meeting on Thursday (31st) morning with Dr Ben Jabara and WAHIS team to discuss changes and a work plan and time line for transition. –***Chris Bunn, Marc Artois, Torsten Morner and Ted Leighton*

9) **Proposed Work Plan for the Wildlife Disease Working Group, (2008 – 2010***)- based on discussions under Agenda points #2, #3 & #8. - General discussion*

10) **Any other matters –** *Open discussion including dates and time lines.*

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MEETING OF THE OIE WORKING GROUP ON WILDLIFE DISEASES

Paris, 28 - 31 January 2008

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Provisional Categorisation of OIE List Diseases
Working Group on Wildlife Diseases (January 2008)

OIE Disease List - 2007	Wildlife/feral Infectable ?	Infecion source for Domestics	Uncertain	Zoonosis
Multispecies				
Anthrax	Yes	No		X
Aujeszky's disease	Yes	Yes		X
Bluetongue	Yes		X	
Brucellosis *(Brucella abortus)*	Yes	Yes		X
Brucellosis *(Brucella melitensis)*	Yes		X	X
Brucellosis *(Brucella suis)*	Yes	Yes		X
Crimean Congo haemorrhagic fever	Unknown		X	X
Echinococco (granulosus)	Yes	Yes		X
Echinococcus multilocularis	Yes	Yes		X
Foot and mouth disease	Yes	Yes		
Heartwater	Yes	Yes		
Japanese encephalitis	Yes		x	x
Leptospirosis	Yes	Yes		x
New world screwworm *(Cochliomyia hominivorax)*	Yes	Yes		x
Old world screwworm *(Chrysomya b.)*	Yes	Yes		x
Paratuberculosis	Yes		x	
Q fever	Yes	Yes		x
Rabies	Yes	Yes		x
Rift Valley fever	Yes		x	x
Rinderpest	Yes	Yes		
Trichinellosis	Yes	Yes		x
Tularemia	Yes	Yes		x
Vesicular stomatitis	Yes		x	
West Nile fever.	Yes	Yes		x
Cattle				
Bovine anaplasmosis	Yes		x	
Bovine babesiosis			x	
Bovine genital campylobacteriosis			x	
Bovine spongiform encephalopathy	Yes	No		x
Bovine tuberculosis	Yes	Yes		x
Bovine viral diarrhoea	Yes		x	
Contagious bovine pleuropneumonia	No			
Enzootic bovine leukosis	No			
Haemorrhagic septicaemia			x	
Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis			x	
Lumpy skin disease			x	
Malignant catarrhal fever (Wildebeest only)	Yes	Yes		
Theileriosis	Yes	Yes		
Trichomonosis			x	
Trypanosomosis (tsetse-transmitted).	Yes	Yes		x
Sheep and Goats				
Caprine arthritis/encephalitis			x	
Contagious agalactia			x	
Contagious caprine pleuropneumonia	yes		x	
Enzootic abortion of ewes (ovine chlamydiosis)			x	
Maedi—visna			x	
Nairobi sheep disease	Yes	Yes		
Ovine epididymitis *(Brucella ovis)*			x	

OIE Disease List - 2007	Wildlife/feral Infectable ?	Infecion source for Domestics	Uncertain	Zoonosis
Peste des petits ruminants	Yes	Yes		
Salmonellosis *(S.* abortusovis)			x	
Scrapie	No			
Sheep pox and goat pox.	Yes		x	
Horses				
African horse sickness	Yes	Yes		
Contagious equine metritis			x	
Dourine			x	
Equine encephalomyelitis (Eastern)	Yes	Yes		x
Equine encephalomyelitis (Western)	Yes	Yes		x
Equine infectious anaemia	No			
Equine influenza			x	
Equine piroplasmosis			x	
Equine rhinopneumonitis			x	
Equine viral arteritis			x	
Glanders			x	x
Surra *(Trypanosoma evansi)*	Yes	Yes		X (minor zoonosis)
Venezuelan equine encephalomyelitis	Yes	Yes		x
Pigs				
African swine fever	Yes	Yes		
Classical swine fever	Yes	Yes		
Nipah virus encephalitis	Yes	Yes		x
Porcine cysticercosis			x	x
Porcine reproductive and respiratory syndrome			x	
Swine vesicular disease			x	
Transmissible gastroenteritis.			x	
Birds				
Avian chlamydiosis	Yes		x	x
Avian infectious bronchitis			x	
Avian infectious laryngotracheitis			x	
Avian mycoplasmosis *(Mycoplasmagalisepticum)*	Yes		x	
Avian mycoplasmosis *(Mycoplasma synoviae)*			x	
Duck virus hepatitis			x	
Duck Plague (DVE)	Yes		x	
Fowl cholera	Yes		x	
Fowl typhoid			x	
Highly pathogenic avian influenza/LP H5&H7	Yes		x	x
Infectious bursal disease (Gumboro disease)			x	
Turkey rhinotracheitis			x	
Pullorum disease			x	
Marek's disease			x	
Newcastle Disease	Yes	Yes		
Lagomorphs				
Myxomatosis	Yes	Yes		
Rabbit haemorrhagic disease.	Yes	Yes		
Bees				
Acarapisosis of honey bees				
American foulbrood				
Other				
Camelpox	Yes		x	
Leishmaniosis	Yes	Yes		x
Chronic Wasting Disease	Yes	Yes		

World WDWG disease report for 2007

Country	OIE listed disease	Latin name	Disease seen 2007	# animals/cases	Clinical	Pathology	Culture, agent identifi-cation	Serology
UK	Adenovirus enteritis in red squirrels	*Sciurus vulgaris*	yes	6		Y	EM	
Italy	African Swine Fever	*Sus scrofa meridionalis*	yes	55		x	x	
France	Anaplasmose	*Capreolus capreolus*	oui	14			PCR	
USA	Anaplasmosis	deer	y - subclinical infection					
Zambia	Anaplasmosis	Kudu	yes	4		X	X	
Iran	Anthrax	*Ovis gmelini* sp	y	<8	x		x	
Botswana	Anthrax	Zebra and Springbok	yes	2				X
Cameroon	Anthrax	Chimpnaze (*Pan troglodytes*)	*1*					x
Cameroon	Anthrax	Gorilla (*Gorilla gorilla*)	*3*					x
Myanmar	Anthrax	Asian Elephant (*Elaphus maximus*)	yes	10	x	x	x	
Namibia	Anthrax	Numerous species	yes					
USA	Anthrax	Deer	y - sporadic					
Zambia	Anthrax	*Crocodylus niloticus*	yes	3	X	X	X	
Zambia	Anthrax	*Hippopotamus amphibious*	yes	65	X	X	X	
USA	Arboviruses	Multiple wild bird species	y - endemic					
France	Arthrite/encéphalite caprine	*Rupicapra rupicapra*	oui	5				oui
UK	Aspergillosis	*Cygnus cygnus*	yes	3	Y	Y		
UK	Aspergillosis	*Larus argentatus*	yes	1		Y		
France	Aujeszky´s Disease	Wild boar (*Sus scrofa*)	oui	2			isolement viral	
Germany	Aujeszky´s Disease	*Sus scrofa*	yes	unknown			x	x
Italy	Aujeszky´s Disease	*Sus scrofa*	yes	137				x
Poland	Aujeszky´s Disease	*Sus scrofa*	yes	59				X
Portugal	Aujeszky´s Disease	*Sus scrofa*	yes	432			x	
Slovenia	Aujeszky´s Disease	*Sus scrofa*	yes	115				
USA	Aujeszky´s Disease	*Sus scrofa*	Y - Endemic in several states					
Andorra	Avian Chlamydiosis	*Columba* sp.	yes	5				
Australia	Avian Chlamydiosis	*Polytelis swainsonii, Platycercus elegans, Glossopsitta pusilla, Cacatua leadbeateri, C. roseicapilla*, Columbidae	yes	13		ü	ü	
Germany	Avian Chlamydiosis	Species not specified	yes	unknown			x	
Namibia	Avian Chlamydiosis	Parrot	yes	13				♪
Poland	Avian Chlamydiosis	*Eudocimus ruber*	yes	1				
Poland	Avian Chlamydiosis	*Philomachus pugnax*	yes	1				
Portugal	Avian Chlamydiosis	Parrot	yes	3				**x**
USA	Avian Chlamydiosis	Numerous spp.	y-endemic					
Canada	Avian Cholera	American crow *Corvus brachyrhynchos*	yes	1			X	X
Canada	Avian Cholera	Black-legged kittiwake Rissa tridactyla	yes	7			X	X
Canada	Avian Cholera	Common eider *Somateria mollissima*	yes	45			X	X
Canada	Avian Cholera	Double crested cormorant *Phalacrocorax auritus*	yes	12			X	X
Canada	Avian Cholera	Double crested cormorant *Phalacrocorax auritus*	yes	1040		X		
Canada	Avian Cholera	Dovekie *Alle alle*	yes	1			X	X
Canada	Avian Cholera	Ducks Famiy Anatidae	yes	1		X		
Canada	Avian Cholera	Glacous gull Larus hyperboreus	yes	20			X	X
Canada	Avian Cholera	Great black-backed gull *Larus marinus*	yes	41			X	X
Canada	Avian Cholera	Gulls *Larus sp.*	yes	6		X		
Canada	Avian Cholera	Herring gull *Larus argentatus*	yes	1		X		
Canada	Avian Cholera	Herring gull *Larus argentatus*	yes	3			X	X
Canada	Avian Cholera	Icelandic gull *Larus glaucoides*	yes	2			X	X
Canada	Avian Cholera	Mallard *Anas platyrhynchos*	yes	1		X		
Canada	Avian Cholera	Raven *Corvus corax*	yes	1			X	X
Canada	Avian Cholera	Raven *Corvus corax*	yes	1			X	X
Canada	Avian Cholera	Rock Dove *Columba livia*	yes	1			X	X
Canada	Avian Cholera	Sandpiper Calidris sp.	yes	1		X		
Norway	Avian Cholera	*Somateria mollissima*	yes	2	x	x		
USA	Avian Cholera	Waterfowl	y-sporadic					
Czech Rep.	Avian Influenza HPAI	*Cygnus olor*	yes	1				
Germany	Avian Influenza HPAI	*Anas*	yes	1			x	x

Appendix IV (contd)

Germany	Avian Influenza HPAI	*Anas platyrhynchos*	yes	2			x	x
Germany	Avian Influenza HPAI	*Anser anser*	yes	1			x	x
Germany	Avian Influenza HPAI	*Aythyini*	yes	2			x	x
Germany	Avian Influenza HPAI	*Branta canadensis*	yes	1			x	x
Germany	Avian Influenza HPAI	*Cygnus olor*	yes	20			x	x
Germany	Avian Influenza HPAI	*Cygnus* sp.	yes	2			x	x
Germany	Avian Influenza HPAI	*Laridae*	yes	2			x	x
Germany	Avian Influenza HPAI	*Podiceps cristatus*	yes	12			x	x
Germany	Avian Influenza HPAI	*Podiceps nigricollis*	yes	282			x	x
Germany	Avian Influenza HPAI	*Rallidae*	yes	1			x	x
Japan	Avian Influenza HPAI	Mountain hawk eagle, *Spizaetws nipalensis*	yes	0/1	x	○		
Poland	Avian Influenza HPAI	*Buteo buteo*	yes	2				x
Poland	Avian Influenza HPAI	*Ciconia ciconia*	yes	1				x
Turkey	Avian Influenza HPAI	*Passer montanus*	yes	1/1			x	
Australia	Avian Influenza LPAI	*Anas sperciliosa, Chenonetta jubata, Anas spp./ Malacorhynchus membranaceus/ A. rhynchotis, A. gracilis, A. castanea, A. rhynchotis, Calidris ruficollis, Anas spp./ A. superciliosa/ Tadorna tadornoides, Anas spp./ A. superciliosa/ A. rhynchotis, M. membranaceus/ Anas spp., Aves*	Disease not seen. Evidence of agent detected on routine surveillance	31			ü	
Czech Rep.	Avian Influenza LPAI	*Anas platyrhynchos*	yes	20				
Denmark	Avian Influenza LPAI	Various birds	yes	34			x	
Finland	Avian Influenza LPAI	*Anas platyrhynchos*	yes	9			9	
Finland	Avian Influenza LPAI	*Larus argentatus*	yes	4			4	
Finland	Avian Influenza LPAI	*Larus fuscus*	yes	1			1	
France	Avian influenza LPAI	*Anas clypeata*	oui (surv. active)	1			souche H5 FP	
France	Avian influenza LPAI	*Anas crecca*	oui (surv. active)	1			souche H5 FP	
France	Avian influenza LPAI	*Anas plathyrhynchos*	oui (surv. active)	5			souches H5 FP	
France	Avian influenza LPAI	*Anas plathyrhynchos*	oui (surv. passive)	2			isolement viral	
France	Avian influenza LPAI	*Cygnus olor*	oui (surv. passive)	5			isolement viral	
Germany	Avian Influenza LPAI	*Anas platyrhynchos*	y	3			x	x
Germany	Avian Influenza LPAI	Anser albifrons albifrons	y	1			x	x
Germany	Avian Influenza LPAI	*Cygnus*	y	2			x	x
Germany	Avian Influenza LPAI	*Cygnus olor*	y	1			x	x
Italy	Avian Influenza LPAI	*Anas clypeata*	yes	3			x	
Italy	Avian Influenza LPAI	*Anas crecca*	yes	2			x	
Italy	Avian Influenza LPAI	*Anas penelope*	yes	1			x	
Italy	Avian Influenza LPAI	*Anas platyrhynchos*	yes	29			x	
Italy	Avian Influenza LPAI	*Anas querquedula*	yes	1			x	
Italy	Avian Influenza LPAI	*Cignus atratus*	yes	1			x	
Italy	Avian Influenza LPAI	*Cignus olor*	yes	1			x	
Italy	Avian Influenza LPAI	*Larus ridibundus*	yes	1			x	
Italy	Avian Influenza LPAI	*Tadorna tadorna*	yes	1			x	
Norway	Avian Influenza LPAI	*Anas platyrhynchos, Anas crecca, Larus argentatus*	no	12		x		
Poland	Avian Influenza LPAI	*Larus ridibundus*	yes	5				x
Portugal	Avian Influenza LPAI	canards (*Anas* sp)	yes	3			x	
Sudan	Avian Influenza LPAI	House sparrow (Passer domesticus)	yes					x
Sweden	Avian Influenza LPAI	Various birds	yes					
UK	Avian Influenza LPAI	*Anas acuta*	yes	1			LPH5	
UK	Avian Influenza LPAI	*Anas acuta*	yes	1 / 239			H5N2	
UK	Avian Influenza LPAI	*Anas crecca*	yes	1			H3N8	
UK	Avian Influenza LPAI	*Anas crecca*	yes	2			H3N8	
UK	Avian Influenza LPAI	*Anas crecca*	yes	1 / 281			H3N8	
UK	Avian Influenza LPAI	*Anas platyrhynchos*	yes	1			H3N8	x
UK	Avian Influenza LPAI	*Anas platyrhynchos*	yes	1/1310			H3N6	x
UK	Avian Influenza LPAI	*Anas platyrhynchos*	yes	1/1310			H5N2	
UK	Avian Influenza LPAI	*Anas platyrhynchos*	yes	1/1310			H6N2	
UK	Avian Influenza LPAI	*Anas platyrhynchos*	yes	1/1310			H1N2	
UK	Avian Influenza LPAI	*Anas platyrhynchos*	yes	1/1310			H5N1	
UK	Avian Influenza LPAI	*Anser anser*	yes	1 / 163			H2N9	
UK	Avian Influenza LPAI	*Cygnus olor*	yes	1			LPH5	
UK	Avian Influenza LPAI	*Cygnus olor*	yes	1 / 1012			H5	
USA	Avian Influenza LPAI	Waterfowl, shorebirds	Y - Endemic and subclinical					
Zambia	Avian Influenza LPAI	Waterfowl	yes	408			X	X
South Africa	Avian Influenza LPAI H6N8)	*Struthio camelus*	yes	1				x

