

Newsletter of the Wildlife Disease Association



Members' Corner

Participants Needed for Human Dimensions of Wildlife Management Research

Shauna Hanisch

My name is Shauna Hanisch and I'm a Ph.D. student in the Department of Fisheries & Wildlife at Michigan State University. My research topic is "investigation of human beliefs and attitudes about wildlife health management." The goal of this research is to improve knowledge and understanding of factors that influence stakeholder beliefs and attitudes about wildlife health and disease and management interventions that promote healthy wildlife resources. One of my research objectives is to develop descriptive and normative conceptual models of wildlife

health. To do so, my approach will be to analyze both stakeholder and expert conceptualizations of wildlife health. In pursuit of the latter, I will be using a technique called the Delphi method.

The Delphi method is a structured communication process for collecting and examining group thoughts and opinions on a topic. The Delphi method is commonly used to obtain expert consensus but it can also be used to identify

goals and objectives, establish priorities, reveal group values, and gather information. Delphi panelists are chosen for their expertise in the subject matter rather than through random selection. In short, the Delphi process involves: a) feedback of individual contributions of information and knowledge; b) assessment of the group judgment or view; c) opportunity for individuals to revise views; d) opportunity to react to and assess differing viewpoints; and e) anonymity for individual responses.

The purpose of conducting this Delphi method exercise is to develop a "mental model" of wildlife health for experts. This will entail summarizing wildlife health experts' thoughts and opinions concerning wildlife health issues (e.g., a definition, key threats to wildlife health, relationship of health and disease, and perspectives on wildlife disease management).

I'm seeking 24 participants for this exercise: 8 from state wildlife agencies, 8 from federal agencies, and 8 from NGOs or universities. Participants should be employed in a position that requires substantial expertise on wildlife health issues. The exercise will be conducted via e-mail. Because the Delphi method is an iterative process, participants' involvement will occur over a period of 3-6 months. Estimated time to respond to each question is 20-30 minutes. This project will entail no more than 4 questions with up to 3 iterations each. Thus, the total time commitment will be about 6 hours over the course of the exercise. I would like to start the process in February.

If you are interested in participating in this exercise or would like more information, please contact me at hanischs@msu.edu or 517-432-4943 by **January 28, 2010**. I will then send you a consent letter and additional details about the process. Thank you in advance for your time and consideration.

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WDA Executive Manager

The WDA is seeking a part time (50-75%) executive manager to assist elected officers, Council, editors, and committees of WDA in the management of all Association business in a timely manner, including meeting coordination, financial management, journal publication and fund raising. The incumbent will become familiar with the past business activities of the Association and will provide continuity to the transient memberships of Council and committees. The incumbent will act as a liaison between the WDA and those the Association retains on contract. Among others, these include Allen Press, HighWire Press, conference facilities, and insurance companies. Most activities will be done in conjunction with, and assisting other volunteer WDA Committee members [e.g. membership, fund raising, planning conferences, organizing Council meetings, and assisting with development of budgets]. Applicants must either be a current or past member of WDA, must be willing and able to travel to annual WDA meetings and possibly elsewhere, and must have good communication skills (oral and written). An annual salary, not to exceed \$36,000, will be offered, and funds for office equipment/supplies and travel will be provided. To apply, please submit a letter of intent, which includes your experiences that qualify you for this position, and a detailed curriculum vitae by March 1, 2010 to Carol Meteyer at the email listed below. A complete job description for this position and other pertinent information can be found on the WDA website at: <http://www.wildlifedisease.org/>

For additional questions, contact Carol Meteyer (cmeteyer@usgs.gov 608-270-2462).

New Website Editor Wanted for the WDA

After a few years of meritorious service as our website editor, Bridget Schuler is planning to 'retire' from the position in the summer of 2010. The Association seeks a person who may have experience in design or management of websites to serve as our volunteer website editor and in that position serve on the WDA Council. The person selected for the position could work as assistant website editor with Bridget to allow for a period of transition between editors.

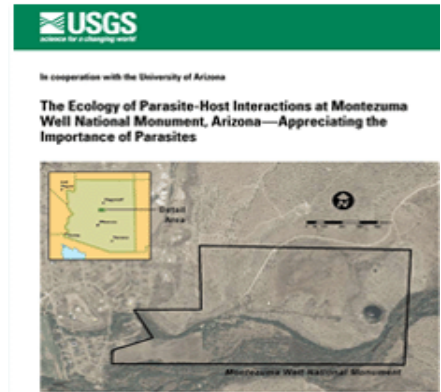
If you are interested in the job, please submit a short description of your website experience, especially in regards to creation and maintenance, to Bridget Schuler (bridgetschuler@hotmail.com) and Ed Addison (ecolink@rogers.com).

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New Publication

O'Brien, Chris, and van Riper III, Charles, 2009, The ecology of parasite-host interactions at Montezuma Well National Monument, Arizona; appreciating the importance of parasites: U.S. Geological Survey Open-File Report 2009-1261, 56 p. <http://pubs.usgs.gov/of/2009/1261/>



Expanded International Electronic Open Access to the *Journal of Wildlife Diseases*

Ed Addison

In 2006, the WDA in conjunction with sponsorship from the Wildlife Conservation Society Global Health Program [WCS – GHP] initiated complete open access of the *Journal of Wildlife Diseases* to people in the 113 countries of the world with the least economically developed economies.

In August 2009, the WDA Council voted to expand free access for a five year trial period to people in Mexico, Central America and South America. The WDA continues to enjoy and appreciate the co-sponsorship of this initiative with the WCS – GHP.

The 2009 decision now provides open electronic access to the *Journal* in 136 countries of the world, countries that represent 75% of the world population and few of which have wildlife health programs. As the members who comprise the Association, we should be pleased with the extent to which this distribution addresses our mission 'to acquire, disseminate and apply knowledge' about health of wildlife!

Obituary: Dr. John Crites

Robin Overstreet

Longstanding member of the Wildlife Disease Association, John Crites, passed away peacefully on Saturday, January 9, 2010. Jack was a graduate of University of Idaho and spent most of his career at Ohio State University, where he served as Chairman of the Zoology Department. He worked primarily on parasitic nematodes.

WDA Students

New ACZM Diplomates Inducted

Established in 1983, the American College of Zoological Medicine (ACZM) is an international specialty organization recognized by the American Veterinary Medical Association for certification of veterinarians with special expertise in zoological medicine. ACZM Diplomates serve in responsible positions as zoo and wildlife veterinarians, teachers, researchers, government officials, and administrators of other relevant programs fostering high quality medical care for non-domestic animals and are actively involved in the discovery of new knowledge in the discipline and the dissemination of this knowledge to the veterinary profession and the public. In order to become an ACZM Diplomate, one must have several years of professional experience in zoological medicine and successfully complete a two-part examination which consists of a qualifying examination on the first day, which includes the medicine of aquatic, avian, mammalian, amphibian/reptilian and wildlife species. Candidates who pass the qualifying examination may take the certifying examination in either general zoological (birds, amphibians/reptiles, and mammals), wildlife, aquatic, avian or amphibian/reptile medicine, offered on the following day. Successful candidates for Diplomate status must pass both the qualifying and certifying examinations. The following 10 veterinarians became new ACZM Diplomates in September 2009:

Michael J. Adkesson, Brookfield, Illinois
Mads Bertelsen, Glostrup, Denmark
Christopher J. Bonar, Cleveland, Ohio
Sathya K. Chinnadurai, Raleigh, North Carolina
Michelle Davis, Oklahoma City, Oklahoma
Marion Desmarchelier, Quebec, Canada
Simon Hollamby, Roslin, Scotland, United Kingdom
Felicia B. Nutter, San Rafael, California
Luis Padilla, Front Royal, Virginia
Kristine Smith, Bronx, New York

Colorado State University Student Update

Christy Wyckoff

The Colorado State University Student Chapter of the Wildlife Disease Association celebrated the success of its inaugural semester in Fall 2009. The promise of connecting students with CSU faculty and other wildlife disease professionals was quickly realized during our 1st Annual Back-to-School Barbeque at the home of WDA Treasurer, Dr. Laurie Baeten.

