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## **REPORT OF THE MEETING OF THE OIE WORKING GROUP ON WILDLIFE**

**Paris (France), 7 – 10 November 2016**

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### **1. Opening**

The meeting of the OIE Working Group on Wildlife (the Working Group) was held from 7 to 10 November 2016 at the OIE Headquarters in Paris, France. The meeting was chaired by Dr William Karesh.

Dr Monique Eloit, Director General of the OIE, welcomed the members on behalf of the OIE Member Countries including Dr Marie-Pierre Ryser-Degiorgis who is a new member appointed in May 2016.

Dr Eloit presented an overview of the Sixth Strategic Plan of the OIE (2016-2020).

Dr Eloit highlighted the important work performed by the Working Group to date. Subsequently, she pointed out that the Terms of Reference of the three current OIE Working Groups should be updated. This includes the new areas addressed by the Working Group on Wildlife since its creation in 1994. She also stated that from the time of this meeting, the chair of the Working Group should present the activities of the Group to the World Assembly of Delegates at the General Session. She mentioned that she would welcome any suggestions from the Working Group to update these Terms of Reference.

### **2. Adoption of agenda and designation of rapporteur**

Professor Ted Leighton was appointed as rapporteur for the meeting. The agenda and the list of participants are provided in Appendices I and II, respectively.

### **3. Feedback from the meetings of the Scientific Commission for Animal Diseases**

During its September meeting, the Working Group considered the request made by the Scientific Commission for an evaluation of the impact that Chronic wasting disease (CWD) of cervids may have on wildlife health.

The Working Group reviewed the available information on the current outbreak in Norway and the surveillance plan discussed in Sweden. It was noted that the outcome of the European Food Safety Authority consultation, due by the end of 2016, would be of paramount importance to further define the control measures.

The Working Group also noted that diagnostic tests based on taking biopsy samples (rectal mucosal lymphoid tissue or tonsillar lymphoid tissue) from live animals are available but may not be practical for routine use on large numbers of animals.

The Working Group reviewed the inclusion criteria described in Article 1.2.2. of the *Terrestrial Animal Health Code*, in particular paragraph 4.c), and agreed with the Scientific Commission on the difficulties of demonstrating freedom from disease. The low disease prevalence, the impractical nature of currently available diagnostic tests, and the limited number of control measures, make it difficult to eliminate the disease or scientifically provide evidence to demonstrate freedom or impending freedom. There is also evidence from studies in the USA that CWD is having a measureable negative impact on some wild cervid populations in which CWD has existed for several decades.

The Working Group encourages OIE Member Countries to report the occurrence of the disease in a timely manner via *WAHIS-Wild* to increase transparency and to ensure quality data is collected to help make informed decisions.

#### **4. Sixth OIE Strategic Plan**

The Working Group considered the Sixth Strategic Plan of the OIE to ensure alignment of the group's activities with OIE priorities. The Working Group was committed to contributing to the continued development of timely, current and scientifically-based standards and guidelines. These include: (i) standards for animal health, animal welfare and animal production food safety, for terrestrial (including bees and reptiles) and aquatic animals; and (ii) guidelines and recommendations for the management, control and/or eradication of diseases. These guidelines include diseases at the animal–human–environment interface, and take into account economic, social and environmental factors. The Working Group was also committed to helping the OIE to raise awareness of the global public good concept, and to support policy makers associated with investments in the improvement of animal health and welfare and veterinary public health. The Working Group recognised the strong links between the environment and emerging diseases, biodiversity issues, climate change and several of their recent activities on wildlife. Consistent with the OIE mission, the Working Group will work towards expanding its activities to support the OIE in addressing these issues.

Dr Elisabeth Erlacher-Vindel, head of the new “Science and New Technologies Department”, provided an overview of the new OIE organigram and expected future work of this department in the area of wildlife and biodiversity.

#### **5. Disease reporting**

##### **5.1. Information on submitted reports on non OIE-Listed diseases in wildlife through *WAHIS-Wild***

Dr Marija Popovic, Chargée de mission at the OIE World Animal Health Information and Analysis Department (WAHIAD), summarised disease reporting in wildlife through *WAHIS-Wild* in 2015. She presented recent changes implemented from January 2016, based on the OIE Member Countries comments and inputs on the reporting process for wildlife diseases. These changes refer to the disabling of the section on wildlife annual reports of OIE-Listed diseases. She emphasised that the current strategy is to encourage and reinforce the collaboration between the Focal Point for Wildlife and the Focal Point for Disease Notification to the OIE in the collection and submission of information on diseases affecting wildlife. She highlighted that in 2016, only 39 OIE Member Countries submitted the voluntary annual report on non OIE-Listed diseases in wildlife for 2015 which represents a slight increase compared to the reporting period of 2014. More than half of countries (23) submitting the information were from Europe. She mentioned that the WAHIAD is currently working on renovating WAHIS. The WAHIAD suggested that one of the potential improvements to the system could be the addition of information at the subspecies level due to the importance of this information to biodiversity and wildlife conservation. Finally she presented the new application for smartphones on WAHIS alerts and WAHIS Portal which provides users with access to all animal health data in one place.

The Working Group proposed to draft a short summary to communicate the main highlights from the meeting of the Working Group on Wildlife, including information on non-listed diseases to the OIE National Focal Points on Wildlife. In addition, the Working Group suggested preparing a short annual report on non-OIE-Listed diseases that would also be shared with the OIE National Focal Points for

Wildlife. The Working Group offered to assist the WAHIAD in the preparation of this annual report. The aim of these documents would be to improve communication with the OIE National Focal Points for Wildlife and to encourage OIE Member Countries to report non-OIE-Listed diseases in wildlife by acknowledging their contributions.

## 5.2. Review of the taxonomy of the pathogens on the specific list of wildlife diseases

The Working Group agreed that adding the information on subspecies, when relevant, in the renovated system as an optional field could be helpful particularly with regard to endangered species and wildlife conservation.

## 5.3. Evaluation of the frequency of the revision of the list of non OIE-Listed diseases in wildlife

The Working Group reiterated that the list is revised every three years, but that it could consider the addition of new diseases in specific circumstances on request.

## 5.4. Collection of information on non OIE notifiable diseases and name association between OIE-Listed and non OIE-Listed diseases in wildlife

The WAHIAD questioned the Working Group on the inclusion of viruses that are not notifiable to the OIE in the reporting of non OIE-Listed diseases in wildlife, e.g. Lyssaviruses other than Rabies virus (formerly referred to as classical rabies virus, genotype-1). The Working Group agreed that the addition of infection with Lyssaviruses other than Rabies virus (formerly referred to as classical rabies virus, genotype-1) will be a valuable addition to the list of non OIE-Listed diseases. The Working Group also supported the proposal of the WAHIAD to clarify the name of diseases in order to facilitate disease reporting, e.g. Infection with morbillivirus (such as Canine distemper).

## 6. Emerging and noteworthy wildlife disease occurrences: reports from members of the Working Group on Wildlife

**Infection with the organisms of the *Mycobacterium tuberculosis* complex – potential impact on biodiversity:** *Mycobacterium bovis* is a multi-host pathogen and infection has been documented in more than 16 different wildlife species in Africa. In savannah ecosystems, African buffalo (*Syncerus caffer*) have become true maintenance hosts, and greater kudu (*Tragelaphus strepsiceros*) and warthogs (*Phacochoerus africanus*) are potential maintenance hosts. Infection has also been documented in other sympatric ruminants, hind gut fermenters, primates and carnivores. This includes endangered species such as wild dog (*Lycaon pictus*) and black rhinoceros (*Diceros bicornis*), which are all probably incidental hosts. Elsewhere in the world, Eurasian badgers (*Meles meles*) (UK), brushtail possums (*Trichosurus* sp.) (New Zealand), wild boar (*Sus scrofa*) (Europe) and cervids (USA and Europe) have also become maintenance hosts of *Mycobacterium bovis* or *M. caprae* infection. Spillover infections into other wildlife species, livestock and humans have also been documented.