South Africa	Avian Influenza LPAI (H1N8)	*Alopochen aegyptiacus*	yes	1				x
Canada	Avian Influenza LPAI [1]	American black duck *Anas rubripes*	yes	247				PCR
Canada	Avian Influenza LPAI [1]	American crow *Corvus brachyrhynchos*	yes	2				PCR
Canada	Avian Influenza LPAI [1]	American wigeon *Anas americana*	yes	16				PCR
Canada	Avian Influenza LPAI [1]	*Anatidae*	yes	18				PCR
Canada	Avian Influenza LPAI [1]	Blue winged teal *Anas discors*	yes	175				PCR
Canada	Avian Influenza LPAI [1]	Canada goose *Branta canadensis*	yes	3				PCR
Canada	Avian Influenza LPAI [1]	Ducks *Anas*	yes	5				PCR
Canada	Avian Influenza LPAI [1]	Gadwall *Anas strepera*	yes	2				PCR
Canada	Avian Influenza LPAI [1]	Glacous gull Larus hyperboreus	yes	2				PCR
Canada	Avian Influenza LPAI [1]	Great horned owl *Bubo virginianus*	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Green winged teal A*nas crecca*	yes	141				PCR
Canada	Avian Influenza LPAI [1]	Gull *Laridae*	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Herring gull *Larus argentatus*	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Kilder *Charadrius vociferus*	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Lesser black-backed gull *Larus fuscus*	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Mallard *Anas platyrhynchos*	yes	669				PCR
Canada	Avian Influenza LPAI [1]	Mourning dove *Zenaida macroura*	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Mute swan C*ygnus olor*	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Northern gooshawk *Accipiter gentilis*	yes	2				PCR
Canada	Avian Influenza LPAI [1]	Northern pintail *Anas acuta*	yes	53				PCR
Canada	Avian Influenza LPAI [1]	Osprey Pandion haliaetus	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Purple finch Carpodacus	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Redhead *Aythya americana*	yes	3				PCR
Canada	Avian Influenza LPAI [1]	Ring-billed gull *Larus delawarensis*	yes	5				PCR
Canada	Avian Influenza LPAI [1]	Sharp-shinned Hawk *Accipiter striatus*	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Shoveler *Anas clypeata*	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Song sparrow *Melospiza melodia*	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Trumpeter swan *Cygnus buccinator*	yes	1				PCR
Canada	Avian Influenza LPAI [1]	Wood duck *Aix sponsa*	yes	16				PCR
South Africa	Avian Influenza LPNAI (H5 N8)	*Sterna bergii*	yes	1				x
Canada	Avian Malaria	American crow *Corvus brachyrhynchos*	yes	8			X	X
Canada	Avian Malaria	Merlin *Falco columbarius*	yes	1			X	
Canada	Avian Malaria	Mourning dove *Zenaieda macroura*	yes	1			X	X
USA	Avian Malaria	Multiple wild bird species	y - endemic					
Sudan	Avian pox	Guinea fowl (Meleagridis)	yes		x			
Sweden	Avian pox	Great tit (*Parus major*)	yes	1		x	x	
Sweden	Avian pox	Magpie (*Pica pica*)	yes	1		x	x	
UK	Avian pox	*Columba palumbus*	yes	9	Y	Y		
UK	Avian pox	*Columbia livia*	yes	1		Y		
UK	Avian pox	*Parus major*	yes	1		Histopathology		
UK	Avian pox	*Prunella modularis*	yes	1	Y			
UK	Avian pox	*Prunella modularis*	yes	1 / 2		Y	Y	
UK	Avian pox	*Streptopelia decaocto*	yes	1	Y	Y		
Australia	Avian Pox	*Platycercus elegans*	yes	1	ü	ü	ü	
Denmark	Avian Pox	*Columba palumbus*	yes	2		x		
Finland	Avian Pox	*P. caeruleus*	yes	2		2		
Finland	Avian Pox	*Parus major*	yes	3		3		
Finland	Avian Pox	*Pica pica*	yes	1		1		
Germany	Avian Pox	Falconiformes	yes	1			x	
Germany	Avian Pox	Other wild bird species	yes	1			x	
Italy	Avian Pox	*Asio otus*	yes	1	x	x	x	
Philliphines	Avian Pox	Blue eared pheasant (*Crossoption aurithum*)	yes	1	x			
Philliphines	Avian Pox	Peafowl (*Pavo cristatus*)	yes	2	x			
Philliphines	Avian Pox	Red jungle fowl (*Gallus gallus*)	yes	1	x			
Philliphines	Avian Pox	Whit bellied sea-eagle (*Halichoerus leucogaster*)	yes	1	x			
UK	Avian Pox	*Fringilla coelebs*	yes	1 / 8	Y			
USA	Avian Pox	Numerous species	y - endemic					
Australia	Avian Tuberculosis	*Casuarius casuarius*	yes	1		ü	ü	
Denmark	Avian Tuberculosis	*Buteo lagopus, Aythya fuligula*	yes	2		x		
Finland	Avian Tuberculosis	*Bucephala clangula*	yes	1		1	1	
Finland	Avian Tuberculosis	*Columba palumbus*	yes	1		1	1	
Finland	Avian Tuberculosis	*Tetrao tetrix*	yes	1		1	1	
France	Avian tuberculosis	*Anser* sp.	oui	1			Ziehl	
France	Avian tuberculosis	*Ardea cinerea*	oui	1			Ziehl	
France	Avian tuberculosis	*Buteo buteo*	oui	1			Ziehl	
France	Avian tuberculosis	*Capreolus capreolus*	oui	4	non	oui	oui	non
France	Avian tuberculosis	*Carduelis chloris*	oui	1			Ziehl	
France	Avian tuberculosis	*Columba palumbus*	oui	1			x	
France	Avian tuberculosis	*Falco tinnunculus*	oui	1	oui	oui	oui	non

Appendix IV (contd)

France	Avian tuberculosis	*Phasianus* sp.	oui	1			Ziehl	
France	Avian Tuberculosis	*Sus scrofa*	oui (Seine-Maritime et P.Atl.)	28	non	oui	oui	non
Germany	Avian Tuberculosis	Alcedinidae	yes	2			x	
Germany	Avian Tuberculosis	Corvidae	yes	1			x	
Germany	Avian Tuberculosis	Cotumix	yes	1			x	
Germany	Avian Tuberculosis	Dromaiidae /zoo animal)	yes	1			x	
Germany	Avian Tuberculosis	Galliformes	yes	6			x	
Germany	Avian Tuberculosis	Gruidae	yes	1			x	
Germany	Avian Tuberculosis	Laridae	yes	2			x	
Germany	Avian Tuberculosis	Meleagridinae	yes	2			x	
Germany	Avian Tuberculosis	Passerin birds	yes	1			x	
Germany	Avian Tuberculosis	*Phasianus colchicus*	yes	3			x	
Germany	Avian Tuberculosis	Psittaciformes (zoo animal)	yes	1			x	
Germany	Avian Tuberculosis	*Rheida*e sp (zoo animal)	yes	1			x	
Ireland	Avian Tuberculosis	Fallow deer (*Dama dama*)	yes	1			x	
Italy	Avian Tuberculosis	*Accipiter nisus*	yes	2			x	
Italy	Avian Tuberculosis	*Cervus elaphus*	yes	2			x	
Italy	Avian Tuberculosis	*Falcus peregrinus, Circus aeruginosus, Pandion haliaeutus, Ardea cinerea, Tyto alba*	yes	29			x	
Italy	Avian Tuberculosis	*Meles meles*	yes	1			x	
Italy	Avian Tuberculosis	*Sus scrofa*	yes	3			x	
Norway	Avian Tuberculosis	*Alces alces*	yes	1	x	x		
Serbia	Avian Tuberculosis	Pheasant (*Phasanius colchicus*)	yes	2		x	x	
Switzerland	Avian Tuberculosis	*Common buzzard (Buteo buteo)*	yes	1		x		
UK	Avian Tuberculosis	*Anas acuta*	yes	1		Y	ZN staining	
UK	Avian Tuberculosis	*Anas penelope*	yes	2		Y	ZN staining	
UK	Avian Tuberculosis	*Anas platyrhynchos*	yes	1		Y	Y	
UK	Avian Tuberculosis	*Anas platyrhynchos*	yes	12		Y	ZN staining	
UK	Avian Tuberculosis	*Anser brachyrhynchos*	yes	2		Y	ZN staining	
UK	Avian Tuberculosis	*Capreolus capreolus*	yes	3 / 217		Y	Y	
UK	Avian Tuberculosis	*Cervus elaphus*	yes	4 / 70		Y	Y	
UK	Avian Tuberculosis	*Cygnus cygnus cygnus*	yes	1		Y	ZN staining	
UK	Avian Tuberculosis	*Cygnus olor*	yes	1		Y	ZN staining	
UK	Avian Tuberculosis	*Cygnus olor*	yes	1		Y		
UK	Avian Tuberculosis	*Dama dama*	yes	6 cases / 111 examined		Y	Y	
USA	Avian Tuberculosis	Birds and mammals	Y - Ubiquitous					
UK	Avian Tuberculosis, cutaneous	*Buteo buteo*	yes	1		Y	Y	
USA	Avian Vacuolar Myelinopathy	*Haliaeetus leucocephalus* (8), *Fulica americana*	Y -Low activity	GA, SC				
France	Babésiose	*Rupicapra rupicapra*	oui	2		oui	examen coloration	
France	Babésiose à Babesia capreoli et Babesia EU 1	*Capreolus capreolus*	oui	21 sur 39 testés	non	non	examen coloration	
Italy	Babesiosis	*Capreolus capreolus*	yes	18				x
Myanmar	Babesiosis	Asian Elephant (*Elaphus maximus*)	yes	9			x	
South Africa	Babesiosis	*Ceratotherium simum*	yes	3			x	
South Africa	Babesiosis	*Equus burchelli*	yes	2			x	
Sudan	Babesiosis	African buffalo *(Syncerus caffer)*	yes		x			
Sudan	Babesiosis	Warthog	yes		x			
USA	Babesiosis	Rodents	y - subclinical					
Zambia	Babesiosis	Waterbuck	yes	2			X	
Zimbabwe	Babesiosis	Zebra	yes	1	x			
Australia	Bat Lyssaviruses	*Pteropus alecto, P. poliocephalus, P. conspicallatus*	yes	8	ü	ü	ü	
Denmark	Bat Lyssaviruses	*Chiroptera*	yes	2			x	
Germany	Bat Lyssaviruses	*Microchiroptera*	yes	6			x	
UK	Bat Lyssaviruses	Daubenton's bat (*Myotis daubentonii*)	yes	1		FAT, RTCIT, MIT, RT-PCR & sequencing if positive	Y	
Canada	Baylisascaris spp.	Racoon Procyon lotor	yes	13			X	X