The first official meeting of the semester drew in over 40 attendees, with the attendees comprising veterinary students, graduate students, undergraduate students, faculty, and agency professionals. Drs. Pauline Nol and

Terry Spraker headlined the meeting by describing their career paths, current research, and involvement with the WDA. Both speakers outlined the diverse opportunities within wildlife disease research with great appreciation and enthusiasm.

In October, the CSU WDA hosted its first speaker, distinguished disease ecologist, Dr. Peter Hudson from Penn State University. Dr. Hudson discussed some of his current research, including contact networks and the role of disease superspreaders and the consequences of co-infection in wildlife hosts.

The CSU WDA hosted Dr. Paul Cross in November. Dr. Cross is a disease ecologist with the USGS Northern Rocky Mountain Science Center in Bozeman, Montana; his research focuses on brucellosis and chronic wasting disease in large ungulates. In his seminar, Dr. Cross discussed brucellosis in the Yellowstone National Park region and factors influencing disease transmission.

Dr. Stephanie Shwiff from the National Wildlife Research Center in Fort Collins, Colorado was the December seminar speaker. Dr. Shwiff researches the economic impacts of wildlife diseases, particularly rabies and foot-and-mouth disease. The seminar highlighted the costs associated with oral rabies vaccine programs in wildlife and the need for an efficient yet more cost effective delivery method. Additionally, Dr. Shwiff explained how she uses economic models combined with infectious disease models to estimate the impact and costs associated with a potential outbreak of Foot and Mouth Disease in hogs.

In addition to the Fort Collins and CSU community, the student chapter extended invitations to the University of Colorado, Front Range Community College, the University of Northern Colorado, and the University of Wyoming in an attempt to encourage regional collaboration. Next semester, we will continue our monthly seminar series, implement our mentorship program and journal discussion group, and hold a professional development workshop.

The CSU WDA officers want to recognize the generous funding support that made these events possible. We extend a very special thanks to the Wildlife Disease Association Executive Committee and the Associated Students of Colorado State University for their exceptional support of students. Additional donors included many CSU Departments and Colleges. Check out our website (www.csuwda.colostate.edu) for event details. Events and discussions can also be found on the CSU WDA Facebook site.

Wildlife Veterinary Section/American Association of Wildlife Veterinarians: 2009 Activities *Jordan Mencher*

The WDA Wildlife Veterinary Section/American Association of Wildlife Veterinarians (AAWV) had a busy 2009. The AAWV was actively involved in the 2009 WDA conference at the Semiahmoo Resort in Blaine, Washington, including conference organization (Dr. Joe Gaydos) and program chair (Dr. Colin Gillin). AAWV co-sponsored the conference, and also co-sponsored a new student mixer dedicated to the memory of Dr. Albert Franzmann. AAWV also sponsored this year's WDA Cutting Edge Speaker Dr. Peter Ross, Research Scientist at the Institute of Ocean Sciences in Sydney, Canada, who presented "Killer whales at risk: can we sustain these charismatic creatures in the face of conservation threats?" – a timely subject given the conference theme and venue.

The AAWV co-sponsored the 3rd International Chronic Wasting Disease Symposium in Park City, Utah and sponsored a Wildlife Medicine and Conservation Session at the 2009 North American Veterinary Conference at Orlando, Florida. In October, the AAWV held a joint conference with the American Association of Zoo Veterinarians (AAZV) where AAWV members presented workshops on field necropsy techniques and tools for facilitating fieldwork in wildlife medicine, chaired or co-chaired a number of special lecture sessions on a variety of topics, and sponsored a Cutting Edge Speaker, Dr. David Blehert from the National Wildlife Health Center.

The AAWV has also been active on the policy front, developing position statements on subjects such as the One Health approach to ecological health, standards of care for anesthesia, analgesia, and surgery on free-ranging wildlife, use of foot-hold traps in wildlife, and climate change and wildlife health. Along with the AAZV, the AAWV developed the "Guidelines for veterinarians interested in *in situ* conservation and free-ranging wildlife health projects," a document designed to facilitate veterinary involvement in wildlife health. Finally, the AAWV has been actively pursuing liaisons with other wildlife and ecosystem health groups with AAWV members' participation on the American Veterinary Medical Association's Committee on Environmental Issues and the United States Animal Health Association's Committee on Wildlife Diseases. For more details on these and other topics, please visit the AAWV website at www.aawv.net

European Section: International H5N1, HPNAI Update (April-September 2009)

Richard M. Irvine & Ian H. Brown

(Originally published in the EWDA Bulletin 2009, 2 (5).)

During the quarter there were no reported detections of H5N1 HPNAI in Member States of the European Union. However, further H5N1 HPNAI wild bird incidents were reported from Arkhangai Province, central Mongolia.

During August 2009, deaths of 171 wild birds including bar-headed geese (*Anser indicus*), ruddy shelduck (*Tadorna ferruginea*) and common goldeneye (*Bucephala clangula*) were reported. Unofficial reports of a second wave of bird mortalities (kites, crows and herons) were subsequently received and the death of carrion species suggests that affected wild birds may have been scavenged. These events follow on from H5N1 HPNAI wild bird incidents reported in central Asia since May 2009, when the virus detections were reported from wild birds found dead at Genggahu Lake, Hainan Prefecture, Qinghai in China, comprising 107 Great crested grebes (*Podiceps ristatus*), three Barheaded geese and 11 brown headed gulls.

Further wild bird mortalities (n=162) were reported during late May in the Nanhai Prefecture, Qinghai, and approximately 23,700 poultry were preemptively culled in the region. Also during late May, Mongolia reported H5 HPNAI in migratory Whooper swans (*Cygnus cygnus*) from Arkhangai, a central Mongolian region over 900 miles from Qinghai.

Furthermore, during June 2009, Russia reported the detection of H5N1 HPNAI in 58 wild birds found dead at a lake (Ubsu-Nur) in Respublika Tyva, a border region with north-western Mongolia. H5N1 HPNAI detections were also reported by Hong Kong. During February, wild birds (a large-billed crow, *Corvus macrorhynchos*, and winter migratory visitors, a grey heron, *Ardea cinerea* and a peregrine falcon, *Falco peregrinus*) and poultry chickens, ducks and a goose) were found dead, either washed up along the coast or found dead inland. During April, further detections were reported at the island location of Ping Chau, with two autolysed chicken carcasses found off the coast of Hong Kong, and an H5N1 HPNAI-positive Crested Mynah (*Acridotheres cristatellus*) detected as part of an ongoing wild bird surveillance pro-

gramme. No further spread of disease was reported to be evident (OIE, 2009). In combination, these seasonal and geographical patterns of H5N1 HPNAI detections, notably those from wild birds in Central Asia (Qinghai, China followed by incidents in central Mongolia), are reminiscent of those seen during 2005 and 2006 with similar spread across Asia, ultimately towards and across Europe (and Africa) during 2006 (Defra, 2009).

