April 2009 Jenny Powers, Editor

http://www.wildlifedisease.org

Members' Corner

One Health: A Concept Whose Time Has Come

Margaret Wild

First published in the Winter 2009 Newsletter of the American Association of Wildlife Veterinarians

Over the past decade news headlines have been filled with reports of zoonotic diseases of public concern such as West Nile virus, avian influenza, and SARS. Most wildlife health professionals are aware of the statistics: in the last 30 years, 75% of emerging human pathogens have been zoonotic and many share a link to wildlife. But these emerging diseases have also contributed to a broader awareness that human, animal, and environmental health are inextricably linked and that a holistic approach to their management is needed. Such an approach, originally termed One Medicine and now commonly called One Health, is gaining momentum. ***One Health seeks to promote, improve, and defend the health and well-being of all species by enhancing cooperation and collaboration between physicians, veterinarians, and other scientific health professionals.***

The concept of One Health is not new. The theory was promoted by William Osler and Rudolf Virchow in the 1800's and revived by Calvin Schwabe in the 1960's. And at the start of the 21st century, the wildlife community was a driving force in the resurgence of One Health.

Many wildlife health professionals have practiced One Health concepts for years through collaboration with public health officials on surveillance and management of zoonotic diseases, promotion of biodiversity and habitat protection, and encouragement of stricter regulation of trade in wildlife and wildlife products. The concept of One Health is clear in the Pilanesburg Resolution passed in 2001 by the Wildlife Disease Association and Society for Tropical Veterinary Medicine. Now an opportunity exists to enhance and expand this practice as the One Health concept becomes mainstream and is endorsed by organizations such as the American Medical Association (AMA) and the American Veterinary Medical Association (AVMA). On July 15, 2008, the AVMA released the final report of the One Health Initiative Task Force titled "One Health: A New Professional Imperative." The report recommended formation of a One Health Joint Steering Committee (OHJSC) to begin implementing a broader set of recommendations that can be grouped into four goals:

- Develop, implement, and sustain a national strategy for improved public health based on the principles of One Health Commission.
- Create and implement communication efforts on the power of One Health to improve the health of people, animals, and the environment.
- Illustrate the value of One Health principles through demonstration projects.
- Extend the One Health Initiative to the international community to improve global health for people and animals.

The OHJSC has begun work on initial implementation of these recommendations with the primary focus on development of a One Health Commission. The steering committee solicited broad membership and includes wildlife veterinarians John Fischer representing the Association of Fish and Wildlife Agencies and me, Margaret Wild, of the National Park Service.

Inside this issue

Member's Corner

Wildlife health professionals play an important role in communication and cooperation with other disciplines that can protect wildlife and wildlife health and improvement the health of agricultural animals and humans. One of the most important messages may be the importance of the inter-relationships of humans, domestic animals and wildlife as reservoirs of disease. Wildlife species, just like humans and domestic animals, are victims as well as reservoirs of pathogens. Wildlife health professionals can bring novel views and approaches to disease surveillance, prevention, control, and mitigation efforts. An apt example comes from the WCS's 2004 The Manhattan Principles on "One World, One Health": promoting disease management that restricts the mass culling of free-ranging wildlife to situations where there is multidisciplinary scientific consensus that a wildlife population poses an urgent, significant threat to human health, food security, or wildlife health more broadly. With this application, One Health truly does promote and defend the health of all species. Look for updates on the One Health Initiative and actions of the OHJSC. You can find more information at the One Health Initiative website at www.onehealthinitiative.com. And look for the momentum behind One Health to continue to increase; One Health is indeed a concept whose time has come.

WDA News

2009 WDA Election of Officers

The Wildlife Disease Association invites all members to participate in the 2009 Election of Officers and Council Members at Large. To vote online, please visit the WDA business office website at: http://wda.allenmm.com. You will be able to review biographies of the candidates before voting for President, Vice President, and two (2) Councilor Members at Large positions.

Please complete and return the ballot by June 1, 2009. Members can only vote one time per election period. You cannot change your vote once you submit your ballot.

Basic Online Voting Instructions:

- Access the website at http://wda.allenmm.com
- Select "Ballots and Surveys" from the menu on the left side of the screen
- Enter your user ID number and password (your last name – or whatever you may have changed your password to)
- Select the link that says "2009 Ballot for WDA Council"

Please contact Kay Rose (wda@allenpress.com) if you have any questions regarding your user ID number, password, or the voting procedures.

For Assistance:
Online: http://wda.allenmm.com (please cut and paste this URL)
E-mail: wda@allenpress.com

In Memorium

Albert Franzmann, DVM, PhD, Dipl. ACZM

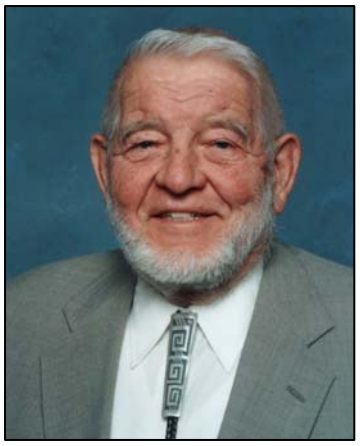
Self penned

Albert Wilhelm (Al) Franzmann, age 78 of Soldotna, Alaska, died on February 13, 2009. He was born in Hamilton, Ohio. Al entered the Ohio State University in 1948 and was acknowledged with numerous awards including outstanding senior veterinary medical student. In 1953, Al married Donna Grueser. They were a devoted couple, married for 55 years and had a son and a daughter. Following graduation, Al served for two years as Captain in the United States Air Force Veterinary Corps. Al was also in a partnership veterinary practice in Tiffin, Ohio from 1956 to 1959 and a farm animal practice near his home town from 1959 until 1968.