Canada	Baylisascaris spp.	Skunk Mephitis mephitis	yes	10			X	X
Germany	Baylisascaris spp.	Procyon lotor	yes	unknown			x	
USA	Baylisascaris spp.	Raccoon, black bear	Y - Endemic and subclinical					
France	Besnoïtiose	*Rupicapra rupicapra*	soupçon	1	oui			
Canada	Besnoitiosis	Caribou *Rangifer tarandus*	yes	11			X	X
Germany	Bluetongue	Cervidae	yes	7			x	x
Italy	Bluetongue	*Camelus dromedarius*	yes	6				x
Italy	Bluetongue	*Cervus elaphus*	yes	4			x	x
Italy	Bluetongue	*Cervus elaphus corsicanus*	yes	7				x
Italy	Bluetongue	*Dama dama*	yes	4				x
Italy	Bluetongue	*Ovis musimon*	yes	1				x
USA	Bluetongue	*Antelocapra americana*	Y - Sporadic BTV-17	WY				
USA	Bluetongue	*Odocoileus virginianus*	Y - Sporadic BTV-10, -11	MO				
Australia	Botulism	*Anas superciliosa, A. castanea, Anguilliformes, Strepera versicolor, Coraciiformes, Cygnus atratus*	yes	102	ü		ü	
Canada	Botulism	Black duck *Anas rupripes*	yes	5		X		X
Canada	Botulism	Blue-winged teal *Anas discors*	yes	3				X
Canada	Botulism	Green winged teal A*nas crecca*	yes	4		X		X
Canada	Botulism	Kilder *Charadrius vociferus*	yes	2				X
Canada	Botulism	Lesser yeallowlegs *Tringa flavipes*	yes	2				X
Canada	Botulism	Loon *Gavia immer*	yes	12				X
Canada	Botulism	Mallard *Anas platyrhynchos*	yes	2		X		X
Canada	Botulism	Mallard *Anas platyrhynchos*	yes	16		X		X
Canada	Botulism	Northern pintail *Anas acuta*	yes	6				X
Canada	Botulism	Red-necked grebe *Podiceps grisegena*	yes	3				X
Canada	Botulism	Ring-billed gull *Larus delawarensis*	yes	2		X		X
Canada	Botulism	Shoeveler *Anas clypeata*	yes	2				X
Czech Rep.	Botulism	*Anas platyrhynchos*	yes	1				
Czech Rep.	Botulism	*Laurus* sp.	yes	2				
Czech Rep.	Botulism	*Cygnus olor*	yes	2				
Denmark	Botulism	Coot *(Fulica atra)*	yes	2			x	
Denmark	Botulism	Mallard (*Anas platyrhynchos)*	yes	1			x	
Italy	Botulism	*Anas platyrhynchos*	yes	8			x	
Italy	Botulism	*Circus aeruginosus*	yes	2			x	
Italy	Botulism	*Cygnus olor*	yes	1			x	
Italy	Botulism	*Larus ridibundus*	yes	1			x	
Sweden	Botulism	Mallard (*Anas platyrhynchos*)	yes	1				
UK	Botulism	*Anas platyrhynchos*	yes	11	Y		ELISA	
UK	Botulism	*Larus argentatus*	yes	1 / 33 suspect	Y			
UK	Botulism	*Larus fuscus*	yes	1 / 12 suspect	Y			
USA	Botulism	Waterfowl Types C & E, gulls	y - sporadic epornitics					
Zambia	Botulism	*Hippopotamus amphibious*	yes	3			X	
UK	Botulism (suspected)	*Larus argentatus*	yes	2	Y			
UK	Botulism (suspected)	*Larus marinus*	yes	2	Y			
France	Botulisme (type C uniquement)	*Phasianus* sp.	oui	2			typage protéine par PCR	
France	Botulisme (type C uniquement)	Waterfowl	oui	très nombreux !	x		culture, PCR, test sur souris, ...	
El Salvador	Bovine tuberculosis	Mono capuchino (*Cebus* sp.)	si	4	X			
France	Bovine tuberculosis	*Sus scrofa*	oui (Seine-Maritime, P.Atl. et Corse)	122	non	oui	oui	non
Ireland	Bovine tuberculosis	Badger, *Meles meles*	yes	endemic				
Ireland	Bovine tuberculosis	Fallow deer (*Dama dama*)	yes	31			x	
Ireland	Bovine tuberculosis	Sika deer (*Cervus nippon*)	yes	2			x	
UK	Bovine Tuberculosis	*Meles meles*	yes	0/5		Y		
UK	Bovine Tuberculosis	*Meles meles*	yes	7/53		Y	Y	
Zambia	Bovine tuberculosis	*Aepyceros melampus*	yes	1		X	X	
Zambia	Bovine tuberculosis	*Kobus leche kafuensis*	yes	14		X	X	
Zimbabwe	Bovine tuberculosis	Lion (*Panthera leo*)	yes	2		x		x
Canada	Bovine Tuberculosis	Elk *Cervus elaphus*	yes	3			X	X
Italy	Bovine Tuberculosis	*Cervus elaphus*	yes	2			x	
Italy	Bovine Tuberculosis	Lanner falcon *(Falco biarmicus)*	yes	1			x	
Italy	Bovine Tuberculosis	Peregine falcon *(Falco peregrinus)*	yes	1			x	
Italy	Bovine Tuberculosis	Red Fox *(Vulpes vulpes)*	yes	2			x	
Italy	Bovine Tuberculosis	*Sus scrofa*	yes	6		x	x	
Myanmar	Bovine Tuberculosis	Asian Elephant (*Elaphus maximus*)	yes	1	x	x		
Myanmar	Bovine Tuberculosis	Baboon (*Papio* sp.)	yes	2	x	x		

Myanmar	Bovine Tuberculosis	Leopard (*Panthera pardus*)	yes	1	x	x		
Myanmar	Bovine Tuberculosis	*Macaca fascicularis*	yes	2	x	x		
Myanmar	Bovine Tuberculosis	*Macaca mullata*	yes	6	x	x		
Portugal	Bovine Tuberculosis	*Cervus elaphus*	yes	24			x	
Portugal	Bovine Tuberculosis	*Sus scrofa*	yes	2			x	
South Africa	Bovine Tuberculosis	*Aepyceros melampus*	yes	1		x	x	x
South Africa	Bovine Tuberculosis	African buffalo *(Syncerus caffer)*	yes	68		x	x	x
South Africa	Bovine Tuberculosis	*Panthera leo*	yes	14		x	x	x
South Africa	Bovine Tuberculosis	*Tragelaphus scriptus*	yes	1		x	x	x
South Africa	Bovine Tuberculosis	*Tragelaphus strepsiceros*	yes	3		x	x	x
Chinese Taipei	Bovine Tuberculosis	Formosan sambar (*Cervus unicolor swinhoei*)	yes	1			X	
Chinese Taipei	Bovine Tuberculosis	Aoudad (*Ammotragus lervia*)	yes	1			X	
Chinese Taipei	Bovine Tuberculosis	Formosan sika deer (*Cervus nippon taiouanus*)		1			X	
UK	Bovine Tuberculosis	*Capreolus capreolus*	yes	4 / 217		Y	Y	
UK	Bovine Tuberculosis	*Cervus elaphus*	yes	16 / 70		Y	Y	
UK	Bovine Tuberculosis	*Cervus elaphus*	yes	3 / 3		Y	Y	
UK	Bovine Tuberculosis	*Dama dama*	yes	2 / 111		Y	Y	
USA	Bovine Tuberculosis	*O. virginianus*	Y Northern Minnesota	11 in 2007				
USA	Bovine Tuberculosis	*O. virginianus, C. elaphus*	Y - Endemic in part of NE Michigan	(~25-30 culture positive per year of ~15,000 examined)				
UK	Bovine Tuberculosis Trapped study site area	*Meles meles*	yes	4/165		Y	Y	
France	Bovine tuberculosisi	*Cervus elaphus*	oui	15	non	oui	non	non
UK	Bovine Tubercuosis Found dead: study area	*Meles meles*	yes	2/9		Y	Y	
Italy	Brucella abortus	*Sus scrofa meridionalis*	yes	1				x
South Africa	Brucella abortus	African buffalo *(Syncerus caffer)*	yes	6		x	x	
USA	Brucella abortus	*Cervus elaphus, Bison bison*	Y - Endemic in Greater Yellowstone Area					
France	*Brucella ceti*	*Tursiops truncatus*	oui	3			culture	
Italy	Brucella melitensis	*Sus scrofa*	yes	2			x	
South Africa	Brucella melitensis	*Hippotragus niger*	yes	1		x	x	x
Czech Rep.	Brucella sp.	*Lepus europaeus*	yes	5				
Italy	Brucella sp.	Roe deer (*Capreolus capreolus)*	yes	1			x	
Italy	Brucella sp.	*Sus scrofa*	yes	112			x	x
Italy	Brucella sp.	*Vulpes vulpes*	yes	1			x	
UK	Brucella sp.	*Lagenorhynchus acutus*	yes	6 / 6			Y	Neg
UK	Brucella sp.	*Lutra lutra*	yes	1 / 35			Neg	Pos
UK	Brucella sp.	*Phocoena phocoena*	yes	5 / 10			Y	Neg
UK	Brucella sp.	*Tursiops truncatus*	yes	1			Y	Y
UK	Brucella sp.	*Tursiops truncatus*	yes	1 / 3			Y	Y
Zambia	Brucella spp	Kobus leche	yes	7			X	X
Canada	Brucella suis	Caribou *Rangifer tarandus*	yes	3			X	X
Czech Rep.	Brucella suis	Lepus europaeus	yes	3				
Germany	Brucella suis	Leporidae	y	unknown			x	
Germany	Brucella suis	Sus scrofa	y	unknown			x	
Italy	Brucella suis	*Sus scrofa*	yes	34			x	
USA	Brucella suis	*Rangifer tarandus*	y	AK				
USA	Brucella suis	*Sus scrofa*	Y - Endemic in several states					
France	*Brucella suis biovar 2*	*Lepus europaeus*	oui	5			culture	
France	*Brucella suis* biovar 2	*Sus scrofa*	oui	1			culture	
UK	Capariniosis mange	*Erinaceus europaeus*	y	6			Parasitol	
UK	Capariniosis mange	*Erinaceus europaeus*	y	85	Y		Micro	
France	Chlamydiose aviaire	*Anas plathyrhynchos*	oui	1				Clearview
Australia	Chytridiomycosis	*Litoria aurea*	yes, endemic	10			ü	
Canada	Chytridiomycosis	Northern leopard frog *Rana pipiens*	yes	16			X	
Canada	Chytridiomycosis	Western toad *Bufo boreas*	yes	2			X	
USA	Chytridiomycosis	Notophthalmus viridescens	y	VA - 8				
Australia	Circoviruses	*Psephotus haematonotus, Trichoglossus haematodus, Cacatua galerita*	yes	6	ü	ü		
Canada	Circoviruses	Pigeon *Columba livia*	yes	2			X	X
Canada	Circoviruses	Ring-billed gull *Larus delawarensis*	yes	3			X	X
Italy	Circoviruses	*Sus scrofa*	yes	9			x	
France	Classical Swine Fever	*Sus scrofa*	oui	2 sur 11435 sangliers testés			isolement viral	
France	Classical Swine Fever	*Sus scrofa*	oui	5125 sur 10704 sangliers testés				sérologie
Germany	Classical Swine Fever	Sus scrofa	y	11			x	x
Italy	Classical Swine Fever	*Sus scrofa meridionalis*	yes	1				x

Japan	Classical Swine Fever	*S. scrofa leucomystax*	no	—				x
UK	Colibacillosis (Agent: *E.coli* O86 profile)	*Carduelis spinus and Carduelis carduelis*	yes	11 / 145	No	x	yes	No
UK	Colibacillosis (Agent: E.coli Serotype 086)	*Carduelis spinus* and *Carduelis carduelis*	yes	Case(s) confirmed at 6 sites	No	Gross pathology	yes	No
Italy	Contagious Ecthyma	*Rupicapra rupicapra*	yes	3			x	
Switzerland	Contagious Ecthyma	*Ibex (Capra ibex)*	yes	1		x		
South Africa	Cyanobacterial intoxication	*Ceratotherium simum*	yes	9		x	x	
South Africa	Cyanobacterial intoxication	*Connochaetes taurinus*	yes	10		x	x	
South Africa	Cyanobacterial intoxication	*Equus burchelli*	yes	10		x	x	
UK	Duck Plague (DVE)	*Anas platyrhynchos*	yes	2		Y		
USA	Duck Plague (DVE)	Waterfowl	Y - Subclin infections detected in survey; mortality in FL, VA	FL-40; VA-18				
UK	DVE	*Anas platyrhynchos*	yes	6		Y		
UK	E coli 08 K+ colisepticaemia	*Carduelis chloris*	yes	1 confirmed 5 suspected		Y	Y	
South Africa	Echinococcus granulosis / hydatid disease	African buffalo *(Syncerus caffer)*	yes	2		x		
South Africa	Echinococcus granulosis / hydatid disease	*Equuus burchelli*	yes	1		x		
South Africa	Echinococcus granulosis tape worms	*Panthera leo*	yes	3		x		
Australia	*Echinococcus granulosus*		endemic					
Canada	*Echinococcus granulosus*	Caribou *Rangifer tarandus*	yes	1			X	
Canada	*Echinococcus granulosus*	Elk *Cervus elaphus*	yes	1			X	
Finland	*Echinococcus granulosus*	*Canis lupus*	yes	3			3	
Italy	*Echinococcus granulosus*	*Sus scrofa*	yes	1		x		
Poland	*Echinococcus granulosus*	*Sus scrofa*	yes	4		x		
USA	*Echinococcus granulosus*	*Canis lupus*	y	AK				
Zambia	*Echinococcus granulosus*	*Hippopotamus amphibious*	yes	4		X		
Czech Rep.	*Echinococcus multilocularis*	*Vulpes vulpes*	yes	277				
Germany	*Echinococcus multilocularis*	Nycetereutes procyonoides (final host)	y	9			x	
Germany	*Echinococcus multilocularis*	Primates (zoo animal; intermediate host)	y	1			x	
Germany	*Echinococcus multilocularis*	*Vulpes vulpes* (Final host)	y	293			x	
Japan	*Echinococcus multilocularis*	*Vulpes vulpes*	yes	161/—				x
Switzerland	*Echinococcus multilocularis*	European beaver *(Castor fiber)*	yes	1		x		
USA	*Echinococcus multilocularis*	Wild furbearers	y - subclinical infection	Northern Midwest				
France	*Echinococcus multilocularis*	*Ondatra zybethicus*	oui	1			PCR	
France	*Echinococcus multilocularis*	*Vupes vulpes*	oui	147			Sedimentation Counting Technique	
France	Ecthyma contagieux	*Rupicapra rupicapra*	oui	1			microscope électronique	
USA	Epizootic Hemorrhagic Disease (EHD)	*O. virginianus*	Y - Large outbreak in 2007 in multiple states	EHDV-1: AR, MO, MS EHDV-2: CO,GA, IL, IN KS, MD, MO, MS, NC, NJ, NY, PA, VA, WV TX; EHDV-6: IL, IN				
Chinese Taipei	Equine Herpesvirus	Przewalskii Horse (*Equus perzewalski*)	yes	1			X	
UK	*Erysipethothrix rhusiopathiae*	*Sciurus vulgaris*	yes	1 / 8		Y	Y	
Denmark	European Brown Hare Syndrome (EBHS)	European brown hare (*Lepus europaeus)*	yes	4		x		
Finland	European Brown Hare Syndrome (EBHS)	European brown hare (*Lepus europaeus)*	yes	8		8	7	
Finland	European Brown Hare Syndrome (EBHS)	Mountain hare (*Lepus timidus*)						
France	European Brown Hare Syndrome (EBHS)	*Lepus europaeus*	oui	40		oui pour 3		ELISA Ag pour 37
Italy	European Brown Hare Syndrome (EBHS)	*Lepus europaeus*	yes	501		x	x	
Slovenia	European Brown Hare Syndrome (EBHS)	*Lepus europaeus*	yes	7			X	
Sweden	European Brown Hare Syndrome (EBHS)	Brown hare (*Lepus europaeus*)	yes	endemic				
USA	Feline Leukaemia (FLV)	*Felis concolor*	yes					
Portugal	Feline Panleucopenia	*Panthera tigris*	yes	2			x	
USA	Fibropapillomatosis in sea turtles	*Chelonia mydas*	yes	FL, HI				