Interestingly, Bar-headed geese have been identified as a migratory species that provide a Spring migratory connection between Qinghai and breeding areas in central Mongolia (Prosser and others, 2009). It has also been suggested that migratory Whooper swans in Mongolia may act as sentinel species that become infected as a result of contact with other wild birds (Newman and others, 2009). These epidemiological patterns serve as a reminder of the global hazard posed by H5N1 HPNAI, particularly during the migratory season, and the importance for members of the public to report wild bird mortalities and for all poultry keepers to maintain robust biosecurity measures, vigilance for clinical signs of disease and to promptly report suspect cases.

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Satellite-marked waterfowl reveal migratory connection between H5N1 outbreak areas in China and Mongolia. *IBIS (International Journal of Avian Science)*. Volume, 568-576.

EU/ OIE/ FAO International Reference Laboratory for Avian Influenza and Newcastle Disease, VLA Weybridge, New Haw, Addlestone, Surrey, KT15 3NB, United Kingdom.

Study of H5N1 Outbreak in Wildfowl of Albania Kastriot Korroa., Kristaq Berxholia., Luljeta Qafmol- lab., Liljana Carab., Aldi Likab

(Originally published in the EWDA Bulletin 2009, 2 (5).)

Albania is home to 370 species of indigenous wild birds. In 2006 the first instances of death among both domestic and wild birds were identified. This prompted the Albanian authorities to launch a study into the presence of AI-H5N1 among wild and domestic birds. The methods employed included the isolation of the virus in embryonic eggs, SPF, Rapid Test, ELISA-Test, HA, HIH. The control of samples was administered in the Virology Department of the Veterinary Research Institute and at the Faculty of Veterinary Medicine, Agricultural University of Tirana, Albania. Samples from birds in Cuke village, Saranda (southern Albania) and Peze-Helmes Village (central Albania) were confirmed positive for the H5 virus. The same samples were sent to the OIE Reference Laboratory, Weybridge, UK and all were confirmed to be H5N1 positive.

The study took place from 2006 to 2007, during which time 3437 samples were collected and analysed. During 2006 a considerable number of samples were controlled as far as the normal circumstances permitted. A total number of 1484 samples were obtained from poultry including chickens, sea birds, wild ducks, geese, eagles, swans, storks and doves, (see Table 1).

During 2007, as many as 1953 samples have been checked which have been taken from such categories that include domestic chickens which appear to be huge in number, domestic and wild drakes, doves and canary-birds, geese and wild and domestic- doves. The areas are the same as those above. The data have been entered into the following table.

Positive results were largely confined to the H5N1 strain in domestic birds. Limited resources meant that only a small number of wild birds was sampled. In the future we

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have to make certain that surveillance should include wild birds, and the various strains of AI. This study is

Bird species	Number of samples
Wild geese	22
Eagles and falcons	5
Gulls	5
Bleaks	4
Domestic and wild doves	79
Parrots and gargurs	18
Storks, pelicans and swans	4

Bird species	No. of samples
Drakes	45
Doves	100
Canary	28
Storks	1
Turkey	166
Wild ducks	2
Geese	17
Parrots	29
Balete	1

the first of its kind in Albania and represents an important step in disease management. It is hoped that in the future such surveillance will help in the control of outbreaks of AI among wild birds. Agricultural University of Tirana, Faculty of Veterinary Medicine, Tirana, Albania
Institute of Veterinary and Food studies
Personal contact, E-mail: kastriotkorro@yahoo.com

EFSA Report: Scientific Review on Tuberculosis in Wildlife in the EU

Joaquín Vicente

(Originally published in the EWDA Bulletin 2009, 2 (5).)

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Bovine TB (bTB) has proven difficult to eradicate in livestock, at least in part, because of the persistence of wildlife reservoirs of infection. Recently, the European Food Safety Authority (EFSA) requested a working group for a concise review dealing with tuberculosis in wildlife in the EU. This report¹ aimed identifying wildlife reservoir hosts, clarifying the factors that may contribute to the role of wildlife in perpetuating bTB in livestock, and reviewing control measures, which will help in the design of large-scale strategic approaches and implementation of targeted control to reduce infection transmission. Badgers are the best-understood wildlife reservoir for bTB in Europe, but although their role in disease dynamics is relatively well understood, management remains challenging, because of the risks of disrupting social stability and increasing disease transmission. Outside of Britain and Ireland, knowledge of badger populations and of their role in disease is relatively scant. Wild boar are highly susceptible to infection and can reach high prevalence, particularly in parts of the Iberian peninsula, where boar are maintenance hosts. With localized exceptions, in most cases, deer are thought to be spill-over, end hosts. Few other species seems to be significant bTB hosts in terms of the risks they present to livestock. Culling is generally problematic for extensive control of disease in wildlife, and the particular ecology of wild animal populations means that can be ineffective and even exacerbate disease. Improving biosecurity represents a good approach to husbandry, but the benefits in terms of reducing disease incidence in livestock have not been evaluated. Vaccination is a promising avenue for bTB control in complex wildlife reservoirs. A large-scale field safety trial of BCG vaccination of badgers is underway in the UK, with a view to large-scale deployment in 2011, and the development of oral vaccine for wildlife faces major challenges, and a 5-year programme of work is underway in Britain and Ireland. Similar work is well advanced in boar and may also be appropriate for deer. Coordinated surveillance of bTB in wildlife and research efforts across the EU would be valuable for sharing knowledge and for better understanding and managing bTB in wildlife.

Full report available at:

http://www.efsa.europa.eu/cs/BlobServer/ExternalRep/cfp_ahaw_2008_3_final.pdf?ssbinary=true
Address.

1. Institute of Wildlife and Game Research (IREC), 13071, Ciudad Real, Spain E-mail: joaquin.vicente@uclm.es

Nordic Section Quarterly Report

Edited by Bjørnar Ytrehus

Highly Pathogenic Paramyxovirus-1 in Feral Pigeons (*Columba Livia*) In Finland

Marja Isomursu (Marja.Isomursu@evira.fi), Christine Ek-Kommonen and Anita Huovilainen, Finnish Food Safety Authority Evira

Avian paramyxovirus-1 (PMV-1) is well-known for causing the economically important Newcastle Disease in poultry, but it can also cause mortality in wild birds, such as cormorants and pigeons. The last outbreak of Newcastle Disease in poultry in Finland took place in 2004 (<http://wwwwb.mmm.fi/tiedotteet2/tiedote.asp?nro=1544>). Low pathogenic PMV-1 viruses have been found in wild bird surveys since 2006 (Lindh et al. 2008). An outbreak of PMV-1 in racing pigeons was also observed in June 2008 (http://www.oie.int/wahis/public.php?page=single_report&pop=1&reportid=7135).