*M. tuberculosis* infection in wildlife is generally acquired from humans. Outbreaks have been documented in primate facilities and collections, as well as in zoo and circus elephants. In South and Southeast Asia, *M. tuberculosis* infection has been transmitted from humans to working Asian elephants.

Thus, in multi-species wildlife systems, or in close wildlife–human interface situations, infection with organisms of the *M. tuberculosis* complex has the potential to have an impact on biodiversity.

**Supplemental Feeding of Wildlife:** The actual and potential negative impacts of many diseases of current global or regional concern appear exacerbated by the provision of supplemental feed to wild animal hosts. Feeding stations may serve as points for intensive transmission of pathogens thereby contributing to pathogen persistence, increasing pathogen prevalence or the extension of geographic distribution. Feeding may also provide sufficient nutrition to maintain host animal populations of a greater number and density than those which could be sustained in the natural environment. Populations of high numbers and densities can substantially affect the rate and effectiveness of pathogen transmission, raising the basic reproductive number

of the disease in the feeding area. Diseases of current concern for which increased negative impacts have been reported or are anticipated include African Swine Fever (ASF), tuberculosis, brucellosis, and chronic wasting disease (CWD). The Working Group recommended that OIE Member Countries consider all of the potential risks associated with supplemental feeding in wildlife management practices.

## AFRICA

**African swine fever (ASF):** ASF is an endemic disease in Sub-Saharan Africa and causes silent infection in most native wild suids. Two significant outbreaks of ASF in domestic pigs were reported from the Free State and North West provinces in South Africa with case fatality rates approaching 100%. These outbreaks are particularly significant because they occurred outside South Africa's ASF Control Zone, an area that has been traditionally free from the *Ornithodoros* tick vectors. The source or origin of these outbreaks is unknown or inconclusive.

Additional outbreaks of ASF in domestic pigs were reported from Burundi, Kenya and Mali, where the source of infection was probably from infected ticks and native wild suids.

**Anthrax:** Sporadic outbreaks of anthrax in wildlife and livestock were reported from Botswana (elephant), Ghana (livestock), Kenya (livestock), Niger (livestock), Tanzania (livestock), Zambia (hippopotamus), and Zimbabwe (livestock). In Ghana, Kenya, Tanzania, Zambia and Zimbabwe, numerous human cases were also reported after people had handled or eaten meat from infected cattle or hippopotami carcasses.

**Avian influenza (AI):** An outbreak caused by a low pathogenic AI (LPAI) strain involving the H7 subtype was reported in ostriches in the Eastern Cape region of South Africa. A second outbreak involving LPAI H7N2 subtype was also diagnosed in ostriches in the Western Cape Province of South Africa.

**Bovine tuberculosis (bTB):** The first cases of bTB in an endangered African wild dog (*Lycaon pictus*) and a black rhinoceros (*Diceros bicornis*) were confirmed in the Kruger National Park, South Africa. These occurrences illustrate that when a bTB maintenance host (such as buffalo in this case) is present in an ecosystem, the infection may spill over into sympatric incidental hosts of another species.

**Bubonic plague:** Multiple outbreaks of bubonic plague were reported on the island of Madagascar. These outbreaks have been associated with increases in rodent and flea populations. To date, 224 human cases have been reported with 63 deaths.

**Ebola virus disease (EVD):** EVD is a zoonotic infection in humans, and is usually initiated by transfer of the virus from a sylvatic reservoir host (fruit bats) or by handling or utilising the carcasses of sylvatic wildlife victims such as primates or duikers. Once zoonotic transmission has occurred, EVD becomes a directly contagious disease amongst humans. The EVD epidemics reported last year in Guinea, Liberia and Sierra Leone, appear to have reached their clinical endpoints, and only a few sporadic cases were reported in 2016. Similarly, the smaller localized outbreak reported last year by the Democratic Republic of Congo also appears to have reached an endpoint.

**Foot-and-mouth disease (FMD):** FMD outbreaks in cattle were reported by several African countries. An extensive outbreak in cattle was reported by Morocco caused by serotype O. This outbreak, involving a European strain of virus, was probably not associated with buffaloes. However, buffalo-associated outbreaks of FMD were reported by Malawi, Mozambique, South Africa (virus serotype SAT3) and Zambia.

**Monkeypox:** Several localised outbreaks of monkeypox were reported in people in the Central African Republic (Basse- Kotto). Rodents, such as rope squirrels (*Funisciurus* sp.), dormice (*Graphiurus* sp.) and Gambian pouched rats (*Cricetomys gambianus*) are the suspected reservoir hosts, with monkeys and humans acting as spillover hosts. Several human fatalities were recorded.

**Rift Valley fever (RVF):** In Niger, unexplained human illness and mortality, coupled with abortions and deaths in livestock, led to the diagnosis of RVF. The disease has spread extensively in association with the activities of nomadic stock breeders and herders. Ninety human cases have been diagnosed with 28 deaths.

An epidemic of RVF also occurred in the Kabale region of Uganda. Livestock were severely affected, and there were also human cases with several deaths.

## ASIA

**Avian influenza (AI):** Highly pathogenic AI (HPAI) and LPAI viruses have been isolated from wild birds in several Asian countries. Occurrence of HPAI among wild birds was reported by Bangladesh, Hong Kong, Russia and Chinese Taipei from the end of November 2015 until October 2016. In Chinese Taipei, AI occurred in pigeons and a new H5 subtype was detected in a dead pigeon. H5N8, H5N3 and H5N2 subtypes have been detected in birds in Chinese Taipei since January 2015. H5N8 subtype is the same subtype that caused an outbreak in poultry in Korea (Rep. of).

In November 2015, H5 subtype was detected in an oriental magpie-robin (*Copsychus saularis*) in Hong Kong. In February 2016, H5N1 subtype was detected in an unusual number of dead house crows (*Corvus splendens*) in Bangladesh. In June 2016, H5 subtype belonging to the Asian HPAI H5 lineage was detected in the carcasses of black-headed gulls (*Chroicocephalus ridibundus*), grey herons (*Ardea cinerea*), common terns (*Sterna hirundo*), great crested grebes (*Podiceps cristatus*), great cormorants (*Phalacrocorax carbo*) and ducks in Russia.

**Canine distemper virus (CDV) and parvovirus:** There have been a minimum of four outbreaks (2 of CDV and 2 of Parvovirus) in the common palm civet (*Paradoxurus hermaphroditus*), masked palm civet (*Paguma larvata*) and small Indian civet (*Viverricula indica*). The animals in question were being kept in civet farms for musk or coffee production in Thailand.

**Foot-and-mouth disease (FMD):** In Thailand, there has been a minimum of four FMD outbreaks in zoo animals including in banteng (*Bos javanicus*), goral (*Nemorhaedus* sp.), deer and various antelope species. One outbreak in wild gaur (*B. frontalis*) was due to spillover from livestock. Fatal cases occurred in wild gaur and captive nilgai (*Boselaphus tragocamelus*).