Appendix IV (contd)

Philliphines	Fibropappilomatosis in sea turtles	Green sea turtle (*Chelonis mydes*)	yes	1	x	x		
France	Fièvre catarrhale du mouton	*Cervus elaphus*	oui	2			PCR	
Botswana	Foot and Mouth Disease	Buffalo (*Syncerus caffer)* Surveys	yes	19				X
Israel	Foot and Mouth Disease	*Gazella gazella*	yes	69	y	y	y	
South Africa	Foot and Mouth Disease	African buffalo *(Syncerus caffer)*	yes	227				
South Africa	Foot and mouth disease	African buffalo *(Syncerus caffer)*	yes	49				x
Sudan	Foot and Mouth Disease	African buffalo *(Syncerus caffer)*	yes	2	x			
UK	Gastropathy&/or Enteropathy Salmonellosis	*Phocoena phocoena*	yes	4		Y		
UK	Generalised Bacterial Infection - Erysipelas	*Phocoena phocoena*	yes	1		Y	Y	
France	Grande douve du foie (*Fasciola hepatica*)	*Capreolus capreolus*	oui	5		x		
France	Hantavirus	*Chletrionomis glaerolus*	oui	18				ELISA Ag
Finland	Hantaviruses	Myodes (Clethrionomys) glareolus	yes	endemic			x	
Germany	Hantaviruses	Myodes glareolus	yes	unknown			x	
USA	Hantaviruses	Wild rodents	y - endemic and subclinical					
Philliphines	Histomoniasis	Peafowl (*Pavo cristatus*)	yes	1	x			
USA	Histomoniasis	*Meleagris gallopova*	y - endemic					
	Histomoniasis	*Phasianus colchicus*	yes	3				
Cameroon	Immunodeficiency viruses (Simian)	Chimpnaze (Pan troglodytes)	*34*					x
Cameroon	Immunodeficiency viruses (Simian)	Gorilla (*Gorilla gorilla*)	*3*					x
Australia	Inclusion Body Disease	*Morelia bredli, Morelia spilotes variegate, Morelia spilotes spilotes*	yes	4		ü		
Canada	Inclusion Body Hepatitis	Great horned owl *Bubo virginianus*	yes	1			X	PCR
Cameroon	Insuffisance rénale	Lion (*Panthera leo*)	*2*	1				x
USA	Iridovirus diseases	*Rana clamitrans*	yes	FL - 150				
Canada	Large Liver Flukes	Caribou *Rangifer tarandus*	yes	10			X	X
Canada	Large Liver Flukes	Elk (*Cervus elaphus*)	yes	1			X	X
Canada	Large Liver Flukes	Muskox (*Ovibos moschatus)*	yes	12			X	X
Myanmar	Large Liver Flukes	Asian Elephant (*Elaphus maximus*)	yes	226			x	
Sudan	Large Liver Flukes	African buffalo *(Syncerus caffer)*	yes			x		
USA	Large Liver Flukes	*O. virginianus*	y - endemic and subclinical					
Zambia	Large Liver Flukes	Kobus leche	yes	58			X	
Australia	Leishmaniasis	*Macropus agilis*	yes	6		ü	ü	
USA	Leishmaniasis	Wild furbearers	y - endemic/ subclinical					
Australia	Leptospirosis	*Sus scrofa*	endemic					
Canada	Leptospirosis	Racoon *Procyon lotor*	yes	2				X
Canada	Leptospirosis	Skunk (*Mephitis mephitis)*	yes	1				X
Italy	Leptospirosis	*Dama dama*	yes	1				x
Italy	Leptospirosis	*Sus scrofa*	yes	2			x	
Myanmar	Leptospirosis	Asian Elephant (*Elaphus maximus*)	yes	1		x	x	
Myanmar	Leptospirosis	Tiger (*Panthera tigris*)	yes	1		x	x	
Portugal	Leptospirosis	*Suricata suricata*	yes	2			x	
UK	Leptospirosis	*Vulpes vulpes*	yes	1 cub		Y	PCR	
USA	Leptospirosis	Wild furbearers	y - endemic/ subclinical					
France	Listériose	*Capreolus capreolus*	oui	7			x	
France	Listériose	*Lepus europaeus*	oui	2			x	
France	Listériose	*Oryctolagus cuniculus*	oui	1			x	
France	Listériose	*Sus scrofa*	oui	1			x	
Denmark	Listeriosis	Hedgehog *(Erinaceus europaeus)*	yes	2			x	
Finland	Listeriosis	Mountain hare (*Lepus timidus*)	yes	1		1	1	
Germany	Listeriosis	Alces (zoo animal)	y	1			x	
Germany	Listeriosis	Dama	y	4			x	
Germany	Listeriosis	Non human primates	y	1			x	
Germany	Listeriosis	Other zoo animals	y	2			x	
Germany	Listeriosis	Passeri	y	1			x	
Germany	Listeriosis	Psittaciformes (zoo animal)	y	1			x	
Germany	Listeriosis	Roe deer (*Capreolus capreolus)*	y	2			x	
Chinese Taipei	Listeriosis	Sugar glider (*Petarus breviceps*)	yes	1			X	X
UK	Listeriosis (monocytogenes)	*Lutra lutra*	yes	1			Y	
UK	Louping ill	*Lagopus lagopus scoticus*	yes	67 / 1428				Y
UK	Louping ill	*Lepus timidus*	yes	17 / 109				Y
Sudan	Lumpy skin disease	Reedbuck (*Redunka* sp.)	yes	>150	x			
Sudan	Lumpy skin disease	Tiang antelope	yes	>150	x			
Italy	Lyme borreliosis	*Cervus elaphus*	yes	1				x
Italy	Lyme borreliosis	Roe deer (*Capreolus capreolus)*	yes	30				x
Italy	Lyme borreliosis	*Rupicapra rupicapra*	yes	1				x

USA	Lyme borreliosis	*Peromyscus maniculatus*	y - subclinical reservoir					
Ghana	Lyssavirus	Straw-colored fruit bat (*Eidolon helvum)*	y	endemic				x
France	Lyssavirus des chiroptères	*Eptesicus serotinus*	oui	3			Immunofluorescence	
Germany	Malignant Catharral Fever	Bovidae (zoo animal)	y	2			x	
Norway	Malignant Catharral Fever	*Alces alces*	yes	2	x	x		
Chinese Taipei	Malignant Catharral Fever	Formosan sika deer (*Cervus nippon taiouanus*)	yes	1			X	X
Sweden	Meningeal worms of cervides	Moose (*Alces alces*)	yes	1				
Canada	Meningeal worms of cervids	Moose *Alces alces*	yes	4			X	X
Canada	Meningeal worms of cervids	Moose *Alces alces*	yes	1			1	
Norway	Meningeal worms of cervids	*Cervus elaphus, Alces alces, Rangifer tarandus*	yes	10	x	x		
USA	Meningeal worms of cervids	*O. virginianus*	y - endemic and subclinical					
France	*Mycobacterium "dassie bacillus"*	*Procavia capensis*	oui	1	oui	oui	oui	non
France	*Mycobacterium microti/pinnipedii*	*Lutra lutra*	oui	1	oui	oui	ou	non
France	*Mycobacterium pinnipedii*	*Arctocephalus australis*	oui	2	oui	oui	oui	non
France	Myxomatose	*Oryctolagus cuniculus*	oui	10	oui	histo sur 1		
Australia	Myxomatosis	*Lepus europaeus, Oryctolagus cuniculus*	yes, endemic	2			ü	
Portugal	Myxomatosis	*Oryctolagus cuniculus*	yes	1			x	
UK	Myxomatosis	*Oryctolagus cunniculus*	yes	33		Y		
UK	Myxomatosis	*Oryctolagus cunniculus*	yes	50		Y		
UK	Myxomatosis	*Oryctolagus cunniculus*	yes	193		Y		
Italy	Newcastle Disease	*Alectoris rufa*	yes	19				x
Italy	Newcastle Disease	*Phasanus colchicus*	yes	18				x
Portugal	Newcastle Disease	*Anas* sp.	yes	4				**x**
South Africa	Newcastle disease	*Bucorvus leadbeateri*	yes	1		x	x	x
South Africa	Newcastle Disease	*Struthio camelus*	yes	2		x	x	x
Sudan	Newcastle Disease	Guinea fowl (*Meleagridis*)	yes	300	x			
Turkey	Newcastle Disease	*Columba livia*	yes	7/5				
USA	Newcastle Disease	*Phalacrocorax auritus*	y	WI - 39				
Zimbabwe	Newcastle Disease	Ostrich (*Strithio camelus*)	yes	>10	x		x	x
Armenia	No diseases observed in wildlife							
Bulgaria	No diseases observed in wildlife							
Costa Rica	No diseases observed in wildlife							
Guinea Bissau	No diseases reported in wildlife							
Lesotho	No diseases reported in wildlife							
Marocco	No diseases reported in wildlife							
Mozambique	No diseases reported in wildlife							
Swaziland	No diseases reported in wildlife							
Vietnam	No diseases reported in wildlife							
Algeria	No report							
Angola	No report							
Argentina	No report							
Austria	No report							
Belarus	No report							
Benin	No report							
Bolivia	No report							
Boznia Herzeg	No report							
Brunei	No report							
Chile	No report							
Colombia	No report							
Congo	No report							
Cook islands	No report							
Croatia	No report							
Estonia	No report							
Ethopia	No report							
Greece	No report							
Guatemala	No report							
Iceland	No report							
India	No report							
Ivory coast	No report							
Kenya	No report							
Kuwait	No report							
Luxembourg	No report							
Madagascar	No report							
Mauritius	No report							
Moldavia	No report							

Netherlands	No report							
New Caledonia	No report							
New Zealand	No report							
Niger	No report							
Pakistan	No report							
Peru	No report							
Slovakia	No report							
Spain	No report							
Sri Lanka	No report							
Tanzania	No report							
Thailand	No report							
Tunisia	No report							
Uganda	No report							
Ukraine	No report							
Canada	Paramyxoviruses	Double crested cormorant (*Phalacrocorax auritus*)	yes	1			X	X
Canada	Paramyxoviruses	Pigeon *Columba livia*	yes	1			X	X
Norway	Paramyxoviruses	*Anas crecca*	no	1	x			
Philliphines	Paramyxoviruses	Flame breasted fruit dove (*Philnopus marchei*)	yes	1	x			
Philliphines	Paramyxoviruses	North luzon slender tailed rat (*Phloemys pellidus*)	yes	10	x			
USA	Paramyxoviruses	Waterfowl APV-1	y -endemic					
Canada	Paramyxoviruses (Bat, Canine, Cetacean, Phocine)	Common dog (*Canis Familiaris)*	yes	4				
Canada	Paramyxoviruses (Bat, Canine, Cetacean, Phocine)	Opossum (*Didelphidae)*	yes	1			X	X
Canada	Paramyxoviruses (Bat, Canine, Cetacean, Phocine)	Racoon (*Procyon lotor)*	yes	4			X	X
Canada	Paramyxoviruses (Bat, Canine, Cetacean, Phocine)	Skunk (*Mephitis mephitis*)	yes	4			X	X
Italy	Paramyxoviruses (Bat, Canine, Cetacean, Phocine)	Badger, *Meles meles*	yes	13		x	x	
Italy	Paramyxoviruses (Bat, Canine, Cetacean, Phocine)	Red Fox *(Vulpes vulpes)*	yes	37	x	x	x	
Italy	Paramyxoviruses (Bat, Canine, Cetacean, Phocine)	Wolf *(Canis lupus)*	yes	4				x
USA	Paramyxoviruses (Bat, Canine, Cetacean, Phocine)	Procyonids and canids	Y - Sporadic single cases and epizootics	Canine distemper: procyonids and canids				
UK	Paramyxoviruses Paramyxovirus 1	*Columbia livia*	yes	13	Y	Y	Y	
France	Paratuberculose	*Capreolus capreolus*	oui	1			PCR	
France	Paratuberculose	*Capreolus capreolus*	oui	4			Ziehl	
Germany	Paratuberculosis	Bovidae (zoo animal)	y	2			x	
Italy	Paratuberculosis	*Cervus elaphus*	yes	37		x		x
Italy	Paratuberculosis	*Cervus elaphus*	yes	2			x	
Italy	Paratuberculosis	Roe deer (*Capreolus capreolus)*	yes	3			x	x
Poland	Paratuberculosis	*Cervus elaphus*	yes	10				X
Poland	Paratuberculosis	Oryx dammah	yes	1		x	x	
Turkey	Paratuberculosis	*Ovis gmelinii anatolica*	yes	15/7	x	---	---	x
USA	Paratuberculosis	*Odocoileus virginianus*	Y - Florida Keys-Endemic;	Few deer				
UK	*Pasteurella multocida* + *Strep. equisimilis*	*Lutra lutra*	Yes	1 / 6		Y	Y	
France	Pasteurellose à *Mannheimia hemolytica*	*Capra ibex*	oui	2			culture	
France	Pasteurellose à *M. hemolytica*	*Capreolus capreolus*	oui	14			culture	
France	Pasteurellose à *M. hemolytica*	*Lepus europaeus*	oui	38			culture	
France	Pasteurellose à *M. hemolytica*	*Rupicapra rupicapra*	oui	6			culture	
France	Pasteurellose à *M. hemolytica*	*Sus scrofa*	oui	1			culture	
France	Pasteurellose à *Pasteurella multocida*	*Capreolus capreolus*	oui	6			culture	
France	Pasteurellose à *P. multocida*	*Lepus europaeus*	oui	29			culture	
France	Pasteurellose à *P. multocida*	*Pipistrellus pipistrellus*	oui	1			culture	
France	Pasteurellose à *P. multocida*	*Rupicapra rupicapra*	oui	2			culture	
France	Pasteurellose à *P. multocida*	*Sus scrofa*	oui	3			culture	
France	Pasteurellose à *P. multocida*	*Vupes vulpes*	oui	2			culture	
France	Pasteurellose à *P. pneumotropica*	*Lepus europaeus*	oui	7			culture	
France	Pasteurellose à *Pasteurella sp.*	*Capra ibex*	oui	1			culture	

