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

Paris, 17 – 19 February 2003

The meeting of the Working Group on Wildlife Diseases was held from 17 to 19 February 2003 at the OIE Central Bureau. Dr Alejandro Schudel, Head of the Scientific and Technical Department, welcomed the participants and opened the meeting. Dr M.H. Woodford was elected chairperson of the meeting and Drs T. Mörner and Stephanie Haigh were appointed rapporteurs. The agenda and list of participants are given in Appendices I and II respectively.

1. Epidemiological review of selected wildlife diseases in 2002

List A diseases

Avian influenza

Ten Silver gulls (*Larus novaehollandiae*) died suddenly in Sydney, Australia. The birds died from a combined infection with *Pseudomonas fluorescens*, and severe underlying granulomatous hepatitis caused by parasitic flukes (schistosomes). Both of these organisms are not uncommon in an aquatic environment and individually do not usually cause disease. Interaction among the two infectious agents most likely resulted in the death of these birds. Newcastle disease virus serology (haemagglutination inhibition) was negative (n = 10). However avian influenza serology (ELISA) was positive in three birds (n = 10). Australian wild birds (mostly aquatic species) have been identified as possible reservoirs for avian influenza virus by virus isolation or serology. However, their role as the source of infection in previous outbreaks of avian influenza on commercial poultry farms in Australia has not been conclusively proven. The significance of this finding is thus unclear.

In an epidemiological investigation of avian influenza in visiting wild birds in a Hong Kong zoological park, faeces from over 100 waterfowl (herons, egrets, ducks) were examined and found to be negative for avian influenza virus.

Bluetongue

Bluetongue was diagnosed clinically in three Uganda kob (*Kobus kob*) in Uganda's Queen Elizabeth National Park. Laboratory confirmation has not yet been received.

In the USA, bluetongue virus type 10 was isolated from single white-tailed deer (*Odocoileus virginianus*) with orbiviral hemorrhagic disease in Georgia, North Carolina, and Virginia.

Dairy cattle and dairy goats on four farms in an agro-technology park as well as a susceptible population of wild ruminants kept in the local zoological gardens in Singapore were found to be serologically positive for bluetongue. There were 500 individual susceptible animals at the zoo, and 1400 susceptible on the farms. There were no apparent clinical signs suggestive of bluetongue infection. Diagnosis was by competitive ELISA for antibodies, and 71 of 145 of samples submitted were positive, including Cape buffalo (*Syncerus caffer*), markhor (*Capra falconeri*) and kudu (*Tragelaphus* sp.), among others. Serotyping of the virus and a study of the potential insect vectors of the virus is now under way.

Classical swine fever

In 2002 this disease was reported from Belgium, France, Germany, Luxembourg, Slovenia, Slovakia and Romania. Outbreaks were restricted to wild boars (*Sus scrofa*) and exceptionally related epizootics were observed in domestic pigs. A large focus encompasses forested habitats at the border of Belgium, France, Germany, Luxembourg up to the border of Netherlands (still free). There, despite various attempts to control it, the infection is slowly growing in case number and distribution. E.U. experts have provided technical recommendations to slow down and possibly control outbreaks. Based on that, recent E.U. regulation has codified control measures in order to allow the proportion of naturally immunised individuals to increase and stop transmission. Most of these measures are counterintuitive (ban sport hunting for at least six months). They are then accepted with difficulty by local authorities. The infection is possibly supported by differences and asynchrony in control measures across administrative borders since in this area, wild boars can freely move from a country to another across large forests. Culling is not recommended since it increases spatial dispersion of infected and turnover of the population, enhancing reproduction rate and recruitment of new susceptible animals. Vaccination of wild boars through a baiting system is currently in progress in Germany where scientific trials have given encouraging results according to authors.

A CSF in wild boar data base is currently being constructed by the institute of epidemiology in Wusterhausen (Germany) in cooperation with veterinary services from Belgium, France, Germany, Luxembourg and the Netherlands. Individual cases of CSF are to be mapped in real time and displayed on the Internet. Experts and veterinary officers can be informed of the geographical extension of the infection in almost real time.

Contagious bovine pleuropneumonia

In Ethiopia, 75 serum samples collected from 10 wild ungulate species tested negative.

Foot and Mouth Disease

In South Africa, there is continued serological evidence of persistent cycling of an SAT 2 virus in the west-central impala (*Aepyceros melampus*) sub-population of the Kruger National Park. Sero-prevalence in different random samples varied from 24% – 61%. The virus has not been isolated, but appears mild and apathogenic in impala, with few clinical signs. The Kruger National Park is in the endemically infected buffalo zone. In Zimbabwe, there is serological evidence of FMD virus (type unspecified) cycling in greater kudu (*Tragelaphus strepsiceros*) in the Save River Conservancy in the eastern lowveld. A 30% sero-prevalence was found on random sampling. This conservancy is also located in an endemically infected buffalo zone.

Newcastle Disease

An outbreak of Newcastle disease in farmed ostriches (*Struthio camelus*) was reported from Zimbabwe. Approximately 100 birds were infected. The infection was diagnosed on clinical signs, and confirmed by the serological haemagglutination inhibition test. High titres were detected.

Preliminary results of an investigation into unusually high Shy albatross (*Thalassarche cauta*) chick mortality at Albatross Island, Bass Strait, Tasmania (40.375°S, 144.656°E) suggested mortalities were due to a poxvirus (histology and clinical signs). Serological tests on sera from 37 live chicks were negative for avian influenza and infectious bursal disease, however, a single serum sample was positive for Newcastle disease virus (NDV) (titre greater than 80 by haemagglutination inhibition). This is likely to represent prior infection with an endemic strain of NDV.

Peste des petits ruminants (PPR) in Abu Dhabi

A group of 18 gazelles (*Gazella dorcas*) was imported from Sudan and held in isolation for six months. Fourteen of the gazelles died of PPR (confirmed by ELISA) after being placed in close contact with a small group of domestic sheep that had been imported from the same source country. The sheep showed clinical signs of PPR a few days after their arrival in Abu Dhabi. All the sheep subsequently died, but no diagnostic samples were taken. PPR is considered to be endemic in the domestic sheep and goat flocks in the United Arab Emirates.

In Ethiopia, 75 serum samples collected from 10 wild ungulate species tested negative for PPR.

Rinderpest

The suspected outbreak of rinderpest in cattle and wildlife in the Laikipia area of Kenya, reported in October, 2002, could not be confirmed serologically, and no virus was isolated.

In Ethiopia, 75 serum samples collected from 10 species of wild ungulates, all tested negative for rinderpest.

List B diseases

Anaplasmosis

Anaplasmosis (*A. marginale*) has been diagnosed in isolated groups of feral cattle and buffalo (*Bubalus bubalis*) in Australia.

Anthrax

In Namibia, sporadic cases of anthrax were reported from northern regions in elephant (*Loxodonta africana*), lion (*Panthera leo*) and springbok (*Antidorcas marsupialis*).

In South Africa sporadic cases of anthrax were recorded in greater kudu (*Tragelaphus strepsiceros*) in Northern Cape Province and in the Kruger National Park.

In Ethiopia, no further cases were reported from Mago National Park, following the extensive outbreaks of 1999 and 2000, during which mortality of more than 1600 animals from 21 species were recorded. The majority of deaths were in lesser kudu (*Tragelaphus imberbis*).

In Zambia, over 120 hippopotamus (*Hippopotamus amphibious*), and four buffalo (*Syncerus caffer*) reportedly died of anthrax. Diagnosis was confirmed by blood smear and/or culture.

Avian tuberculosis

More than 100 Ring necked pheasants (*Phasianus colchicus*) were found infected (gross lesion, histology and isolation) in one game farm in Spain. These birds were intended for release into the wild. Nevertheless, avian tuberculosis is commonly observed in wild birds in Europe and was reported in 2002 in pheasants, partridges, ducks, swans, gulls and birds of prey. Infection with *Mycobacterium avium* was also reported in different deer species and in chamois (*Rupicapra rupicapra*).

Bovine tuberculosis

In Tanzania, bovine tuberculosis (BTB) was detected in 11,1% wildebeest (*Connochaetes taurinus*) and 11,1% of topi (*Damaliscus lunatus*) culled during local meat cropping programmes in the Serengeti ecosystem. There is also serological evidence of infection in buffalo and lions in the Serengeti. *Mycobacterium bovis* was also isolated from wildebeest and kudu (*Tragelaphus strepsiceros*) from the Mdori hunting block adjacent to Tarangire National Park in Tanzania.

In Uganda, BTB was diagnosed in two buffaloes from the Queen Elizabeth National Park.

In South Africa, bovine tuberculosis persists in the Kruger National Park (KNP) and the Hluhluwe/Umfolosi Park, where buffalo and kudu (*Tragelaphus strepsiceros*) are the main maintenance hosts. It has also, more recently, been detected in kudu (*Tragelaphus strepsiceros*) in the Spioenkop Nature Reserve. During 2002, BTB was detected for the first time in time in warthog (*Phacochoerus aethiopicus*) in the KNP and *M. bovis* was also cultured from 18 lions and 2 leopards sampled in this Park. On private land south of the KNP, BTB was confirmed in warthogs and an eland (*Taurotragus oryx*). In the Hluhluwe/ Umfolozi Park, a BTB survey detected infection in 80/ 810 (9,87%) of buffaloes sampled.

Year after year bovine TB appears to be more spread than previously believed in wild species in Europe. TB was regularly reported in traditional foci in badger (*Meles meles*) from the UK. In recent years it has also been diagnosed in wild ungulates such as red deer (*Cervus elaphus*) in France, United Kingdom and Spain. In France, after a first case was recorded in 2001, a local focus has been identified in an isolated forest, where the origin of infection appears to be from resurgent cattle infection. Bovine TB is also found in wild boars in Italy and Spain. In continental Europe, TB infection of wild boars, red and roe deer (*Capreolus capreolus*) occurs in a limited number of foci but in these foci the infection is relatively prevalent among these species.

Bovine tuberculosis in elk and, this year, also in white-tailed deer (*Odocoileus virginianus*), in one area of central Canada has resulted in an altered trade status. Tuberculosis continues to recur in cattle within the designated area. It is assumed that the disease was originally transmitted from cattle to wild cervids and that the cervids now represent a reservoir of the disease from which test-negative cattle herds are occasionally re-infected. It is not known if the wild cervid populations are sufficiently dense or have other biological characteristics that would cause them to maintain the infection for a prolonged period in the absence of infected cattle.

In the USA, bovine tuberculosis is endemic in white-tailed deer in the northeastern portion of Michigan's Lower Peninsula. Bovine tuberculosis has been confirmed in 449 wild white-tailed deer and 2 wapiti (*Cervus elaphus*) through 2001. Apparent spillover to other wildlife species including raccoon (*Procyon lotor*), black bear (*Ursus americanus*), coyote (*Canis latrans*), and bobcat (*Felis rufus*) also has been documented. Measures being taken to eliminate bovine tuberculosis from Michigan's deer include reduction of deer population density and restrictions on baiting and supplemental feeding of deer.

Brucellosis

Brucella infection was reported in chamois (*Rupicapra rupicapra*), European brown hares (*Lepus europaeus*) and wild boar in Andorra, Austria, Italy, Czech Republic, the Netherlands and United Kingdom. There were also several reports of isolations of *Brucella* spp. from marine mammals in United Kingdom.

Bovine brucellosis is endemic in wapiti (*Cervus elaphus nelsoni*) and bison (*Bison bison*) in the Greater Yellowstone area in the western United States.

***Echinococcus granulosus* in wildlife in Australia**

Wild dogs (*Canis familiaris*) and foxes (*Vulpes vulpes*) were trapped at one location in the Kosciuszko National Park and at 7 locations around the periphery of the Park. Feral pigs (*Sus scrofa*), macropodid marsupials, wombats (*Vombatus ursinus*) and feral goats (*Capra hircus*) were collected at some of the same locations. *Echinococcus granulosus* tapeworms were found in wild dogs from all locations. Prevalence ranged up to 100% with worm burdens up to 300,000 worms. Prevalence in foxes ranged up to 50% in animals recovered from 5 locations. The worm burdens were usually less than 50 *E. granulosus* per fox. Hydatid cysts were found in all macropodid species. Prevalence (69%) and cyst fertility (100%) were highest in swamp wallabies (*Wallabia bicolor*). Prevalence of cysts in feral pigs ranged up to 49%. Less than 22% of the cysts were found in any of the wombats or feral goats. These results suggest that swamp wallabies are pivotal in maintaining transmission of this parasite.

Leishmaniosis

In Zimbabwe, Leishmaniosis was diagnosed in a captive Cape grysbok (*Raphicercus melanotis*) that had been imported from the Tygerberg Zoo in South Africa. Trace back investigations are proceeding.

Protozoal dermatitis was diagnosed in a captive red kangaroo (*Macropus rufus*) from the Northern Territory. Promastigotes were consistent in morphology with *Leishmania* spp. by histopathology. It is important that Leishmaniosis be ruled out, given that this disease is considered exotic to Australia. Identification is pending.

Rabies

In Namibia, a major rabies epidemic has been reported in greater kudu (*Tragelaphus strepsiceros*). An estimated 2,500 cases have occurred, based on animals reported with clinical signs. Most kudu that have been sampled tested positive for rabies by FAT. The outbreak has affected an area covering about 81 farms, and 20% of the kudu population are believed to have succumbed to rabies. The kudu demonstrated typical clinical and behavioural signs, and infected animals were generally solitary - having left their social groups. Clinical signs included lowered head position with lateral positioning of the ears, salivation, aimless wondering, and docility, with animals entering unfamiliar human inhabited surroundings and buildings. Finally, paresis and paralysis set in, with carcasses frequently found near water points where the animals spent their terminal hours, unable to drink. A previous epidemic of this unique, non-bite transmitted form of rabies, involving the canid virus biotype, was also described in Namibia between 1977 and 1979. An estimated 10,000 kudu died during this previous epidemic.

Rabies was also confirmed in 2 eland (*Taurotragus oryx*), 14 jackal (*Canis mesomelas*) and 1 honey badger (*Mellivora capensis*) in Namibia.

In South Africa, scattered and sporadic cases rabies involving the viverrid biotype was confirmed in 24 yellow mongoose (*Cynictus penicillata*), 4 slender mongoose (*Herpestes sanguinea*), 5 suricates (*Suricata suricatta*) and 1 small grey mongoose (*Herpestes pulverulenta*). Rabies caused by the canid biotype was confirmed in 5 bat-eared foxes (*Otocyon megalotis*), 4 black-backed jackal (*Canis mesomelas*) and 1 African civet (*Civettictis civetta*). In Zimbabwe, sporadic cases of rabies were diagnosed in black-backed jackal, side-striped jackal (*Canis adustus*) and African civet. In Zambia, rabies was diagnosed in a single jackal (*Canis mesomelas*).

In Uganda, rabies was diagnosed in a bushbuck (*Tragelaphus scriptus*).

A total of 1 721 cases of rabies in European wildlife were observed in 2002. Reports of rabies came from Austria, Czech Republic, Latvia, Lithuania, Germany, Norway (Svalbard), Poland and Romania. Rabies was observed in red foxes (*Vulpes vulpes*), arctic fox (*Alopex lagopus*), raccoon dogs (*Nyctereutes procyonoides*), wolf (*Canis lupus*), lynx (*Lynx lynx*), badger (*Meles meles*), martens (*Martes* sp.), mustelides (*Mustela* sp.), otter (*Lutra lutra*), wild cats (*Felis silvestris*), roe deer (*Capreolus capreolus*), wild boar (*Sus scrofa*) and red squirrel (*Sciurus vulgaris*). The following countries are rabies free: Austria, Belgium, Cyprus, Denmark, Finland, France, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, mainland and island, Spain, Sweden, Switzerland, UK.

In the USA and Canada, rabies is endemic in several species of bats, as well as in several species of carnivores. The carnivorous species most frequently associated with rabies virus varies from region to region.

Tularemia

Over 400 cases of tularaemia were reported in European brown hares (*Lepus europaeus*) and mountain hares (*Lepus timidus*) in Austria, Czech Republic, Finland, France, Italy and Sweden.

An outbreak of tularemia occurred in wild prairie dogs (*Cynomys* sp.) captured in South Dakota, USA and distributed by a Texas exotic animal facility for the pet trade. Exposed animals were sold to wholesalers, retailers, and customers in 10 states, Belgium, the Czech Republic, Japan, the Netherlands, and Thailand. High mortality was observed among some of these animals and approximately 250 of 3,600 prairie dogs that passed through the facility died. Public health officials notified all recipient countries and states once the problem was recognized. No human cases of tularaemia were reported

Angiostrongylosis

A wild tawny frogmouth (*Podargus strigoides*) was euthanased in Sydney due to severe ataxia, head tilt and intention tremor. Nematode parasites were found migrating through the cerebellum and were likely to have been *Angiostrongylus cantonensis*. This parasite is now well established in the Sydney region of New South Wales, and is becoming an increasingly important zoonosis in Australia.

A recent study found histological evidence of *Angiostrongylus cantonensis* infection in 16 of 86 flying foxes (*Pteropus* spp). In 10 of the 16 flying foxes the parasites were definitively identified as *A. cantonensis* 5th stage larvae. The 16 flying foxes were negative for lyssaviruses by direct fluorescent antibody test.

A captive cotton-top tamarin (*Saguinus oedipus oedipus*) in Sydney, Australia had marked nematode infection in the meninges with adult nematodes in the pulmonary artery and large numbers of nematode ova and larvae causing arteritis in the lungs. The most probable diagnosis was *Angiostrongylus cantonensis* infection.

Arboviruses

In March 2002 there were serological positives for Japanese encephalitis virus in sentinel pigs on Badu Island, Torres Strait.

In 2001, West Nile virus was detected in Canada only in southern Ontario. In 2002, the virus was detected in dead wild birds (*Corvidae*) in five provinces (Nova Scotia, Quebec, Ontario, Manitoba, Saskatchewan), in an area extending from approximately 63° to 110° West Longitude and from approximately 43° to 53° North Latitude. A total of 3478 birds were tested (PCR) and 563 were positive (16%). A total of 388 confirmed or suspected human infections with WNV were detected, and 11 were fatal. The number of horses affected in Canada is not known but appears to be in the range of 500 to 2000.

In the USA, the continued westward spread of West Nile virus was documented. Mortality was observed in more than 10,000 wild birds as the disease spread from Midwestern states to California.

West Nile Virus in North America - See Report Item 5.

Usutu virus infection

In Austria during late summer 2001, a series of deaths in several species of birds occurred, and various methods of investigation suggested a WNV-like infection. Subsequently, the virus was isolated and identified. The isolates have been shown to be close to Usutu virus (USUV), a mosquito-borne virus of the Japanese encephalitis virus group of the genus Flavivirus. USUV had not previously been observed outside Africa nor had it been associated with fatal disease in animals or humans.

Avian pox

New Zealand reported Psittacine pox infection in aviary kept eastern rosellas (*Platycercus eximius*). This disease has the potential to infect naive populations of highly endangered parrots, and thus is of significant conservation concern.