In late November 2009, a case of neurological disease in a feral pigeon (*Columba livia*) was reported in a small town in Southern Finland. The pigeon was circling, had a head tilt and difficulties in flying. The bird was euthanized and a necropsy performed. Macroscopically, there were no specific lesions, but histology revealed encephalitis, nephritis and pancreatitis consistent with PMV-1 infection. Organ suspensions (brain, heart, lung, trachea, liver, pancreas and kidney, intestine separately) were examined by RT-PCR for avian PMV-1 with positive results. Further typing confirmed the virus to be a highly pathogenic pigeon type strain.

Interestingly, almost exactly one year earlier, in December 2008, a similar outbreak occurred in the same town. In addition, at the beginning of 2009, PMV-1 caused further two outbreaks in feral pigeons in Southwestern Finland. Back then, a few pigeons were taken to an animal rescue centre and some recovered. Birds from all these outbreaks were received for post-mortem examination. Lesions were most pronounced in a bird found dead, while euthanized birds that had showed conspicuous neurological signs only had mild inflammation in the brain. The pathological findings were identical to the November 2009-case, and the identified PMV-1 was highly pathogenic in this case too. However, the virus isolated in November 2009 was not identical to the isolates of last winter. According to local sources, mortality was higher in the last winter's outbreak.

It seems that there are several strains of highly patho-

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genic pigeon type PMV-1 circulating in feral pigeons in Finland. Outbreaks of clinical neurological disease are typically restricted and observed during winter season. Apparently, mortality varies, maybe according to the virus strain.

Reference

Lindh E, Huovilainen A, Rätti O, Ek-Kommonen C, Siironen T, Huhtamo E, Pöysä H, Vaheri A, Vapalahti O. Orthomyxo-, paramyxo- and flavivirus infections in wild waterfowl in Finland. *Virology Journal* 28, 5:35, 2008

Clostridium septicum in a decomposed moose carcass – a case of “reinpest”?

Bjørnar Ytrehus, (bjornar.ytrehus@vetinst.no), National Veterinary Institute, Norway

In the end of September the carcass of an adult male moose (*Alces alces*) was found in a forest area close to Oslo and submitted to NVI for necropsy. At reception, the carcass seemed to be severely decomposed. The abdomen was severely distended, there was a profound subcutaneous emphysema on the limbs, over the thorax and the thighs of the carcass and it let out a particular foul odour. When the carcass was skinned, a peculiar gelatinous edema was noticed, particularly superficial to the pectoral muscles, the dorsal part of the thorax and medially on the thighs. The muscles in these areas, and the liver, spleen and kidneys, were characterized by widespread and severe emphysema. In addition, there was obvious hyperemia in the abomasal mucosa and about 2 L of serosanguineous fluid in the abdominal cavity. Anaerobic cultivation of samples from liver, spleen and muscles revealed pure growth of large amounts of *Clostridium septicum*.

Clostridium septicum is well recognized as the cause of braxy in sheep, a common cause of malignant edema in cattle and clostridial myonecrosis in humans. Little is however known about the occurrence in moose. During the 18th and 19th and up to the middle of the 20th century, the herds of semi-domesticated reindeer (*Rangifer tarandus*) of the Sami people in Northern Sweden were devastated by the so-called *reinpest* (Norw.) or *renpest* (Swe.) According to Bergman (1901) the disease was caused by a spore-forming, Gram-positive and motile bacillus, later interpreted to represent *Clostr. septicum* (Skjenneberg and Slagsvold, 1968). Bergman's description of the necropsy findings in natural and experimental cases of reinpest in reindeer was very similar to what is described for the present moose.

The difficult question that arises when one get such a

cultivation result from a decomposed carcass, is whether the finding represent agonal/post-mortem dissemination and growth in the tissues, or if the bacterium in question actually caused the disease and death of the animal. Naturally, even if the clostridium was the causative agent, its post-mortem growth would increase the decomposition rate of the carcass. Hence, it may be suspected that cases of clostridial infection easily may be declined from necropsy or, if examined, the pathologist may omit microbiological examination and/or he/she may interpret all the changes as post-mortem. Together, these factors may make the diagnosis of clostridial disease in wild cervids less feasible and perhaps disguise disease.

We do not dare to draw a firm, diagnostic conclusion on this moose, but make a mental note of the findings and the possibility that it actually could represent a case of the long-forgotten reinpest.

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Sarcoptic mange in wild boar (*Sus scrofa*)

Erik Ågren (erik.agren@sva.se), National Veterinary Institute, Sweden

The population of wild boar in Sweden has the past decade doubled in numbers every three years, and is spreading to new areas. Exact numbers are not known, but 33 000 wild boar were reported shot by hunters in the 2007-2008 season. Sporadic observations of wild boar with alopecia have been reported, as well as observed signs of increased pruritic behavior. Two confirmed cases of sarcoptic mange have been diagnosed this year, both from juvenile animals, which are the first known reports of the disease in free-ranging wild boar. Sarcoptic mange in domestic pigs is still present in Swedish farms, but is less often observed nowadays, with the widespread use of ivermectins.

Raccoon dog (*Nyctereutes procyonoides*), an invasive species establishing in Sweden

Erik Ågren

The raccoon dog is considered an invasive species in Sweden. In recent years numerous individuals have spread west from northern Finland, into Sweden, and a population of unknown size is presently established in the northern counties. Finland has a large population of raccoon dogs, and more than 150 000 are killed each year. The Swedish environmental protection agency is

funding an effort to eradicate the raccoon dog in Sweden, by intensive trapping, as well as using surveillance cameras and radio transmitters on sterilized animals to locate and follow family groups. One transmitter-collared animal was found dead in November 2009 with severe sarcoptic mange, the first case of this disease registered in raccoon dogs in Sweden. This disease is prevalent in raccoon dogs in Finland, and is frequently found in red fox (*Vulpes vulpes*), lynx (*Lynx lynx*) in Sweden. Fifty-one trapped and killed raccoon dogs were recently sampled for disease surveillance and collection of biometric data and tissue samples. Two of these animals had skin lesions suggesting sarcoptic mange. Results are still pending.

Severe fibrino-hemorrhagic enterocolitis in a White-tailed Eagle (*Haliaeetus albicilla*)

Katharina Kramer and Johan Schulze (johan.schulze@vetinst.no), National Veterinary Institute, Norway

As part of a reintroduction program an approximately nine week old white-tailed eagle (*Haliaeetus albicilla*) was removed from the nesting site in Vikna, Norway. The eagle was assigned to be transmitted to Ireland and released there. However, the morning after capture the eagle had hemorrhagic diarrhoea, and it was euthanized due to welfare reasons. Autopsy revealed an acute, severe, diffuse, fibrino-hemorrhagic enterocolitis in the aboral part of the small intestine and in the colon. Bacteriologic investigation of the intestine and liver only revealed growth of unspecific bacteria, and *Salmonella spp.* were not detected. No eggs of endoparasites and only 400 coccidial oocysts per gram faeces were found, and there were no specific findings at histological examination. The aetiology hence remains unclear.