**Rabies:** Rabies occurred in wild animals in several Asian countries during 2016. In Nepal, 36 people were attacked and bitten by a rabid Indian jackal (*Canis aureus indicus*). In India, outbreaks of rabies occurred among captive spotted deer (*Axis axis*) leading to 33 deaths in deer in the National Zoological Park. In 2013, rabies cases reoccurred in Taiwan in Chinese ferret-badgers (*Melogale moschata*) with the last previous detection recorded in 1961. There have been 548 positive cases recorded in Chinese ferret-badgers from 2013 to about 3 November 2016, and 37 positive cases recorded in 2016. Other cases of rabies include one Asian house shrew (*Suncus murinus*) in 2013, and six gem-faced civets (*Paguma larvata*) during the period 2014 to 2015.

**Tick-borne infectious diseases:** Human epidemics of tick-borne infectious diseases have become prominent in Japan. Infectious diseases such as Lyme disease, scrub typhus, babesiosis, tick-borne viral encephalitis and Japanese spotted fever rickettsiosis have been reported since 2009. In addition to these diseases, Severe Fever with Thrombocytopenia Syndrome (SFTS), *Borrelia miyamotoi* disease (BMD), anaplasmosis and Far-Eastern spotted fever rickettsiosis have emerged since 2010. The increasing number of tick-borne diseases may correlate to the population growth of sika deer (*Cervus nippon*) and wild boar (*Sus scrofa leucomystax*) which are the natural hosts of the tick vector species. Some researchers believe that wildlife management to reduce the populations of these wild animals would be needed to control tick-borne infectious diseases. Thus far, management actions to reduce these populations have not been successful.

## EUROPE

**Adenovirus infection in red squirrels:** During the 2015 to 2016 winter season, a large-scale disease outbreak was observed in red squirrels (*Sciurus vulgaris*) at rescue centres for wildlife in different regions of Germany. This outbreak affected young animals in particular, resulting in a high mortality rate. Most animals displayed diarrhoea, with others showing severe respiratory signs. DNA from a novel adenovirus, first identified in 2013 in a red squirrel in Germany, was detected predominantly in the intestine but also in samples from the liver, lungs and kidneys of affected animals. The virus was also detected in samples from red and grey squirrels (*S. carolinensis*) from Scotland in the United Kingdom. There was a very high similarity between German and British samples.

**African swine fever (ASF):** ASF was introduced in 2007 into Europe and Georgia, and discovered in 2014 in Lithuania, Latvia, Estonia and Poland. The disease has continued to spread and is found primarily in wild boar. Several hundred cases have been documented. The disease does not appear to have a high morbidity rate, but the mortality rate is more than 90 per cent. The disease is slowly spreading in a westward direction.

**Alveolar echinococcosis:** Previous studies have shown that areas in Belgium and in the Netherlands form the western border of the geographic range of *Echinococcus multilocularis* in Europe. While the situation appears to be stable in most of Belgium, a steep increase in prevalence has been documented locally in the Maastricht region in the Netherlands over the past decade. In addition, a recent survey revealed an infection prevalence of more than 50 per cent in red foxes (*Vulpes vulpes*) at the Dutch-Belgian border. These results point at the emergence of a new 'hot spot' in the eastern border zone of these two countries. The red fox population growth observed in many parts of Europe following successful rabies control campaigns is believed to have contributed to the expansion of the geographical distribution of *E. multilocularis*.

**Anthrax:** A major outbreak of anthrax occurred in the summer of 2016 in the county of Östergötland in Sweden. The disease was observed in several cattle, one sheep, one horse and three moose (*Alces alces*). Dead roe deer (*Capreolus capreolus*) found in the infected area were also tested for anthrax, but all results were negative. In order to find out more about the epidemiology of anthrax in this area, blood samples will be collected from several moose, roe deer, wild boar (*Sus scrofa*) and red foxes from hunts during the autumn and winter of 2016 and tested for exposure to anthrax.

A major outbreak of anthrax in herded reindeer occurred in Yamal Peninsula of Russia, affecting over 3,000 animals. Human cases also occurred. Further information about this outbreak will be reported and clarified at a workshop in Russia in November 2016.

**Aujeszky's disease:** Infection prevalence continues to increase in Spain. In December 2015, six fatal cases were reported in domestic dogs by two departments in France.

**Avian influenza (AI):** In October 2016, an adult mute swan was found dead on a fish pond near the city of Szeged in southeastern Hungary. A peracute infection was diagnosed and a HPAI H5N8 subtype was identified. The main findings on post-mortem examination included congestion of all internal organs, marked splenomegaly and petechial hemorrhages on the epicardium. Immunohistochemistry revealed the presence of large amounts of AI virus antigen in multiple organs.

Wild birds in Sweden are tested regularly for AI virus. HPAI H5N8 subtype was found in three mute swans (*Cygnus olor*) that died from lead poisoning. All three birds had a mild meningoencephalitis. All other birds tested for influenza viruses in 2015 were negative.

**Avian paramyxovirus:** During the period 2015 to 2016, infections with avian paramyxovirus type 1 (a strain closely related to genotypes found in *Columbiformes*) were repeatedly observed in Eurasian collared doves (*Streptopelia decaocto*) in France.

**Bat rabies:** In October 2016, bat rabies (European bat lyssavirus-1, EBL-1) was diagnosed in Belgium. The bat (species not specified) was collected from the ground by a tourist in southern Belgium. This person, who was bitten by the bat, has been treated and did not develop clinical signs according to available information. EBL-1 has been known to occur in neighbouring countries for several years but this is the first reported case in Belgium.

***Batrachochytrium salamandrivorans* (Bsal) infections:** A recent study identified Bsal infections and associated fatalities in several private amphibian collections in western Europe, including the first recorded detection of Bsal in Spain. These results indicate that Bsal is prevalent in fish being traded by hobbyists in Europe and probably elsewhere.

The Working Group supports consideration of this pathogen for listing by the OIE.

**Bovine tuberculosis (bTB):** Numerous cases of bTB have been detected in the Breton forest in France in red deer (*Cervus elaphus*) and wild boar (*Sus scrofa*), and investigations suggest wild boar may be a maintenance host for *Mycobacterium bovis*. There has been also an isolated case of bTB in wildlife in a region without any known relationship to infected livestock. Disease prevalence continues to increase in Spain.

**Brucellosis:** Brucellosis, caused by *Brucella melitensis* biovar 3, continues to be a serious issue in Alpine ibex (*Capra ibex*) in the Bary region in France.

**Canine distemper virus (CDV):** Since 2006 a major epidemic of CDV has extended over Austria, northern Italy, Liechtenstein, Switzerland, Germany and Denmark. This has led to numerous deaths of red foxes (*Vulpes vulpes*), stone martens (*Martes foina*) and badgers (*Meles meles*) as well as an increasing number of free-ranging and captive wild and domestic species. These have included domestic dogs, free-ranging Eurasian lynx (*Lynx lynx*), a domestic cat, captive Asian marmots (*Marmota caudata*) and domestic rabbits. During the period 2012 to 2013, CDV affected raccoons (*Procyon lotor*) in Berlin, Germany, whilst large outbreaks were recorded on mink (*Neovison vison*) farms and in free-ranging red foxes, ferrets (*Mustela putorius*) and raccoon dogs (*Nyctereutes procyonoides*) in Denmark. In addition to evidence from the geographical pattern of CDV spread, molecular studies have shown that the strains isolated from different hosts and geographic areas during this epidemic all belonged to the European lineage and were either identical or very closely related to each other. During the same period, there were independent CDV outbreaks in the same and in other European countries in additional wildlife species.

In 2016, cases of CDV in wildlife were detected in Switzerland and Spain. In Switzerland, the disease continues to spread in a westward direction.