Avian poxvirus infection was reported in captive macaws in Guyana.

Avian vacuolar myelinopathy

Avian vacuolar myelinopathy continues to occur on a limited number of reservoirs in the south-eastern USA. Through early 2003, AVM has been suspected or confirmed in the deaths of at least 92 bald eagles (*Haliaeetus leucocephalus*) and has been confirmed in 7 other wild avian species, primarily among water-associated birds including ducks and geese, shorebirds, and coots. The cause of AVM and its source remain unknown despite extensive research efforts and the potential for the AVM agent to affect mammalian species is unknown. A pilot study found that young pigs that consumed tissues from American coots (*Fulica americana*) with AVM did not develop neurological lesions as did red-tailed hawks (*Buteo jamaicensis*).

Bat lyssavirus

In April a sporadic EBL infection of a sheep appeared in a Danish herd (confirmed by standard FAT, the isolated strain was characterised by MAb to be homologous with previously isolated strains from Danish bats and sheep). In UK EBL was isolated from a Daubenton's bat (*Myotis daubentonii*) and in a second unrelated incident, the tragic death of a bat worker (November, in Scotland) from the same disease may have been acquired following a bite from an infected bat. Bats infected with Lyssavirus were also found in Germany, Poland, Switzerland and the Netherlands.

In Australia, pathogenesis studies of grey-headed flying foxes (*Pteropus poliocephalus*) showed that the response to peripherally inoculated Australian bat lyssavirus (ABL) was similar to that of bats inoculated peripherally with bat-associated rabies virus. Three of 10 ABL inoculated animals developed histological lesions consistent with a lyssavirus infection, and lyssaviral antigen was identified in the CNS of all 3 animals. Virus was isolated from the brain of 2 of 3. Of the 4 rabies-inoculated animals, 2 developed rabies-like clinical signs and both had histological lesions and viral antigen within the CNS, but virus was recovered from the brain of only one animal. By 3 months post inoculation, 5 of the 7 ABL survivors and 2 of the rabies inoculated survivors seroconverted.

Botulism

Taiwan continues to have mortalities in endangered black-faced spoonbills (*Palateea minor*) due to botulism. This disease could threaten the species.

In Canada, Type E Botulism has killed important numbers of birds, including some species of conservation concern such as the common loon (*Gavia immer*), each year for the past four years on Lakes Erie and Huron. The source of toxin appears to be fish and, in particular, an introduced alien species of gobie. Ecologists consider it likely that Type E botulism on these lakes is an emerging disease associated with the extreme ecological changes caused there by invasive species of mussel and mussel-feeding fish such as the gobie. The presence of Type E botulism bacteria and toxin in this environment is also an emerging issue in management of sport and commercial fishing and food safety for consumers of these fish.

Chlamydiosis

Novel strains of *Chlamydia* 16SA/B (similar to *C. pecorum*) were isolated from threatened extant western barred bandicoots (*Perameles bougainville*) in several locations in Western Australia, including from some predator free populations on islands and from mainland captive and semi-captive breeding populations. Wart-like lesions have been seen in more limited populations of western barred bandicoots on mucocutaneous junctions, pouch and oral mucosae. There is considerable concern that these diseases may threaten the recovery of this species.

In Zimbabwe there was Chlamydiosis infection in crocodile (*Crocodylus niloticus*) hatchlings on 1 farm.

Chronic wasting disease

In Canada surveillance for CWD in hunter-killed animals taken in the fall of 2002 detected four animals with abnormal prion protein (PrP^{res}) in tonsil. These deer were killed at two different geographic locations that also were distant from the first location where CWD was detected in wild deer in Canada. Thus, CWD has now been detected in Canada in three separate areas of the province of Saskatchewan and in two wild species: mule deer (*Odocoileus hemionus*) and white-tailed deer (*Odocoileus virginianus*).

In the USA, CWD infection was documented in 2002 for the first time in wild deer (*Odocoileus* spp.) in Illinois, New Mexico, South Dakota, and Wisconsin. Infection was documented for the first time in captive white-tailed deer (*Odocoileus virginianus*) in Wisconsin and in captive wapiti in Minnesota.

Chronic Wasting Disease in North America – See Report Item 5.

Coccidiosis in reptiles

Pathologists have diagnosed an outbreak of neurological disease in endangered green sea turtles (*Chelonia mydas*) due to systemic coccidiosis. Turtles were found stranded on beaches in northern New South Wales in mid-October. They had neurological signs including head tilt and difficulty in swimming, which were consistent with systemic coccidiosis infection of green sea turtles previously associated with mortalities in 1991 at Morton Bay, Queensland, Australia (Gordon *et al.*, 1993). Histopathological diagnosis was consistent with *Caryospora cheloniae* (n = 11), which was subsequently confirmed by oocyst maturation and sporulated oocyst morphology. The epidemiology of this condition is not understood. Current investigations are focussing on possible role of concurrent algal bloom and sea surface temperatures in expression of this condition.

Coccidiosis was reported in hatchling crocodiles (*Crocodylus niloticus*) from 7 farms in Zimbabwe. In South Africa, coccidiosis caused by two different *Eimeria* species is a common problem in farmed Cape buffalo (*Syncerus caffer*) under intensive conditions.

Ebola virus (for full report and discussion-see Report Item 5).

In the Democratic Republic of Congo, Ebola virus related mortalities were confirmed in three gorillas (*Gorilla gorilla*) by Centre International de Recherches Médicales de Franceville (CIMRF) earlier in 2002. More recently, the carcasses of at least six more gorillas and numerous chimpanzees (*Pan troglodytes*) have been found. CIMRF has been invited to investigate.

Haemorrhagic disease

In the USA, numerous cases of orbiviral haemorrhagic disease were confirmed in white-tailed deer by isolation of epizootic haemorrhagic disease virus type-2, including the first such viral isolations reported for Pennsylvania and Wisconsin.

Inclusion body disease

Inclusion body disease was diagnosed in a group of captive snakes in Australia. Electron microscopy on 2 clinically affected snakes identified C type retroviral particles. Ten of 40 clinically normal snakes had histological evidence of intracytoplasmic inclusion bodies within the CNS. One native snake with lymphosarcoma had C-type retroviral particles within neoplastic lymphocytes.

Melioidosis

In Hong Kong melioidosis occurs frequently in certain locations and kills many animals and people in other parts of Asia. It is infrequently diagnosed and reported because of difficulties in diagnosing the bacteria, *Burkholderia pseudomallei*.

Mycobacteriosis

A large number of acid fast bacteria have been seen in the faeces or various tissues /aspirates from Australian native wildlife including (for 2002): scarlet chested parrot (*Neophema splendida*), budgerigar (*Melopsittacus undulatus*), whiteheaded pigeon (*Columba leucomela*), rainbow fish (species not stated), diamond dove (*Geopelia cuneata*), rose crowned fruit dove (*Ptilinopus regina*), gouldian finch (*Erythrura gouldiae*), zebra finches (*Taeniopygia guttata*), long nosed bandicoot (*Perameles nasuta*). In all cases bacteria were unable to be identified.

A captive barbary sheep (*Ammotragus lervia*) in Sydney, Australia was found to have acid fast bacteria within the walls of several pulmonary abscesses. Mycobacteria did not grow in culture of lung samples that had been frozen at the time of the necropsy. PCR was unsuccessful due to the length of time the fixed tissues had remained in formalin. The fact that the organism did not grow in culture may suggest a *M. avium* complex organism, but the case remains unresolved. The remainder of the herd is currently being tested with a lymphocyte stimulation test.

Mycoplasmosis

Mycoplasma arthritis occurred on one farm in Zimbabwe in farmed crocodiles (*Crocodylus niloticus*).

Nipah virus infection

Nipah virus was confirmed in humans in India. In Siliguri, North Bengal, 6 samples were confirmed positive by the Centres for Disease Control. There were also some unconfirmed cases of the viral disease from the Chandpurthana Meherpur district.

Phocine distemper: new outbreak in North Sea

In April 2002 there was a new epizootic of phocine distemper (PDV) in common seals (*Phoca vitulina*) which started on the island of Anholt, between Denmark and Sweden. The disease started on the same island as in the epizootic outbreak in 1988. In 2002 the disease spread to most parts of Kattegat, Skagerack and into the North Sea all the way to the British Isles and down to the Netherlands and to the "Baie de Somme" in France. It has not been observed in the Baltic Sea. Between the beginning in May 2002 and the end of outbreak in autumn 2002, mortality affected around 19 000 common seals. As in the distemper outbreak in 1988, approximately half of the common seal population in Western Europe was killed. Three grey seals (*Halichoerus grypus*) in United Kingdom also died in the outbreak.

It is believed that the 1988 epizootic started because PDV-carrying harp seals (*Phoca groenlandica*) infected common seals after unusual "migration" down to the south. Field research since 1988 has not been able to demonstrate the reservoir of the Phocine Distemper Virus; it may be hypothesised that grey seals may spread the virus to common seals, but this has yet to be proven.

Salmonellosis

Australia reported 64 different isolates of *Salmonella* spp. from Australian native species in 2002. There were 1633 records for native animal *Salmonella* isolates since 1983 in the National Enteric Pathogen Surveillance Scheme databases as at 29.1.03.

During the 2001/02 breeding season of New Zealand sea lion (*Phocarcos hookeri*) in the subantarctic Auckland Islands, there were 30% fewer pups born and mortality in the 2 months post partum was 3 times greater than the normal rate for this time of year. The principle cause was systemic bacterial infection with *Salmonella* sp. and *Klebsiella pneumoniae*.

Of 126 pups necropsied, 5 were stillborn, 41 died from trauma, 10 from malnutrition, and 17 had severe anaemia from hookworm infection, but systemic bacterial infection was the primary cause of death, and it was considered to be a contributing factor in the deaths of 16 additional pups. Additional animals died from undetermined causes. Clinical and necropsy signs related to bacterial infection included fasciitis, myositis and osteomyelitis.

In Zimbabwe, *Salmonella* septicaemia was the cause of death in a lion cub. The cultured organism could not be typed. In South Africa, peracute Salmonellosis still occurs sporadically in stressed, recently captured white rhinoceroses (*Ceratotherium simum*). Several *Salmonella* spp. have been typed, and the syndrome appears to arise from activation of a carrier state.

Sarcoptic mange

Sarcoptic mange is still reported to be a very common disease in European wildlife and in 2002 was reported in red fox (*Vulpes vulpes*), raccoon dog (*Nyctereutes procyonoides*), lynx (*Lynx lynx*), pine marten (*Martes martes*), roe deer (*Capreolus capreolus*), chamois (*Rupicapra rupicapra*), moufflon (*Ovis musimon*) and wild boar (*Sus scrofa*) from several different European countries.

Sarcoptic mange in common wombats (*Vombatus ursinus*) in Australia has been identified as an endemic introduced disease that causes significant pain and suffering in individual animals and reduction in population growth. Recent proposals have suggested that the disease be listed as a Key Threatening Process under the Environment Protection and Biodiversity Conservation Act 1999.

Trichinellosis

Trichinellosis (*T. zimbabwensis*) occurred on 2 crocodile (*Crocodylus niloticus*) farms in Zimbabwe.

A d d i t i o n a l d i s e a s e s

Cryptococcosis in Canada

An outbreak of *Cryptococcus neoformans var gatti* (a non-native species) occurred at a single west coast location in Canada and has caused infection and disease of varying severity in humans, cats, dogs, and a range of wild animals including dolphins. Infection appears to be air-borne from fungi established in the environment. The epidemiology and ecology of this foreign disease incursion is under study.

Cryptosporidiosis in Australia

Significant mortality occurred in captive diamond firetail (*Emblema guttata*) and painted finches (*Emblema picta*) in Australia in Perth, Victoria and Sydney. On necropsy there was a combination of proventricular cryptosporidiosis +/- other fungal infection (typically *Candida* sp.) in the ventriculus. Proventricular cryptosporidiosis has been reported previously as a cause of emaciation in captive finches in large numbers of aviaries in Australia.

Flying fox mortality in Australia

Six of 34 young flying foxes (*Pteropus poliocephalus*) being maintained in a pre-release creche died within a 36 hour period. Three additional flying foxes in the creche concurrently developed respiratory illness and dysphagia. There was no known exposure to toxins. There were no significant bacterial and viral agents identified. All flying foxes were tested for Australian bat lyssavirus and Hendravirus and were negative.

Fungal infection in a New Zealand fur seal

In Sydney, Australia, an emaciated, wild New Zealand fur seal (*Arctocephalus forsteri*) was found on necropsy to have a very large gastric lymph node. Although mycobacteriosis was suspected on gross post mortem examination, histopathology revealed disseminated fungal infection. The fungus identified within the organs is very unusual. The national mycology reference laboratory was unable to identify the fungus, and samples have been sent to mycologists in South Australia. Identification is pending.

Gyps vulture mortality

The as yet undiscovered aetiology of the *Gyps* genus vulture die off in the Indian Subcontinent countries and the anticipated ecological consequences of the estimated 95% reduction in avian scavengers continue to be of great concern.

India - disease in wildlife

The Ministry of Agriculture of India reported on a project on wildlife disease including reports from individual animals and from outbreaks of disease collected in mammals, between 1995 and 2001, and in birds between 1997 and 2002. The pertinent results were as follows: rabies in tiger; anthrax in hyena, black bear, and Crown pigeon; tuberculosis in cheetal, hog deer, Nilgai and Rhesus macaque; pasteurellosis in deer, pox and Newcastle disease in pigeon. There were many other diseases listed, but they were of non specific pathology, for example fibrinonecrotic myositis in leopard.

Lorikeet paralysis syndrome in Australia

Wild rainbow lorikeets (*Trichoglossus haematodus*) in New South Wales were euthanased due to progressive paralysis. Histopathology was consistent with nonsuppurative encephalomyelitis suggestive of a viral infection (n = 6). Although a definitive diagnosis has not been reached, this condition is well recognised in rainbow lorikeets in Eastern Australia.

Mass mortality of gulls in the Baltic Sea

Swedish scientists have observed a mass mortality event among waterfowl in the Baltic Sea over the last three years. The mortality has most frequently been observed in herring gulls (*Larus argentatus*) with several thousand deaths. Mortality has also been observed in other gulls, ducks, geese, swans, waders and passerines. The aetiology of the disease is still unknown and diseases such as botulism, avian cholera, Newcastle disease and other known bird diseases have, based on laboratory investigations, been excluded.

Mucormycosis in amphibians

A "new" undiagnosed frog mortality syndrome possibly associated with amphibian mucormycosis is currently killing frogs in Queensland. Mucormycosis (infection with *Mucor amphibiorum*) has been found in cane toads (*Bufo marinus*), green tree frogs (*Litoria caerulea*), white lipped frogs (*Litoria infrafrenata*) and striped marsh frogs (*Limnodynastes peronii*) in the wild in Australia. 0.7% of cane toads in one survey in Queensland, NSW and Northern Territory were infected. This disease is also associated with significant morbidity in platypus (*Ornithorhynchus anatinus*) in Australia.

Nepal - disease in wildlife

There was mortality in langurs (*Presbytis entellus*) of unknown aetiology in Bardiya National Park in 2002. Poisoning cases were reported in nilgai (*Boselaphus tragocamelus*) and rhinoceros (*Rhinoceros unicornis*). The latter were laboratory confirmed. Concern was expressed about FMD, PPR and Swine Fever in wildlife in Nepal. There were epidemics of human Japanese encephalitis reported from in Banke, Bardiya, Kailali and Kanchanpur, where there is a large population of wild boar, egrets and herons.

Protozoal diseases (other)

Systemic protozoal infection in the highly endangered South Island saddleback (*Philesturnus carunculatus carunculatus*) was diagnosed on Motuara Island, New Zealand while birds were translocated to another island because of high bird density. Infection with a coccidia-like protozoan was suspected from a single, contaminated, water source.

Sarcocystosis was seen in endangered southern lesser short tailed bats (*Mystacina tuberculata tuberculata*), on Codfish Island, New Zealand. Cysts were found in skeletal muscle, diaphragm and tongue. None were seen in myocardium, and there were no degenerative changes associated with cysts in muscles. The disease was not present in Polynesian rats (*Rattus exulans*) on the island.

Wild (n = 7) Australian king parrots (*Alisterus scapularis*) in Victoria were found to have spironucleosis (*Spironucleus*-like protozoa formerly *Hexamita* sp). Diagnosis was by histopathology and faecal examination. The disease is believed to be responsible for a syndrome of wasting and diarrhoea in wild king parrots (*A. scapularis*) between 1984 and 2000 in eastern Australia.

Pyrenean izard (*Rupicapra pyrenaica*) disease of unknown origin

Since February 2001 Pyrenean izard from various locations in Spain and France (possibly in Andorra principality) were affected by clinical signs and mortality not previously reported. Affected animals were found in isolation, at low altitude, having lost natural fear of humans and becoming easy to catch. In spring they suffered from alopecia and hyper-pigmentation. A non-specific central nervous system lesion was observed. In some areas population censuses suggested a decline of up to 40/45% of the previous level between 2000 and 2002.

A pestivirus not previously recorded was identified, but other causes cannot be excluded, and investigations are ongoing.

Schreiber's long fingered bat (*Miniopterus schreibersi*) mass mortality

A massive mortality was observed in spring and summer among several colonies of the Schreiber's long fingered bat (*Miniopterus schreibersi*), in Southern France, Spain and Portugal. The Schreiber's long fingered bat is an insectivorous cavern dwelling bat living in very large colonies of up to several thousand individuals. Bat conservationists, in order to follow population trends and ensure the security of nurseries against human disturbance, regularly monitor these colonies. In several of these, unusual adult mortality was observed between May and June. Reproduction rate was exceptionally low and in some localities mortality was observed in juveniles as well.

A comprehensive range of methods is being used to investigate causes of mortality. So far, the only possible pathogen isolated has been a herpes virus.

Varia

In Zimbabwe, clinical verminosis caused by a *Trichuris* spp. has become a problem in farmed buffalo weaner calves (*Syncerus caffer*).

In Zimbabwe, blindness caused by the eye fluke (*Philophthalmus gralli*) was reported in farmed ostriches (*Struthio camelus*).

There was adenovirus infection in crocodile (*Crocodylus niloticus*) hatchlings on 5 farms, and crocodile pox infection on 2 farms in Zimbabwe.

2. Points arising from the Group's February 2002 Report

LIST A DISEASES

Foot and Mouth Disease

There has been a follow-up report of the type of FMD virus that caused the death of three captive Asian elephants in New Delhi in 2001. It has been confirmed as Type O. Type O FMD virus was also reported to have caused the death of three of five clinically affected wild Asian elephants in Bandipur Tiger Reserve, Karnataka, India in 2002.

LIST B DISEASES

Bovine tuberculosis

Preliminary results of a BCG vaccination trial using African buffalo yearlings were disappointing. In this pilot project, the vaccine appeared not to protect the buffalo from *M. bovis* infection, but did significantly reduce disease as indicated by the size, expansion and spread of lesions. Captivity-related stress is thought to have negatively affected the immune response in this trial.