France	Pasteurellose à *Pasteurella sp.*	*Capreolus capreolus*	oui	6			culture	
France	Pasteurellose à *Pasteurella sp.*	*Lepus europaeus*	oui	10			culture	
France	Pasteurellose à *Pasteurella sp.*	*Oryctolagus cuniculus*	oui	1			culture	
France	Pasteurellose à *Pasteurella sp.*	*Rupicapra rupicapra*	oui	5			culture	
France	Pasteurellose à *P.a trehalosi*	*Lepus europaeus*	oui	1			culture	
France	Pasteurellose à *P. trehalosi*	*Rupicapra rupicapra*	oui	1			culture	
Czech Rep.	Pasteurellosis	*Phasianus colchicus*	yes	1				
Denmark	Pasteurellosis	European brown hare (*Lepus europaeus)*	yes	4			x	
Denmark	Pasteurellosis	Roe deer (*Capreolus capreolus)*	yes	1			x	
Finland	Pasteurellosis	Mountain hare (*Lepus timidus*)	yes	4		x	x	
Finland	Pasteurellosis	Rabbit (*Oryctolagus cuniculus*)		1		x	x	
Finland	Pasteurellosis	Ruff (*Philomachus pugnax*)		1		x	x	
France	Pasteurellosis	*Bubulcus ibis*	oui	3			culture	
France	Pasteurellosis	*Columba palumbus*	oui	2			culture	
France	Pasteurellosis	*Cygnus olor*	oui	1			culture	
France	Pasteurellosis	*Gallinula chloropus*	oui	1			culture	
Italy	Pasteurellosis	*Lepus europaeus*	yes	28	x		x	
Italy	Pasteurellosis	*Oryctolagus cuniculus*	yes	1			x	
Italy	Pasteurellosis	*Ovis musimon*	yes	4			x	
Italy	Pasteurellosis	*Phasanus colchicus*	yes	2			x	
Italy	Pasteurellosis	Roe deer (*Capreolus capreolus)*	yes	1			x	
Italy	Pasteurellosis	*Rupicapra rupicapra*	yes	2			x	
Italy	Pasteurellosis	*Sus scrofa meridionalis*	yes	2			x	
Myanmar	Pasteurellosis	Asian Elephant (*Elaphus maximus*)	yes	2	x	x	x	
Myanmar	Pasteurellosis	Serow (*Capricornis* sp)	yes	1	x	x	x	
Myanmar	Pasteurellosis	Snake (*Niga* sp)	yes	1	x	x	x	
Namibia	Pasteurellosis	Black Rhino (*Dicercos bicornis*)	yes	1				♪
Poland	Pasteurellosis	*Branta leucopsis*	yes	1	1	x	x	
Portugal	Pasteurellosis	*Columba livia*	yes	8			x	
Portugal	Pasteurellosis	*Phyllopteryx taeniolatus*	yes	5			x	
Portugal	Pasteurellosis	Parrot	yes	1			x	
Portugal	Pasteurellosis	*Tragelaphus angasii*	yes				x	
Slovenia	Pasteurellosis	*Lepus europaeus*	yes	1				X
South Africa	Pasteurellosis	*Aepyceros melampus*	yes	2		x	x	
Sweden	Pasteurellosis	Lynx (*Lynx lynx*)	yes	1			x	
Sweden	Pasteurellosis	Wolf (*Canis lupus*)	yes	1			x	
Chinese Taipei	Pasteurellosis	Red necked wallaby (*Macropus rufogriseus*)	yes	1			X	X
UK	Pasteurellosis (*P. multocida*)	*Pipistrellus pipistrellus*	yes	1			Y	
UK	Pasteurellosis (*P. multocida*)	*Carduelis spinus, Passer domesticus*	yes	2 / 2	No	x	y	No
Sudan	Peste de Petits Ruminants	Reedbuck (*Redunka* sp)	yes	outbreak	x			x
France	Pestivirus	*Rupicapra rupicapra*	oui	2			oui: viropositifs à Liège (B)	
France	Pestivirus	*Rupicapra rupicapra, Ovis gmelini musimon*	oui dans les Hautes-Alpes et les Pyrénées	30% séropos				oui
Andorra	Pestiviruses	Rupicapra pyrenaica	no					
Italy	Pestiviruses	*Cervus elaphus*	yes	1				x
Italy	Pestiviruses	Roe deer (*Capreolus capreolus)*	yes	1			x	x
UK	Pigeon Paramyxovirus 1 (PPMV-1)	*Columba livia*	yes	two	y	y		
Canada	PMV-1	American black duck *Anas rubripes*	yes	4				X
Canada	PMV-1	Green winged teal A*nas crecca*	yes	4				X
Canada	PMV-1	Mallard *Anas platyrhynchos*	yes	1				X
Czech Rep.	Pseudotubeculosis	*Capreolus capreolus*	yes	4				
Czech Rep.	Pseudotubeculosis	*Lepus europaeus*	yes	5				
Denmark	Pseudotubeculosis	Badger *(Meles meles*)	yes	1			x	
Denmark	Pseudotubeculosis	European brown hare (*Lepus europaeus)*	yes	2			x	
Denmark	Pseudotubeculosis	Roe deer (*Capreolus capreolus)*	yes	3			x	
Finland	Pseudotubeculosis	European brown hare (*Lepus europaeus)*		9		x	x	
Finland	Pseudotubeculosis	Mountain hare (*Lepus timidus*)		2		x	x	
Finland	Pseudotubeculosis	White tailed deer (*Odocoileus virginianus*)	yes	1		x	x	
Germany	Pseudotubeculosis	Leporidae	yes	1			x	x
Italy	Pseudotubeculosis	*Dama dama*	yes	1		x	x	
Italy	Pseudotubeculosis	*Lepus europaeus*	yes	15		x	x	
Italy	Pseudotubeculosis	*Rupicapra rupicapra*	yes	8			x	
UK	Pseudotubeculosis	*Lepus europeaus*	yes	1		Y	Y	
France	Pseudotuberculose à *Yersinia pseudotuberculosis*	*Castor fiber*	oui	1			culture	
France	Pseudotuberculose à *Yersinia pseudotuberculosis*	*Lepus europaeus*	oui	35			culture	

France	Pseudotuberculose à *Yersinia pseudotuberculosis*	*Oryctolagus cuniculus*	oui	1			culture	
France	Pseudotuberculose à *Yersinia pseudotuberculosis*	*Perdrix perdrix*	oui	1			culture	
France	Pseudotuberculose à *Yersinia pseudotuberculosis*	*Sciurus vulgaris*	oui	2			culture	
Canada	Pseudotuberculosis	Blue jay *Cyanocitta cristata*	yes	1			X	X
UK	Pseudotuberculosis	*Fringilla coelebs, Sylvia atricapilla and Hirundo rustica*	yes	3	No	y	y	No
France	Psoroptic Mange	*Vupes vulpes*	oui	1			examen	
Myanmar	Psoroptic Mange	Asian Elephant (*Elaphus maximus*)	yes	9			x	
South Africa	Psoroptic Mange	African buffalo *(Syncerus caffer)*	yes	3		x	x	
Sudan	Psoroptic Mange	Oribi gazelle	yes	endemic	x			
Sudan	Psoroptic Mange	Reedbuck (*Redunka* sp)	yes	endemic	x			
USA	Psoroptic Mange	Big horn sheep	yes					
France	Q fewer	*capra ibex*	oui	2				elisa
Germany	Q-fever	Bovidae (zoo animal)	yes	3			x	x
Italy	Q-fever	*Canis lupus*	yes	2				x
Italy	Q-fever	*Cervus elaphus*	yes	2				x
Italy	Q-fever	Roe deer (*Capreolus capreolus)*	yes	1				x
Italy	Q-fever	*Ursus arctos marsicanus*	yes	1				x
Italy	Q-fever	*Vulpes vulpes*	yes	1			x	
Chinese Taipei	Q-fever	Formosan sambar (*Cervus unicolor swinhoei*)	yes	2				X
Albania	Rabbit Haemorrhagic Disease	European rabbit (*Oryctolagus cuniculus*)	yes	5			x	
Australia	Rabbit Haemorrhagic Disease	*Oryctolagus cuniculus*	endemic					
Cyprus	Rabbit Haemorrhagic Disease	Rabbit (*Oryctolagus cuniculus*)	yes	47		x	x	
France	Rabbit Haemorrhagic Disease	*Oryctolagus cuniculus*	oui	10	oui	oui		ELISA Ag
Italy	Rabbit Haemorrhagic Disease	*Eryctolagus cuniculus*	yes	5				x
Italy	Rabbit Haemorrhagic Disease	*Lepus europaeus*	yes	32				x
Sweden	Rabbit Haemorrhagic Disease	Wild rabbit (*Oryctolagus cuniculus*)	yes	endemic				
Botswana	Rabies	Black backed jackal (*Canis mesomelas*)	yes	3				
Botswana	Rabies	Common duiker	yes	1		X		X
Botswana	Rabies	Genet, Caracal	yes	1				
Botswana	Rabies	Honey badger (*Mellivora capensis*)	yes	1				
Botswana	Rabies	Mongoose (unspecified)	yes	1				
Botswana	Rabies	Wild cat (*Felis silvestris*)	yes	2				
Brazil	Rabies	Canído salvaje	yes	4				
Brazil	Rabies	Quiróptero	yes	102				
Brazil	Rabies	Raposa (*Canis* sp)	yes	25				
Brazil	Rabies	Sagui (*Callitrichidae* sp)	yes	7				
Iran	Rabies	Canis aureus	yes	3	x	x	x	
Iran	Rabies	*Gazella dorcas*	yes	1	x	x	x	
Iran	Rabies	*Panthera pardus*	yes	1	x	x	x	
Iran	Rabies	Red Fox (*Vulpes vulpes*)	yes	12	x	x	x	
Iran	Rabies	Wolf (*Canis lupus*)	yes	27	x	x	x	
Israel	Rabies	*Canis aureus*	yes	1		y	y	
Israel	Rabies	*Herpestes ichneumon*	yes	1		y	y	
Israel	Rabies	*Vulpes vulpes*	yes	4		y	y	
Latvia	Rabies	*Lutra lutra*	yes	1			+	
Latvia	Rabies	*Martes martes*	yes	4			+	
Latvia	Rabies	*Meles meles*	yes	3			+	
Latvia	Rabies	*Mustela lutreola*	yes	1			+	
Latvia	Rabies	*Mustela nivalis*	yes	2			+	
Latvia	Rabies	*Mustela putorius*	yes	5			+	
Latvia	Rabies	*Nyctereutes procyonides*	yes	33			+	
Latvia	Rabies	Roe deer (*Capreolus capreolus)*	yes	1			+	
Latvia	Rabies	*Vulpes vulpes*	yes	95			+	
Lithuania	Rabies	Badger, *Meles meles*	yes	2				
Lithuania	Rabies	European beaver (*Castor fiber*)	yes	1				
Lithuania	Rabies	Marten (*Martes foina*)	yes	25				
Lithuania	Rabies	Musk rat (*Ondatra zibethicus*)	yes	1				
Lithuania	Rabies	Otter, *Lutra lutra*	yes	1				
Lithuania	Rabies	Polecat (*Mustela putorius*)	yes	13				
Lithuania	Rabies	Racoon dog, *N procyonides*	yes	122				
Lithuania	Rabies	Red fox, *Vulpes vulpes*	yes	142				
Lithuania	Rabies	Roe deer (*Capreolus capreolus*)	yes	5				
Lithuania	Rabies	Squirrel (*Sqiurus vulgaris*)	yes	1				
Namibia	Rabies	Antelope	yes	1				♪
Namibia	Rabies	Jackal (*Canis mesomelas)*	yes	11				♪
Namibia	Rabies	*Kudu (Tragelaphus strepsiceros)*	yes	70				♪
Namibia	Rabies	Mongoose (*Suricatta suricatta*)	yes	2				♪