**Chronic wasting disease (CWD) in reindeer and moose:** See Agenda Item 7.

**Foot rot (*Dichelobacter nodosus*):** In 2016, foot rot was repeatedly diagnosed in Alpine ibex (*Capra ibex*) in the Swiss Alps. The disease is frequently reported in sheep and was recently declared a notifiable disease in Switzerland. Foot rot outbreaks have previously caused sporadic deaths in addition to larger outbreaks in ibex colonies in Switzerland and France, and in mouflons (*Ovis aries musimon*) in several European countries.

**Invasive wasp (*Vespa velutina*):** *Vespa velutina* is an exotic, invasive and parasitic Asian wasp that is threatening honey bee populations. It was first documented in France in 2006 and has since spread through the western part of the country with potential for further spread to other European countries.

**Myxomatosis:** Since 2014, a major outbreak of myxomatosis has caused high mortality in rabbits (*Oryctolagus cuniculus*) in southern Sweden, on the island of Gotland in the Baltic Sea. It continues to be a major cause of mortality in wild rabbit populations in Sweden. A major outbreak of myxomatosis has also been observed on the island of Fanö on the west coast of Denmark, with a mortality rate of approximately 80 per cent in rabbits.

**Rabbit hemorrhagic disease virus (RHDV):** Of the three described RHDV strains ('classic RHDV', the antigenic variant RHDVa/G6, and RHDV2), RHDV2 was detected in France for the first time in 2010 in both domestic and wild rabbits. RHDV2 has since spread throughout Europe, replacing circulating RHDV and RHDVa/G6 strains in most European countries. RHDV2 has also caused morbidity and mortality in Italian hare (*Lepus corsicanus*), Cape hare (*L. capensis*) and more recently in European brown hare (*L. europaeus*). RHDV2 was previously detected in domestic rabbits in Belgium, but was detected for the first time in wild rabbits in November 2015. The affected rabbits were found dead and presented with histological hemorrhagic

lung lesions (one animal) and severe necrotizing hepatitis (five animals). Subsequent screening of archived liver samples collected in 2013 and 2014 tested positive for RHDV2 in 10 out of 25 samples. In 2016, RHDV2 was also detected in domestic and wild rabbits in the Netherlands and Ireland, and in European hares in France. In 2015, the virus had already been reported in France by 21 departments.

Prior to 2016, RHDV2 was found sporadically in wild rabbits. However, a widespread on-going outbreak that began in April 2016 has affected wild rabbit populations throughout southern Sweden.

The disease has caused high mortality among wild rabbits in Denmark, on the islands of Bornholm and Endelave.

In 2016, the first outbreak of RHDV2 in Finland was observed in feral rabbits. Many wild European rabbits live in the urban areas of Helsinki and neighbouring cities. These populations originated from pet rabbits that were released into the wild. In mid-April 2016, increased rabbit mortality was observed in feral rabbits in Helsinki. Notably, clinically sick rabbits were not observed suggesting a rapid course of disease. Post-mortem examinations confirmed RHDV as the cause of death and the strain was identified as RHDV2. Most reports of dead rabbits were received in April, May and June 2016. Reports began to decrease in July and the outbreak appeared to have finished by the end of summer. Reliable estimates of the rabbit population size and mortality rate are not available as there is no regular monitoring of the population.

**Ranavirus:** Ranavirus-associated mortality in amphibians in the Netherlands was first documented in the Dwingerveld National Park in 2010. During the period 2011 to 2014, ranavirus was identified in commonly affected hosts in addition to endangered species. As a result, ranavirus could pose a threat to already threatened populations. The virus continues to cause amphibian deaths.

**Severe dermatitis in moose:** Several cases of severe dermatitis in moose (mainly bulls) have been observed in central and southern Sweden during recent years. The etiology of this disease is unknown, with current research investigating a possible viral etiology.

**Snake fungal disease (SFD) (*Ophidiomyces ophidiicola*):** In July 2015, severe dermatitis associated with *Ophidiomyces ophidiicola* was identified in a free-living dead grass snake (*Natrix natrix*) in southern England. Archived skin samples from carcasses and skins shed from free-living snakes were screened by PCR for the fungus. Several positive results were obtained from samples, including skins presenting mild lesions. This is the first report of SFD in free-living snakes in Europe. It is currently unknown whether this report represents a previously missed endemic disease situation, or the detection of an emerging disease in the United Kingdom.

**Trichomoniasis (*Trichomonas gallinae*):** The epornitic nature of *Trichomonas gallinae* causes major mortality in small passerine birds. It is documented to be the major cause of the declining greenfinch (*Chloris chloris*) population in Nordic countries.

**Tularemia (*Francisella tularensis*):** In 2016, cases of tularemia were diagnosed in hares in the Netherlands, as well as in humans. The first documented epidemic of tularemia in hares in the Netherlands began in 2015. *F. tularensis* DNA was detected in water and sediment samples at several locations, pointing to a possible aquatic cycle in the Netherlands. In 2016, cases were also repeatedly diagnosed in hares in Switzerland where the disease has been present for several decades.

In autumn 2015, a large outbreak of tularemia was observed among mountain hares (*Lepus timidus*) in northern Sweden. No cases have been observed in 2016.

**Usutu virus (USUV):** In April 2016, USUV was detected for the first time in the Netherlands in healthy birds. To date, it has been identified in captive great grey owls (*Strix nebulosa*) and in living and dead blackbirds (*Turdus merula*). Increased mortality was observed in August to September 2016. In August 2016, USUV emerged in the most eastern part of Flanders, Belgium, with subsequent mortality and the presentation of neurologic signs in blackbirds. In May 2016, a further outbreak was detected in rooks (*Corvus frugilegus*) in northern Switzerland, following outbreaks in previous years in this country. In September 2015, infection with USUV was reported for the first time in France, preceding subsequent outbreaks in other French departments in summer 2016.

## NORTH AMERICA

**Bovine tuberculosis (bTB):** BTB was recently detected in a free-ranging white-tailed deer (*Odocoileus virginianus*) in Indiana, USA, in the immediate vicinity of an affected cattle herd. This is the first detection of bTB in wildlife in Indiana. The *Mycobacterium bovis* strain affecting the wild deer and the cattle herd has been found sporadically in cattle and captive cervids in this area since 2008 and has been found in captive wapiti (also known as North American elk) (*Cervus canadensis nelsoni*), red deer (*C. elaphus*) and cattle for several decades in the country. Wildlife managers in Indiana, Kentucky and Ohio are preparing to carry out extensive bTB surveillance of free-ranging deer in the regions near the affected cattle and deer during the autumn hunting season.

**Chronic wasting disease (CWD):** CWD continues to be detected in new locations in wild and captive cervids in North America. In 2016, CWD was identified in a wild mule deer (*Odocoileus hemionus*) killed by a hunter within 30 km of the city of Edmonton, Alberta. This location is 100 km further west than any previous case of CWD in wild deer in Canada. CWD was first detected in wild deer in Canada in 2000 in the region of the border between the provinces of Alberta and Saskatchewan. Its geographic range in Canada has gradually extended east and west since first detection.