The trial is currently being repeated under semi-free-range conditions.

WILDLIFE LIST DISEASES

Ebola virus

The ongoing search for possible reservoirs and vectors of the virus continues to be unsuccessful.

Feedback from the wildlife disease issue of the OIE *Scientific and Technical Review* and from other Working Group publications by the OIE

All the above-named publications are reported to be among the OIE Publication Department's 'best sellers'.

Other subjects listed in the Group's 2002 Report are discussed as separate agenda items in the Group's 2003 Report.

3. Report on Delegates' response to Dr Artois's report to the OIE General Session in May 2002

There were no specific questions asked at the end of the summary of the Working Groups' Report. Dr Artois reported on the new occurrences of Classical Swine Fever, Foot and Mouth Disease, Rinderpest, Anthrax, bovine tuberculosis, rabies, rabbit haemorrhagic disease virus (limiting factors to efficacy of biological control, potential effect on native mammals). West Nile Virus and Chronic Wasting Disease of cervids. Special mention was made of the UK amphibian die off, and the Asian vulture crisis. The Group's opinions and recommendations were discussed on matters such as compartmentalisation, validity of diagnostic methods, bovine tuberculosis, and translocation.

4. Foreign Animal Disease preparedness

Because of its importance internationally, the Working Group returned to this topic, which was also discussed during the previous meeting in 2002. It reiterated its view that such preparedness is extremely important in order to minimise the economic and ecological consequences to member countries of such diseases in wild animals (for example, prolonged trade restrictions). The Working Group noted that the term "Foreign Animal Disease" does not adequately capture the concept of the disease occurrences of concern. The alternative descriptive term "national or regional incursions of OIE List A & B diseases in wildlife" was agreed to for purposes of the Working Group.

The Working Group has determined that relatively few countries have plans for responding to such disease incursions that may affect wild animals, but that a few countries have developed such plans or are doing so. In order to assist other countries which may choose to undertake such planning, the Working Group will, over the next three years, review preparedness and response plans that have been prepared and identify, from these plans, the major components and information requirements essential to such planning. The outcome of this investigation will be reported to the International Committee in 2004 or 2005.

The major elements of the technical response plans, as well as the roles and mobilisation of the relevant agencies comprising existing Australian and New Zealand foreign animal disease systems, were outlined.

5. Special Discussion Points: Chronic Wasting Disease and West Nile Virus in North America, Ebola haemorrhagic fever in Africa

Chronic Wasting Disease

Chronic wasting disease (CWD) was first recognised as an illness of mule deer (*Odocoileus hemionus*) held within a research facility in Colorado in the 1960s. First thought to be a nutritional problem, CWD later was identified as a transmissible spongiform encephalopathy (TSE). CWD subsequently was identified in mule deer and wapiti (*Cervus elaphus nelsoni*) in other research herds in Colorado and Wyoming, as well as in two zoological collections. Through the 1980s and 1990s, CWD was found in wild mule deer, white-tailed deer (*Odocoileus virginianus*), and wapiti in a small portion of northeast Colorado and southeast

Wyoming and this area came to be recognised as the CWD endemic area. Beginning in 1996, CWD was found within the captive, commercial wapiti herds in several US states and two Canadian provinces, and since 2000 it has been detected in wild cervids outside the endemic area.

The origin of CWD, which differs distinctly from other TSEs such as scrapie and bovine spongiform encephalopathy, remains unknown. Natural infections have been found only in the 3 above species, although it is suspected that other subspecies of *Cervus elaphus* could be susceptible. The susceptibility of other cervid species is unknown. In experimental trials, 4 of 13 cattle that received infective material via intracerebral inoculation developed spongiform encephalopathy, whereas cattle co-housed with infected deer in ongoing studies have not developed clinical disease after several years. The World Health Organisation and the Centers for Disease Control and Prevention in the USA have stated that there currently is no evidence that CWD is transmissible to humans. However, they recommend that exposure to the CWD agent be avoided while they continue to evaluate potential risk, if any.

Among privately owned captive cervids, CWD has been diagnosed in 40 captive elk herds in Saskatchewan (Canada); 10 in Colorado, 7 in South Dakota, 4 in Nebraska, 2 in Minnesota (USA), and one each in Kansas, Montana, Oklahoma (USA), and Alberta (Canada). There are extensive epidemiological links among many of the infected herds; but the source of CWD in some herds remains unidentified. Nearly all of these herds have been destroyed and owners received indemnity funds from federal and/or state animal health agencies in most instances. Since September 2002, CWD has been found in captive white-tailed deer herds in Wisconsin and Alberta, as well as in one captive whitetail that was killed 6 months after escaping into the wild in southeast Wisconsin.

The recognised distribution of CWD among wild cervids has changed since 2000 as a result of intensified surveillance. Infected animals have been found west (in Colorado, Wyoming, and Utah) and south (Colorado) of the historic endemic area boundary as well as in adjacent southwest Nebraska to the east. Beginning in late 2001, CWD has been detected at locations remote from the endemic area in Saskatchewan, northwest Nebraska, South Dakota, New Mexico, Wisconsin, and Illinois. The source of these infections is unknown, although in some instances there is spatial correlation with infected captive herds. The spread of CWD in both directions between captive and wild cervids is suspected, but has not been proven. However, the dramatic increase in the recognised distribution of CWD in North America caused unprecedented concern for a wildlife disease among wildlife managers, animal health officials, captive cervid operators, politicians, hunters, and the general public.

Programs to control CWD in captive and wild cervids have been initiated or are under development. In Canada, CWD is now a reportable disease and mandatory testing for CWD must be conducted on all captive cervids in several provinces. More than 19 million USD have been spent in disease control efforts. In the USA, a federal program is under development that would require mandatory participation for captive cervid operations engaged in interstate shipment. Herd monitoring and disease response plans are integral components of the program. However, individual states are free to develop more stringent regulations and some have banned importation of live deer and wapiti.

Free-ranging cervids are under the jurisdiction of state or provincial wildlife management agencies in the USA and Canada and these agencies have initiated or expanded programs to detect CWD in wild animals, to control CWD where it occurs, and to measure the progress of control efforts. In Saskatchewan, hunting regulations have been liberalised to reduce wild deer population densities where positive wild deer have been found. In southwest Wisconsin, where CWD was detected in early 2002, an eradication zone has been established in which the objective is to totally eliminate all wild deer within approximately 1,064 square kilometres (411 sq miles). Additionally, wild deer populations will be greatly reduced within a management zone surrounding the eradication zone in order to slow or prevent the spread of CWD. In areas where CWD is regarded as endemic in wild cervids, management objectives generally are aimed at reducing prevalence and preventing expansion.

In the summer of 2002, the United States Departments of Agriculture and the Interior collaborated with state wildlife management and animal health agencies, universities, and other organisations to develop the *Plan for Assisting States, Federal Agencies, and Tribes in Managing CWD in Wild and Captive Cervids*. The plan, which is dependent upon federal funding that has not yet been provided, calls for cooperation and communication between all interest groups and outlines objectives within the areas of surveillance, research, diagnostics, disease management, information, and education.

West Nile Virus

West Nile virus (WNV) was recognised for the first time in North America in the summer of 1999 in the New York City area. The method of introduction remains unknown. Significant mortality occurred among infected wild birds and birds in zoological collections (unlike in birds infected with endemic encephalitis arboviruses in North America), 7 fatal human cases occurred, and numerous equine infections were reported. Since that time, WNV spread dramatically across the continent and was detected on the West Coast within 3 years. Carriage of the virus by migratory birds is believed to be a significant factor in the rapid spread of WNV.

In the USA, a federal program was developed in which states were provided with guidelines and funds to conduct WNV surveillance. Individual state programs comprised varying combinations of wild bird, veterinary, human, mosquito, and sentinel chicken surveillance. It soon was recognised that wild bird mortality, combined with diagnostic testing for WNV, is an excellent indicator of viral activity in an area. Furthermore, wild bird surveillance provided the opportunity for public health agencies to issue health advisories prior to the occurrence of human cases in an area.

Human infections are acquired through the bite of infected mosquitoes and WNV has been isolated from numerous mosquito species. However, birds with fatal WNV infection carry very large amounts of virus in numerous tissue types and biosafety precautions must be observed to prevent infection of persons engaged in diagnostic testing. In the USA, 18 people died during the first three years, deaths coinciding with the summer months of high mosquito activity. However, 274 fatal human cases were reported in 2002. By the end of the summer, WNV had been detected in wild birds, humans, or horses in 44 states and the District of Columbia. Viral infections were confirmed in more than 10,000 dead wild birds. In Canada, 388 human cases, 11 of them fatal, were reported in Ontario and Quebec.

The effect of WNV on wild bird populations is unknown. Fatal infections have been reported in more than 135 avian species to date, as well as in low numbers of wild mammals. Among birds, crows (*Corvus* spp.) and blue jay (*Cyanocitta cristata*) are especially susceptible to fatal infection and are key species in monitoring programs that include wild bird surveillance. Although these species are found in great abundance throughout much of the continent, the impact of WNV mortality on their populations could be significant. Furthermore, the effect of WNV mortality on threatened and endangered avian species is of concern.

The WNV situation that has unfolded in North America in the last 3 years serves as an excellent example of the rapid and dramatic spread of an emerging disease in a highly mobile host population, and the cooperation between public and animal health agencies, universities, wildlife management agencies, and other organisations that is essential for a timely and well balanced response.

Ebola virus disease in West Africa

The Working Group on Wildlife Diseases analysed and considered the information available from reports on the ongoing outbreak of Ebola virus disease in gorillas, chimpanzees and humans in the Republic of Congo.

Certain important facts and assumptions emerged from these reports, including:

- To date, all efforts to identify the sylvatic reservoir of the virus and mode of transmission to great apes have been unsuccessful.
- The possibility of a winged or flightless vector has not been eliminated.
- In these great apes, the mechanism of primary infection is unknown, but it appears that secondary contact infection between members of family groups is responsible for the disappearance of many known, and well studied groups.
- In humans, there appears to be a definite causal link between handling, butchering or eating primate carcasses, or secondary contact with infected persons. Public awareness campaigns would appear essential for management of human exposure, although local cultural beliefs may be a significant barrier to implementation.
- The apparent spatial relationship of primate mortalities to the more remote (for humans) but densely populated primate areas indicated a possible density related occurrence. If density dependence is a factor then the longer term disease pattern may include sporadic cases interspersed with population driven cyclical epidemics.
- Since there appears to be total disappearance of whole family groups, this would tend to indicate that there is also no gender or age predilection.
- An important unanswered question is whether the assumed 5 or 10% survivors were exposed and are immune.

It is therefore difficult to advise or offer solutions to a problem where the epidemiological determinants are largely unknown.

In the light of all these unknowns, it would be irresponsible to be prescriptive about immediate Ebola containment and control measures. In addition there are two schools of thought regarding this disease emergency that may impact hugely on threatened great ape populations and adjoining human communities, namely:

- Immediate action using fairly invasive, but unproven techniques.
- Intensifying epidemiological research in an effort to determine the appropriate strategy that is most likely to succeed.

With regard to containment and control of Ebola, the Working Group on Wildlife Diseases would like to comment as follows:

- a) Epidemiological research and the possibility of developing an effective vaccine (for both humans and the great apes) should be accelerated and intensified.
- b) Public awareness campaigns with regards to unprotected contact with primate carcasses or human cadavers should be intensified if possible.
- c) Experimental removal of physical bridges (fallen trees) over natural movement barriers such as rivers or roads may be attempted as an interim measure at suitable locations where the limits of spatial spread of the infection has been determined.
- d) It is felt that the massive clear-felling of a 100 meter wide swath of rain forest as a gorilla/chimpanzee movement barrier is unlikely to be successful.
- e) The destruction of bat colonies because they may have host or vector potential is unacceptable. Not only is there no substantiated evidence of their role in the epidemiology of this infection, but should the infection be arthropod-borne, its spatial spread could be accelerated by mass destruction of insectivorous bats. Also, the ecological impact of depopulation of fructivorous bats should not be underestimated.

- f) There is also concern that actions and techniques such as explosions, gunfire, capture and relocation, which may frighten and may cause dispersal of great apes and/or the possible definitive sylvatic reservoirs or vectors of Ebola virus, should be discouraged.

6. The Working Group on Wildlife Diseases on the OIE Website

Dr K. Ben-Jebara, Head of the Information Department of the OIE, introduced the WG to the new OIE web site in which working groups have pages. A Wildlife Disease Working Group web page could help spread relevant information on veterinary services and could facilitate the accurate reporting of important diseases of wildlife.

Dr Artois was appointed to meet with Ms. Caroline Malotiaux, the OIE Webmaster, and brief her with items that should be featured on the web page. The Group suggested that the terms of reference of the Working Group and its mandate be presented, as well as its approved reports to the International Committee, possibly in pdf format to be downloaded by interested people.

The Group together with Dr Ben-Jebara also discussed methods of increasing the transparency and efficacy of wildlife disease reporting to OIE throughout the year. This would be particularly relevant to countries with a poor history of reporting and to non-member countries. The involvement of the International Committee and perhaps the Code Commission via a single disease list was also discussed. The Group advised that perhaps the IUCN Veterinary Specialist Group might be in a good position to approach non or poorly reporting countries on our behalf.

7. Wildlife disease implications for the OIE/FAO Global Initiative for the Progressive control of Foot and Mouth Disease and other Transboundary Animal Diseases

Dr Dewan Sibartie, the Deputy Head of the OIE Scientific and Technical Department, introduced this topic by outlining the initiatives of the OIE and the FAO in preparing a global initiative for the progressive control of foot and mouth disease and other transboundary animal diseases. The plan comprises two main components: a): The establishment of a Global Early Warning and Response System for reporting major animal diseases, to be managed jointly by FAO/OIE/WHO and b): The effective control of major animal diseases especially in developing countries with the aim of promoting international trade of animals and animal products. The latter will be coordinated by a joint FAO-OIE Secretariat under the supervision of a Steering Committee. Actions at regional levels will be coordinated by representatives of the regional structures of FAO and OIE. He invited the Working Group to consider the implications of wildlife diseases in the Global Plan.

The Wildlife Disease Working Group remarked that animals, both wild and domestic, as well as their parasites and disease vectors, do not respect geo-political boundaries. Man-made barriers, fences or enclosures however confine most domestic animals. On the other hand, in the absence of any physical barriers, as is the case with many international boundaries, free-ranging wildlife and their pathogens may expand their range under suitable ecological conditions. It is predictable that if transboundary biological bridges exist as a result of contiguous wildlife populations, then in the absence of any transboundary control measures, pathogens and vectors will expand their ranges in relation to the spatial distribution of their hosts. The current and historic situations with regard to CSF and rabies in Europe are good examples, as are the potential animal disease risks with regard to transfrontier parks in Africa and other parts of the globe.

With regard to transfrontier parks, the conservation benefits of the expansion of wildlife-protected areas in a world where encroachment by burgeoning human populations is the norm, make this a positive initiative for the long-term goal of biodiversity conservation and eco-tourism expansion. However, all countries participating in these initiatives should approach them with their eyes 'wide open', in light of the potential animal health implications of the transboundary movement of significant animal diseases or vectors.. Pro-active disease risk planning and disease management strategies should be considered by the relevant authorities of participating countries involved in these transboundary conservation initiatives.

8. Sensitivity and Specificity of Diagnostic Tests for Wildlife

The Working Group reviewed previous discussions and information with respect to the validity of official diagnostic tests for List A and B diseases (OIE *Manual of Standards*) when applied to samples from wild animal species. It is clear that tests such as virus isolation and PCR are usually not affected by animal species, while some serological tests may not be valid in some species. The former assertion on agent detection or isolation is contingent upon species differences with respect to the quantity of disease agent shed and the consequent need for a serologically based amplification procedure. When species-sensitive tests are applied to species for which they have not been validated, they may yield false-positive and false-negative results and thus can not be interpreted.

Over the next three years, the Working Group will, in consultation with the disease specialist groups and reference laboratories, undertake a review of all tests for List A and B diseases described in *Manual of Standards* to determine which tests may or may not be valid for all host animal species. The Working Group will report its findings to the Standards Commission together with suggestions if warranted, regarding additions to the *Manual* that may be useful to prevent application of potentially invalid tests to wild animal species.

The protocol for enlisting the assistance of the OIE on this issue was determined. The Working Group noted that the deadline for receipt of amendments for the *Manual* for the 2004 issue is May 2003. However amendments tabled by the Group at the annual meeting can, via official proposals routed through the Standards Office of the OIE, be approved on a year-by-year basis. The Group also noted that Disease Experts are approved by the International Committee via the Standards Commission.

9. Wildlife Disease Questionnaires

a) Annual Disease Questionnaire for 2002

The Working Group reviewed the results from the annual questionnaire sent to CVO's for reports on occurrences of diseases in wild animals. Member countries returned a total of 43 questionnaires to the OIE Central Bureau. The Working Group discussed various mechanisms by which greater participation by member countries, and thus a more complete record of occurrence of important diseases worldwide can be achieved. One measure that might be helpful to CVO's and to ensure optimal collection of information would be for each CVO to appoint a specific official as that country's wildlife disease contact person with the Working Group Member for the relevant Region .

The Working Group agreed that this system would be most useful in countries where disease reporting is poor, and that such a system already exists and is operational in many developed Member countries. Each CVO might choose to delegate this responsibility or to act as the contact person himself or herself. The Central Bureau agreed that this would be a beneficial arrangement and undertook to contact all CVO's and establish a list of wildlife disease contact persons or institutions for all member countries

The Working Group reviewed the questionnaire and determined that it should be revised for use in 2003 to make it more self-explanatory and easier to use. The Working Group reviewed some of the disease lists on the Questionnaire, in particular, the B List, and removed some of the ambiguity of the disease names therein. Specifically, nomenclature was clarified, and aetiological agents instead of common names or generic terms for diseases were listed. At least one Member country had raised this issue as a potential Agenda Item for the 2003 WGW meeting. The results are presented in [Appendix III](#).

This year, for the first time, the results of the annual survey are presented in tabular form with explanatory text devoted to some selected topics or diseases from each region. The results are presented in [Appendix IV](#).

b) Questionnaire on Wildlife Disease Monitoring Activity

In 2002, on behalf of the Working Group the Central Bureau sent a second questionnaire to CVO's asking for general information about the member country's programs for disease surveillance in wild animals. Forty-four member countries replied to this questionnaire.

10. Proposed activities for the Group in 2003-2006 (See [Appendix V](#))

11. OIE Collaborating Centres on Wildlife Disease

Due to the escalating concern for wildlife disease globally, and the potential for emergency wild animal disease situations, the OIE should enlist the help of Collaborating Centres in the management of wild animal health issues. The Working Group supported the approval of such collaboration centres in the near future with a view to ameliorating and facilitating its mandate through collaboration with them.