Moose (*Alces alces*) elephantiasis in Sweden

Erik Ågren

Several observations of moose with severely swollen distal limbs have been made during the moose hunt this fall. Trauma has not been suspected, as all four legs have been swollen in some cases. Two affected moose were shot. Examination of submitted distal limbs showed a chronic lymph stasis with a severe subcutaneous edema expanding the soft tissues, as well as phlebitis and a mild to moderate inflammatory reaction with eosinophils, indicating possible parasitic background. Further sampling and studies to identify possible microfilarial parasites are planned.



National Wildlife Health Center's Quarterly Wildlife Mortality Report

<http://www.nwhc.usgs.gov>

Parasitism of song and water birds (Montana)

In August 2009, approximately 29 double-crested cormorants were found dead on a nesting island in Lake County, Montana. Only one carcass was suitable for submission to NWHC; this bird was emaciated and heavily parasitized by *Syngamus trachea* and several other gastrointestinal parasites. *S. trachea* is a nematode that infects the respiratory tract of wild and domestic birds and is often referred to as a gapeworm because adult worms can block the trachea of infected birds causing them to “gape” or gasp for air. Severe gapeworm infections that cause clinical illness are thought to be uncommon in wildlife; however, recently lowered water levels in the reservoir surrounding the nesting island may have increased the availability of invertebrates, crustaceans, mollusks, or fish (which serve as host for various parasites) to foraging cormorants.

Parasitism also was a cause of death for American robins found in the yard of a private residence in Montana. The parasites involved in this mortality event were acanthocephalans (*Plagiorhynchus* sp.) and several nematode species. The pathogenesis associated with acanthocephalan infections are poorly understood, but paralyzed and moribund American robins with acanthocephalans have previously been reported.

Viral and bacterial infections in pelicans (Minnesota)

During an annual banding project of American white pelicans by the Minnesota Department of Natural Resources, biologists reported a large number of dead and moribund animals at a large pelican breeding colony in Minnesota. West Nile virus (WNV) was determined to be the primary cause of this large die-off; however, several fledglings from one focal location of nestlings had severe infections with the bacteria *Riemerella anatipestifer*. WNV has been documented previously in juvenile American white pelicans at this Minnesota location and several other major breeding colony locations in the northern plains. *R. anatipestifer* infections are primarily observed in domestic waterfowl, but also have been observed in several other waterfowl species including wood ducks, snow geese, and tundra swans.

Large-scale botulism type C outbreaks in waterfowl (Utah, Idaho)

Botulism type C is a neurotoxin produced by bacteria, *Clostridium botulinum*, under appropriate environmental conditions. Overall, botulism events decreased this year with above normal precipitation values across many western states and below normal temperatures in the Midwest (National Climatic Data Center, <http://www.noaa.gov>). There were, however, several disease outbreaks that killed tens of thousands of waterfowl. The largest event this year occurred at the Great Salt Lake, Utah. Biologists with the U.S. Fish and Wildlife Service - Bear River Migratory Bird Refuge and the Utah Division of Wildlife estimated that more than 50,000 ducks, gulls, shorebirds, and grebes died between July and October. Historic records indicate botulism events occurred as early as 1912 at the Bear River refuge. Over fifteen outbreaks that killed thousands of birds have occurred sporadically over the years, the largest being in 1980 and 1997 with 100,000 and 250,000 birds, respectively. Less than 150 miles to the north, American Falls reservoir, Idaho, and several surrounding water bodies experienced a die-off of 20,000 ducks, geese, shorebirds, and grebes between August and November of 2009. This was the first event of this magnitude at this location, although previous smaller outbreaks occurred between 1982 and 1984 and in 1997. On-site management activities included the removal of carcasses to reduce further transmission of the toxin.

Unusual morbidity and mortality in Lake Erie water snakes (Ohio)

Around the beginning of July, several dead Lake Erie water snakes (*Nerodia sipedon insularum*) were found floating in the water without obvious signs of trauma. Sick snakes were weak and lacked a righting reflex when placed on their backs. Subsequent submissions in late August presented with small blister-like lesions rather than neurologic signs. Of the eleven snakes submitted to NWHC, no singular cause of death could be determined. Snakes experienced mortality from trauma, dystocia, malignant leukemia, and bacterial sepsis. Botulism type E was initially sus-

News from the Field



pected as a cause in snakes with neurologic signs, due to the water snake's diet consisting mainly of round gobies (*Neogobius melanostomus*) and links to botulism type E in water birds feeding on round gobies, but conventional tests for botulism were negative. The Lake Erie water snake lives offshore on islands in western Lake Erie and is federally listed as a threatened species by the U.S. Fish and Wildlife Service.

Lake Erie water snake

Picture courtesy of the Ohio Department of Natural Resources

Quarterly Wildlife Mortality Report

July 2009 to September 2009

State	Location	Dates	Species	Mortality	Diagnosis	Labsite
AK	Icy Cape	09/16/09-09/16/09	Walrus	131	Trauma	OT
CA	Humboldt Bay NWR	07/01/09-9/1/09	Double-crested Cormorant	25 (e)	Open: emaciation	NW
CA	Laguna Niguel Regional Park	08/10/09-8/19/09	Mallard Common Moorhen Blue-winged Teal Unidentified Coot Killdeer	40 (e)	Botulism suspect	NON
CA	Lower Klamath Lake	08/01/09-10/07/09	Northern Pintail American Coot Green-winged Teal Mallard	3,000 (e)	Botulism type C	NW
CA	Salton Sea NWR	06/04/09-****	American White Pelican California Brown Pelican Canada Goose Ring-billed Gull	100 (e)	Viral Infection: West Nile	NW
CO	Hubbard Cave	08/02/09-08/02/09	Townsend's Big-eared Bat Western Long-eared Bat Western Small-footed Bat	11	Open: emaciation	CO, NW
FL	Pinellas County	06/23/09-07/09/09	Mallard	15 (e)	Botulism type C	NW
ID	American Falls	08/01/09-11/12/09	Unidentified Grebe Unidentified Duck or Goose Unidentified Shorebird Blue-winged Teal Canada Goose	20,000 (e)	Botulism type C	ID, NW
ID	Latah County	07/15/09-10/04/09	Columbia Spotted Frog Pacific Treefrog	200(e)	Fungal: Chytrid suspect, Viral Infection: Ranavirus	NW
ID	Valley County	07/11/09-07/14/09	Little Brown Bat	30	Toxicosis: Carbofuran, Toxicosis: Methiocarb, Pneumonia	ID, NW
ID	Sawtooth National Forest	08/18/09-08/23/09	Timber (Gray) Wolf	6	Parvovirus	ID, NFL, NW