In February 2016, the Arkansas Game and Fish Commission (AGFC) in the USA announced that CWD had been detected for the first time in this state in a wild wapiti (*Cervus canadensis*) killed by a hunter in Newton County in October 2015. Arkansas' wapiti population, which has been hunted since 1998, was re-established following the release of 112 animals translocated from Colorado (107) and Nebraska (5) during the period 1981 to 1985. Following the initial detection of CWD, aggressive surveillance was conducted by random collection and testing of 266 white-tailed deer (*O. virginianus*) in a core area in Newton and adjacent Boone County. Sixty-two positive animals were detected, indicating an overall prevalence of 23 per cent (comprising 20 per cent females and 32 per cent males). Additional surveillance was conducted throughout the state, comprising tests on wild deer and wapiti that had been found sick or dead (including roadkill). Preliminary results recorded CWD detection in Boone, Madison, Newton and Pope Counties. The positive deer in Pope County is more than 60 km south of the core affected area.

In February 2016, the Texas Parks and Wildlife Department announced that CWD had been confirmed in a free-ranging mule deer in Hartley County. This is the eighth confirmed case of CWD in wild mule deer in Texas. Previously, seven deer were detected from 2012 in the Hueco Mountains in West Texas where disease prevalence is suspected to be 10 to 15 per cent. Hartley County borders New Mexico in the Texas Panhandle, where additional surveillance will be conducted.

From October 2015 to September 2016, CWD was found in five additional captive white-tailed deer facilities and two captive wapiti facilities. In the United States, CWD has now been found in a total of 77 captive cervid herds in 16 states and in free-ranging cervids in 21 states.

**Highly pathogenic avian influenza (HPAI) virus:** In 2015, the U.S. experienced an HPAI outbreak in which 48,000,000 domestic turkeys and chickens were killed or culled at a cost of more than \$5 billion. Wild birds were also infected with HPAI viruses for the first time in North America, and are suspected to have been involved in viral dissemination during the outbreak. Extensive HPAI surveillance of wild birds before and after the outbreak, which was centred in the Upper Midwest, failed to detect the virus in more than 45,000 wild birds, primarily waterfowl. However in August 2016, the USDA announced the detection of HPAI H5N2 subtype by PCR in a mallard (*Anas platyrhynchos*) in Alaska. Although the virus could not be isolated from this sample, the detection of partial RNA sequences indicated that it was a HPAI Eurasian/American H5N2 subtype that was closely related to the 2014 northern pintail isolate from Washington. During the period June 2015 to October 2016, there were no confirmed HPAI H5 subtype isolates in domestic poultry and more than 27,000 wild birds in North America. However, HPAI H5 subtype was detected twice by PCR in a mallard in Utah in August 2015 and a mallard in Oregon in November 2015, although detection was not confirmed in either case by virus isolation or genetic sequencing.

The interpretation of these results in relation to the potential establishment of the clade 2.3.4.4 H5 subtype in North American waterfowl is difficult. While results may indicate that the virus has been maintained for an additional year, the extremely low prevalence (1/27,000; 0.0037%) suggests that it is not thriving in waterfowl populations in North America and that the risk of transmission to poultry appears low. The factors that drive the success or failure of introduced viruses to become established in North America are not fully understood. In addition, the expected outcomes of such introductions in the short term are not known. The recent detection of HPAI H5N2 subtype in Alaska may represent evidence of persistence but also could be consistent with slow extinction. HPAI H5N1 subtype failed to establish in Europe following the 2005 outbreak in poultry and wild birds, although limited viral detections in wild birds continued throughout 2007.

**Haemorrhagic disease caused by the genus *Orbivirus*:** From mid-summer to early autumn, a moderate amount of orbiviral hemorrhagic disease due to infection with bluetongue virus (BTV) or epizootic hemorrhagic disease virus (EHDV) was detected in wild ruminants in parts of the United States (US). The primary species affected was the white-tailed deer. The Southeastern Cooperative Wildlife Disease Study (SCWDS) in Georgia, US, isolated 44 viruses from 100 deer from 21 states. The following viruses were isolated: EHDV-1 from one state, EHDV-2 from nine states, EHDV-6 from four states, BTV-2 from one state, and BTV-3 from two states. As in previous years, EHDV-2 was the most commonly detected virus, representing 60% of the 2016 isolates at SCWDS.

The BTV-3 serotype, which is not historically endemic to the US, was the cause of a disease outbreak in Northern Virginia/West Virginia in 2016. This represents the most north eastern detection of this serotype. In total, BTV-3 was detected in 9 out of 14 deer in the area. Historically, BTV-3 was first confirmed in Florida in 1999 and has since been detected on occasion in domestic and wild ruminants over a broad geographic region. In many of these cases BTV-3 was detected in white-tailed deer, highlighting the importance of monitoring wild ruminants for disease caused by the genus *Orbivirus*. An additional observation during 2016 was the isolation of EHDV-6 from a mule deer (*O. hemionus*) in New Mexico. This represents the most western detection of EHDV-6 by SCWDS and indicates that since the first detection of this serotype in the US in 2006, EHDV-6 continues to circulate over a broad region of the US.

**Ovine herpesvirus-2 (OHV-2) in bighorn sheep:** In June 2015, dermatitis (skin lesions) resembling the clinical manifestation of malignant catarrhal fever (MCF) in domestic sheep was observed in a wild bighorn sheep (*Ovis canadensis*) in western Canada. Dermatitis due to OHV-2, the aetiological agent of sheep-associated MCF, is rare and most infected sheep have no evident clinical disease. Histopathology, PCR, and genetic sequencing confirmed that the lesions in the bighorn sheep were associated with infection with OHV-2. Bighorn sheep are commonly infected with OHV-2 but as in domestic sheep, clinical disease associated with this virus is rarely reported. This disease occurrence will be published in the January 2017 issue of the *Journal of Wildlife Diseases* (Vol. 53, No. 1.) and is available online ahead of print.

**New World Screwworm:** On 3 October 2016, the USDA confirmed the presence of New World screwworm (*Cochliomyia hominivorax*) in Key deer (*Odocoileus virginianus clavium*) from the National Key Deer Refuge in Big Pine Key, Florida, US. This is the first local infestation detected in the US in more than 30 years prompting the Florida Commissioner of Agriculture to declare an agricultural state of emergency in Monroe County, Florida. Other Key deer at the refuge and a few local, domestic pigs and dogs exhibited potentially similar infestations over the two months prior to the announcement, but no larvae were collected or tested. As of mid-October, screwworm infestation had been detected in 125 Key deer on several keys, all of which are in close proximity and west of Big Pine and No Name Keys.

The Key deer is an endangered subspecies of the white-tailed deer with possibly less than 1,200 individuals left in the wild. They are the smallest subspecies of white-tailed deer and inhabit 20 to 25 islands in the lower Florida Keys. In 1967, the National Key Deer Refuge was established by the United States Fish and Wildlife Service (USFWS) for the protection and recovery of these deer.

Animal health and wildlife officials at the state and federal levels are working jointly to address the detection of screwworms. An agricultural emergency was declared in the county of Monroe in which the affected animals were found. Response efforts include fly trapping to determine the extent of the infestation, the release of sterile flies to prevent reproduction, and disease surveillance to look for additional cases in animals. The initial goal will be to keep the infestation from spreading to new areas while eradicating the New World screwworm flies from the affected keys.

**Sea Star Wasting Syndrome:** The cause of Sea Star Wasting Syndrome is unknown. There is experimental evidence that it is caused by a transmissible agent, and the sea star-associated *Densovirus* (*Parvoviridae*) has been tentatively identified as a potential aetiological agent. The most intense epidemic of this disease recognized to date is currently occurring on the Pacific coast of Canada and the US, affecting a large part of these coastlines. Clinical signs of this disease have been observed in approximately twenty species of sea star. In the current epidemic, particularly affected species include the ochre sea star (*Pisaster ochraceus*) as well as the mottled star (*Evasterias troschelii*), the leather star (*Dermasterias imbricata*) and the six-armed star (*Leptasterias*). These star fish play key roles in near-shore and inter-tidal ecosystems, thus epidemics of sea star wasting syndrome invoke major ecological changes in affected areas.