During its eleven years of activities the working group has frequently been confronted with die-offs in wild animal populations, frequently of unknown aetiology. The aetiology of such mortality can be extremely difficult and costly to establish. In India for example, massive die-offs have reduced the population of *Gyps* spp. vultures on a large part of the Subcontinent. Such die-offs not only threaten valuable natural resources but also can have adverse human health effects, for example reduced vulture competition at waste and garbage disposal sites has supported an expanding feral dog population, resulting in an increase in human rabies cases.. In such a situation, collaborating centres would be extremely valuable in providing timely contact with a very broad range of expertise in epidemiology and pathogen identification.

The Working Group agreed to help define criteria allowing the OIE to base its selection of Collaborating Centres on an appropriate basis.

12. Any other business

Genetically Modified Organisms, vaccines and Contraception of Wildlife

Attention of the OIE has been drawn on the fact that genetically modified organisms (GMOs) have been developed to assist in the management of wild animals . Once released, these GMOs could spread between susceptible hosts. There could be international implications in that spread could occur to other countries with different management objectives for the target species.

The Working Group has already expressed concerns in its reports to the International Committee in 1994, 1996, 1998 and 2001. It has made recommendations on the potential danger of releasing genetically modified organisms which could spontaneously spread among communities of wild animals.

Regarding the question of contraception of wildlife, in its reports of 1994 and 1996, the Working Group stated that: "*Administration of contraceptive vaccines to wildlife and their effect on the targeted and other species raise questions concerning environmental safety and animal welfare. Some of the contraceptives studied in the past or experimentally tested on a limited scale have potentially adverse effects. Infectious agents, which could be used as vectors to deliver immunocontraceptives, may be difficult to contain within the target population. Advantages and disadvantages of the various techniques need intensive investigation and evaluation as to safety must be made.*"

In its 1998 report, the Working Group addressed the question of vaccination of free-ranging wild rabbits against VHDR with a genetically modified myxomavirus strain harboring the VHDR antigen. They stated: *“(such vaccines) should be evaluated for safety in the animal populations and , when deemed necessary, for humans. The vaccine should be safe not only for the target species, but also for the major non-target species which may be exposed to the vaccine through ingestion of baits or predation or scavenging of target species.*

Vaccine carrier organisms should not be used in wildlife populations if they are transmissible from vaccinated to non-vaccinated animals”

The Group considers the above observations to be still relevant.

.../Appendices

MEETING OF THE OIE WORKING GROUP ON WILDLIFE DISEASES
Paris, 17 – 19 February 2003

Agenda

1. Epidemiological review of selected wildlife diseases in 2002
 2. Points arising from the Group's February 2002 Report
 3. Report on Delegates' response to Dr Artois's report to the OIE General Assembly in May 2002
 4. Foreign Animal Disease preparedness
 5. Chronic Wasting Disease and West Nile Virus in North America, Ebola haemorrhagic fever in Africa
 6. The Working Group on Wildlife Diseases on the OIE Website
 7. Wildlife disease implications for the OIE/FAO Global Plan for Action against Transborder Animal Diseases
 8. Sensitivity and Specificity of Diagnostic Tests for Wildlife
 9. Wildlife Disease Questionnaires
 10. Proposed activities for the Group in 2003
 11. OIE Collaborative Centres on Wildlife Disease
 12. Any other business
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MEETING OF THE OIE WORKING GROUP ON WILDLIFE DISEASES

Paris, 17 – 19 February 2003

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Result of annual questionnaire sent by Working Group

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
A	Algeria	No report				
B	Algeria					
W	Algeria					
A	Andorra			No	0	
B	Andorra	Game		Brucellosis	None	Serology
B	Andorra	Game		Salmonellosis	None	Isolation
B	Andorra	Game		Tuberculosis	None	Isolation
W	Andorra	Isard		Pestivirus infection	1	Suspicion
W	Andorra	Fox		Sarcoptic mange	2/21	Lab examination
W	Andorra	Sparrowhawk		Trichomoniasis	1	Ana-path
A	Angola	No report				
B	Angola					
W	Angola					
A	Argentina	No report				
B	Argentina					
W	Argentina					
A	Australia	Silver gull	<i>Larus novaehollandiae</i>	Avian Influenza	3 of 10 tested	Serology (ELISA)
A	Australia	Shy albatross	<i>Diomedea cauta</i>	Newcastle disease	1 of 37 tested	Serology (HI)
B	Australia	Crimson rosella	<i>Platycercus elegans</i>	Avian chlamydiosis	8	Histopathology, Clearview
B	Australia	Plum headed finch	<i>Neochmia modesta</i>	Avian tuberculosis	1	Histopathology, culture
B	Australia	Pacific black duck	<i>Anas superciliosa</i>	Avian tuberculosis	1	Isolation
B	Australia	Brush tailed bettong	<i>Bettongia penicillata ogilbyi</i>	Avian tuberculosis	1	Isolation
B	Australia	Superb lyrebird	<i>Menura novaehollandiae</i>	Avian tuberculosis	1	Histopathology, culture
B	Australia	Feral pig	<i>Sus scrofa</i>	Cysticercosis (<i>T. hydatigena</i>)	2	Necropsy
B	Australia	Wild dog	<i>Canis lupus dingo</i>	Echinococcosis (<i>E. granulosus</i>)	8	Necropsy
B	Australia	Red Fox	<i>Vulpes vulpes</i>	Echinococcosis (<i>E. granulosus</i>)	2	Necropsy
B	Australia	Feral pig	<i>Sus scrofa</i>	Hydatidosis	3	Necropsy
B	Australia	Rabbit	<i>Oryctolagus cuniculus</i>	Myxomatosis	Several	ELISA
B	Australia	Rabbit	<i>Oryctolagus cuniculus</i>	RHD	Several	ELISA
W	Australia	Grey headed flying fox	<i>Pteropus poliocephalus</i>	Australian Bat Lyssavirus	1	IHC
W	Australia	Crimson rosella	<i>Platycercus elegans</i>	Avian Pox	3	Necropsy
W	Australia	Pied currawong	<i>Strepera graculina</i>	Avian Pox	2	Necropsy
W	Australia	Sulphur crested cockatoo	<i>Cacatua galerita</i>	Avian Pox	2	Necropsy
W	Australia	Buff banded rail	<i>Gallirallus philippensis</i>	Botulism (Types C or D)		ELISA, mouse protection tests
W	Australia	Pacific black duck	<i>Anas superciliosa</i>	Botulism (Types C or D)		ELISA, mouse protection tests
W	Australia	Grey teal	<i>Anas gracilis</i>	Botulism (Types C or D)		ELISA, mouse protection tests
W	Australia	Hardhead duck	<i>Aythya australis</i>	Botulism (Types C or D)		ELISA, mouse protection tests
W	Australia	Native hen	<i>Gallinula spp.</i>	Botulism (Types C or D)		ELISA, mouse protection tests
W	Australia	Black winged stilt	<i>Himantopus himantopus</i>	Botulism (Types C or D)		ELISA, mouse protection tests
W	Australia	Tree frog	<i>Litoria caerulea</i>	Chytridiomycosis	1	Necropsy
W	Australia	Banjo frog	<i>Limnodynastes dumerilli</i>	Chytridiomycosis	1	Necropsy
W	Australia	Sulphur crested cockatoo	<i>Cacatua galerita</i>	Circovirus	10	Necropsy
W	Australia	Rainbow lorikeet	<i>Trichoglossus haematodus</i>	Circovirus	17	Necropsy
W	Australia	Diamond python	<i>Morelia spilota spilota</i>	Inclusion body disease	1	Necropsy
W	Australia	Red wing parrot	<i>Aprosmictus erythropterus</i>	Inclusion body disease	1	Necropsy
W	Australia	Galah	<i>Cacatua roseicapilla</i>	Inclusion body disease	2	Necropsy
W	Australia	Sugar glider	<i>Petaurus breviceps</i>	Listeriosis	1	Isolation
W	Australia	Various native species		Salmonellosis	N/A	Isolation
W	Australia	Common wombat	<i>Vombatus ursinus</i>	Sarcoptic mange	5	Necropsy
W	Australia	Water rat	<i>Hydromys chrysogaster</i>	Toxoplasmosis	1	Necropsy
W	Australia	Common wombat	<i>Vombatus ursinus</i>	Toxoplasmosis	1	Necropsy
W	Australia	Eastern grey kangaroo	<i>Macropus giganteus giganteus</i>	Toxoplasmosis	1	Necropsy
W	Australia	Agile wallaby	<i>Macropus agilis</i>	Toxoplasmosis	1	Necropsy
W	Australia	Indo-Pacific dolphin	<i>Sousa chinensis</i>	Toxoplasmosis	2	Necropsy

Appendix III (contd)

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
A	Austria			No		
B	Austria	Alpine ibex	<i>Capra ibex</i>	Avian tuberculosis	1	Isolation
B	Austria	Red deer	<i>Cervus elaphus</i>	Avian tuberculosis	2	Isolation
B	Austria	European brown hare	<i>Lepus europaeus</i>	Brucellosis	1	Necropsy
B	Austria	Red fox	<i>Vulpes vulpes</i>	<i>Echinococcus multilocularis</i>	4	Microscopy
B	Austria	Roe deer	<i>Capreolus capreolus</i>	Paratuberculosis	2	Isolation
B	Austria	Fallow deer	<i>Dama dama</i>	Paratuberculosis	1	Isolation
B	Austria	Red fox	<i>Vulpes vulpes</i>	Rabies	21	Necropsy
B	Austria	Roe deer	<i>Capreolus capreolus</i>	Rabies	2	Necropsy
B	Austria	Badger	<i>Meles meles</i>	Rabies	1	Necropsy
B	Austria	Wild rabbit	<i>Oryctolagus cuniculus</i>	RHD	2	Hemagglut.
B	Austria	European brown hare	<i>Lepus europaeus</i>	Tularemia	14	Necropsy
W	Austria	European brown hare	<i>Lepus europaeus</i>	EBHS	5	Necropsy
W	Austria	Roe deer	<i>Capreolus capreolus</i>	Listeriosis	2	Isolation
W	Austria	Chamois	<i>Rupicapra rupicapra</i>	Pasteurellosis		Isolation
W	Austria	European brown hare	<i>Lepus europaeus</i>	Pasteurellosis	2	Necropsy
W	Austria	Roe deer	<i>Capreolus capreolus</i>	Pestivirus infection	1	NT
W	Austria	Roe deer	<i>Capreolus capreolus</i>	Pseudotuberculosis	2	Isolation
W	Austria	Alpine ibex	<i>Capra ibex</i>	Pseudotuberculosis	1	Isolation
W	Austria	European brown hare	<i>Lepus europaeus</i>	Pseudotuberculosis	9	Necropsy
W	Austria	Raven	<i>Corvus corax</i>	Salmonellosis	1	Isolation
W	Austria	Wild boar	<i>Sus scrofa</i>	Salmonellosis (<i>S. choleraesuis</i>)	6	Isolation
W	Austria	Roe deer	<i>Capreolus capreolus</i>	Salmonellosis (<i>S. enteritidis</i>)	1	Isolation
W	Austria	Red fox	<i>Vulpes vulpes</i>	Sarcoptic mange	3	Necropsy
A	Belgium	No report				
B	Belgium					
W	Belgium					
A	Belize			No		
B	Belize	Fox		Rabies	1	
W	Belize					
A	Benin			No		
B	Benin					
W	Benin					
A	Bolivia	No Report				
B	Bolivia					
W	Bolivia					
A	Botswana	No report				
B	Botswana					
W	Botswana					
A	Brazil			No		
B	Brazil	Recife broad nosed bat	<i>Platyrrhinus recifinus</i>	Rabies	80	FAT
B	Brazil	Fox	<i>Vulpes vulpes</i>	Rabies	26	FAT
W	Brazil					
A	Bulgaria	No report				
B	Bulgaria					
W	Bulgaria					
A	Burkina Faso	No report				
B	Burkina Faso					
W	Burkina Faso					
A	Burundi	No report				
B	Burundi					
W	Burundi					
A	Central African Rep.	No report				
B	Central African Rep					
W	Central African Rep					

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
A	Cameroon	No report				
B	Cameroon					
W	Cameroon					
A	Canada			No		
B	Canada	Various/Multiple	Aves	Avian Pox	endemic	
B	Canada	Various/multiple	Aves	Avian Tuberculosis	endemic	
B	Canada	Bison	<i>Bison bison</i>	Bovine Brucellosis	endemic - 1 herd	
B	Canada	Bison	<i>Bison bison</i>	Bovine Tuberculosis	endemic - 1 herd	
B	Canada	Deer, White-tailed	<i>Odocoileus virginianus</i>	Bovine Tuberculosis	1	Isolation
B	Canada	Caribou	<i>Rangifer tarandi</i>	Echinococcosis	endemic	
B	Canada	Moose	<i>Alces alces</i>	<i>Echinococcus granulosus</i>	endemic	
B	Canada	Wolf	<i>Canis lupus</i>	<i>Echinococcus granulosus</i>	endemic	
B	Canada	Cormorant	<i>Phalacrocorax auritus</i>	Fowl Cholera/Pasteurellosis	>1000	Isolation
B	Canada	Duck, Eider	<i>Somateria mollissima</i>	Fowl Cholera/Pasteurellosis	>1000	Isolation
B	Canada	Goose, Snow	<i>Chen caerulescens</i>	Fowl Cholera/Pasteurellosis	>100	Isolation
B	Canada	Gulls	<i>Larus sp.</i>	Fowl Cholera/Pasteurellosis	Several	Isolation
B	Canada	Finch, House	<i>Carpodacus mexicanus</i>	<i>Mycoplasma gallisepticum</i>	>10	Isolation
B	Canada	Bat,	multiple species	Rabies	112	FAT/isolation
B	Canada	Bear, Grizzly	<i>Ursus horribilis</i>	Rabies	1	FAT/isolation
B	Canada	Fox, Arctic	<i>Alopex lagopus</i>	Rabies	11	FAT/isolation
B	Canada	Fox, red	<i>Vulpes vulpes</i>	Rabies	54	FAT/isolation
B	Canada	Raccoon	<i>Procyon lotor</i>	Rabies	26	FAT/isolation
B	Canada	Skunk, striped	<i>Mephitis mephitis</i>	Rabies	101	FAT/isolation
B	Canada	Wolf	<i>Canis lupus</i>	Rabies	1	FAT/isolation
B	Canada	Various/multiple	<i>Mammalia</i>	Trichinellosis	endemic	
W	Canada	Dove, Rock	<i>Columba livia</i>	Avian Paramyxovirus 1	<10	IHC
W	Canada	Owl, Great Horned	<i>Bubo virginianus</i>	Avian Paramyxovirus 1	1	IHC
W	Canada	Mouse, Deer	<i>Peromyscus maniculatus</i>	<i>Bartonella sp.</i>	>10	culture, PCR
W	Canada	Squirrel, Ground	<i>Spermophilus sp.</i>	<i>Bartonella sp.</i>	<10	Isolation
W	Canada	Raccoon	<i>Procyon lotor</i>	Baylisascaris	endemic	Necropsy
W	Canada	Caribou	<i>Rangifer tarandi</i>	Besnoitosis	endemic	Histology
W	Canada	Mouse, Deer	<i>Peromyscus maniculatus</i>	<i>Borellia burgdorferi</i>	endemic in one region	various (PCR)
W	Canada	Aves		Botulism Type C	Several	Mouse inoculation
W	Canada	Loon, Common	<i>Gavia immer</i>	Botulism Type E	~1000	Mouse inoculation
W	Canada	Merganser ducks	<i>Mergus sp.</i>	Botulism Type E	>1000	Mouse inoculation
W	Canada	Caribou	<i>Rangifer tarandi</i>	<i>Brucella suis</i> biotype 4	endemic	
W	Canada	Mammalia: Carnivora	Carnivores	Canine Distemper	Several	IHC
W	Canada	Amphibia		Chytridiomycosis	endemic	Histology, IHC
W	Canada	Deer, Mule	<i>Odocoileus hemionus</i>	Chronic Wasting Disease	3	IHC
W	Canada	Deer, White-tailed	<i>Odocoileus virginianus</i>	Chronic Wasting Disease	1	IHC
W	Canada	Mammalia: Ovis/Oreamnos		Contagious ecthyma	endemic	Histology
W	Canada	Mouse, Deer	<i>Peromyscus maniculatus</i>	<i>Echinococcus multilocularis</i>	<10	Necropsy
W	Canada	Caribou	<i>Rangifer tarandi</i>	<i>Elaphostrongylus rangiferi</i>		Necropsy
W	Canada	Moose	<i>Alces alces</i>	<i>Elaphostrongylus rangiferi</i>	Several	Necropsy
W	Canada	Loon, Common	<i>Gavia immer</i>	<i>Erysipelothrix rhusiopathiae</i>	1	Isolation
W	Canada	Mammalia: Artiodactyla	Cervids	<i>Fascioloides magna</i>	Several	Necropsy
W	Canada	Deer, White-tailed	<i>Odocoileus virginianus</i>	<i>Parelaphostrongylus tenuis</i>	Several	Necropsy
W	Canada	Mammalia: Carnivora	Carnivores	Parvovirus	Several	Various
W	Canada	Amphibia		Ranavirus diseases	Endemic	Culture, IHC, PCR
W	Canada	Cormorant	<i>Phalacrocorax auritus</i>	<i>Salmonella typhimurium</i>	Several	Isolation
W	Canada	Gulls	<i>Larus sp.</i>	<i>Salmonella typhimurium</i>	>10	Isolation
W	Canada	Heron	<i>Ardea herodias</i>	<i>Salmonella typhimurium</i>	<10	
W	Canada	Owl, Snowy	<i>Nyctea scandiaca</i>	<i>Salmonella typhimurium</i>	1	Isolation
W	Canada	Pine Siskin	<i>Carduelis pinus</i>	<i>Salmonella typhimurium</i>	Several	Isolation
W	Canada	Redpoll, Common	<i>Carduelis flammea</i>	<i>Salmonella typhimurium</i>	Several	Isolation
W	Canada	Sparrow, House	<i>Passer domesticus</i>	<i>Salmonella typhimurium</i>	Several	Isolation
W	Canada	Mammalia: Carnivora	raccoons, canids	Sarcoptic mange	Several	Histology, Parasitology
W	Canada	Dove, Mourning	<i>Zenaidura macroura</i>	Trichomoniasis	<10	Necropsy
W	Canada	Goshawk	<i>Accipiter gentilis</i>	Trichomoniasis	1	Necropsy
W	Canada	Hawk, Cooper's	<i>Accipiter cooperii</i>	Trichomoniasis	1	Necropsy
W	Canada	Aves, Mammalia		West Nile Virus	600 +	PCR, Culture, IHC

Appendix III (contd)