Namibia	Rabies	Oryx (*Taurotragus oryx*)	yes	3				♪
Poland	Rabies	Chiroptera	yes	2				
Poland	Rabies	*Eptesicus serotinus*	yes	1				
Poland	Rabies	*Martes foina*	yes	1				
Poland	Rabies	*Meles meles*	yes	1				
Poland	Rabies	*Mustela nivalis*	yes	1				
Poland	Rabies	*Nyctereutes procyonoides*	yes	7		x	x	
Poland	Rabies	*Vulpes vulpes*	yes	42				
Serbia	Rabies	Marten (*Martes martes*)	yes	1		x		x
Serbia	Rabies	Red fox (*Vulpes vulpes*)	yes	13		x		x
Serbia	Rabies	Weasel (*Mustela nivalis*)	yes	1		x		x
Slovenia	Rabies	*Vulpes vulpes*	yes	3				X
South Africa	Rabies	*Canis adustus*	yes	2		x	x	
South Africa	Rabies	*Canis mesomelas*	yes	14		x	x	
South Africa	Rabies	*Crocuta crocuta*	yes	2		x	x	
South Africa	Rabies	*Cynictus penicillata*	yes	12		x	x	
South Africa	Rabies	*Equus burchelli*	yes	1		x	x	
South Africa	Rabies	*Felis lybica*	yes	1		x	x	
South Africa	Rabies	*Herpestes sanguinia*	yes	2		x	x	
South Africa	Rabies	*Otocyonn megalotis*	yes	15		x	x	
South Africa	Rabies	*Proteles cristata*	yes	2		x	x	
South Africa	Rabies	*Suricata suricata*	yes	7		x	x	
South Africa	Rabies	*Taurotragus oryx*	yes	1		x	x	
South Africa	Rabies	*Vulpes chama*	yes	2		x	x	
Turkey	Rabies	*Canis lupus*	yes					
Turkey	Rabies	*Meles meles*	yes					
Turkey	Rabies	*Vulpes vulpes*	yes	1,1,1			x	
USA	Rabies	Bats and carnivores	Y - Endemic					
Zambia	Rabies	Jackal	Yes	1			X	
Zimbabwe	Rabies	Baboon (*Papio* sp)	yes	1	x			
Zimbabwe	Rabies	Jackals sp.	yes	4	x			
Zimbabwe	Rabies	Spotted hyena	yes	1	x			
Zimbabwe	Rabies	Wild dogs	yes	2 packs	x			
Canada	Rabies [3]	Big brown bat *Eptesicus fuscus*	yes	85			X	X
Canada	Rabies [3]	Racoon *Procyon lotor*	yes	53				
Canada	Rabies [3]	*Red fox Vulpes vulpes*	yes	8			X	X
Canada	Rabies [3]	Skunk *Mephitis mephitis*	yes	50				X
UK	Rana virus - significance uncertain	*Triturus vulgaris*	yes	1		Y	Y PCR	
Portugal	salmonella	Pigeon *Columba livia*	yes	8			x	
Portugal	salmonella	reptiles	yes	9			x	
Portugal	salmonella	canards (*Anas* sp)	yes	2			x	
Portugal	salmonella	lemur	yes	1			x	
Portugal	salmonella	greater koudou	yes	1			x	
France	Salmonellose à *Salmonella O 4,5*	*Carduelis chloris*	oui	5			culture	
France	Salmonellose à *Salmonella O 4,5*	*Fringilla coelebs*	oui	1			culture	
France	Salmonellose à *S. arizonae*	*Buteo buteo*	oui	1			culture	
France	Salmonellose à *S. coeln*	*Serinus serinus*	oui	4			culture	
France	Salmonellose à *S. enteritidis*	*Cygnus olor*	oui	1			culture	
France	Salmonellose à *Salmonella groupe B*	*Cardeulis spinus*	oui	2			culture	
France	Salmonellose à *S. groupe B*	*Carduelis chloris*	oui	2			culture	
France	Salmonellose à *Salmonella sp.*	*Bubo bubo*	oui	1			culture	
France	Salmonellose à *Salmonella sp.*	*Buteo buteo*	oui	1			culture	
France	Salmonellose à *Salmonella sp.*	*Cardeulis spinus*	oui	8			culture	
France	Salmonellose à *Salmonella sp.*	*Carduelis chloris*	oui	8			culture	
France	Salmonellose à *Salmonella sp.*	*Coccothraustes coccothraustes*	oui	2			culture	
France	Salmonellose à *Salmonella sp.*	*Fringilla coelebs*	oui	1			culture	
France	Salmonellose à *Salmonella sp.*	*Serinus serinus*	oui	1			culture	
France	Salmonellose à *Salmonella sp.*	*Streptopelia decaocto*	oui	1			culture	
France	Salmonellose à *Salmonella sp.*	*Sturnus vulgaris*	oui	1			culture	
France	Salmonellose à *S. typhimurium*	*Cardeulis spinus*	oui	5			culture	
France	Salmonellose à *S. typhimurium*	*Carduelis carduelis*	oui	1			culture	
France	Salmonellose à *S. typhimurium*	*Carduelis chloris*	oui	8			culture	
France	Salmonellose à *S. typhimurium*	*Passer domesticus*	oui	4			culture	

Australia	Salmonellosis	*Bufo marinus, Litoria caerulea, Setonix brachyurus, Macropus giganteus giganteus, Tiliqua scincoides scincoides, Varanus varius, Tiliqua nigrolutea, Egernia major, Cavia porcellus, Notomys alexia, Oxyuranus microlepidota, Boiga irregularis, Notechis scutatus, Pseudechis porphyriacus, Austrelaps superbus, Pseudonaja textilis, Morelia bredli, Morelia spilotes variegata, Morelia spilotes spilotes, Liasis childreni, Hoplocephalus bungaroides, Physignathus lesueurii howittii, Pogona barbata, Pogona vitticeps, Trachydosaurus rugosus*	yes	79			ü	
Canada	Salmonellosis	American robin *Turdus migratorius*	yes	1			X	X
Canada	Salmonellosis	Gulls *Laridae*	yes	6			X	X
Canada	Salmonellosis	Herring gull *Larus argentatus*	yes	2			X	X
Canada	Salmonellosis	House sparrow *Passer domesticus*	yes	21			X	X
Canada	Salmonellosis	Racoon *Procyon lotor*	yes	1			X	X
Canada	Salmonellosis	Ring-billed gull *Larus delawarensis*	yes	4			X	X
Canada	Salmonellosis	Songbirds Passeriformes	yes	13			X	X
Czech Rep.	Salmonellosis	*Phasianus colchicus*	yes	3				
Czech Rep.	Salmonellosis	*Sqiurus vulgaris*	yes	2				
Denmark	Salmonellosis	Brambling *(Fringilla montifringilla)*	yes	1			x	
Denmark	Salmonellosis	Greenfinch (*Carduelis chloris)*	yes	3			x	
Denmark	Salmonellosis	Hedgehog *(Erinaceus europaeus)*	yes	17			x	
Denmark	Salmonellosis	Herring gull *(Larus argentatus)*	yes	1			x	
Denmark	Salmonellosis	Scarlet (*Carpodacus erythrinus)*	yes	2			x	
Denmark	Salmonellosis	Siskin *(Carduelis spinus)*	yes	9			x	
Denmark	Salmonellosis	Tree sparrow *(Passer montanus)*	yes	2			x	
Finland	Salmonellosis	Bullfinch (*Pyrrhula pyrrhula*)		3		x	x	
Finland	Salmonellosis	*Carduelis chloris*		2		x	x	
Finland	Salmonellosis	*Carduelis flammea*		25		x	x	
Finland	Salmonellosis	*Carduelis spinus*		2		x	x	
Finland	Salmonellosis	Eurasian jay (*Garrulus glandarius*)		1		x	x	
Finland	Salmonellosis	Hedgehog *(Erinaceus europaeus)*		2		x	x	
Finland	Salmonellosis	*L. ridibundus*		1		x	x	
Finland	Salmonellosis	*Larus argentatus*		15		x	x	
Finland	Salmonellosis	Lynx (*Lynx lynx*)	yes	1		x	x	
Finland	Salmonellosis	*Parus major*		1		x	x	
Germany	Salmonellosis	*Dama*	yes	1			x	x
Germany	Salmonellosis	*Erinaceidae*	yes	3			x	x
Germany	Salmonellosis	*Meles*	yes	1			x	x
Germany	Salmonellosis	*Mustela*	yes	1			x	x
Germany	Salmonellosis	Non human primates	yes	2			x	x
Germany	Salmonellosis	Roe deer (*Capreolus capreolus)*	yes	1			x	x
Germany	Salmonellosis	*Sus scofa*	yes	3			x	x
Germany	Salmonellosis	Wild bird species	yes	7			x	x
Germany	Salmonellosis	*Vulpes*	yes	2			x	x
Italy	Salmonellosis	Birds	yes	2			x	
Italy	Salmonellosis	*Cervus elaphus*	yes	1			x	
Italy	Salmonellosis	*Cervus elaphus corsicanus*	yes	4				x
Italy	Salmonellosis	*Coturnix coturnix*	yes	1			x	
Italy	Salmonellosis	*Dama dama*	yes	2				x
Italy	Salmonellosis	*Larus argentarius*	yes	1		x	x	
Italy	Salmonellosis	*Lutra lutra*	yes	1		x	x	
Italy	Salmonellosis	*Martes martes*	yes	1			x	
Italy	Salmonellosis	*Meles meles*	yes	1			x	
Italy	Salmonellosis	*Ovis musimon*	yes	2				x
Italy	Salmonellosis	*Passer domesticus*	yes	2			x	
Italy	Salmonellosis	Roe deer (*Capreolus capreolus)*	yes	2			x	
Italy	Salmonellosis	*Sturnus vulgaris*	yes	1			x	
Italy	Salmonellosis	*Sus scrofa*	yes	120			x	
Italy	Salmonellosis	*Vulpes vulpes*	yes	3			x	
Myanmar	Salmonellosis	Asian Elephant (*Elaphus maximus*)	yes	4	x	x	x	
Norway	Salmonellosis	Passeriformes	yes	79	x	x		
Philliphines	Salmonellosis	Rufous hornbill (*Bruceros hydrocorax*)	yes	1	x			
Philliphines	Salmonellosis	Tarictic hornbill (*Penelopides panini*)	yes	1	x	x		
Poland	Salmonellosis	*Pelecanus crispus*	yes	1	2	x		
Poland	Salmonellosis	*Tetraogallus himalayensis*	yes	1				
Switzerland	Salmonellosis	Hedgehog (*Erinaceus europaeus*)	yes	1			x	
Chinese Taipei	Salmonellosis	Red-bellied parrot (*Poicephalus rufiventris*)	yes	1			X	X
UK	Salmonellosis	*Carduelis carduelis*	yes	1 / 3		Y	Y	

UK	Salmonellosis	*Carduelis chloris*	yes	3		Y	Y	
UK	Salmonellosis	*Carduelis chloris*	yes	1 / 12		Y	Y	
UK	Salmonellosis	*Lutra lutra*	yes	1			Y	
UK	Salmonellosis	*Passer domesticus*	yes	5		Y	Y	
UK	Salmonellosis	*Pyrrhulla pyrrhulla*	yes	2 / 4		Y	Y	
USA	Salmonellosis	Passerine birds	yes					
USA	Salmonellosis	*Sterna hirundo, Larus atricilla*	yes	625				
Sweden	Salmonellosis	Bullfinch (*Pyrrhula pyrrhula*)	yes	10		x	x	
Sweden	Salmonellosis	Redpoll (*Carduelis flammea*)	yes	5		x	x	
Sweden	Salmonellosis	Siskin (*Carduelis spinus*)	yes	4		x	x	
UK	Salmonellosis (*Salmonella* sp)	*Halichoerus grypus*	yes	1 / 3				
UK	Salmonellosis (*S. bovismorbificans*)	*Halichoerus grypus*	yes	1		Y	Y	
UK	Salmonellosis (*S typhimurium* DT56)	*Carduelis flammea*	yes	1		Y	Y	
UK	Salmonellosis (*S typhimurium* DT56)	*Carduleis carduelis*	yes	2		Y	Y	
UK	Salmonellosis (*S. enteritidis* PT11)	*Erinaceus europaeus*	yes	2 / 2				
UK	Salmonellosis (*S. enteritidis*)	*Erinaceus europaeus*	yes	28	Necropsy & culture			
UK	Salmonellosis (*S. enteritidis*)	*Mus musculus*	yes	6 / 11				
UK	Salmonellosis (*S. enteritidis*)	*Rattus norvegicua*	yes	2 / 9				
UK	Salmonellosis (*S. hindmarsh*)		yes	1 / 1				
UK	Salmonellosis (*S. typhimurium* DT 40 & DT56)	*Pyrrhula pyrrhula, Fringilla coelebs, Carduelis carduelis, Carduelis chloris, Passer domesticus, Carduelis spinus* and *Passer montanus*	yes	Multiple mortality incidents confirmed at 33 sites.	No	Gross pathology	Confirmation through microbiological examination and phage typing	No
UK	Salmonellosis (*S. typhimurium* DT104)		yes	1 / 1				
UK	Salmonellosis (*S. typhimurium* DT40)	*Carduelis carduelis*	yes	1 / 3				
UK	Salmonellosis (*S. typhimurium* DT41)	*Passer domesticus*	yes	1 / 1				
UK	Salmonellosis (*S. typhimurium* DT56var)	*Carduelis carduelis*	yes	1 / 4				
UK	Salmonellosis (*S. typhimurium* DT56var)	*Carduelis chloris*	yes	3 / 3				
UK	Salmonellosis (*S.typhimurium* DT40 & DT56v)	*Fringilla coelebs, Carduelis carduelis, Carduelis chloris, Passer domesticus, Carduelis spinus* and *Passer montanus*	yes	43 / 166	No	Gross pathology	Confir-mation through culture and phage typing	No
Botswana	Salmonellosis (*Species not specified*)	Crocodile (*Crocodylus niloticus*)	yes	1				X
Sudan	Sarcoptic mange	African buffalo *(Syncerus caffer)*	yes	endemic	x			
Sudan	Sarcoptic mange	Reedbuck (*Redunka* sp)	yes	endemic	x			
Sweden	Sarcoptic mange	Lynx (*Lynx lynx*)	yes	8				
Sweden	Sarcoptic mange	Red fox (*Vulpes vulpes*)	yes	endemic				
Sweden	Sarcoptic mange	Wolf (*Canis lupus*)	yes	1				
Albania	Sarcoptic Mange	European brown hare (*Lepus europaeus*)	yes	7	x			
Andorra	Sarcoptic Mange	*Vulpes vulpes*	yes	3				
Australia	Sarcoptic Mange	*Vombatus ursinus*	yes, endemic	10	ü		ü	
Canada	Sarcoptic Mange	Chipmunk *Tamias*	yes	1			X	X
Canada	Sarcoptic Mange	Coyote *Canis latrans*	yes	1			X	
Canada	Sarcoptic Mange	Red fox *Vulpes vulpes*	yes	2			X	X
Canada	Sarcoptic Mange	Wolf *Canis lupus*	yes	2			X	X
Finland	Sarcoptic Mange	Racoon dog (*Nyctereutes procyonoides*)	yes	1		1	1	
Finland	Sarcoptic Mange	Red Fox (*Vulpes vulpes*)	yes	5		5	5	
France	Sarcoptic Mange	*Sus scrofa*	oui	2			examen	
France	Sarcoptic Mange	*Vupes vulpes*	oui	17			examen	
Italy	Sarcoptic Mange	*Capra ibex*	yes	4		x	x	
Italy	Sarcoptic Mange	*Ovis musimon*	yes	1		x	x	
Italy	Sarcoptic Mange	*Rupicapra rupicapra*	yes	551		x	x	x
Italy	Sarcoptic Mange	*Vulpes vulpes*	yes	18		x	x	
Myanmar	Sarcoptic Mange	Asian Elephant (*Elaphus maximus*)	yes	10			x	
Norway	Sarcoptic Mange	*Nyctereutes procyonides*	yes	1	x	x		