**Snake fungal disease (SFD):** SFD was first recognized in Canada in 2015 in biopsy samples taken from lesions on an eastern foxsnake (*Pantherophis gloydi*, formerly *Elaphe gloydi*) disturbed during hibernation in the province of Ontario. As of July 2016, 46 more snakes have been tested for the pathogenic fungus, *Ophidiomyces ophiodiicola*, which is the aetiological agent of this disease. The fungus was detected by PCR on 12 of these snakes and the disease (infection and lesions) was confirmed by histology in 3 of the PCR-positive snakes (all eastern foxsnakes).

SFD is an emerging disease affecting a variety of snake species in eastern North America, including the northern water snake (*Nerodia sipedon*), the eastern racer (*Coluber constrictor*), the rat snake (*Pantherophis obsoletus* species complex), the timber rattlesnake (*Crotalus horridus*), the massasauga (*Sistrurus catenatus*), the pygmy rattlesnake (*Sistrurus miliarius*) and the milk snake (*Lampropeltis triangulum*). It was first noted in the US in 2006. The disease varies in severity but has been associated with significant morbidity and mortality.

**Trichomoniasis (*Trichomonas gallinae*) in wild finches:** Infection of wild finches with virulent strains of the protozoan parasite *Trichomonas gallinae* was first observed in eastern Canada in 2007. In summer 2016, reports of this infection were uncharacteristically numerous and widespread in the Atlantic region of Canada (New Brunswick, Prince Edward Island, Newfoundland) and the disease was also reported further west in the province of Ontario. The species affected included the American Goldfinch, the Purple Finch and the Pine Siskin. Bird feeding stations can serve as transmission points for this infection.

**Whirling disease in brook trout:** Whirling Disease, caused by infection with the myxosporean parasite *Myxobolus cerebralis*, was recognized in wild fish in Canada for the first time in May 2016. It was first recognized in Brook Trout (*Salvelinus fontinalis*) in a small lake in Banff National Park and since then has also been found in this same species downstream in the Bow River. Diagnosis was confirmed with histopathology and PCR, initially by the provincial veterinary diagnostic laboratory of British Columbia and subsequently by the Canadian Food Inspection Agency. Whirling disease is a reportable disease under Canada's national Health of Animals Act. It is not an OIE-Listed Disease.

**White-nose syndrome (WNS) in bats:** WNS of bats continues to occur in new locations. In 2016, the most significant finding was confirmation of WNS in Washington State on the Pacific Coast of the US. This is the most western occurrence of this disease and is more than 1,500 km west of previous cases in eastern and mid-western Canada and the US.

## 7. Chronic Wasting Disease (CWD) in Norway

In April 2016, the first case of CWD in Europe was diagnosed in a wild reindeer (*Rangifer tarandus tarandus*) from the Nordfjella population in south Norway. Shortly afterwards, two moose (*Alces alces*) from the Selbu Municipality in Mid-Norway also tested positive for CWD. Subsequently, two reindeer that were shot in the same area as the first positive reindeer, tested positive for CWD without clinical signs.

Increased active and passive surveillance of CWD has been implemented in Norway through a collaboration between the Norwegian Food Safety Authority, the Norwegian Environment Agency, the Norwegian Veterinary Institute (NVI) and the Norwegian Institute for Nature Research. During the autumn hunt, hunters submit heads to the NVI for brain sample collection to conduct testing for CWD. Active surveillance includes surveillance of cervids shot in Nordfjella, Selbu and surrounding areas, as well as of semi-domesticated

reindeer and farmed deer in other selected areas in Norway. Passive surveillance includes surveillance of cervids found dead, sick cervids that have been euthanized, and animals killed by traffic all over Norway. So far approximately 8,000 cervids have been tested, including wild moose, red deer, roe deer, wild and semi-domesticated reindeer and farmed deer. All cervids tested negative for CWD.

The goal for 2016 and the first half of 2017 is to test 15,000 animals in Norway.

The two moose that tested positive to CWD were from an area close to the border with Sweden prompting discussion on the implementation of a CWD surveillance programme among cervids in Sweden. This has not yet been established. So far only passive surveillance will be performed including investigation of all moose found dead or those killed by traffic. The goal is to conduct investigations into up to 1,500 moose. Semi-domesticated reindeer will also be investigated with the goal to examine 500 animals. The Swedish authorities are awaiting recommendations from EFSA before a surveillance plan is established.

The Working Group discussed whether CWD, like BSE, should be an OIE-Listed Disease. It was concluded that CWD currently does not meet the OIE listing criteria (see Agenda Item 3).

CWD is a disease with the potential for having a major negative impact on cervid populations and on deer management in many European countries if it is spreading through this region. The Working Group agreed that their leadership would now be beneficial. Therefore it was decided that members of this group, comprising a group of international experts under the lead of Dr Torsten Mörner, should write a discussion paper describing perspectives on the introduction of CWD into deer populations in Europe.

## **8. Update on the 2015 saiga antelope die-off in Kazakhstan**

Professor Richard Kock of the Royal Veterinary College, London, provided the Working Group with an insightful briefing on the 2015 saiga antelope (*Saiga tatarica*) die-off in Kazakhstan. Over 230,000 animals died during this event. *Pasteurella multocida* serotype B has been identified as the primary causal agent. All animals died over a few weeks and were distributed over several thousand square kilometres. An environmental factor seems to be the most likely trigger but has not yet been identified. An investigation to determine possible factors is continuing. No domestic animal outbreaks occurred concurrently in that location.

## **9. Avian influenza: wild bird surveillance – update from OFFLU<sup>1</sup>**

Dr Gounalan Pavade, Chargé de mission at the OIE Programmes Department, joined the Working Group to provide an update on the OFFLU wild bird Technical Activity. Over the past months, the OFFLU wildlife group discussed the finalization of a concept note via teleconferences and email exchanges. The concept note details the need for and utilisation of a “Global surveillance programme for Influenza A viral diversity in wild birds” and how such a programme could be designed and implemented under OFFLU. The rationale, objectives, design and operation of such a global surveillance programme was presented to the OIE Working Group. The OFFLU Steering Committee had approved this concept note earlier and encouraged the OFFLU wildlife group to find a suitable funding mechanism to enable implementation of this project.

With regard to the funding mechanism for this concept note, Dr William Karesh updated the Working Group on a “Global Virome Project” that aims for characterisation of all global viruses. The concept of the global avian influenza surveillance programme in wild birds fits nicely within the framework of the Global Virome Project. Therefore, it might be useful to discuss synergies and how OFFLU may contribute in the future.

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<sup>1</sup> OIE-FAO global network of expertise on animal influenza

The OIE Working Group also suggested contacting the European Virus Archive-Global project that deals with the generation of virus collections for any collaboration, and exploring other funding possibilities for the concept note.

#### **10. Reptile animal welfare, food safety and health**

The OIE Standards Department was invited to provide an update on their work developing animal welfare recommendations on methods for slaughter and killing of reptiles farmed for their skin and meat.

Dr Leopoldo Stuardo informed the Working Group that following the recommendations from the Animal Welfare Working Group, the work plan was made by the Code Commission at their last meeting in September. It was decided to convene an electronic consultation *ad hoc* Group to develop a stand-alone chapter in the *Terrestrial Animal Health Code* on killing methods for reptiles farmed for their skins and meat. It was agreed that the development of a new chapter was preferable to the proposal to include new material in Chapter 7.5. As the chapter is already very complex, this would avoid adding more detailed information specific to reptiles. The work of the *ad hoc* Group will be based on a draft document already provided by experts.