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
A	Chad	No report				
B	Chad					
W	Chad					
A	Chile	No Report				
B	Chile					
W	Chile					
A	Colombia	No Report				
B	Colombia					
W	Colombia					
A	Comoros	No report				
B	Comoros					
W	Comoros					
A	Congo	No report				
B	Congo					
W	Congo					
A	Cote d'Ivoire	No report				
B	Cote d'Ivoire					
W	Cote d'Ivoire					
A	Cuba	No Report				
B	Cuba					
W	Cuba					
A	Cyprus			No		
B	Cyprus	"Sheep"	<i>Ovis melini ophion</i>	Paratuberculosis	6	Serology
W	Cyprus			No		
A	Czech rep.			No		
B	Czech rep.	Hare (species not given)	<i>Lepus sp</i>	Brucellosis	58	HA+PCR
B	Czech rep.	Red fox	<i>Vulpes vulpes</i>	Rabies	3	FAT
B	Czech rep.	Wild boar	<i>Sus scrofa</i>	Trichinellosis	3	Digestion
B	Czech rep.	Hare (species not given)	<i>Lepus sp</i>	Tularemia	317	HA+PCR
W	Czech rep.			No		
A	Dem. Rep. of Congo			No		
B	D. Rep. Congo			No		
W	D.Rep.Congo	Gorillas	<i>Gorilla gorilla</i>	Ebola	Unknown	Necropsy and Laboratory
A	Denmark			No		
B	Denmark	Gulls	<i>Larus sp</i>	Pasteurellosis	3	Isolation
B	Denmark	Eider duck	<i>Somateria mollissima</i>	Pasteurellosis	7	Isolation
B	Denmark	Oystercatcher	<i>Haematopus ostralegus</i>	Pasteurellosis	1	Isolation
B	Denmark	European brown hare	<i>Lepus europaeus</i>	Brucellosis	2	Isolation
W	Denmark	Brown hare	<i>Lepus europaeus</i>	Pasteurellosis	3	Necropsy
W	Denmark	Red fox	<i>Vulpes vulpes</i>	Sarcoptic mange	2	Necropsy
W	Denmark	Brown hare	<i>Lepus europaeus</i>	Pseudotuberculosis	3	Bacteriology
W	Denmark	Roe deer	<i>Capreolus capreolus</i>	Pseudotuberculosis	1	Bacteriology
W	Denmark	Stone marten	<i>Martes foina</i>	Canine distemper	1	Necropsy
W	Denmark	Badger	<i>Meles meles</i>	Canine distemper	8	Necropsy
W	Denmark	Pole cat		Canine distemper	1	Necropsy
W	Denmark	Marten	<i>Martes martes</i>	Canine distemper	1	Necropsy
W	Denmark	Badger	<i>Meles meles</i>	Pasteurellosis	1	Isolation
W	Denmark	Badger	<i>Meles meles</i>	Listeriosis	1	Isolation
W	Denmark	Common gull	<i>Larus canus</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Isolation
W	Denmark	Badger	<i>Meles meles</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Isolation
W	Denmark	Stone marten	<i>Martes foina</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Isolation
W	Denmark	Bullfinch	<i>Pyrrhula pyrrhula</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Isolation
W	Denmark	Pole cat		Salmonellosis (<i>S. typhimurium</i>)	1	Isolation
W	Denmark	Hedgehog	<i>Erinaceus europaeus</i>	Salmonellosis (<i>S. Derby</i>)	1	Isolation
W	Denmark	Hedgehog	<i>Erinaceus europaeus</i>	Salmonellosis (<i>S. enteritidis</i>)	1	Isolation
W	Denmark	Gulls	<i>Larus sp.</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Isolation
W	Denmark	Common seal	<i>Phoca vitulina</i>	Salmonellosis (<i>S. typhimurium</i>)	1	isolation
W	Denmark	Common seal	<i>Phoca vitulina</i>	Pasteurellosis	1	Isolation
W	Denmark	Common seal	<i>Phoca vitulina</i>	Phocine distemper	36	PCR

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
A	Dominican rep.	No Report				
B	Dominican rep.					
W	Dominican rep.					
A	Egypt	No report				
B	Egypt					
W	Egypt					
A	El Salvador			No		
B	El Salvador			No		
W	El Salvador			No		
A	Equador	No Report				
B	Equador					
W	Equador					
A	Eritrea	No report				
B	Eritrea					
W	Eritrea					
A	Ethiopia			No		
B	Ethiopia			No		
W	Ethiopia			no		
A	Finland			No		
B	Finland	Moose	<i>Alces alces</i>	<i>Echinococcus granulosus</i>	4	Necropsy
B	Finland	Reindeer	<i>Rangifer tarandus</i>	<i>Echinococcus granulosus</i>	15	Necropsy
B	Finland	Squirrel	<i>Sciurus vulgaris</i>	<i>Pasteurella multocida</i>	1	Necropsy
B	Finland	Lynx	<i>Lynx lynx</i>	Trichinellosis	32	Necropsy
B	Finland	Red fox	<i>Vulpes vulpes</i>	Trichinellosis	5	Necropsy
B	Finland	Wolf	<i>Canis lupus</i>	Trichinellosis	5	Necropsy
B	Finland	Brown bear	<i>Ursus arctos</i>	Trichinellosis	1	Necropsy
B	Finland	Wild boar	<i>Sus scrofa</i>	Trichinellosis	2	Necropsy
B	Finland	Mountain hare	<i>Lepus timidus</i>	Tularemia	5	Necropsy
B	Finland	European brown hare	<i>Lepus europaeus</i>	Tularemia	2	Necropsy
W	Finland	Varying hare	<i>Lepus timidus</i>	EBHS	11	Necropsy
W	Finland	European brown hare	<i>Lepus europaeus</i>	<i>Pasteurella multocida</i>	2	Necropsy
W	Finland	Varying hare	<i>Lepus timidus</i>	<i>Pasteurella multocida</i>	3	Necropsy
W	Finland	Hedgehog	<i>Erinaceus europaeus</i>	Salmonellosis (<i>S. enteritidis</i>)	4	Necropsy
W	Finland	Red fox	<i>Vulpes vulpes</i>	Salmonellosis (<i>S. Konstanž</i>)	1	Necropsy
W	Finland	Ermine	<i>Mustela sp</i>	Salmonellosis (<i>S. sp.</i>)	1	Necropsy
W	Finland	Hedgehog	<i>Erinaceus europaeus</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Necropsy
W	Finland	Otter	<i>Lutra lutra</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Necropsy
W	Finland	Squirrel	<i>Sciurus vulgaris</i>	Salmonellosis (<i>S. typhimurium</i>)	2	Necropsy
W	Finland	Black headed gull	<i>Larus ridibundus</i>	Salmonellosis (<i>S. typhimurium</i>)	3	Necropsy
W	Finland	Herring gull	<i>Larus argentatus</i>	Salmonellosis (<i>S. typhimurium</i>)	5	Necropsy
W	Finland	Great tit	<i>Parus major</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Necropsy
W	Finland	Bullfinch	<i>Pyrrhula pyrrhula</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Necropsy
W	Finland	Raccoon dog	<i>Nyctereutes procyonoides</i>	Sarcoptic mange	6	Necropsy
W	Finland	Red fox	<i>Vulpes vulpes</i>	Sarcoptic mange	7	Necropsy
W	Finland	Lynx	<i>Lynx lynx</i>	Sarcoptic mange	1	Necropsy
W	Finland	Brown hare	<i>Lepus europaeus</i>	Toxoplasmosis	7	Necropsy
W	Finland	Varying hare	<i>Lepus timidus</i>	Toxoplasmosis	2	Necropsy
A	France	Wild Boar	<i>Sus scrofa</i>	Classical Swine Fever	22	Virology
A	France	Wild Boar	<i>Sus scrofa</i>	Classical Swine Fever	37	Serology
A	France	Wild Boar	<i>Sus scrofa</i>	Classical Swine Fever	3	Serology
B	France	Wild boar	<i>Sus scrofa</i>	Aujeszký disease	101	Serology
B	France	Wood Pigeon	<i>Columba palumbus</i>	Avian tuberculosis	1	Isolation
B	France	Buzzard	<i>Buteo buteo</i>	Avian tuberculosis	1	Isolation
B	France	Red deer	<i>Cervus elaphus</i>	Bovine tuberculosis	11	Isolation
B	France	Roe deer	<i>Capreolus capreolus</i>	Bovine tuberculosis	1	Isolation
B	France	Wild boar	<i>Sus scrofa</i>	Bovine tuberculosis	25	Isolation

Appendix III (contd)

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
B	France	Brown hare	<i>Lepus europaeus</i>	Brucellosis (<i>B. suis</i> 2)	6	Isolation
B	France	Ibex	<i>Capra ibex ibex</i>	CAE-Maedi/Visna	2	Serology
B	France	Ibex	<i>Capra ibex ibex</i>	CAE-Maedi/Visna	1	Isolation PCR
B	France	Red-legged Partridge	<i>Alectoris rufa</i>	Chlamydiae	1	Bacteriology
B	France	Chamois	<i>Rupicapra rupicapra</i>	Cysticercosis	11	Necropsy
B	France	Roe deer	<i>Capreolus capreolus</i>	Cysticercosis	12	Necropsy
B	France	Badger	<i>Meles meles</i>	Cysticercosis	1	Necropsy
B	France	Wild boar	<i>Sus scrofa</i>	Cysticercosis	3	Necropsy
B	France	Wild rabbit	<i>Oryctolagus cuniculus</i>	Cysticercosis	6	necropsy
B	France	Chamois	<i>Rupicapra rupicapra</i>	<i>Echinococcus granulosus</i>	1	necropsy parasitology
B	France	Red fox	<i>Vulpes vulpes</i>	<i>Echinococcus multilocularis</i>	1	Necropsy
B	France	Red fox	<i>Vulpes vulpes</i>	<i>Echinococcus multilocularis</i>	5	Parasitology
B	France	Wild boar	<i>Sus scrofa</i>	<i>Echinococcus multilocularis</i>	2	Histology + PCR
B	France	Marmott	<i>Marmotta marmotta</i>	<i>Echinococcus</i> sp.	1	Necropsy
B	France	Red fox	<i>Vulpes vulpes</i>	Leptospirosis	1	necropsy
B	France	Roe deer	<i>Capreolus capreolus</i>	Leptospirosis	1	serology
B	France	Wild rabbit	<i>Oryctolagus cuniculus</i>	Myxomatosis	10	Necropsy
B	France	Wild rabbit	<i>Oryctolagus cuniculus</i>	Myxomatosis	1	Virology
B	France	Red fox	<i>Vulpes vulpes</i>	Paratuberculosis	1	isolation (BACAAR)
B	France	Red deer	<i>Cervus elaphus</i>	Paratuberculosis	1	Isolation (BACAAR)
B	France	Wild boar	<i>Sus scrofa</i>	Porcine brucellosis	13	isolation B. suis 2
B	France	Wild boar	<i>Sus scrofa</i>	Porcine brucellosis	26	<i>Brucella</i> PCR
B	France	Wild boar	<i>Sus scrofa</i>	Porcine brucellosis	525	serology
B	France	Serotine bat	<i>Eptesicus serotinus</i>	Rabies (EBL)	2	isolation
B	France	Wild rabbit	<i>Oryctolagus cuniculus</i>	RHD	103	ELISA detection of antigen
B	France	Wild rabbit	<i>Oryctolagus cuniculus</i>	RHD	84	necropsy
B	France	Wild boar	<i>Sus scrofa</i>	Trichinellosis	28	serology ELISA
B	France	Brown hare	<i>Lepus europaeus</i>	Tularemia	39	Isolation
B	France	Brown hare	<i>Lepus europaeus</i>	Tularemia	9	necropsy
W	France	Chamois	<i>Rupicapra rupicapra</i>	<i>Arcanobacterium pyogenes</i>	1	Isolation
W	France	European Coot	<i>Fulica atra</i>	Avian influenza	1	serology
W	France	Great Cormoran	<i>Phalacrocorax carbo</i>	Avian influenza	7	serology
W	France	Green-winged Teal	<i>Anas crecca</i>	Avian influenza	1	isolation
W	France	Mallard	<i>Anas platyrhynchos</i>	Avian influenza	1	isolation
W	France	Mallard	<i>Anas platyrhynchos</i>	Avian Influenza	2	isolation
W	France	Common teal	<i>Anas crecca</i>	Botulism C type	1	Toxin identification
W	France	Mallard	<i>Anas platyrhynchos</i>	Botulism C type	Several	Necropsy, Toxin and/or bacterial identification
W	France	Coot	<i>Fulica atra</i>	Botulism C type	Several	Necropsy
W	France	Common teal	<i>Anas crecca</i>	Botulism D type	1	Toxin identification
W	France	Mute swan	<i>Cygnus olor</i>	Botulism D type	Several	Toxin and/or bacterial identification
W	France	Pyrenean Chamois	<i>Rupicapra rupicapra</i>	BVD	2	isolation
W	France	Roe deer	<i>Capreolus capreolus</i>	BVD	1	isolation
W	France	Chamois	<i>Rupicapra rupicapra</i>	Contagious Ecthyma	1	virology
W	France	Brown hare	<i>Lepus europaeus</i>	EBHS	190	necropsy
W	France	Brown hare	<i>Lepus europaeus</i>	EBHS	117	Elisa (detection of Ag)
W	France	Red backed bank vole	<i>Clethrionomys glareolus</i>	Hantaviruses	several	serology
W	France	Chamois	<i>Rupicapra rupicapra</i>	Listeriosis	3	Isolation
W	France	Chamois	<i>Rupicapra rupicapra</i>	Listeriosis	3	Isolation
W	France	White stork	<i>Ciconia ciconia</i>	Listeriosis	1	Isolation
W	France	Black stork	<i>Ciconia nigra</i>	Listeriosis	1	Isolation
W	France	Roe deer	<i>Capreolus capreolus</i>	Listeriosis	3	Isolation
W	France	Chamois	<i>R. rupicapra</i>	<i>Mycoplasma conjunctivae</i>	several	Clinical
W	France	Ibex	<i>Capra ibex ibex</i>	<i>Mycoplasma conjunctivae</i>	Several	Necropsy
W	France	Roe deer	<i>Capreolus capreolus</i>	oestrose (<i>Oestrus ovis</i>)	38	Necropsy
W	France	Mallard	<i>Anas platyrhynchos</i>	Paramyxovirus	10	serology
W	France	Red-legged Partridge	<i>Alectoris rufa</i>	Pasteurellosis (Avian cholera)	5	Isolation
W	France	Chamois	<i>Rupicapra rupicapra</i>	Pasteurellosis	10	necropsy, isolation
W	France	Wild boar	<i>Sus scrofa</i>	Pasteurellosis	15	Isolation
W	France	Brown hare	<i>Lepus europaeus</i>	Pasteurellosis	116	Isolation

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
W	France	Roe deer	<i>Capreolus capreolus</i>	Pasteurellosis	46	Isolation
W	France	Beaver	<i>Castor fiber</i>	Pasteurellosis (<i>P. hemolytica</i>)	1	isolation
W	France	Lapwing	<i>Vanellus vanellus</i>	Pasteurellosis (<i>P. multocida</i>)	1	Isolation
W	France	Lynx	<i>Felis lynx</i>	Pasteurellosis (<i>P. multocida</i>)	1	Isolation
W	France	Red fox	<i>Vulpes vulpes</i>	Pasteurellosis (<i>P. multocida</i>)	1	Isolation
W	France	Red deer	<i>Cervus elaphus</i>	Pasteurellosis (<i>P. multocida</i>)	1	Isolation
W	France	Wild rabbit	<i>Oryctolagus cuniculus</i>	Pasteurellosis (<i>P. multocida</i>)	14	Isolation
W	France	Mallard	<i>Anas platyrhynchos</i>	PMV1 non virulent	2	isolation
W	France	Mallard	<i>Anas platyrhynchos</i>	PMV4	2	isolation
W	France	Mallard	<i>Anas platyrhynchos</i>	PMV9	1	isolation
W	France	Brown hare	<i>Lepus europaeus</i>	Pseudotuberculosis (<i>Yersinia</i>)	135	Isolation
W	France	Roe deer	<i>Capreolus capreolus</i>	Pseudotuberculosis (<i>Yersinia</i>)	5	Isolation
W	France	Brown hare	<i>Lepus europaeus</i>	Psoroptic mange	1	Isolation
W	France	Red fox	<i>Vulpes vulpes</i>	Psoroptic mange	1	parasitology
W	France	Wild boar	<i>Sus scrofa</i>	Psoroptic Mange	1	Parasitology
W	France	Wild boar	<i>Sus scrofa</i>	Salmonellose (<i>S. enteritidis</i>)	1	Isolation
W	France	Brown hare	<i>Lepus europaeus</i>	Salmonellosis (<i>S. arizonae</i>)	1	Isolation
W	France	Mute swan	<i>Cygnus olor</i>	Salmonellosis (<i>S. hadar</i>)	1	Isolation
W	France	Black-headed gull	<i>Larus ridibundus</i>	Salmonellosis (<i>S. typhimurium</i>)	2	Isolation
W	France	Grey Heron	<i>Ardea cinerea</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Isolation
W	France	Greenfinch	<i>Carduelis chloris</i>	Salmonellosis (<i>S. typhimurium</i>)	5	Isolation
W	France	Red-legged Partridge	<i>Alectoris rufa</i>	Salmonellosis (<i>S. typhimurium</i>)	4	Isolation
W	France	Brown hare	<i>Lepus europaeus</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Isolation
W	France	Roe deer	<i>Capreolus capreolus</i>	Salmonellosis (<i>S. enterit., dublin</i>)	4	Isolation
W	France	Brown hare	<i>Lepus europaeus</i>	Sarcoptic mange	1	Isolation
W	France	Red fox	<i>Vulpes vulpes</i>	Sarcoptic Mange	22	Parasitology
W	France	Roe deer	<i>Capreolus capreolus</i>	Sarcoptic Mange	2	Parasitology
W	France	Wild boar	<i>Sus scrofa</i>	Sarcoptic Mange	1	Parasitology
W	France	Roe deer	<i>Capreolus capreolus</i>	Toxoplasmosis	49	Serology
W	France	Red-legged Partridge	<i>Alectoris rufa</i>	Trichomoniasis	4	Necropsy
A	Gabon	No report				
B	Gabon					
W	Gabon					
A	Germany	Wild boar	<i>Sus scrofa</i>	Classical swine fever	451	Isolation
B	Germany	Wild birds		Avian Chlamydiosis	17	Isolation
B	Germany	Wild birds		Avian Chlamydiosis	4	Antigen-ELISA
B	Germany	Wild birds		Avian Tuberculosis	17	Isolation
B	Germany	Red fox		Echinococcosis	Unknown	Intestinal scraping technique
B	Germany	White stork		Hepadnavirus infection	14	antigen Elisa
B	Germany	Bovidae (in zoos)		Listeriosis	1	Isolation
B	Germany	Other zoo animals		Listeriosis	1	Isolation
B	Germany	Rabbit		Myxomatosis	Unknown	Necropsy
B	Germany	Monkey (in zoos)		Q-fever	6	Isolation
B	Germany	Bovidae (in zoos)		Q-fever	8	Isolation <i>C. burnetii</i>
B	Germany	Canidae (in zoos)		Q-fever	1	Isolation <i>C. burnetii</i>
B	Germany	Red fox		Rabies	17	FAT
B	Germany	Bat		Rabies	8	FAT
B	Germany	Roe deer		Rabies	6	FAT
B	Germany	Marten		Rabies	3	FAT
B	Germany	Hare, Wild rabbit		RHD	Unknown	Necropsy
B	Germany	Rabbit		RHD	6	ELISA (antigen)
W	Germany	Sea Eagle		Avian Pox	1	Electron microscopy
W	Germany	Eurasian Crane		Avian Pox	3	Electron microscopy
W	Germany	European brown hare		EBHS	92	Serology
W	Germany	European brown hare		Toxoplasmosis	147	Serology
W	Germany	European brown hare		Toxoplasmosis	108	IHC
W	Germany	European brown hare		Yersinia infection	163	Serology
A	Ghana	No Report				
B	Ghana					
W	Ghana					