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IN	Multiple Counties	06/01/09-08/01/09	Big Brown Bat Little Brown Bat	190 (e)	Emaciation	NW
ME	Androscoggin County	09/01/09-09/15/09	Mallard Ring-billed Gull Herring Gull	6	Aspergillosis	NW
ME	Kennebec Point	07/07/09-8/1/09	Common Eider Herring Gull Double-crested Cormorant	21	Emaciation, Toxicosis suspect	NW
MI	Livingston County, Genesee County	07/24/09-10/15/09	White-tailed Deer	400 (e)	Epizootic Hemorrhagic Disease	MI
MI	Wayne County	08/02/09-08/31/09	Mallard Hybrid Duck Pectoral Sandpiper American Black Duck Great Egret	127	Botulism type C	MI
MN	Marsh Lake	06/05/09-08/31/09	American White Pelican Ring-billed Gull Double-crested Cormorant Unidentified Goose Unidentified Egret	1,440 (e)	Viral Infection: West Nile, Bacterial Infection: <i>Riemerella anatipestifer</i>	NW
MN	Pelican Lake	07/25/09-08/25/09	Ring-billed Gull Double-crested Cormorant Great Blue Heron Canada Goose	2,150 (e)	Aspergillosis, Salmonellosis	NW, UMN
MN	Montevideo	09/23/09-09/24/09	Common Yellowthroat	47	Trauma: weather suspect	NW
MT	Lake Bowdoin	07/26/09-09/15/09	American White Pelican Ring-billed Gull	220	Viral Infection: West Nile	NW
MT	Pablo Island	08/01/09-08/30/09	Double-crested Cormorant	29 (e)	Emaciation: parasitism	NW
MT	Billings	06/15/09-07/09/09	American Robin	6	Emaciation: parasitism	NW
MT	Kalispell	08/07/09-08/15/09	American Crow	6	Viral Infection: West Nile	NW
MT	Three Forks	07/23/09-08/03/09	Rock Dove	39	Toxicosis: salt, Toxicosis: boron	NW
ND	Beaver Lake WPA	07/12/09-07/28/09	Franklin's Gull	300 (e)	Emaciation, Trauma, Bacterial Infection suspect	NW
ND	Carrington	08/10/09-08/31/09	Ring-billed Gull	15 (e)	Aspergillosis	NW
ND	Lake Sakakawea	07/20/09-09/01/09	Ring-billed Gull Double-crested Cormorant American White Pelican Least Tern Mallard	1,500	Salmonellosis, Trauma, Viral Infection: West Nile, Botulism type C	NW
ND	Horseshoe Lake WPA	08/16/09-09/20/09	American Coot Redhead Duck Blue-winged Teal Northern Shoveler	42 (e)	Botulism type C	NW

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ND	Lake Alice	08/20/09-09/18/09	Northern Pintail Gadwall Blue-winged Teal Northern Shoveler American Coot	300 (e)	Botulism type C	NW
ND	Lake Zahl NWR	07/12/09-07/22/09	Ring-billed Gull	1,000 (e)	Bacterial Infection, Botulism type C	NW
ND	Lignite	09/10/09-09/10/09	Common Grackle	39	Toxicosis: Famphur	NW
ND	Lignite	08/04/09-08/05/09	Mourning Dove Unidentified Sparrow	7	Toxicosis: Famphur	NW
NE	Springview	09/22/09-09/25/09	Blue-winged Teal American Coot Pied-billed Grebe	15 (e)	Trauma	NW
NH	Multiple Counties	05/07/09-09/15/09	Big Brown Bat Little Brown Bat	12	Trauma, Open	NW
NJ	Hunterdon County	06/01/09-08/05/09	Little Brown Bat	45 (e)	Open	NW
NV	Reno	07/28/09-08/23/09	Mallard Canada Goose Gadwall Domestic Duck	76	Botulism type C	NW
NV	Sheldon NWR	07/15/09-08/08/09	Bullfrog	50 (e)	Open	NW
OH	Lake Erie	07/01/09-09/07/09	Lake Erie Water Snake Blue Racer	15 (e)	Trauma, Septicemia	NW
OH	Perry Island	08/01/09-ongoing	House Sparrow Mourning Dove American Robin Blue Jay	35 (e)	Open: toxicosis suspect	NW
OR	Silver Falls State Park	07/13/09-07/21/09	Townsend's Big-eared Bat	11	Rabies, Emaciation	NW
PA	Benner Springs State Fish Hatchery	07/01/09-10/15/09	Snapping Turtle	15 (e)	Emaciation: starvation, Viral Infection: Ranavirus	NW
TN	Centennial Park	07/12/09-07/13/09	Canada Goose Unidentified Duck	40 (e)	Undetermined	NW, OT
UT	Great Salt Lake (entire basin, especially the NE arm)	07/29/09-10/28/09	American Avocet Mallard Gadwall Green-winged Teal Wilson's Phalarope	50,000(e)	Botulism type C	NW
UT	Beaver County	07/27/09-08/03/09	Brazilian Free-tailed Bat	300 (e)	Trauma	NW, UT
WA	Olympic National Park	09/13/09-10/20/09	Alaskan Sea Otter	11	Open: trauma suspect, Pulmonary edema, Deformities; etiology undetermined	NW
WA	Meta Lake	07/20/09-08/05/09	Western Toad	1,000,000 (e)	Fungal Infection: <i>Saprolegnia</i> sp.	NW

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WA	Olympic National Park	09/09/09-****	Common Murre White-winged Scoter Surf Scoter	10,000 (e)	Open: emaciation, Toxicosis suspect	CO, NW, OT
WA	Ferry County	07/12/09-07/19/09	Unidentified Bat	20 (e)	Undetermined	NW
WA	Mount Rainier NP	07/07/09-09/30/09	Northwestern Salamander	108	Emaciation: starvation	NW
WI	Door County	08/19/09-11/31/09	Ring-billed Gull Double-crested Cormorant Unidentified Gull Herring Gull Common Loon	23	Botulism type E	NW
WI	Horicon NWR	06/29/09-08/11/09	Mallard American White Pelican Ring-billed Gull	17	Botulism type C	NW
WI	Vilas County	07/20/09-08/18/09	Green Frog Northern Leopard Frog Bullfrog	800 (e)	Viral Infection: Ranavirus	NW

Updates:

MT	Yellowstone County	04/17/09-04/17/09	Bohemian Waxwing	12	Toxicosis suspect, Trauma	MT, NW
WA	Potholes Reservoir	03/18/09-03/19/09	California Gull Ring-billed Gull	300 (e)	Open	NW

(e) = estimate, *** Mortality estimate not available at this time, **** Cessation date not available at this time.

Suspect diagnosis = diagnosis is not finalized, but field signs and historic patterns indicate the disease.

Disease Laboratory of the California Fish & Game (CFG), Colorado State University (CO), Idaho Wildlife Health Laboratory (ID), Michigan Department of Natural Resources (MI), Montana Fish, Wildlife and Parks Diagnostic Lab (MT), Ashland National Forensics Laboratory (NFL), No diagnostics pursued (NON), USGS National Wildlife Health Center (NW), Other (OT), UC Davis (UCD), University of Minnesota Diagnostic Laboratory (UMN), Utah State University Veterinary Diagnostic Lab (UT)

Written and compiled by: Anne Ballmann - Eastern US, LeAnn White – Central US, Krysten Schuler - Western US, Jennifer Bradsby – Field Investigation Team Case Manager.