Slovenia	Sarcoptic Mange	*Rupicapra rupicapra*	yes	10				X
South Africa	Sarcoptic Mange	*Panthera pardus*	yes	1		x	x	
Switzerland	Sarcoptic Mange	*Red fox (Vulpes vulpes)*	yes	7		x	x	
UK	Sarcoptic Mange	*Vulpes vulpes*	yes	20	Y		Y	
UK	Sarcoptic Mange	*Vulpes vulpes*	yes	8/138	Y			
USA	Sarcoptic Mange	*Vulpes vulpes, Canis latrans*	y-endemic					
Myanmar	Scrapie	Rabbit (*Lepus oislalus*)	yes	1			x	
UK	Squirrel Pox Virus	*Sciurus carolinensis*	yes	439/1424				Y
UK	Squirrel Pox Virus	*Sciurus vulgaris*	yes	9 / 32		Y	Y	
UK	Squirrel Pox Virus	*Sciurus vulgaris*	yes	10/121				Y
UK	Squirrel Pox Virus	*Sciurus vulgaris*	yes	3 / 4	Y			
UK	Squirrel Pox Virus	*Sciurus vulgaris*	yes	3 / 6		Y	Y	
UK	Squirrel Pox Virus	*Sciurus vulgaris*	yes	9/62 examined	Y	Y	Y	
UK	Staphylococcal septicaemia	*Lepus europeaus*	yes	1		Y	Y	
UK	Staphylococcal septicaemia	*Sciurus vulgaris*	yes	1		Y	Y	
USA	Sylvatic Plague	Wild rodents	yes					
Italy	Tick Borne Encephalitis	*Cervus elaphus*	yes	3				x
Italy	Tick Borne Encephalitis	Roe deer (*Capreolus capreolus)*	yes	16				x
Italy	Tick Borne Encephalitis	*Rupicapra rupicapra*	yes	3				x
France	Toxoplasmose	*Dasypus novemcinctus*	oui	3				ADHS
France	Toxoplasmose	*Hydrochoerus hydrochaeris*	oui	1				ADHS
France	Toxoplasmose	*Myoprocta acouchy*	oui	1				ADHS
France	Toxoplasmose	*Sus scrofa*	oui	200				ADHS
France	Toxoplasmose	*Sus scrofa*	oui	3				
France	Toxoplasmose	*Tayassu* sp.	oui	20				ADHS
Australia	Toxoplasmosis	*Macropus rufogriseus rufogriseus*	yes	2	ü	ü		
Finland	Toxoplasmosis	Capercaillaie (*Tetrao urogallus*)	yes	9		9	2	
Finland	Toxoplasmosis	Squirrel (*Sciurus vulgaris*)						
Finland	Toxoplasmosis	European brown hare (*Lepus europaeus)*						
Finland	Toxoplasmosis	Mountain hare (*Lepus timidus*)						
Germany	Toxoplasmosis	*Vulpes vulpes*	yes	1			x	
Italy	Toxoplasmosis	*Lepus europaeus*	yes	8				x
Italy	Toxoplasmosis	*Ovis musimon*	yes	1				x
Italy	Toxoplasmosis	Roe deer (*Capreolus capreolus)*	yes	10				x
Italy	Toxoplasmosis	*Sus scrofa*	yes	117				x
Italy	Toxoplasmosis	*Vulpes vulpes*	yes	1			x	
Norway	Toxoplasmosis	*Alopex lagopus*	yes	1	x	x		
Chinese Taipei	Toxoplasmosis	Red necked wallaby (*Macropus rufogriseus*)	yes	4			X	
Chinese Taipei	Toxoplasmosis	Squirrel monkey (*Samiri oerstedii*)	yes	3			X	
USA	Toxoplasmosis	Numerous species	yes					
USA	Transmissible Spongiform Encephalopathies (TSE, CWD)	*O. virginianus, O hemionus, C. elaphus*	Y - Endemic	CO, IL, NE, NM, SD, UT, WI, WV, WY				
Canada	Transmissible Spongiform Encephalopathies (TSE, CWD)	Mule deer *Odocoileus hemionus*	yes	16				X
Canada	Transmissible Spongiform Encephalopathies (TSE, CWD)	White-tailed deer *Odocoileus virginianus*	yes	6				X
South Africa	Trichinella nelsoni and strain T8	*Panthera leo*	yes	3			X	
France	Trichinellose	*Vulpes vulpes*	oui (en Savoie)	10			Digestion pepsique	
France	Trichinellose (*T. britovi*)	*Sus scrofa*	oui	1 en Ariège			Digestion artificielle, (abattoir)	
Andorra	Trichinellosis	*Vulpes vulpes/Sus scrofa*	yes	1 / 20%				
Canada	Trichinellosis	Domestic dog *Canis familiaris*	yes	1			X	
Canada	Trichinellosis	*Walrus Odobenus rosmarus*	yes	3			X	X
Finland	Trichinellosis	*Lynx lynx*	yes	31			31	
Finland	Trichinellosis	*Vulpes vulpes*	yes	35			35	
Finland	Trichinellosis	*Canis lupus*	yes	11			11	
Finland	Trichinellosis	*Nyctereutes procyonoides*	yes	44			44	
Finland	Trichinellosis	*Sus scrofa*	yes	1			1	
Finland	Trichinellosis	*Ursus arctos*	yes	2			2	
Germany	Trichinellosis	*Sus scrofa*	yes	1			x	
Israel	Trichinellosis	*Canis aureus*	yes	9			y	
Israel	Trichinellosis	*Canis lupus*	yes	2			y	
Israel	Trichinellosis	*Sus scrofa*	yes	?			y	
Italy	Trichinellosis	*Canis lupus*	yes	6			x	
Italy	Trichinellosis	*Mus musculus*	yes	24			x	
Italy	Trichinellosis	*Sus scrofa*	yes	16			x	
Latvia	Trichinellosis	*Lynx lynx*	yes	1			+	
Latvia	Trichinellosis	*Sus scrofa*	yes	15			+	
Lithuania	Trichinellosis	Red fox, *Vulpes vulpes*	yes	1				
Lithuania	Trichinellosis	Wild boar, *S. Scrofa*	yes	57				

Poland	Trichinellosis	*Sus scrofa*	yes	238			x	
Serbia	Trichinellosis	Wild boar (*Sus scrofa*)	yes	24		x		
Sweden	Trichinellosis	Lynx (*Lynx lynx*)	yes	6			x	
Sweden	Trichinellosis	Red fox (*Vulpes vulpes*)	yes	2			x	
Sweden	Trichinellosis	Wild boar (*Sus scrofa*)	yes	2			x	
Sweden	Trichinellosis	Wolf (*Canis lupus*)	yes	1			x	
UK	Trichinellosis	*Vulpes vulpes*	yes	1 / 150				
USA	Trichinellosis	Numerous species	yes	endemic				
Zimbabwe	Trichinellosis	Nile crocodile (*C. niloticus*)	yes	6		x		
UK	Trichmoniasis	*Columba oenas*	yes	1	Y			
Australia	Trichomoniasis	*Accipiter cirrhocephalus, Eudyptula minor, Ninox novaeseelandiae, Accipiter fasciatus*	yes	5	ü	ü	ü	
Canada	Trichomoniasis	Purple finch *Carpodacus purpureus*	yes	2			X	
Denmark	Trichomoniasis	*Columba palumbus*	yes	26			x	
Italy	Trichomoniasis	*Streptopelia turtur*	yes	1		x		
Norway	Trichomoniasis	*Columba livia*	yes	3				
Philliphines	Trichomoniasis	Luzon red tailed rat snake (*Elaphae erythrura*)	yes	2	x	x		
Philliphines	Trichomoniasis	Phillipine eagle (*Pittecophaga jefferyi*)	yes	1	x	x		
Philliphines	Trichomoniasis	Phillipines hawk eagle (*Spizelus phillipensis*)	yes	1	x		x	
Philliphines	Trichomoniasis	Spotted dove (*Streptopelia chinensis*)	yes	1	x	x		
UK	Trichomoniasis	*Accipiter nisus*	yes	2	Y			
UK	Trichomoniasis	*Athene noctua*	yes	2		Microscopic confirmation		
UK	Trichomoniasis	*Carduelis carduelis*	yes	1 / 3		Y	Y	
UK	Trichomoniasis	*Carduelis chloris*	yes	7 / 12		Y	Y	
UK	Trichomoniasis	*Carduleis carduelis*	yes	3		Y	Y	
UK	Trichomoniasis	*Columba livia*	yes	10	Y			
UK	Trichomoniasis	*Columba livia*	yes	3 / 12	Y			
UK	Trichomoniasis	*Columba livia*	yes	5 / 81	Y			
UK	Trichomoniasis	*Columba palumbus*	yes	13	PM	Microscopy		
UK	Trichomoniasis	*Columba palumbus*	yes	28		Microscopic confirmation		
UK	Trichomoniasis	*Columba palumbus*	yes	104	Y			
UK	Trichomoniasis	*Columba palumbus*	yes	14 / 575	Y			
UK	Trichomoniasis	*Falco finnunculus*	yes	2		Microscopic confirmation		
UK	Trichomoniasis	*Fringilla coelebs*	yes	1 / 1		Y	Y	
UK	Trichomoniasis	*Parus major*	yes	1		Y		
UK	Trichomoniasis	*Pica pica*	yes	1		Y		
UK	Trichomoniasis	*Pica pica*	yes	1		Y	Y	
UK	Trichomoniasis	*Prunella modularis*	yes	1 / 2		Y	Y	
UK	Trichomoniasis	*Pyrrhula pyrrhula*	yes	1 / 4		Y	Y	
UK	Trichomoniasis	*Streptopelia decaocto*	yes	8	PM	Microscopy		
UK	Trichomoniasis	*Streptopelia decaocto*	yes	11		Microscopic confirmation		
UK	Trichomoniasis	*Streptopelia decaocto*	yes	26	Y			
UK	Trichomoniasis	*Streptopelia decaocto*	yes	5 / 147	Y			
UK	Trichomoniasis	*Strix aluco*	yes	2	PM	Microscopy		
UK	Trichomoniasis	*Strix aluco*	yes	4		Microscopic confirmation		
UK	Trichomoniasis	*Strix aluco*	yes	9	Y			
USA	Trichomoniasis	Columbids and raptors	y - Endemic					
UK	Trichomoniasis (Agent: Trichomonad parasite)	*Turdus merula, Pyrrhula pyrrhula, Fringilla coelebs, Columbia decaoacto, Prunella modularis, Carduelis carduelis, Parus major, Passer domesticus Columba palumbus* and *Emberiza citronella*	yes	Multiple mortality incidents confirmed at >100 sites.	No	Gross pathology	Confir-mation through culture and/ or PCR	No
France	Trichomonose	*Columba livia*	oui	1			x	
France	Trichomonose	*Columba palumbus*	oui	1			x	
France	Trichomonose	*Streptopelia decaocto*	oui	2			x	
UK	Trichomonosis (Agent: trichomonad parasite) in garden birds	*Fringilla coelebs, Prunella modularis, Carduelis carduelis, Carduelis chloris*	yes	71	No	x	x	No
UK	Trichomonosis (Agent: trichomonad parasite) in raptors or pigeons/doves	*Accipiter nisus, Tyto alba, Streptopelia decaocto and Columba palumbus*	yes	4	No	yes		No
UK	Trichomonosis/trichomoniasis	*Carduelis chloris*	yes	15		Y		
UK	Trichononiasis	*Carduelis chloris*	yes	9		Y		
Zambia	Trypanosomosis	*Hippopotamus amphibious*	yes	3			X	
South Africa	Tuberculosis Human	*Papio ursinus*	yes	3		x	x	x
Canada	Tularemia	Canadian beaver *Castor canadensis*	yes	3			X	
Canada	Tularemia	Snowshoe hare *Lepus americanus*	yes	3			X	X
Czech Rep.	Tularemia	*Lepus europaeus*	yes	14				
Finland	Tularemia	Squirrel (*Sciurus vulgaris*)	yes	1		1	1	

Appendix IV (contd)