Appendix III (contd)

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
A	Guatemala			No		
B	Guatemala			No		
W	Guatemala			no		
A	Guyana			No		
B	Guyana			No		
W	Guyana	Macaw	<i>Ara sp.</i>	Avian pox	1	Clinical
A	Haiti	No Report				
B	Haiti					
W	Haiti					
A	Iceland			0		
B	Iceland			0		
W	Iceland			0		
A	India	Elephant	<i>Elaphas maximus</i>	FMD Type O	8	Serology
B	India	Indian gaur	<i>Bos gaurus</i>	Anthrax	25	Lab examination
B	India	Mithun or Gayal	<i>Bos frontalis</i>	Hydatid cysts	1	Lab examination
B	India	Hog deer	<i>Axis porcinus</i>	Rabies	12	FAT
W	India	Small Indian Civet	<i>Viverricular indica</i>	Dermatomycosis	5	Isolation
W	India	Sambar deer (capt)	<i>Cervus unicolor</i>	Pasteurellosis	15	Isolation
A	Italy			no		
B	Italy	Wild boar	<i>Sus scrofa</i>	Aujeszky's disease	215	ELISA
B	Italy	Chamois	<i>Rupicapra rupicapra</i>	Brucellosis	3	FDC
B	Italy	Wild boar	<i>Sus scrofa</i>	Brucellosis	20	Isolation
B	Italy	Wild boar	<i>Sus scrofa</i>	Brucellosis	81	TRB
B	Italy	Wild boar	<i>Sus scrofa</i>	Brucellosis	80	FDC
B	Italy	Chamois	<i>Rupicapra rupicapra</i>	Cysticercosis	4	Necropsy
B	Italy	Roe deer	<i>Capreolus capreolus</i>	Cysticercosis	3	Necropsy
B	Italy	Wild boar	<i>Sus scrofa</i>	Cysticercosis	2	Necropsy
B	Italy	Fox	<i>Vulpes vulpes</i>	Echinococcosis	2	ELISA + parasitology.
B	Italy	Wild boar	<i>Sus scrofa</i>	Leptospirosis	51	MAT
B	Italy	Hare	<i>Lepus europaeus</i>	Myxomatosis	1	Necropsy
B	Italy	Chamois	<i>Rupicapra rupicapra</i>	Paratuberculosis	1	AGID
B	Italy	Chamois	<i>Rupicapra rupicapra</i>	Paratuberculosis	2	Isolation
B	Italy	Chamois	<i>Rupicapra rupicapra</i>	Paratuberculosis	3	FDC
B	Italy	Fox	<i>Vulpes vulpes</i>	Paratuberculosis	1	Isolation
B	Italy	Hare	<i>Lepus europaeus</i>	Paratuberculosis	1	Isolation
B	Italy	Red deer	<i>Cervus elaphus</i>	Paratuberculosis	19	Isolation
B	Italy	Roe deer	<i>Capreolus capreolus</i>	Paratuberculosis	4	Isolation
B	Italy	Chamois	<i>Rupicapra rupicapra</i>	Pseudotuberculosis	3	Isolation
B	Italy	Chamois	<i>Rupicapra rupicapra</i>	Toxoplasmosis	15	Serology
B	Italy	Badger	<i>Meles meles</i>	Trichinellosis	1	Artificial digestion
B	Italy	Fox	<i>Vulpes vulpes</i>	Trichinellosis	2	Artificial digestion
B	Italy	Wolf	<i>Canis lupus</i>	Trichinellosis	2	Necropsy
B	Italy	Wild boar	<i>Sus scrofa</i>	Tuberculosis	5	Necropsy
B	Italy	Wild boar	<i>Sus scrofa</i>	Tuberculosis	91	Necropsy
B	Italy	Wild boar	<i>Sus scrofa</i>	Tuberculosis	11	Isolation
B	Italy	Wild boar	<i>Sus scrofa</i>	Tuberculosis	9	PCR
B	Italy	Hare	<i>Lepus europaeus</i>	Tularemia	1	PCR- biology
W	Italy	Roe deer	<i>Capreolus capreolus</i>	<i>Chlamydiosis</i>	1	PCR
W	Italy	Chamois	<i>Rupicapra rupicapra</i>	Contagious Ecthyma	3	Necropsy
W	Italy	Hare	<i>Lepus europaeus</i>	EBHS	12	ELISA
W	Italy	Chamois	<i>Rupicapra rupicapra</i>	Pasteurellosis	1	Isolation
W	Italy	Hare	<i>Lepus europaeus</i>	Pasteurellosis	3	Isolation
W	Italy	Chamois	<i>Rupicapra rupicapra</i>	Pestivirus	17	ELISA
W	Italy	Roe deer	<i>Capreolus capreolus</i>	Pseudotuberculosis	1	Necropsy
W	Italy	Black-headed gull	<i>Larus ridibundus</i>	<i>Salmonella typhimurium</i>	1	Isolation
W	Italy	Badger	<i>Meles meles</i>	Salmonellosis	3	Isolation
W	Italy	Bird	<i>Avian species</i>	Salmonellosis	2	Isolation
W	Italy	Fox	<i>Vulpes vulpes</i>	Salmonellosis	10	Isolation
W	Italy	Chamois	<i>Rupicapra rupicapra</i>	Sarcoptic mange	67	Necropsy

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
W	Italy	Fox	<i>Vulpes vulpes</i>	Sarcoptic mange	16	Necropsy
W	Italy	Fox	<i>Vulpes vulpes</i>	Sarcoptic mange	15	Necropsy
W	Italy	Fox	<i>Vulpes vulpes</i>	Sarcoptic mange	21	Necropsy
W	Italy	Stone marten	<i>Martes foina</i>	Sarcoptic mange	1	Necropsy
A	Japan	Pigeon	<i>Columba livia</i>	Newcastle disease	18	Isolation
B	Japan	Wild boar	<i>Sus scrofa</i>	Aujeszky's disease	11	Serology
B	Japan	Domestic dog	<i>Canis familiaris</i>	Echinococcosis (<i>E. multiloc.</i>)	20+	Isolation
B	Japan	Domestic dog	<i>Canis familiaris</i>	Leptospirosis	9	Isolation
B	Japan	Lagomorph	<i>Lepus brachyurus</i>	RHD	7	IHC
W	Japan	Wild duck x domestic	<i>Anas platyrhynchos</i> A.p.dome <i>stica</i>	Botulism	Not known	Lab examination
W	Japan	Japanese Serow	<i>Capricornis crispus</i>	Contagious ecthyma	5	Necropsy
W	Japan	Pheasant	<i>Phasianus (colchicus)</i> <i>versicolor</i>	Pasteurellosis	Not known	Isolation
W	Japan	Raccoon dog	<i>Nyctereutes procyonoides</i>	Sarcoptic mange	Not known	Necropsy
W	Japan	Wild boar	<i>Sus scrofa</i>	Swine erysipelas	Not known	Isolation
A	Kenya	No report				
B	Kenya					
W	Kenya					
A	Latvia			No		
B	Latvia	Wild boar	<i>Sus scrofa</i>	Aujesky dis.	4	Serology
B	Latvia	Wild boar	<i>Sus scrofa</i>	leptospirosis	1	Serology
B	Latvia	Wild boar	<i>Sus scrofa</i>	PRRS	3	Serology
B	Latvia	Red fox	<i>Vulpes vulpes</i>	Rabies	247	Necropsy
B	Latvia	Badger	<i>Meles meles</i>	Rabies	11	Necropsy
B	Latvia	Raccoon dog	<i>Nyctereutes procyonoides</i>	Rabies	134	Necropsy
B	Latvia	Polecat	<i>Mustela putoris</i>	Rabies	9	Necropsy
B	Latvia	Wolf	<i>Canis lupus</i>	Rabies	1	Necropsy
B	Latvia	Pine marten	<i>Martes martes</i>	Rabies	6	Necropsy
B	Latvia	Moose	<i>Alces alces</i>	Rabies	1	Necropsy
B	Latvia	Lynx	<i>Lynx lynx</i>	Rabies	1	Necropsy
B	Latvia	Roe deer	<i>Capreolus capreolus</i>	Rabies	1	Necropsy
B	Latvia	Wild boar	<i>Sus scrofa</i>	Trichinellosis	9	Digestion
B	Latvia	Red fox	<i>Vulpes vulpes</i>	Trichinellosis	36	Digestion
A	Lesotho	No report				
B	Lesotho					
W	Lesotho					
A	Libya	No report				
B	Libya					
W	Libya					
A	Lithuania				No	
B	Lithuania	Wolf	<i>Canis lupus</i>	Rabies	1	Necropsy
B	Lithuania	Otter	<i>Lutra lutra</i>	Rabies	1	Necropsy
B	Lithuania	Raccoon dog	<i>Nyctereutes procyonoides</i>	Rabies	36	Necropsy
B	Lithuania	Ferret	<i>Mustela putoris</i>	Rabies	1	Necropsy
B	Lithuania	Marten	<i>Martes martes</i>	Rabies	1	Necropsy
B	Lithuania	Wild boar	<i>Sus scrofa</i>	Trichinellosis	86	Digestion
A	Luxemburg	Wild boar	<i>Sus scrofa</i>	CSF	65	Isolation
B	Luxemburg	Red fox	<i>Vulpes vulpes</i>	<i>Echinococcus multilocularis</i>	20%	Examination
W	Luxemburg					
A	Madagascar			No		
B	Madagascar			No		
W	Madagascar			No		
A	Malawi	No report				
B	Malawi					
W	Malawi					
A	Malta			No		
B	Malta	Wild rabbit	<i>Oryctolagus cuniculus</i>	Myxomatosis	Common	

Appendix III (contd)

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
W	Malta					
A	Mauritania	No report				
B	Mauritania					
W	Mauritania					
A	Mexico	No Report				
B	Mexico					
W	Mexico					
A	Morocco			No		
B	Morocco	Jackal	<i>Rabies</i>	2	FAT	
W	Morocco					
A	Mozambique	No report				
B	Mozambique					
W	Mozambique					
A	Myanmar			No		
B	Myanmar	Hog deer	<i>Axis porcinus</i>	Anthrax	85	Isolation
B	Myanmar	Fallow deer	<i>Cervus axis axis</i>	Anthrax	1	Isolation
B	Myanmar	Sambar deer	<i>Cervus unicolor</i>	Anthrax	4	Isolation
B	Myanmar	Elds deer	<i>Cervus eldi</i>	Anthrax	2	Isolation
B	Myanmar	Spotted deer	<i>Cervus axis axis</i>	Anthrax	2	Isolation
B	Myanmar	Barking deer	<i>Muntiacus muntjak</i>	Anthrax	1	Isolation
B	Myanmar	Lar Gibbon	<i>Hylobates lar</i>	Tuberculosis	1	Isolation
B	Myanmar	Crab eating macaque	<i>Macaca fascicularis</i>	Tuberculosis	2	Isolation
B	Myanmar	Black leopard	<i>Neofelis nebulosa</i>	Tuberculosis	1	Isolation
B	Myanmar	Takin	<i>Budorcas taxicolor</i>	Tuberculosis	1	Isolation
B	Myanmar	Assamese macaque	<i>Macaca assamensis</i>	Tuberculosis	4	Isolation
B	Myanmar	Rhesus macaque	<i>Macaca mulatta</i>	Tuberculosis	6	Isolation
B	Myanmar	Pig tailed macaque	<i>Macaca nemestrina</i>	Tuberculosis	2	Isolation
B	Myanmar	Kangaroo		Tuberculosis	2	Isolation
W	Myanmar	Asian elephant	<i>Elaphus maximus</i>	Fasciola	25	Isolation
W	Myanmar	Leopard cat	<i>Felis bengalensis</i>	Sarcoptic mange	4	Isolation
W	Myanmar	Jungle cat	<i>Felis chaus</i>	Sarcoptic mange	2	Isolation
W	Myanmar	Fishing cat	<i>Felis viverrina</i>	Sarcoptic mange	1	Isolation
W	Myanmar	Malayan beer	<i>Helarctos malayanus</i>	Sarcoptic mange	1	Isolation
W	Myanmar	Brown bear	<i>Ursus arctos</i>	Sarcoptic mange	1	Isolation
W	Myanmar	Rabbit	<i>Oryctolagus cuniculus</i>	Sarcoptic mange	11	Isolation
A	Namibia			No Cases		
B	Namibia	Elephant	<i>Loxodonta africana</i>	Anthrax	1	Blood smear
B	Namibia	Lion	<i>Panthera leo</i>	Anthrax	2	Smear + culture
B	Namibia	Springbok	<i>Antidorcas marsupialis</i>	Anthrax	1	Smear + culture
B	Namibia	Kudu	<i>Tragelaphus strepsiceros</i>	Rabies	Approx. 2,500	Clinical and FAT
B	Namibia	Eland	<i>Taurotragus oryx</i>	Rabies	2	FAT
B	Namibia	Jackal		Rabies	14	FAT
B	Namibia	Honey badger	<i>Mellivora capensis</i>	Rabies	1	FAT
W	Namibia			No cases		
A	Nepal	Nilgai	<i>Boselaphus tragocamelus</i>	Foot and Mouth Disease	1	Serology
A	Nepal	Sambar deer	<i>Cervus unicolor</i>	Foot and Mouth Disease	1	Serology, Types A/O
A	Nepal	Impeyan pheasant (capt)	<i>Lophophorus impejanus</i>	Newcastle disease	6	Necropsy
B	Nepal	Sambar deer	<i>Cervus unicolor</i>	Bovine herpesvirus	2	Serology
B	Nepal	Asian Wild Buffalo	<i>Bubalus bubalis</i>	Bovine herpesvirus	4	Serology
B	Nepal	Elephant	<i>Elaphus maximus</i>	Tuberculosis	1	Microscopy
W	Nepal	Ostrich (capt)	<i>Struthio camelus</i>	Avian Pox	2	Clinical observation
W	Nepal	Nepali pheasant (capt)	<i>Lophura leucomelana leucomelana</i>	Avian Pox	4	Clinical observation
W	Nepal	Tiger	<i>Panthera tigris tigris</i>	Feline coronavirus	1	Serology
W	Nepal	Tiger	<i>Panthera tigris tigris</i>	Feline herpesvirus	1	Serology
W	Nepal	Tiger	<i>Panthera tigris tigris</i>	Feline panleucopaenia	2	Serology
W	Nepal	Asian Wild Buffalo	<i>Bubalus bubalis</i>	Salmonellosis (Type D)	3	Serology
W	Nepal	Nilgai	<i>Boselaphus tragocamelus</i>	Salmonellosis (Type D)	1	Serology

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
W	Nepal	Sambar deer	<i>Cervus unicolor</i>	Toxoplasmosis	2	Serology
W	Nepal	Nilgai	<i>Boselaphus tragocamelus</i>	Toxoplasmosis	1	Serology
A	Netherlands			No		
B	Netherlands	Guinea fowl		Avian tuberculosis	5	Post-mortem
B	Netherlands	Eider	<i>Somateria mollissima</i>	Avian tuberculosis	6	Isolation
B	Netherlands	Coot	<i>Fulica atra</i>	Botulism (C)	2	Mouse-bioassay
B	Netherlands	Mallard	<i>Anas platyrhynchos</i>	Botulism (C)	78	Mouse-bioassay
B	Netherlands	Mute swan	<i>Cygnus olor</i>	Botulism (C)	4	Mouse-bioassay
B	Netherlands	Mallard	<i>Anas platyrhynchos</i>	Botulism (toxin type C)	2	Necropsy/toxicology
B	Netherlands	Harbour seals	<i>Phoca vitulina</i>	Brucellosis		Culture
B	Netherlands	Fox	<i>Vulpes vulpes</i>	<i>Echinococcus multilocularis</i>	3	Microscopy & PCR
B	Netherlands	Bonobo's (Captive)	<i>Pan paniscus</i>	Human tuberculosis	3	Autopsy and culture
B	Netherlands	Bats	<i>Eptesicus serotinus</i>	Rabies	3	IFT
B	Netherlands	Black crow	<i>Corvus corone</i>	Suspected Botulism	1	Necropsy
B	Netherlands	Mallard	<i>Anas platyrhynchos</i>	Suspected Botulism	1	Necropsy
B	Netherlands	Wild boar	<i>Sus scrofa</i>	Trichinellosis	10	Serology
B	Netherlands	Hawk	<i>Accipiter gentilis</i>	Tuberculosis	1	Necropsy
B	Netherlands	Calithrix	<i>Calithrix sp.</i>	<i>Yersinia pseudotuberculosis</i>	1	Necropsy
B	Netherlands	Patagonian cavy	<i>Dolichotis patagonum</i>	<i>Yersinia pseudotuberculosis</i>	1	Necropsy
W	Netherlands	Jackass penguin	<i>Spheniscus demersus</i>	Avian Malaria	3	Blood smear
W	Netherlands	Jackass penguin	<i>Spheniscus demersus</i>	Avian Malaria	1	Necropsy
W	Netherlands	Raccoon (Captive)	<i>Procyon lotor</i>	Baylisscariasis <i>B. Procyonis</i>	1	Faecal examination
W	Netherlands	Harbour seal	<i>Phoca vitulina</i>	<i>Brucella sp.</i>	9	Isolation/PCR
W	Netherlands	European brown hare	<i>Lepus europaeus</i>	Pasteurellosis	1	Isolation
W	Netherlands	European brown hare	<i>Lepus europaeus</i>	Pasteurellosis (<i>P. multocida</i>)	1	Isolation
W	Netherlands	Harbour seal	<i>Phoca vitulina</i>	Phocine distemper	69	PCR & serology
W	Netherlands	Stone marten	<i>Martes foina</i>	Salmonellosis (<i>S. enteritidis</i>)	2	Isolation
W	Netherlands	Red Fox	<i>Vulpes vulpes</i>	Suspected CDV	1	Necropsy
W	Netherlands	Cheetah	<i>Acinonyx jubatus</i>	Toxoplasmosis	1	Faecal sampling
A	New Caledonia			No		
B	New Caledonia			No		
W	New Caledonia			No		
A	New Zealand			No		
B	New Zealand	Australasian harrier	<i>Circus approximans</i>	Avian tuberculosis	1	Histopathology
B	New Zealand	Ferret	<i>Mustela putorius furo</i>	Avian tuberculosis	18	Isolation
B	New Zealand	Stoat	<i>Mustela erminea</i>	Avian tuberculosis	1	Isolation
B	New Zealand	Possum	<i>Trichosurus vulpecula</i>	Bovine tuberculosis	6	Isolation
B	New Zealand	Ferret	<i>Mustela putorius furo</i>	Bovine tuberculosis	139	Isolation
W	New Zealand	Oyster catcher	<i>Haematopus unicolor</i>	Avian Pox	1	Necropsy
W	New Zealand	Song thrush	<i>Turdus philomelos</i>	Avian Pox	1	Necropsy
W	New Zealand	Eastern rosella	<i>Platycercus eximius</i>	Avian Pox	2	Necropsy
W	New Zealand	Golden bell frog	<i>Litoria aurea</i>	Chytridiomycosis	1	Necropsy
W	New Zealand	Possum	<i>Trichosurus vulpecula</i>	Cryptosporidiosis	1	Lab examination
W	New Zealand	NZ sea lion	<i>Phocartos hookeri</i>	Salmonellosis	41	Isolation
W	New Zealand	Greenfinch	<i>Carduelis chloris</i>	Salmonellosis (DT 160)	1	Isolation
W	New Zealand	Sparrow	<i>Passer domesticus</i>	Salmonellosis (DT 160)	2	Isolation
W	New Zealand	Kaka	<i>Nestor meridionalis meridionalis</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Isolation
B	New Zealand	Rabbit	<i>Oryctolagus cuniculus</i>	Rabbit haemorrhagic disease	1	Necropsy
W	New Zealand	NZ Wood Pigeon	<i>Hemiphaga novaeseelandiae</i>	Avian Pox	1	Necropsy
W	New Zealand	North Island robin	<i>Petroica australis longipes</i>	Avian Pox	1	Necropsy
W	New Zealand	NZ Shore plover	<i>Thinornis novaeseelandiae</i>	Avian Pox	2	Necropsy
W	New Zealand	NZ Shore plover	<i>Thinornis novaeseelandiae</i>	Avian Pox	1	Necropsy
A	Nicaragua			No		
B	Nicaragua			No		
W	Nicaragua			No		
A	Niger	No report				
B	Niger					
W	Niger					