Finally, he advised that potential members of the Working Group have been already identified and the work will start during November, with the consultation process being finalised in January. This schedule will allow the Code Commission to consider a new draft chapter during the February 2017 meeting.

#### **11. Collaborative Partnership on Sustainable Wildlife Management: update on the factsheets and other activities**

The Collaborative Partnership on Sustainable Wildlife Management (CPW), of which the OIE is a member, was created in late 2012 and is comprised of 14 international organisations with a Secretariat hosted by FAO.

The Working Group has been asked to support the OIE in this initiative.

Since the last meeting of the Working Group, several factsheets on Sustainable Wildlife Management have been drafted. A glossary has also been developed on which the Working Group made comments during the current meeting.

The sixth meeting of the CPW will be held on 10 December 2016 in Cancun, Mexico during the meeting of the Convention on Biological Diversity.

#### **12. Update on the International Council for Game and Wildlife Conservation (CIC) and OIE joint project**

The OIE and CIC signed Cooperation Agreements on 26 May 2011, 26 May 2012 and 3 December 2015. These Cooperation Agreements state that the OIE and CIC shall prioritize the following items:

- 1: To actively support hunter participation in wildlife disease surveillance work, with special focus on African Swine Fever (ASF).
- 2: To support the establishment of the CIC World Center for Enhancing Hunters' Skills and Game Conservation (WCEHSGC) in Pravets, Bulgaria.
- 3: To plan and arrange a seminar from 6 to 9 March 2017 in Pravets, together with CIC. This seminar will be held at the WCEHSGC in Pravets. Its purpose is to train hunters and establish their role in wildlife disease surveillance. There will be a special focus on ASF. Participants from thirty countries and hunter organizations will be invited.
- 4: To establish a network of people from hunting associations who are interested in the project and in wildlife diseases.
- 5: To produce material for hunters to collaborate on the work on surveillance of wildlife diseases with a focus on ASF. The material will be distributed electronically.

Discussions with CIC will take place at a CIC council meeting in Vienna, Austria, on 15 November 2016, with Dr Mörner.

### **13. Shipment of biological specimens from wildlife**

#### **13.1. OIE – CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) Agreement**

The Working Group recognizes and appreciates the successful effort of the OIE in engaging the Secretariat of CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora). Discussions were related to the need to facilitate the rapid movement of diagnostic specimens from endangered and threatened species. At the CITES Convention of the Parties in September 2016, a resolution was passed specifying the Secretariat to query signatory parties, and compile information related to the international shipment of diagnostic specimens for review by the CITES Standing Committee. As a follow-up, the Working Group recommends that the OIE offer to assist the CITES Secretariat to facilitate international transport of diagnostic samples.

#### **13.2. Protocol of Nagoya**

Dr Margot Raicek, Intern at the Science and New Technologies Department, briefed the Working Group on the Nagoya Protocol, passed in October 2010 by the UN Convention on Biological Diversity. This mandates the terms of Access-and-Benefit-Sharing agreements between countries before exchanges of research samples containing genetic material. Potential concerns of its application to research on animal disease and development of new veterinary medical products were addressed. The Working Group members were asked about what experience they had had with organisational preparedness for the protocol, and whether they knew of any outcomes following implementation of the protocol.

The members affirmed that due to the early implementation of the Nagoya Protocol and continued development of national legislation implementing the protocol in signatory countries, there have been few opportunities for issues with its application to arise. Some members discussed agreements for access and benefit-sharing that their organisations had negotiated on for long-term projects, but it was acknowledged that this would be difficult to do so in emergency situations. Concerns were also expressed regarding how agreements would be negotiated between signatory and non-signatory countries. The Working Group agreed to inform the OIE on the nature of benefit-sharing agreements that their organisations had previously negotiated on, and to continue to advise the OIE on the possible development of a template for benefit-sharing agreements to be used for countries sharing animal-derived samples.

### **14. Annual report from the OIE Collaborating Centres for Wildlife**

**Collaborating Centre for Research, Diagnosis and Surveillance of Wildlife Pathogens (Canada/USA):** The annual report from 2015, sent to the OIE, was reviewed.

**Collaborating Centre for Training in Integrated Livestock and Wildlife Health and Management (South Africa):** The annual report from 2015, sent to the OIE, was reviewed.

The Working Group noted that both Collaborating Centres were very active in meeting the needs of OIE Member Countries and in supporting OIE programmes.

### **15. Training of Wildlife Focal Points**

Staff from the OIE Department of Science and New Technologies reported to the Working Group on the successful initiation of the fourth cycle of training workshops for OIE Focal Points for Wildlife. The fourth cycle is focused on wildlife disease surveillance, particularly from a diagnostic perspective, and also includes basic information on the OIE, presentations and discussion on regional wildlife health issues, and hands-on instruction in the use of *WAHIS-Wild*. The Collaborating Centre on Research, Diagnosis, Surveillance of Wildlife Pathogens (USA and Canada) presented the component on wildlife disease surveillance and prepared a training manual for this segment of the workshop.

The first workshop of this fourth cycle was presented to Focal Points from Europe in Minsk, Belarus, on 5 to 7 July 2016. The remaining workshops in the cycle are to be presented for Anglophone Africa and Middle East in Kenya in November 2016, for Francophone Africa in January 2017 (Lomé, Togo), and for the Americas and Asia regions also in 2017 (locations to be confirmed).

The Working Group stated its appreciation to the OIE for continuing to hold these important training workshops, and to the Collaborating Centre on Research, Diagnosis, Surveillance of Wildlife Pathogens for the extensive work they are investing in these workshops.

OIE staff reported to the Working Group that the Training Manuals for the first and second cycles of training workshops for the OIE National Focal Points for Wildlife have been published on the OIE website (available in English, French and Spanish for the first cycle and currently only in English for the second cycle). The manual from the third cycle of training workshops also will be published on the website and the manual from the fourth cycle will be prepared for publication at the end of this fourth cycle.

The Working Group noted the high value of the Training Manuals as self-training and reference publications. The Working Group also thanked the OIE for its support in the publication in English of the IUCN/OIE *Manual for Risk Assessment of Wildlife Diseases* and for the translation of this manual into Spanish.

## **16. Past and upcoming Conferences (feedback from members and the OIE Headquarters)**

### **16.1. WHO/OIE Conference on Global Elimination of Dog-Mediated Human Rabies - The Time Is Now!, Geneva, Switzerland, 10 to 11 December 2015**

Dr Gregorio Torres, OIE Science and New Technologies Department, informed the Working Group on the main outcomes of the global conference, “Global elimination of dog-mediated human rabies - The Time Is Now”. The conference was jointly organised by the OIE and WHO and took place in Geneva in December 2015. Nearly 300 participants from all relevant sectors shared their practical experiences and discussed the feasibility of rabies elimination. The main outcome of the conference was the Global Framework for Rabies Elimination<sup>2</sup> that identified the key activities under the five pillars of “STOP-R”. The Global Framework is intended to support and guide countries and regions in the process of developing and harmonising their rabies elimination strategies.

The Working Group contributed to the conference by presenting a scientific poster demonstrating the value of eliminating dog-mediated rabies for the conservation of some wildlife species that are impacted by the disease.