To report mortality or receive information about this report, please contact the USGS National Wildlife Health Center, 6006 Schroeder Road, Madison, WI 53711

The Quarterly Wildlife Mortality Report is available at <http://www.nwhc.usgs.gov>

To view new and ongoing wildlife mortality events nationwide visit http://www.nwhc.usgs.gov/mortality_events/ongoing.jsp

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News from the Field

Species

Avian: American Avocet (*Recurvirostra americana*); American Black Duck (*Anas rubripes*); American Coot (*Fulica americana*); American Crow (*Corvus brachyrhynchos*); American Robin (*Turdus migratorius*); American White Pelican (*Pelecanus erythrorhynchos*); Blue Jay (*Cyanocitta cristata*); Blue-Winged Teal (*Anas discors*); California Brown Pelican (*Pelecanus occidentalis californicus*); Canada Goose (*Branta canadensis*); Common Eider (*Somateria mollissima*); Common Grackle (*Quiscalus quiscula*); Common Loon (*Gavia immer*); Common Moorhen (*Gallinula chloropus*); Common Yellowthroat (*Geothlypis trichas*); Double-Crested Cormorant (*Phalacrocorax auritus*); Franklin's Gull (*Larus pipixcan*); Gadwall (*Anas strepera*); Great Blue Heron (*Ardea herodias*); Great Egret (*Ardea alba*); Green-winged Teal (*Anas crecca*); Herring Gull (*Larus argentatus*); House Sparrow (*Passer domesticus*); Killdeer (*Charadrius vociferous*); Least Tern (*Sterna antillarum*); Mallard (*Anas platyrhynchos*); Mourning Dove (*Zenaida macroura*); Northern Pintail (*Anas acuta*); Northern Shoveler (*Anas clypeata*); Pectoral Sandpiper (*Calidris melanotos*); Pied-Billed Grebe (*Podilymbus podiceps*); Redhead Duck (*Aythya americana*); Ring-billed Gull (*Larus delawarensis*); Rock Dove (*Columba livia*); White-winged Scoter (*Melanitta fusca*); Wilson's Phalarope (*Phalaropus tricolor*);

Mammalian: Alaskan Sea Otter (*Enhydra lutris*); Big Brown Bat (*Eptesicus fuscus*); Brazilian Free-tailed Bat (*Tadarida brasiliensis*); Little Brown Bat (*Myotis lucifugus*); Timber Wolf (*Canis lupus*); Townsend's Big-Eared Bat (*Corynorhinus townsendii*); Walrus (*Odobenus rosmarus*); Western Long-Eared Bat (*Myotis evotis*); Western Small-Footed Bat (*Myotis ciliolabrum*); White-tailed Deer (*Odocoileus virginianus*);

Amphibian: Bullfrog (*Rana catesbeiana*); Columbia Spotted Frog (*Rana luteiventris*); Pacific Treefrog (*Hyla regilla*);

Reptile: Blue Racer (*Coluber constrictor foxii*); Lake Erie Water Snake (*Nerodia sipedon insularum*); Snapping Turtle (*Chelydra serpentina*);

Training and Education

Internship: Wildlife Rehabilitation and Medicine at the Clinic for the Rehabilitation of Wildlife (CROW) in Sanibel, Florida

Position: Veterinary Internship in Wildlife Rehabilitation and Medicine

Description: CROW is offering a one year internship in wildlife rehabilitation and medicine. The intern will work alongside the rehabilitation staff, including two full time veterinarians, rehabilitators, students and volunteers. Involvement will include patient admittances, treatment administration, surgery, anesthesia, necropsy, appropriate cage and diet preparation, husbandry, and record-keeping. Learning opportunities also include after-hours emergency admittances and infant bird and mammal care. The intern will have the opportunity to participate in daily rounds sessions, as well as help to teach and coordinate students, fellows, and volunteers. **Qualifications:** A DVM or equivalent is required, as is US citizenship. A working interview will be included as part of the application process.

Payment: \$10,000/year stipend, on-island housing, and health insurance are provided.

Length: One year, beginning July, 2010.

Kathryn Fuller Fellowships

Advancing Conservation through Science

The World Wildlife Foundation-US is pleased to announce the availability of Kathryn Fuller Fellowships for 2010. As part of its commitment to advancing conservation through science, WWF established Kathryn Fuller Fellowships to support PhD students and postdoctoral researchers working on issues of exceptional importance and relevance to conservation in WWF-US priority places. This year, the Kathryn Fuller Science for Nature Fund will support doctoral and postdoctoral research in the following three areas.

- ecosystem services
- measuring and monitoring carbon stocks in forests
- climate change impacts on and adaptation of freshwater resources

Training and Education

Citizens of any nation may apply. Applicants for Fuller Doctoral Fellowships must be currently enrolled in a PhD program. WWF staff, directors, and their relatives as well as current Russell E. Train Fellows are ineligible to receive Fuller Fellowships.

Deadline for applications is January 31, 2010.

For more information on complete eligibility requirements, selection criteria, and how to apply, please visit the [Fuller Fellowship webpage](#).

Or you may send your questions to fullerfund@wwfus.org.

Mapping Your Community Workshops: Intro to GIS

Audience: Beginners, anyone interested in mapping their community.

This hands-on workshop focuses on teaching the fundamentals of using a Geographic Information System (GIS) for community analysis. Participants will learn to create thematic maps with Census data, Geocoding (Address mapping) and Spatial Queries. Other features of the workshop are learning to extract Census data and good map layout and design.

Class locations include:

Las Vegas, NV – January 6, 2010
Birmingham, AL - January 7th, 2010
Montgomery, AL - January 8th, 2010
Eugene, OR - January 20th, 2010
Portland, OR - January 21st and 22nd, 2010*
Pittsburgh, PA - January 13th and 14th, 2010*
Philadelphia, PA - January 22nd, 2010
Portland, ME - January 27th, 2010
Olympia, WA - February 3rd, 2010
Seattle, WA - February 4th and 5th, 2010*
Raleigh, NC - February 10th and 11th, 2010*
Charlotte, NC - February 17th, 2010
Reno, NV - February 17th, 2010
Salt Lake City, UT - February 19th, 2010
Columbia, SC - February 18th, 2010
Kansas City, MO - February 24th and 25th, 2010*
Minneapolis, MN - March 3rd and 4th, 2010*
Washington DC - March 11th, 2010
Baltimore, MD - March 17th and 18th, 2010*
Anchorage, AK - March 24th and 26th, 2010*
Juneau, AK - March 25th, 2010
Albuquerque, NM - March 17th and 18th, 2010*
Baton Rouge, LA - March 31st, 2010
New Orleans, LA - April 1st, 2010

*Note: These are one day workshops. Participants choose which one day to attend.

For more information about these workshops, please visit <http://www.urban-research.info>.

Postdoctoral Scientist – Disease Ecology and Amphibian Conservation University of Colorado—Boulder

Creative and motivated candidates are invited to apply for a Postdoctoral Scientist position working at the intersection of disease ecology and amphibian conservation at the University of Colorado, Boulder. The position will focus on exploring questions in one of two focal areas:

- (1) Applying metacommunity theory to host-parasite interactions at multiple spatial scales, and/or
- (2) Understanding the immunological mechanisms that mediate patterns of parasite coinfection and amphibian disease.

Target start date is spring or summer of 2010. Interested applicants should send (as a single pdf) the following: a complete CV, contact information for references, and a brief statement of research interests related to this position (<2 pages) to Dr. Pieter Johnson (pieter.johnson@colorado.edu), Ecology and Evolutionary Biology Department, University of Colorado (see www.colorado.edu/eeb/facultysites/pieter). Applications will be accepted until February 1st, 2010 or until a suitable candidate is found.

Veterinary Internship in Wildlife Medicine and Rehabilitation Tri-State Bird Rescue & Research, Inc.