Appendix III (contd)

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
A	Nigeria	No report				
B	Nigeria					
W	Nigeria					
A	Norway			No		
B	Norway		<i>Aegolius funereus</i>	Avian tuberculosis	1	Necropsy
B	Norway	Mouflon sheep	<i>Ovis musimon</i>	Cysticercosis	1	Necropsy
B	Norway	Moose	<i>Alces alces</i>	MCF	1	Necropsy
B	Norway	Arctic fox	<i>Alopex lagopus</i>	Rabies	1	Necropsy
B	Norway	Polar bear	<i>Thalarctos maritimus</i>	Trichinellosis	1	Histology
B	Norway	Red fox	<i>Vulpes vulpes</i>	Trichinellosis	2	Necropsy
W	Norway	Red deer	<i>Cervus elaphus</i>	BVDV	1	Serology
W	Norway	Red deer	<i>Cervus elaphus</i>	<i>Elaphostrongylus</i> sp.	4	Necropsy
W	Norway	Moose	<i>Alces alces</i>	<i>Elaphostrongylus</i> sp.	1	Necropsy
W	Norway	Hedgehog	<i>Erinaceus europeus</i>	Listeriosis	1	Isolation
W	Norway	Reindeer	<i>Rangifer tarandus</i>	Listeriosis	1	Isolation
W	Norway	Harbor seal	<i>Phoca vitulina</i>	Phocine distemper	6	PCR
W	Norway	Arctic fox	<i>Alopex lagopus</i>	Salmonellosis (<i>S. enteritidis</i>)	1	Necropsy
W	Norway	Hedgehog	<i>Erinaceus europeus</i>	Salmonellosis (<i>S. typhimur.</i>)	1	Necropsy
W	Norway	Bullfinch	<i>Pyrrhula pyrrhula</i>	Salmonellosis (<i>S. typhimur.</i>)	1	Necropsy
W	Norway	Red fox	<i>Vulpes vulpes</i>	Sarcoptic mange	4	Necropsy
A	Panama			No		
B	Panama			No		
W	Panama			No		
A	Paraguay	No Report				
B	Paraguay					
W	Paraguay					
A	Peru			No		
B	Peru	Murcielago hematof.		Rabies	2	FAT
W	Peru					
A	Philippines	Brahminy kite (capt)	<i>Haliastur indus</i>	Newcastle disease	8	Serology (HI/HA)
B	Philippines	Long-tailed macaques (ca)	<i>Macaca fascicularis</i>	Tuberculosis	2	Tuberculin tests
W	Philippines	Palm civet	<i>Paradoxurus hermaphroditus</i>	Feline panleucopaenia	1	Necropsy
W	Philippines	Leopard cat	<i>Felis bengalensis</i>	Feline panleucopaenia	1	Necropsy
A	Poland			No		
B	Poland	Red fox	<i>Vulpes vulpes</i>	Rabies	884	Necropsy
B	Poland	Badger	<i>Meles meles</i>	Rabies	8	Necropsy
B	Poland	Raccoon dog	<i>Nyctereutes procyonoides</i>	Rabies	96	Necropsy
B	Poland	Polecat	<i>Mustela putoris</i>	Rabies	7	Necropsy
B	Poland	Bat		Rabies	5	Necropsy
B	Poland	Pine marten	<i>Martes martes</i>	Rabies	25	Necropsy
B	Poland	Ferret	<i>Mustela putoris</i>	Rabies	1	Necropsy
B	Poland	Wild boar	<i>Sus scrofa</i>	Rabies	1	Necropsy
B	Poland	Lynx	<i>Lynx lynx</i>	Rabies	1	Necropsy
B	Poland	Roe deer	<i>Capreolus capreolus</i>	Rabies	10	Necropsy
A	Portugal			No	0	
B	Portugal	Fox	<i>Vulpes vulpes</i>	Leishmaniasis	17	PCR and cytology
B	Portugal	Fox	<i>Vulpes vulpes</i>	Trichinellosis (<i>T. britovi</i>)	10	Digestion
W	Portugal	Blackbird	<i>Turdus merula</i>	Avian Pox	1	Necropsy
A	Romania	Wild boar	<i>Sus scrofa</i>	CSF	3	Isolation
B	Romania	Mink	<i>Mustela vison</i>	Aujeszky disease	1	Isolation
B	Romania	Badgers	<i>Meles meles</i>	Rabies	3	Isolation
B	Romania	Other mustelides		Rabies	1	Isolation
B	Romania	Fox	<i>Vulpes vulpes</i>	Rabies	63	Isolation
B	Romania	Wolf	<i>Canis lupus</i>	Rabies	2	Isolation
B	Romania	Wild cats	<i>Felis silvestris</i>	Rabies	2	Isolation
B	Romania	Wild boar	<i>Sus scrofa</i>	Trichinellosis	12	Demonstration
B	Romania	Bear	<i>Ursus arctos</i>	Trichinellosis	13	Demonstration

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
A	Russia	No Report				
B	Russia					
W	Russia					
A	Senegal			No cases		
B	Senegal			No Cases		
W	Senegal			No cases		
A	Sierra Leone	No report				
B	Sierra Leone					
W	Sierra Leone					
A	Singapore	Wild ruminants (Capt)		Bluetongue	4	Competitive ELISA
B	Singapore			No		
W	Singapore			No		
A	Slovakia	Wild boar	<i>Sus scrofa</i>	CSF	69	Virology
B	Slovakia	Red fox	<i>Vulpes vulpes</i>	Rabies	90	Necropsy
B	Slovakia	Wild cat	<i>Felis silvestris</i>	Rabies	2	Necropsy
B	Slovakia	Squirrel	<i>Sciurus vulgaris</i>	Rabies	1	Necropsy
B	Slovakia	Pine marten	<i>Martes martes</i>	Rabies	1	Necropsy
B	Slovakia	Red fox	<i>Vulpes vulpes</i>	Trichinellosis	34	Necropsy
B	Slovakia	Wild boar	<i>Sus scrofa</i>	Trichinellosis	6	Digestion
B	Slovakia	Muskrat	<i>Ondatra zibethicus</i>	Trichinellosis	1	Digestion
W	Slovakia					
A	Slovenia	Wild boar	<i>Sus scrofa</i>	CSF	20	Isolation
B	Slovenia	Red fox	<i>Vulpes vulpes</i>	Rabies	14	FAT
B	Slovenia	Badger	<i>Meles meles</i>	Rabies	1	FAT
W	Slovenia	Chamois	<i>Rupicapra rupicapra</i>	Contagious ecthyma	7	Necropsy
W	Slovenia	European brown hare	<i>Lepus europaeus</i>	EBHS	26	Necropsy
W	Slovenia	European brown hare	<i>Lepus europaeus</i>	<i>Pasteurella multocida</i>	2	Isolation
W	Slovenia	European brown hare	<i>Lepus europaeus</i>	Pseudotuberculosis	6	Isolation
W	Slovenia	Chamois	<i>Rupicapra rupicapra</i>	Sarcoptic mange	109	Necropsy
W	Slovenia	Ibex	<i>Capra ibex</i>	Sarcoptic mange	108	Necropsy
W	Slovenia	Mouflon sheep	<i>Ovis musimon</i>	Sarcoptic mange	109	Necropsy
W	Slovenia	European brown hare	<i>Lepus europaeus</i>	Toxoplasmosis	3	Necropsy
A	Somalia	No report				
B	Somalia					
W	Somalia					
A	South Africa	Impala	<i>Aepyceros melampus</i>	FMD - SAT 2	94	Serology-blocking ELISA
B	South Africa	Fauna	<i>Unspecified</i>	Anthrax	1	Blood smear
B	South Africa	Kudu	<i>Tragelaphus strepsiceros</i>	Anthrax	1	Blood smear
B	South Africa	Eland	<i>Taurotragus oryx</i>	Bovine tuberculosis	1	Necropsy + culture
B	South Africa	Lion	<i>Panthera leo</i>	Bovine tuberculosis	18	Necropsy + culture
B	South Africa	Buffalo	<i>Syncerus caffer</i>	Bovine tuberculosis	84	Necropsy + culture
B	South Africa	Leopard	<i>Panthera pardus</i>	Bovine tuberculosis	2	Necropsy + culture
B	South Africa	Kudu	<i>Tragelaphus strepsiceros</i>	Bovine tuberculosis	2	Necropsy + culture
B	South Africa	Warthog	<i>Phacochoerus africanus</i>	Bovine tuberculosis	2	Necropsy + culture
B	South Africa	Yellow mongoose	<i>Cynictus penicillata</i>	Rabies	24	FAT
B	South Africa	Slender mongoose	<i>Herpestes sanguinea</i>	Rabies	4	FAT
B	South Africa	Suricate	<i>Suricata suricatta</i>	Rabies	5	FAT
B	South Africa	Bat-eared fox	<i>Otocyon megalotis</i>	Rabies	5	FAT
B	South Africa	Small grey mongoose	<i>Herpestes pulverulenta</i>	Rabies	1	FAT
B	South Africa	Black-backed jackal	<i>Canis mesomelas</i>	Rabies	4	FAT
B	South Africa	African civet	<i>Civettictis civetta</i>	Rabies	1	FAT
W	South Africa			No cases		
A	Spain			No	0	
B	Spain	Pheasant	<i>Phasianus colchicus</i>	Avian tuberculosis	100 (una granja)	Necropsy
B	Spain	Partridge	<i>Alectoris rufa</i>	Avian tuberculosis	1	Necropsy
B	Spain	Red deer	<i>Cervus elaphus</i>	Bovine tuberculosis	Con casuistica	Ailamiento + PCR
B	Spain	Gamo		Bovine tuberculosis	Con casuistica	Ailamiento + PCR
B	Spain	Wild Boar	<i>Sus scrofa</i>	Bovine tuberculosis	Con casuistica	Ailamiento + PCR

Appendix III (contd)

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
B	Spain	Rabbit	<i>Oryctolagus cuniculus</i>	Myxomatosis	Con casuística	Necropsy
B	Spain	Hare	<i>Lepus sp.</i>	Pseudotuberculosis	1	Ailamiento
B	Spain	Rabbit	<i>Oryctolagus cuniculus</i>	RHD	Con casuística	Necropsy
B	Spain	Wild Boar	<i>Sus scrofa</i>	Trichinellosis (<i>T. Britovi</i>)	6	Digestión artificial
W	Spain	Red deer	<i>Cervus elaphus</i>	<i>Elaphostrongylus sp.</i>	Con casuística	Análisis coprológico
W	Spain	Partridge	<i>Alectoris rufa</i>	Salmonellosis	<100 (una granja)	Aislamiento
W	Spain	Wild Boar	<i>Sus scrofa</i>	Sarcoptic mange	< 20 animales	Parasitológico
A	Sudan	Birds		Newcastle disease	1740	Lab diagnosis
B	Sudan	Carnivores		Rabies	3	Lab diagnosis
W	Sudan					
W	Surinam					
A	Suriname			No		
B	Suriname	Bovine		Anaplasmosis		Blood smear
B	Suriname	Canine		Anaplasmosis		Blood smear
B	Suriname	Canine		Leptospirosis		ELISA
B	Suriname	Bovine		Rabies		Clinical findings
A	Swaziland	No report				
B	Swaziland					
W	Swaziland					
A	Sweden			No		
B	Sweden	Pine marten	<i>Martes martes</i>	Sarcoptic mange	1	Necropsy
B	Sweden	Red fox	<i>Vulpes vulpes</i>	Sarcoptic mange	8	Necropsy
B	Sweden	Lynx	<i>Felis lynx</i>	Sarcoptic mange	1	Necropsy
B	Sweden	Red fox	<i>Vulpes vulpes</i>	Trichinellosis	10	Necropsy
B	Sweden	Varying hare	<i>Lepus timidus</i>	Tularemia	4	Necropsy
B	Sweden	European brown hare	<i>Lepus europaeus</i>	Tularemia	1	Necropsy
W	Sweden	Golden eagle	<i>Aquila chrysaethus</i>	Avian tuberculosis	1	Necropsy
W	Sweden	Tawny owl	<i>Strix aluco</i>	Avian tuberculosis	1	Necropsy
W	Sweden	European brown hare	<i>Lepus europaeus</i>	EBHS	2	Necropsy
W	Sweden	Roe deer	<i>Capreolus capreolus</i>	Listeriosis	1	Necropsy
W	Sweden	Roe deer	<i>Capreolus capreolus</i>	Pasteurellosis	1	Necropsy
W	Sweden	European brown hare	<i>Lepus europaeus</i>	Pseudotuberculosis	1	Necropsy
W	Sweden	Fallow deer	<i>Dama dama</i>	Pseudotuberculosis	1	Necropsy
W	Sweden	Roe deer	<i>Capreolus capreolus</i>	Pseudotuberculosis	1	Necropsy
W	Sweden	Mute swan	<i>Cygnus olor</i>	Salmonellosis (<i>S. senftenberg</i>)	1	Necropsy
W	Sweden	Siskin	<i>Carduelis spinus</i>	Salmonellosis (<i>S. typhimurium</i>)	1	Necropsy
W	Sweden	Bullfinch	<i>Pyrrhula pyrrhula</i>	Salmonellosis (<i>S. typhimurium</i>)	3	Necropsy
W	Sweden	European brown hare	<i>Lepus europaeus</i>	Toxoplasmosis	1	Necropsy
A	Switzerland			No		
B	Switzerland	Bat		rabies	1	Immunofluorescence
W	Switzerland	Hedgehog	<i>Erinaceus europeus</i>	<i>Salm. enteritica enteritidis</i>	1	Culture
W	Switzerland	Snake		Salmonellosis (typ unkown)	8	?
W	Switzerland	Turtle		Salmonellosis (typ unkown)	2	?
W	Switzerland	Dove		Salmonellosis (typ unkown)	4	?
W	Switzerland	Red fox	<i>Vulpes vulpes</i>	Sarcoptic mange	3	Necropsy, LM
A	Taiwan			No		
B	Taiwan	Wild goat	<i>Capra hircis</i>	Cysticercosis	1	Necropsy
B	Taiwan	Squirrel monkey	<i>Saimiri sciureus</i>	Tuberculosis	3	Necropsy
B	Taiwan	Sika deer	<i>Cervus nippon taiouanus</i>	Tuberculosis	1	Necropsy
W	Taiwan	Pea fowl	<i>Pavo cristatus</i>	Avian Pox	1	Necropsy
W	Taiwan	Black- faced spoonbill	<i>Platalea minor</i>	Botulism	71	ELISA
W	Taiwan	Pheasant (exotic)	Unknown	Inclusion body disease	1	Necropsy
W	Taiwan	Squirrel monkey	<i>Saimiri sciureus</i>	Toxoplasmosis	1	IHC
A	Tanzania			No cases		
B	Tanzania	Wildebeest	<i>Connochaetes taurinus</i>	Bovine tuberculosis	2	Culture
B	Tanzania	Topi	<i>Damaliscus lunatus</i>	Bovine tuberculosis	1	Culture
B	Tanzania	kudu	<i>Tragelaphus strepsiceros</i>	Bovine tuberculosis	1	Culture
W	Tanzania			No cases		