### **16.2. Expert Meeting on alien species in wildlife trade, experiences in the use of biological control agents and development of decision support tools for management of invasive alien species, Montreal, Canada, 28 to 30 October 2015**

Professor Leighton attended this meeting on behalf of the OIE and reported on the meeting to the Working Group.

### **16.3. Fourth International One Health Congress & Sixth Biennial Congress of the International Association for Ecology and Health 2016 – Melbourne, Australia, 3 to 7 December 2016**

Dr Paolo Tizzani, WAHIAD, informed the Working Group that he would attend the One Health EcoHealth congress in Melbourne, Australia from 3 to 7 December 2016. The objectives of the congress include showcasing how One Health and EcoHealth approaches are contributing to more effective responses to global health challenges and to the reduction of global health risks. It aims at creating a platform for ongoing dialogue and collaborative action among researchers, policy makers and practitioners, and among the global One Health and EcoHealth communities.

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<sup>2</sup> [http://www.oie.int/fileadmin/Home/eng/Media\\_Center/docs/pdf/Rabies\\_portal/EN\\_TimeisnowGlobalFramework.pdf](http://www.oie.int/fileadmin/Home/eng/Media_Center/docs/pdf/Rabies_portal/EN_TimeisnowGlobalFramework.pdf)

Dr Tizzani mentioned that he would present results on Global dynamics of Highly Pathogenic Avian Influenza Viruses between 2005 and 2015: Spread and Speed Analysis, derived from WAHIS data. The aim of the analysis is to describe the global dynamics of HPAI viruses over the last 11 years, their capability in terms of spread and speed in order to enhance the capacity of predicting and managing epidemics. The analysis focuses on outbreaks reported in both domestic animals and wildlife.

## **17. Other business**

### **17.1. Terms of Reference of the OIE Working Group on Wildlife**

The Working Group reviewed the current Terms of Reference of the Working Group and suggested that they be updated to be more closely aligned with the OIE Basic Text and the OIE Sixth Strategic Plan.

The Working Group discussed opportunities for including issues related to emerging diseases, biodiversity and climate change into its future work. The Working Group is well placed through its interdisciplinary networks to inform OIE on issues of emerging diseases, biodiversity and climate change as they relate to impacts on animal health management. The Working Group can also assist in developing linkages to other organisations working in these subject areas such as the UN Office of Disaster Risk Reduction, the Convention on Biodiversity, and the Convention on International Trade in Endangered Species, which may benefit from the input and advice of veterinary expertise.

The Working Group will continue to develop these lines of thinking and will provide suggestions on changes to Terms of Reference to the OIE for consideration.

### **17.2. Scientific publications**

Dr Erlacher-Vindel encouraged members of the Working Group to include their OIE affiliation on publications relevant to the OIE and to inform the OIE when these are published.

### **17.3. United Nations Sendai Framework**

The Working Group discussed the United Nations Sendai Framework for Disaster Risk Reduction and ways in which animal health activities such as prevention, preparedness and response planning could potentially be included in the tools and guidance documents being developed under the framework. This information would assist countries in planning for animal health components of disaster events and better accounting for damages or losses to animal systems. The Working Group suggested that the OIE could explore opportunities with this agency which is tasked with disaster risk reduction. The Working Group is available to assist in these endeavors.

### **17.4. Professor Marc Artois**

The Working Group noted the long and important contribution of Professor Marc Artois to the Working Group and to the OIE, as well as his professional contributions to wildlife disease research and policy evolution in Europe and worldwide. Professor Artois served on the Working Group since its inception in 1994 until May 2016.

## **18. Work programme and priority setting for 2016/2017**

The Working Group discussed potential activities for the coming year pending review and approval by the Scientific Commission and the OIE. These included:

- to communicate with the Scientific Commission regularly to ensure the Working Group responds to new and on-going priorities and needs of the OIE;
- to continue to inform the OIE about animal health issues associated with wildlife, emerging diseases, biodiversity, and climate change;
- to draft a short summary to communicate on main highlights from the meeting of the Working Group for Wildlife;

- to draft a short annual report on non OIE-Listed diseases;
- to provide broad science-based and technical support to the OIE on wildlife issues, terrestrial and aquatic species and wild bees;
- to support OFFLU in its efforts to gather information through surveillance for avian influenza viruses in wildlife;
- to support the OIE in its work with the Collaborative Partnership on Sustainable Wildlife Management;
- to support the joint efforts of the OIE and the International Council for Game and Wildlife Conservation in the development of training materials for hunters, as well as an educational fact sheet on African swine fever and wild boar;
- to recommend the publication of the training manuals of the training workshops for the OIE National Focal Points for wildlife on the OIE website;
- to support the OIE in its collaboration with the Secretariat for the Convention on International Trade in Endangered Species (CITES); and
- to assist the OIE to contribute to World Wildlife Day on 3 March 2017 (<http://www.un.org/en/events/wildlifeday/>), by providing written materials and photographs as requested.

#### **19. Date of next meeting**

The Working Group noted the proposed week for its next meeting on 12 to 15 December 2017.

#### **20. Adoption of report**

The report was adopted by the Working Group.

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.../Appendices



**MEETING OF THE OIE WORKING GROUP ON WILDLIFE  
Paris (France), 7 – 10 November 2016**

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**Agenda**

- 1. Opening**
  - 2. Adoption of agenda and designation of rapporteur**
  - 3. Feedback from the meetings of the Scientific Commission for Animal Diseases**
  - 4. Sixth OIE Strategic Plan**
  - 5. Disease reporting**
    - 5.1. Information on submitted reports on non OIE-Listed Diseases in wildlife through *WAHIS-Wild*
    - 5.2. Review of the taxonomy of the pathogens on the specific list of wildlife diseases
    - 5.3. Evaluation of the frequency of the revision of the list of non OIE-Listed Diseases in wildlife
    - 5.4. Collection of information on diseases not notifiable to the OIE and name association between OIE-Listed and non OIE-Listed Diseases in wildlife
  - 6. Emerging and noteworthy wildlife disease occurrences: reports from members of Working Group on Wildlife Diseases**
  - 7. Chronic Wasting Disease in Norway**
  - 8. Update on 2015 Saiga antelope die-off in Kazakhstan**
  - 9. Avian influenza: wild bird surveillance – update from OFFLU**
  - 10. Reptile animal welfare, food safety and health**
  - 11. Collaborative Partnership on Sustainable Wildlife Management: update on the factsheets and other activities**
  - 12. Update on the International Council for Game and Wildlife Conservation and OIE joint project**
  - 13. Shipment of biological specimens from wildlife**
    - 13.1. OIE – CITES Agreement
    - 13.2. Nagoya Protocol
  - 14. Annual report from the OIE Collaborating Centres for Wildlife**
  - 15. Training of Wildlife Focal points**
  - 16. Past and upcoming conferences (feedback from members and OIE Headquarters)**
    - 16.1. WHO/OIE Conference on Global Elimination of Dog-Mediated Human Rabies - The Time Is Now!, Geneva, Switzerland, 10-11 December 2015
    - 16.2. Expert Meeting on alien species in wildlife trade, experiences in the use of biological control agents and development of decision support tools for management of invasive alien species, Montreal, Canada, 28 – 30 October 2015
    - 16.3. 4th International One Health Congress & 6th Biennial Congress of the International Association for Ecology and Health 2016 – Melbourne, Australia, 3-7 December 2016
  - 17. Other business**
  - 18. Work programme and priority setting for 2016/2017**
  - 19. Date of next meeting**
  - 20. Adoption of report**
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**MEETING OF THE OIE WORKING GROUP ON WILDLIFE**  
**Paris (France), 7 – 10 November 2016**

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