Internship in Wildlife Medicine and Rehabilitation at the Frink Center for Wildlife in Newark, DE.

The intern will work closely with the staff of two full-time clinical veterinarians, two CVTs, three full-time clinic supervisors and over 100 volunteers active in bird care. The first few months will be spent learning the daily procedures and protocols, through the attendance of workshops and hands-on clinical experience. By the six-month mark, the intern will assume responsibility for the majority of the medical decisions and treatment regarding the in-house caseload.

Interested applicants should submit the following:

- Curriculum vitae
- Letter of interest, indicating career goals
- 3 letters of reference

Training, Education, and Employment

Review of applications will begin on 15 January 2010. Final selection will be made before 10 February 2010. A 15 March 2010 starting date and a 14 March 2011 ending date are anticipated. Applications should be submitted to: Erica A. Miller, DVM, 110 Possum Hollow Road, Newark, DE 19711; 302-737-9543 x116; 302-737-9562 (fax); emiller@tristatebird.org

Post-doctoral Research Associate Ecology of Avian Influenza in Wild Birds in Asia

Wildlife Conservation Society

Position Title

Post-doctoral Research Associate (One-year term position)

Position Description

The Wildlife Conservation Society requires a post-doctoral research associate to assist in publication of data collected on the ecology of avian influenza in wild birds in Asia. WCS is a participant in the NIH/NIAID-funded Minnesota Center of Excellence for Influenza Research and Surveillance (MCEIRS), and as such has collected avian influenza data from free-ranging birds and birds in the wildlife trade in Mongolia, Indonesia, Cambodia, Vietnam and Lao PDR since 2005. Data analysis and publications will focus on increasing our understanding of the ecology of avian influenza in wild birds, with a view to applying this information to protect wildlife, domestic animal, and human health.

Subject to final funding approval, this is a one-year term position, with possibility of renewal based on available funding and a positive performance review.

Review of applications will begin on Jan 15, 2010, and will continue until the position is filled.

Ph.D. Students Wanted in Infectious Disease, Toxicology, Bioinformatics, and Molecular/Cellular Biomedical Science

University of Alaska

The University of Alaska INBRE (IDEA Network of

Biomedical Research Excellence) is recruiting quality Ph.D. students in the areas of Infectious Disease, Toxicology, Bioinformatics, and Molecular/Cellular Biomedical Science. A competitive fellowship is available that has guaranteed funding for up to 4 years. Applicants are required to pursue a Ph.D. in the lab of an INBRE-supported faculty member at either University of Alaska Fairbanks or University of Alaska Anchorage, and must supply a pre-proposal to the chosen faculty that will include an Application cover page, NIH Biosketch, GRE scores, college transcript with GPA, and 2 letters of reference to the faculty member (application form).

Review Criteria: Quality of proposal, quality of student (GPA, GRE, Biosketch), and letters of recommendation. For areas of study and more information on INBRE faculty, please visit the INBRE website (areas of focus) or contact Alaska INBRE at inbre@alaska.edu.

Bear Manager: China Bear Rescue Centre

Highly motivated and experienced animal professionals are required to work with rescued Asiatic Black Bears at our China Bear Rescue Centre in Chengdu, Sichuan Province, China or Vietnam Bear Rescue Centre.

This position is responsible for overseeing teams of local bear keeping staff involved in the daily care and management of the bears housed within the rescue centre.

To apply please forward cover letter and CV (stating position you are applying for) and completed Job Application form with expected salary to: hrhkg@animalsasia.org

For more information please visit our website www.animalsasia.org

The preceding advertisements are incomplete announcements. For complete information on educational, employment, or training opportunities please refer to the WDA website at www.wildlifedisease.org.

Meetings and Conferences

WDA 2010 International Meeting - Iguazú, Argentina 30 May—4 June

Preparations for the first WDA meeting to be hosted in Latin America are underway. Please visit the WDA website <http://www.wildlifedisease.org/> to check for regular updates. Information on the meeting can also be found at: <http://sites.google.com/site/wda2010argentina>

This will be our first South American conference in 59 years, definitely a trip of a life time!

For those without e-mail or internet connections, registrations can be mailed to:
Kate Counter
Registration Manager

Wildlife Disease Association Business Office
810 East 10th, PO Box 1897
Lawrence, KS 66044 USA
Phone: 800-627-0326 ext 225



Phone: 800-627-0326 ext 225

(Int'l: 785-843-1234 ext 225)

Fax: 1-785-843-6153

[Email: wdameeting@allenpress.com](mailto:wdameeting@allenpress.com)

EWDA Conference, Vlieland, 13/16 Sept. 2010

The ninth EWDA conference will be held from 13 to 16 September 2010, on the Dutch island of Vlieland. For the latest information, look at <http://www.ewda-2010.nl/>

Vlieland is a sparsely populated island of 12 x 2 km that lies between the North Sea and the Wadden Sea. The Wadden Sea is famous for its rich flora and fauna, and is a major stopover location for migrating waterbirds, which will be present in large numbers at the time of the conference. In 2009, the Wadden Sea was added to the UNESCO World Heritage list. Its landscape is made up of dunes, salt meadows, mud flats, beaches, polders and forests. Cars are forbidden except for the islanders, but the island is best explored by bicycle anyway.

The conference will be held at Strandhotel Seeduyn, which is located on the sea dunes overlooking the North Sea, immediately beside the beach. Everywhere in the hotel you can enjoy fantastic views across the North Sea.

The charming village of Oost-Vlieland is not even a kilometer away, and the bus to and from the ferry stops right by the hotel entrance. Many cycle and footpaths start in front of Strandhotel Seeduyn.

The main theme of the conference is **“Healthy wildlife, healthy people.”** 75% of human emerging infectious diseases arise from animals, and mainly wild animals. To address this theme, we are inviting various medical researchers and public health specialists to this wildlife disease meeting to directly explore the interface between wildlife and public health. This meeting will be of interest for people from a variety of disciplines, including public health professionals, wildlife disease specialists, ecologists, biologists and epidemiologists. Besides science, there also will be the opportunity to enjoy the island on the free afternoon and post-conference activities. These include bird watching, a trip by truck to the sandbanks, horseback riding, horse cart riding, and sailing on a traditional Dutch barge.



Hotel Seeduyn, the conference centre

Emerging Amphibian Diseases: A Preventable Cause of Mass Extinction?

23rd June – 1st July 2010
James Cook University
Townsville, Queensland, Australia

Join us in the tropical north of Australia for a combined conference and workshop on emerging amphibian diseases which are a major cause of the current mass extinction of amphibians.

A 5 day conference (23-27 June, including a field day) will highlight international research and management in the fields of epidemiology, microbiology, pathogenesis, virulence, immunity, bioaugmentation and treatment relating to chytridiomycosis. One day will also be dedicated to other emerging amphibian diseases.

The 3 day workshop (29 June-1 July) following the conference is most suitable for researchers, wildlife managers, amphibian keepers and students new to the field of amphibian diseases. We will help you to develop skills in diagnosis, microbial culture, field work, husbandry, necropsy, hygiene, treatment, study design and epidemiological analyses.

Details of registration and submission of abstracts will be available in February 2010. Students and researchers from developing countries may be eligible for financial assistance. Email andrea.phillott@jcu.edu.au to register your interest and for further details.