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
A	Tchad	Buffalo		PPR	12	Serology
B	Tchad	Phacochere		Trichinellosis	10	Digestion
B	Tchad	Hypotrague		Trichinellosis	3	Digestion
W	Tchad	Bubale		Psoroptic mange	1	Clinical
A	Togo	No report				
B	Togo					
W	Togo					
A	Trinidad	No report				
B	Trinidad					
W	Trinidad					
A	Tunisia	No report				
B	Tunisia					
W	Tunisia					
A	Uganda	Impala		FMD	3	Clinical
A	Uganda	Uganda kob	<i>Kobus kob</i>	Blue tongue	3	Clinical
B	Uganda	Buffalo	<i>Syncerus caffer</i>	Bovine tuberculosis	2	Gamma interferon
B	Uganda	Bushbuck	<i>Tragelaphus scriptus</i>	Rabies	1	Necropsy/IHC
B	Uganda	Chimpanzee	<i>Pan troglodytes</i>	Tuberculosis human	1	Isolation
B	Uganda	Impala		Blackquarter	2	Isolation
B	Uganda	Impala		Echinococcosis	2	Necropsy
B	Uganda	Impala		Bovine tuberculosis	1	Necropsy
B	Uganda	Impala		Cysticercosis	1	Necropsy
B	Uganda	Eland		Blackquarter	1	Necropsy
B	Uganda	Lion	<i>Panthera leo</i>	Feline herpesvirus	9	Serology
W	Uganda	Lion	<i>Panthera leo</i>	FIV	10	Serology
W	Uganda	Lion	<i>Panthera leo</i>	FCV	11	Serology
W	Uganda	Lion	<i>Panthera leo</i>	Canine distemper	11	Serology
W	Uganda	Lion	<i>Panthera leo</i>	FPV	5	Serology
W	Uganda	Giraffe		Sarcoptic mange	1	Clinic
W	Uganda	Mountain gorilla		Sarcoptic mange	1	Clinic
A	UK	Knot	<i>Calidris alpina</i>	Avian influenza	1	Isolation
B	UK	Whooper swan	<i>Cygnus cygnus</i>	Avian tuberculosis	3	Necropsy
B	UK	Pigeon	<i>Columba palumbus</i>	Avian tuberculosis	1	Necropsy
B	UK	Tawny owl	<i>Strix aluco</i>	Avian tuberculosis	1	Necropsy
B	UK	Black-headed gull	<i>Larus ridibundus</i>	Avian tuberculosis	1	Necropsy
B	UK	Badger	<i>Meles meles</i>	Bovine tuberculosis	65	Necropsy
B	UK	Red fox	<i>Vulpes vulpes</i>	Bovine tuberculosis	3	Necropsy
B	UK	Fallow deer	<i>Dama dama</i>	Bovine tuberculosis	3	Necropsy
B	UK	Red deer	<i>Cervus elaphus</i>	Bovine tuberculosis	2	Necropsy
B	UK	Mute swan	<i>Cygnus olor</i>	Duck virus enteritis	2	Necropsy
B	UK	Shelduck	<i>Tadorna tadorna</i>	Duck virus enteritis	2	Necropsy
B	UK	Mallard	<i>Anas platyrhynchos</i>	Duck virus enteritis	2	Necropsy
B	UK	Red fox	<i>Vulpes vulpes</i>	Leptospirosis	2	Serology
B	UK	Rabbit	<i>Oryctolagus cuniculus</i>	Myxomatosis	166	Necropsy
B	UK	Water fowl		Pasteurellosis	14	Isolation
B	UK	Daubentons bat	<i>Myotis daubentoni</i>	Rabies	1	FAT+PCR
B	UK	Passerine birds		Salmonellosis	common	
W	UK	Mallard	<i>Anas platyrhynchos</i>	Avian botulism	70	Necropsy/Clinical
W	UK	Mute swan	<i>Cygnus olor</i>	Avian botulism	4	Necropsy/Clinical
W	UK	Coot	<i>Fulica atra</i>	Avian botulism	1	Necropsy/Clinical
W	UK	Brown hare	<i>Lepus europaeus</i>	EBHS		Necropsy
W	UK	Red grouse	<i>Lagopus lagopus</i>	Louping ill	28	Serology
W	UK	Mountain hare	<i>Lepus timidus</i>	Louping ill	35	Serology
W	UK	Roe deer	<i>Capreolus capreolus</i>	Louping ill	19	Serology
W	UK	Hedgehog	<i>Erinaceus europaeus</i>	Mange	47	Clinical
W	UK	Common seal	<i>Phoca vitulina</i>	Marine brucellosis	4	Isolation
W	UK	Harbour porpoise	<i>Phocoena phocoena</i>	Marine brucellosis	9	Isolation
W	UK	Common dolphin	<i>Delphinus delphis</i>	Marine brucellosis	7	Isolation
W	UK	Striped dolphin	<i>Stenella coeruleoalba</i>	Marine brucellosis	3	Isolation

Appendix III (contd)

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
W	UK	Grey seal	<i>Halocoerus grypus</i>	Marine brucellosis	7	Isolation
W	UK	Pilot whale	<i>Globicephalus melas</i>	Marine brucellosis	1	Isolation
W	UK	Brown hare	<i>Lepus europaeus</i>	Pasteurellosis		Necropsy
W	UK	Grey seal	<i>Halocoerus grypus</i>	Phocine distemper	3	Isolation
W	UK	Common seal	<i>Phoca vitulina</i>	Phocine distemper	65	Isolation
W	UK	Harbour porpoise	<i>Phocoena phocoena</i>	Salmonellosis	7	Isolation
W	UK	Pilot whale	<i>Globicephalus melas</i>	Salmonellosis	2	Isolation
W	UK	Red squirrel	<i>Sciurus vulgaris</i>	Salmonellosis	1	Isolation
W	UK	House mouse	<i>Mus musculus</i>	Salmonellosis	24	Isolation
W	UK	Badger	<i>Meles meles</i>	Salmonellosis	1	Isolation
W	UK	Wild birds		Salmonellosis	4	Isolation
W	UK	Chaffinch	<i>Fringilla montifringilla</i>	Salmonellosis	10	Isolation
W	UK	House sparrow	<i>Passer domesticus</i>	Salmonellosis	20	Isolation
W	UK	Tree sparrow		Salmonellosis	3	Isolation
W	UK	Siskin	<i>Carduelis spinus</i>	Salmonellosis	1	Isolation
W	UK	Goldfinch	<i>Chloris</i>	Salmonellosis	3	Isolation
W	UK	Pigeon	<i>Columba livia</i>	Salmonellosis	1	Isolation
W	UK	Corvids		Salmonellosis	1	Isolation
W	UK	Gulls	<i>Larus sp.</i>	Salmonellosis	3	Isolation
W	UK	Wild birds		Salmonellosis	4	Isolation
W	UK	Wild birds		Salmonellosis	4	Isolation
W	UK	Wild birds		Salmonellosis	4	Isolation
W	UK	Common seal	<i>Phoca vitulina</i>	Salmonellosis (DT 104)	1	Isolation
W	UK	Rook	<i>Corvus frugilegus</i>	Salmonellosis (S. Agona)	12	Isolation
W	UK	Brown rat	<i>Rattus norvegicus</i>	Salmonellosis (S. Derby)	1	Isolation
W	UK	Brown rat	<i>Rattus norvegicus</i>	Salmonellosis (S. enteritidis)	1	Isolation
W	UK	Hedgehog	<i>Erinaceus europaeus</i>	Salmonellosis (S. enteritidis)	2	Isolation
W	UK	Tawny owl	<i>Strix aluco</i>	Salmonellosis (S. typhimurium)	1	Isolation
W	UK	Herring gull	<i>Larus argentatus</i>	Salmonellosis (S. typhimurium)	3	Isolation
W	UK	Finches		Salmonellosis (S. typhimurium)	4	Isolation
W	UK	Greenfinches	<i>Chloris chloris</i>	Salmonellosis (S. typhimurium)	55	Isolation
W	UK	Red fox	<i>Vulpes vulpes</i>	Sarcoptic mange	10	Necropsy
W	UK	Collared dove	<i>Sireptopelia decaocto</i>	Trichomoniasis	114	Necropsy/Clinical
W	UK	Wood pigeon	<i>Columba palumbus</i>	Trichomoniasis	27	Necropsy/Clinical
W	UK	Feral pigeon	<i>Columba livia</i>	Trichomoniasis	12	Necropsy/Clinical
W	UK	Stock dove		Trichomoniasis	2	Necropsy/Clinical
W	UK	Tawny owl	<i>Strix aluco</i>	Trichomoniasis	9	Necropsy/Clinical
A	Uruguay	No report				
B	Uruguay					
W	Uruguay					
A	USA	Bighorn sheep	<i>Ovis canadensis</i>	Bluetongue	Sporadic outbreaks	Isolation
A	USA	White-tailed deer	<i>Odocoileus virginianus</i>	Bluetongue-10	3	Isolation
B	USA	Feral swine	<i>Sus scrofa</i>	Aujesky's Disease	Endemic in several states	Serology
B	USA	White-tailed deer	<i>Odocoileus virginianus</i>	Bovine tuberculosis	Endemic in part of MI	Isolation
B	USA	Elk	<i>Cervus elaphus</i>	<i>Brucella abortus</i>	Several	Serology, culture
B	USA	Bison	<i>Bison bison</i>	<i>Brucella abortus</i>	Several	Serology, culture
B	USA	Feral swine	<i>Sus scrofa</i>	<i>Brucella suis</i>	Endemic in several states	Serology, culture
B	USA	Wild birds (waterfowl)		<i>Pasteurella multocida</i>	Sporadic large outbreaks	Isolation
B	USA	Wild carnivores, bats		Rabies	Endemic	FAT
B	USA	Cottontail rabbits	<i>Sylvilagus floridanus</i>	Tularemia	Several	FAT, isolation
B	USA	Muskrats	<i>Ondatra zibethicus</i>	Tularemia	Several	FAT, isolation
B	USA	Beaver	<i>Castor canadensis</i>	Tularemia	Several	FAT, isolation
B	USA	captive prairie dogs	<i>Cynomys ludovicianus</i>	Tularemia	Several	FAT, isolation
W	USA	Bald eagle	<i>Haliaeetus leucocephalus</i>	Avian vacuol myelinopathy	Sporadic cases	Necropsy
W	USA	American coot	<i>Fulica americana</i>	Avian vacuol myelinopathy	Sporadic cases	Necropsy
W	USA	Mule deer	<i>Odocoileus hemionus</i>	Chronic wasting disease	Several	IHC
W	USA	White-tailed deer	<i>Odocoileus virginianus</i>	EHD	99	Isolation
W	USA	Songbirds		Salmonellosis	Sporadic outbreaks	Culture

List	Country	Animal Species	Scientific name	Disease	# of animal	Method
W	USA	White-tailed deer	<i>Odocoileus virginianus</i>	CWD		
W	USA	Elk	<i>Cervus elaphus</i>	CWD		
A	Venezuela	No report				
B	Venezuela					
W	Venezuela					
A	Zambia	No report				
B	Zambia	Buffalo	<i>Syncerus caffer</i>	Anthrax	4	Blood smear and culture
B	Zambia	Hippopotamus	<i>Hippopotamus amphibius</i>	Anthrax	Approx 120	Blood smear and culture
B	Zambia	Jackal	<i>Canis mesomelas</i>	Rabies	1	FAT
W	Zambia			No cases		
A	Zimbabwe	Kudu	<i>Tragelaphus strepsiceros</i>	FMD	30% Positive	Serology- blocking ELISA
A	Zimbabwe	Ostrich	<i>Struthio camelus</i>	Newcastle Disease	100	Serology - H.I.
B	Zimbabwe	Cape Grysbok	<i>Raphicerus melanotis</i>	Leishmaniasis	1	Clinical + histopathology
B	Zimbabwe	Black-backed jackal	<i>Canis mesomelas</i>	Rabies	1	FAT
B	Zimbabwe	side-striped jackal	<i>Canis adustus</i>	Rabies	1	FAT
B	Zimbabwe	African civet	<i>Civettictis civetta</i>	Rabies	1	FAT
W	Zimbabwe	Nile Crocodile	<i>Crocodylus niloticus</i>	Adenovirus	5 farms	unknown
W	Zimbabwe	Nile Crocodile	<i>Crocodylus niloticus</i>	Chlamydiosis	1 farm	unknown
W	Zimbabwe	Nile Crocodile	<i>Crocodylus niloticus</i>	Coccidiosis	7 farms	unknown
W	Zimbabwe	Nile Crocodile	<i>Crocodylus niloticus</i>	Crocodile Pox	2 farms	unknown
W	Zimbabwe	Nile Crocodile	<i>Crocodylus niloticus</i>	<i>Mycoplasma arthritis</i>	1 farm	unknown
W	Zimbabwe	Ostrich	<i>Struthio camelus</i>	<i>Philophthalmus gralli</i>	1 farm	Necropsy
W	Zimbabwe	Lion cub	<i>Panthera leo</i>	Salmonellosis	1	Isolation
W	Zimbabwe	Nile Crocodile	<i>Crocodylus niloticus</i>	Trichinosis	10% positive	Histopath + Trypsin digest
W	Zimbabwe	Buffalo	<i>Syncerus caffer</i>	Trichuris - verminosis	unknown	Necropsy and faecal exam

Results of annual questionnaire sent by OIE Central Bureau

Continent	Country	WDM Programme	number		Game farms	All wildlife	Carnivores	Ungulates	Marine mammals	Birds	Reptiles	Others	Number	
			people	Finance									animals	Reports
Africa	Marocco	No												
Africa	Namibia	No												
Africa	Benin	Yes	31	Government, PACE		Yes	Yes	Yes				Yes	24 sera	Yes
Africa	Mdagascar	Yes		Government		Yes								Yes
Africa	Niger	Yes	7	Government, PACE				Yes					1400	Yes
Africa	South Africa	Yes		Government	Yes	Yes	Yes	Yes		Yes	Yes		>1000	Yes
Africa	Congo	Yes	6	Government, donations		Yes	Yes	Yes						Yes
America	Belize	No												
America	Colombia	No												
America	Nicaragua	No												
America	Surinam	No												
America	Brazil	Yes	?	Government									?	Yes
America	Mexico	Yes	260	Government		Yes	Yes	Yes		Yes		Yes	1000	Yes
America	Peru	Yes		Government									668	Yes
America	USA	Yes	95	Government, donations		Yes	Yes	Yes		Yes	Yes	Amph ib.	1500?	Yes
America	Gyuana	Yes	1	Government			Yes			Yes	Yes	Yes	4000	Yes
America	Canada	Yes	30	Government, Univ, NGO	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	7000	Yes
Asia	Japan	No												
Asia	Kuwait	No												
Asia	Myanmar	No												
Asia	Nepal	Yes	3	Government			Yes	Yes		Yes		Yes	100	No
Asia	Taipei China	Yes	15	Government	Yes				Yes	Yes	Yes		250	Yes
Asia	New Zealand	Yes	8	Government	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	>200	Yes
Asia	Phillipines	Yes		Government		Yes				Yes			200	Yes
Australia	Australia	Yes	18	Government	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Europe	Iceland	No												
Europe	Malta	No												
Europe	Austria	Yes	6	Government			Yes	Yes					20000	Yes
Europe	Czech republ.	Yes	76	Government			Yes	Yes					70 00	Yes
Europe	Finland	Yes	1	Government	Yes	Yes	Yes	Yes	Yes	Yes	Yes	zoos	1000	Yes
Europe	Germany	Yes		Government		Yes							?	
Europe	Lithuania	Yes	Sev. Vets	Government			Yes	Yes					1100	Yes
Europe	Norway	Yes	3	Government, hunters	Yes	Yes		Yes				Fish	1000	Yes
Europe	Poland	Yes	11	Government			Yes	Yes						Yes
Europe	Romania	Yes	no #	Government		Yes	Yes			Yes			4000	Yes
Europe	Slovakia	Yes		Government			Yes	Yes					25000	
Europe	Spain	Yes		Government, hunters		Yes	Yes	Yes		Yes		Fish	?	Yes
Europe	Sweden	Yes	9	Government, hunters	Yes	Yes	Yes	Yes	Yes	Yes	No	zoos	1500	Yes
Europe	Switzerland	Yes	1	Government				Yes					2000	Yes
Europe	Ukrania	Yes	300	Government		Yes	Yes			Yes			2700	Yes
Europe	Slovenia	Yes		Government			Yes	Yes					2000	Yes
Oceania	New Caledonia	No												
Oceania	New Zealand	Yes		Government	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	200	Yes
	Unknown	No												

**Work programme for the OIE Working Group on Wildlife Diseases
March 2003 to February 2006**

Overall activity	2003 – 2004		2004 – 2005	2005 – 2006
	Sub-activity	Responsibility	Sub-activity	Sub-activity
1 Global wild animal disease surveillance – Annual assessment and report	a) Annual questionnaire to CVOs – Nov. 2003 <ul style="list-style-type: none"> • Revise questionnaire • Coordination with Central Bureau • Receipt and tabulation b) CVO Nomination of wildlife disease contract person/institution c) Improve information exchange with under-represented areas, with help of Regional Commissions d) Identification of a technical item (FMDC) to be presented to General Session	T. Mörner Central Bureau Central Bureau M. Artois R. Bengis M. Woodford S. Haigh J. Fischer Central Bureau Central Bureau	a) Annual questionnaire to CVOs – Nov. 2004 b) Design database for input, search, retrieval of questionnaire results, interoperable with Central Bureau c) Improve information exchange with under-represented areas d) Respond as appropriate on this item	a) Annual questionnaire to CVOs – Nov. 2005 b) Implement database on restricted Internet site for direct reporting
2 Response planning for national or regional incursions of List A and B diseases in wildlife	a) Review several current plans to define essential components and information requirements b) Applicability of current standard diagnostic tests to wild animal species – Review standard methods for 30 List A and B diseases through interaction with disease specialist groups and Standards Commission	F. Leighton J. Fischer R. Bengis S. Haigh	a) Prepare general guidelines for preparedness planning for OIE Review b) Submit report and recommendations to Standard Commission – Review additional methods (30)	a) Prepare final version for approval by International Committee b) Submit report and recommendations to Standards Commission – Review additional methods
3 Emerging diseases	a) Prepare complete overviews and updates on world situation with respect to <ul style="list-style-type: none"> – Avian influenza in wildlife – Classical swine fever in wildlife 	S. Haigh M. Artois	a) Prepare complete overviews and updates on world situation for at least two emerging diseases involving wild animals	a) Prepare complete overviews and updates on world situation for at least two emerging diseases involving wild animals
4 OIE Working Group on Wildlife Diseases Web sites	a) Design and implement Working Group on Wildlife Diseases page on OIE Web site with WDWG reports available b) Define context and prepare preliminary Working Group on Wildlife Diseases separate Web site	M. Artois F. Leighton M. Artois T. Mörner	a) Review, improve b) Review, approve, implement a separate Working Group on Wildlife Diseases Web site	a) Review, improve b) Review, define strategic additions

<p>5 OIE collaborative initiative</p>	<p>a) OIE/FAO Global Plan for Action against Transborder Animal Diseases: – Review and provide wildlife disease input</p> <p>b) Liaisons with IUCN Veterinary Specialist Group – Establish working terms of reference</p>	<p>Central Bureau</p> <p>M. Woodford Central Bureau</p>	<p>a) Review project plans as requested</p> <p>b) Facilitate relevant input to specialist OIE programmes and projects</p>	<p>a) Review project plans as requested</p> <p>b) Facilitate relevant input to specialist OIE programmes and projects</p>
<p>6 Global wildlife disease issues</p>	<p>a) Report on Health Risks, Benefits and Related Issues in the Establishment of Transborder Wildlife Parks</p> <p>b) Issues proposed by the OIE (e.g. compartmentalisation) – Action as required</p>	<p>R. Bengis</p> <p>Central Bureau</p>	<p>a) Update on current transborder wildlife disease control programmes M. Artois</p> <p>b) Issues proposed by OIE –Action as required</p>	<p>a) TBA</p> <p>b) Issues proposed by OIE –Action as required</p>
<p>7 Annual report to the General Session</p>	<p>a) Highlights and special issues from the annual meeting of the Working Group on Wildlife Diseases - 2003</p>	<p>M. Artois</p>	<p>a) Highlights and special issues from the annual meeting of the Working Group on Wildlife Diseases - 2004</p>	<p>a) Highlights and special issues from the annual meeting of the Working Group on Wildlife Diseases - 2005</p>

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