Finland	Tularemia	European brown hare (*Lepus europaeus)*	yes	10		10	10	
Finland	Tularemia	Mountain hare (*Lepus timidus*)	yes	21		21	21	
Germany	Tularemia	Leporidae	yes	5			x	
Italy	Tularemia	*Sus scrofa*	yes	11				x
Sweden	Tularemia	European brown hare (*Lepus europaeus*)	yes	2		x		
Switzerland	Tularemia	Brown hare (*Lepus europaeus*)	yes	1		x	x	
USA	Tularemia	*Sylvilagus* spp, *Castor canadensis, Ondatra zibethicus*	Y - Endemic					
France	Tularémie	*Lepus europaeus*	oui	56			44 cultures + 12 PCR	non
France	Tularémie	Rodent	oui	1			culture	
France	Tularémie	*Sus scrofa*	oui	1			PCR	
UK	Tyzzer´s Disease	*Lutra lutra*	yes	1 / 42	Y	Y	Y	
USA	Tyzzer´s Disease	*Ondatra zibethicus*	Y - Endemic					
France	Variole aviaire	*Columba palumbus*	oui	1		x		
France	Variole aviaire	*Grux grux*	oui	1		x		
France	Variole aviaire	*Streptopelia* sp.	oui	2		x		
Canada	West Nile Virus	American crow *Corvus brachyrhynchos*	yes	132			X	X
Canada	West Nile Virus	American robin *Turdus migratorius*	yes	1			X	X
Canada	West Nile Virus	American white pelican *Pelecanus erythrorhyncos*	yes	2			X	X
Canada	West Nile Virus	Blue jay *Cyanocitta cristata*	yes	7			x	x
Canada	West Nile Virus	Gooshawk *Accipiter gentilis*	yes	2			X	X
Canada	West Nile Virus	Great grey owl *Strix nebulosa*	yes	1			X	X
Canada	West Nile Virus	Great Horned owl *Bubo virginianus*	yes	3			X	X
Canada	West Nile Virus	Hawk *Buteo* sp.	yes	1			X	X
Canada	West Nile Virus	Lesser scaup *Aythya affinis*	yes	3			X	X
Canada	West Nile Virus	Magpie *Pica pica*	yes	12			X	X
Canada	West Nile Virus	Merlin *Falco columbarius*	yes	20			X	X
Canada	West Nile Virus	Northern harrier *Circus cyaneus*	yes	1			X	X
Canada	West Nile Virus	Pied-billed grebe *Podilymbus podiceps*	yes	1			X	X
Canada	West Nile Virus	Red-tailed hawk *Buteo jamaicensis*	yes	1			X	X
Canada	West Nile Virus	Ruffed grouse *Bonasa umbellus*	yes	1			X	X
Canada	West Nile Virus	Sharp-shinned hawk *Accipiter striatus*	yes	1			X	X
Canada	West Nile Virus	Snowy owl Nyctea scandiaca	yes	2			X	X
Israel	West Nile Virus	*Accipiter nisus*	yes	1				y
Israel	West Nile Virus	*Aquila pomarina*	yes	1				y
Israel	West Nile Virus	*Ardea cinerea*	yes	1				y
Israel	West Nile Virus	*Asio otus*	yes	1				y
Israel	West Nile Virus	*Bubo bubo*	yes	1				y
Israel	West Nile Virus	*Burhinus oedicnemus*	yes	2				y
Israel	West Nile Virus	*Buteo buteo*	yes	8				y
Israel	West Nile Virus	*Buteo rufinus*	yes	1				y
Israel	West Nile Virus	*Ciconia ciconia*	yes	2				y
Israel	West Nile Virus	*Ciconia nigra*	yes	1				y
Israel	West Nile Virus	*Circaetus gallicus*	yes	4				y
Israel	West Nile Virus	*Circus aeruginosus*	yes	1				y
Israel	West Nile Virus	*Crex crex*	yes	1				y
Israel	West Nile Virus	*Falco subbuteo*	yes	1				y
Israel	West Nile Virus	*Falco tinnunculus*	yes	5				y
Israel	West Nile Virus	*Hieraaëtus fasciatus*	yes	1				y
Israel	West Nile Virus	*Larus armenicus*	yes	1				y
Israel	West Nile Virus	*Larus fuscus*	yes	1				y
Israel	West Nile Virus	*Larus ridibundus*	yes	1				y
Israel	West Nile Virus	*Pelecanus onocrotalus*	yes	1				y
Israel	West Nile Virus	*Pernis apivorus*	yes	3				y
Israel	West Nile Virus	*Strix aluco*	yes	1				y
Israel	West Nile Virus	*Tyto alba*	yes	4				y
Italy	West Nile Virus	*Nightjar (Caprimulgus europaeus)*	yes	2				x
Italy	West Nile Virus	*Sylvatic birds*	yes	1				x
USA	West Nile Virus	Pelecanus erythrorhynchos	Y - Endemic	4047				

OIE Working Group on Wildlife Diseases

Terms of Reference and Work Plan

January 2008

Rationale for a Permanent Working Group:

It is important to a wide range of OIE responsibilities and programs that OIE have a permanent Working Group devoted to wildlife matters[1]. The OIE must be well informed and proactive on many health and disease issues in which wild animals are significant components. Active foresight in this area is essential to the evolution of effective OIE programs globally and in each OIE Region. Rapid environmental changes on an unprecedented scale involving climate, deforestation, surging global populations of people and livestock, and depletions of fresh water and fertile soil are creating new zoosanitary conditions world-wide which require active anticipation and management. A permanent Working Group, charged by the OIE with oversight and foresight for the full spectrum of wildlife health and disease issues, will permit the OIE to continue to provide effective and credible international leadership in animal health.

Composition of the Permanent Working Group on Wildlife Diseases:

The composition of the Working Group on Wildlife Diseases should be based on expertise, and not only on geographic or sectoral representation. Members should have broad expertise in wildlife health, wildlife biology and natural history, and disease ecology, and in the programs and obligations of government veterinary services. The Working Group may request the Director General to invite other experts representing specific issues to participate in its activities on a term basis. One representative from each OIE Collaborating Centre on wildlife should be a regular member of the Working Group. As members change over time, continuity in expertise should be maintained. The number of regular members of the Working Group on Wildlife Diseases should be the same as for the other permanent Working Groups.

It is proposed that, for now, the composition of the Working Group consist of the current membership, with addition of a new member with appropriate expertise appointed from each of Asia and Latin America. The president will be appointed by the Director General of the OIE.

Terms of Reference for the Working Group on Wildlife Diseases:

1. Maintain a global perspective and foresight on wildlife health and disease issues on behalf of OIE.
2. Assist the OIE to incorporate wildlife into all OIE Standards, as appropriate
3. Assist Members to build or improve their capacity to detect and manage diseases in wild animals
4. Assist the OIE to receive, record and assess information on wildlife disease occurrence from official sources, and to maintain an international network to track and record information on wildlife disease occurrences from non-official sources.
5. Advise the OIE on risks, surveillance, responses and management with respect to emerging and zoonotic diseases, and other disease issues associated with wildlife.
6. Address specific issues brought to the Working Group by the OIE
7. Communicate and disseminate information about wildlife disease issues

[1] Wild animals can be important reservoirs and sources of infection for many of the most important diseases of livestock: e.g. Foot and Mouth Diseases, Avian Influenza, Bovine Tuberculosis, Newcastle Disease, and Classical Swine Fever. Wild animals also play prominent roles in important zoonotic diseases such as rabies, and in the majority of emerging diseases. Effective management of animal health requires that wildlife be fully included in the management system; this now is a firm expectation of societies world-wide.

8. Assist OIE to incorporate wildlife appropriately in its educational and scientific programs
9. Encourage and support the activities of Collaborating Centres on wildlife diseases
10. Report directly to the Scientific Commission

Mode of Operation for the Working Group on Wildlife Diseases

1. The Group normally will hold one face-to-face meeting each year.
2. The Group will meet by teleconference two or more times each year. These teleconferences will include representation from the Scientific and Technical Department of the OIE.
3. The Group will establish a secure Internet forum through which to manage discussion, document reviews and related matters and through which OIE personnel also can access output from the Group's activities.
4. The Group President will maintain additional regular communication with the OIE Scientific and Technical Department, as appropriate.
5. The operating language of the Group will be English.

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Work Plan for the Working Group on Wildlife Diseases: 2008 - 2011

Statement of Priorities:

Over the next three years, the Group will give priority attention to the following four issues:

1. Contribute to the evolution of the OIE Standards, particularly with respect to validity of diagnostic tests applied to wild species and to relevant *Code* chapter reviews.

2. Wildlife considerations with respect to *Compartmentalisation* and *Zoning* for priority diseases: Foot and Mouth Disease, Classical Swine Fever, Avian Influenza, Newcastle Disease, African Swine Fever, and Bovine Tuberculosis

3. Building wildlife disease surveillance and management capacity in member countries through wildlife focal points and Regional Offices.

4. Tracking and reporting on wildlife diseases world-wide

Work Plan

1. OIE Standards:

a) *Initiatives to be taken under guidance of the Scientific Commission*

2008 to 2009:

- The Working Group will request that the Scientific Commission inform the Working Group as to which sections of OIE Standards will be reviewed or revised over the next three years, and to identify appropriate roles for the Working Group in these reviews and revisions**.**

- Request the Scientific Commission to contact other Commissions, explain the Working Group's mandate and offer its assistance to the other Commissions as required

- The Working Group will request the Scientific Commission to engage the Working Group in the formulation of ad hoc Groups for which wildlife is relevant.

- The Working Group will prepare a synthesis of its past work on issues associated with the application of standard diagnostic tests to specimens from wild animal species and offer the synthesis for review by the Scientific Commission with the request that these concerns be transmitted to the Biological Standards Commissions. If requested, the Working Group will work with the Commissions to ensure that the *OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* correctly addresses the issue of test validity with respect to wildlife.

- The Working Group will remain vigilant on behalf of OIE for diseases that may be candidates for inclusion on the OIE Disease List by virtue of their impact on wild animals. Any such candidate diseases will be brought to the attention of the Scientific Commission.

2009 to 2011:

- The initiatives taken in 2008/09 will set the Working Group's agenda for work on this topic in the subsequent two years. This work will involve a range of consultations, reports, reviews, and participation by Working Group members on OIE *ad hoc* Groups.
- The Working Group will review the *Terrestrial Code* chapter on the evaluation of veterinary services and will make recommendations, where appropriate, for adequate inclusion of considerations specific to wild animals.

b) *Working Group on Animal Production Food Safety , Working Group on Animal Welfare and the Aquatic Animal Commission with respect to wildlife issues*

- The Working Group requests the Director General to make the other Working Groups (*Working Group on Animal Production Food Safety* and *Working Group on Animal Welfare,* and the *Aquatic Animal Commission* with respect to wildlife issues aware of its mandate and to invite these other Working Groups and Commission to seek its assistance on wildlife matters.

2. Wildlife considerations with respect to *Compartmentalization* and *Zoning* for priority diseases: Foot and Mouth Disease, Classical Swine Fever, African Swine Fever.

2.1. *Foot and Mouth Disease*

2008-09: The Working Group will review the *Terrestrial Code* sections on General Guidelines on *Compartmentalization* and *Zoning*, and on Foot and mouth disease with respect to the epidemiology of the disease in wild animal hosts. If deemed necessary by the Working Group, modifications to the chapter will be proposed to better account for wildlife factors. The Working Group will seek the advice of experts on the disease in its review and recommendations, and will participate in relevant *ad hoc* Groups if requested

The Working Group notes that there is to be an OIE conference on this disease in Paraguay in 2008/09 and will seek participate or to benefit from the outcomes of this conference in this work.

2009-10: Complete work on Foot and mouth disease

2.2. *Classical Swine Fever and African Swine Fever*

2009-10: The Working Group will review the *Terrestrial Code* chapter sections on Classical swine fever and African swine fever together with respect to *compartmentalization* and *zoning* and the epidemiology of the diseases in wild and feral animal hosts. If deemed necessary by the Working Group, modifications to the chapters will be proposed to better account for wildlife factors. The Working Group will seek the advice of experts on the disease in its review and recommendations, and also may recommend to OIE to participate in relevant *ad hoc* Groups if requested.

2010-2011: Complete work on Classical swine fever and African swine fever

3. Building Capacity in Members

3.1. ***Veterinary Medical Training Curricula***

2009-10: The Working Group will propose inclusion of wildlife in the OIE Conference on veterinary medical curricula planned for 2009. If this is agreed to, the Working Group will be willing to make a presentation on this aspect.

3.2. ***Seminars on Wildlife Disease Surveillance, Response and Management at OIE Regional Meetings***

2008-2011: The Working Group will work with the Collaborating Centre on Wildlife Disease Surveillance and monitoring, Epidemiology and Management to establish the curriculum, advise on regional participants and otherwise support the presentation of seminars at Regional Meetings as described in the program proposal of the Collaborating Centre.

3.3 ***OIE Conference on Wildlife Health Management and Policies***

2008-11: The Working Group will work with OIE and with the Collaborating Centre on Wildlife Disease Surveillance and monitoring, Epidemiology and Management to propose such an OIE global conference. If accepted by the OIE, the Working Group will work with the Collaborating Centre to plan this conference. A conference in 2010 is envisioned.

3.4. ***Educational programs and materials on Wildlife Health and Disease***

2009-2010: The Working Group will contact the OIE Collaborating Centres on education and training to determine what materials already are available within the OIE system and also what these Centres perceive to be their greatest needs in this area. The Working Group will catalogue and report on the results of this survey.

2010-11: The Working Group will establish priority for production of new educational materials on wildlife health and disease, and seek mechanisms by which the production and distribution of such materials can be realized.

4. Wildlife Disease tracking and reporting

4.1. ***Assist the Animal Health Information Department and WAHIS***

2008-09: The Working Group will provide direct assistance to the Department to modify the WAHIS system to accommodate direct reporting of pathogens in wild animals.

2009-11: The Working Group will review the reporting of disease occurrences in wildlife through WAHIS and work with the Department on evolution of the reporting, presentation and mapping systems.

4.2. ***International Network of Informal Wildlife Disease Reporting***

2008-11: The Working Group will advise and support the Collaborating Centre on Wildlife Disease Surveillance and Monitoring.

5. Communication with OIE

5.1. ***Enhance communications between the Working Group and the OIE Central Bureau.***

2008-11: The Working Group will work closely with the Central Bureau to achieve a regular exchange of information on a monthly or bi-monthly basis.

5.2. ***Communication with OIE Regions and OIE-FAO Animal Health Centres***

2008-11: The Working Group members will make contact with 1) the OIE Regional offices and 2) the OIE-FAO Animal Health Centres. Working Group members will offer participation of the Working Group in Regional activities where inclusion of wildlife considerations is appropriate.

5.3. ***Technical Report: Document on Wildlife Disease Surveillance***

2008-10: The Working group will support the OIE in producing practical guidelines for undertaking surveillance for diseases in wild animals, as recommended by the ad hoc Group on Wildlife Disease Surveillance.

5.4. ***Directory of International Wildlife Health Expertise***

2008-11: The Working Group will ask the Collaborating Centre on Wildlife Disease Surveillance and Monitoring, Epidemiology and Management to compile a directory of international experts on various aspects of wildlife health and disease. The Working Group will participate with the Collaborating Centre in assembling this directory.

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