The era of the local family farm was coming to a close during the 1960's Al chose to diversify and to pioneer the field of wildlife veterinary medicine. In 1971, Al graduated from the University of Idaho with a Doctor of Philosophy degree in Forestry Science based on his research on Rocky Mountain bighorn sheep physiology.

In 1972, the Franzmann family moved to Soldotna, Alaska, where Al became a research biologist with the Alaska department of Fish and Game and director of the Moose Research Center. His research produced over 250 publications. He was appointed affiliate associate professor of wildlife biology at the University of Alaska, Fairbanks, and the Institute of Arctic Biology.

Dr. Franzmann was active in professional wildlife organizations such as the Wildlife Society (Certified Wildlife Biologist); Wildlife Disease Association (Council and Emeritus Member); American Association of Wildlife Veterinarians (Founder President, Council Member); World Association of Wildlife Veterinarians (Organizer): and the American Association of Zoo Veterinarians. Al was selected by the I.U.C.N. Species Survival Commission to their deer, bear and veterinary specialty groups.



Dr. Albert Franzmann

Al received recognition for his accomplishments as recipient in 1987 of the Distinguished Moose Biologist award "in recognition for outstanding contributions to the field of moose management" and the Einarson Award "in recognition of long-standing unselfish dedication and professionalism to wildlife resources." He was awarded the first Honorary Diplomat in the American College of Zoological Medicine in 1990 " in recognition as a specialist with extensive experience who has provided important service to and achieved eminence in the field of zoological medicine". The Alaska Bow hunters presented him an award in 1993 "in recognition and appreciation for many years of work in wildlife research and management." In 1996 he received an Emeritus Award from the Wildlife Disease Association "in recognition for meritorious contributions to the study and understanding of disease of wildlife". The Moose Research Center, that Al directed from1972 until 1987, was awarded the Group Achievement Award in 1992 "for outstanding achievements benefiting wildlife and objectives of the Wildlife Society". In 1997, he received the Distinguished Alumnus Award from the Ohio State University College of Veterinary Medicine "in recognition of his eminence as a veterinarian". In 2001 Al became an Honor Roll member of the American Veterinary Medical Association and was give the Lifetime Conservation award by the Kenai Chapter of the Safari Club International.

Upon Al's retirement in 1987, he pursued international wildlife veterinary consulting as a Director of the International Wildlife Veterinary Service, Inc. He worked on projects in numerous countries. He compiled and co-edited the book entitled *Ecology and Management of the North American Moose* that was published in 1998. Al was appointed to the Alaska Board of Game (1992-1995), was elected to the board of directors of the Alaska Outdoor Council and the Alaska Fish and Wildlife Conservation fund and in 1999 was elected to the Board of Directors of the Alaska Challenger Center for Space Science Technology.

Al's avocations included hunting, fishing, gardening, golf, travel and photography. He had over 100 photographs published and received several photographic awards. He was a life member of the Isaac Walton League, the Nature Conservancy, the National Rifle Association, the National Wildlife Federation, the Alaska Outdoor Council and many other conservation, wildlife, veterinary and civic organizations.

Al was recognized world-wide as pioneer in bridging the veterinary and wildlife professions. In recognition of this, he was inducted in 2004 into the University of Idaho Hall of Fame "for his leadership and contributions in the field of wildlife veterinary research".

In Memory of Professor Rudolf Ippen

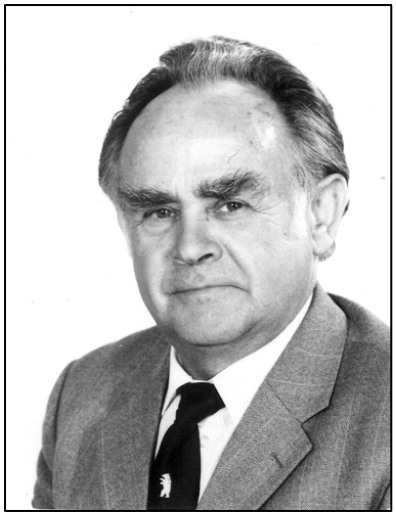
Submitted by Thijs Kuiken and Peer Zwart

Prof. Dr. Rudolf Ippen died on 12 March 2009 in Berlin at the age of 82 years. He was a valued member of the WDA and was given the Emeritus Award in 1995. Many older WDA members will remember him personally as the co-organizer of the international WDA conference in Berlin in 1990. Among other things, Rudolf Ippen was recognized internationally as an expert in the field of zoo and wild animal diseases. In the era of unification between East and West Germany, he contributed significantly to the foundation of the current Leibniz Institute for Zoo and Wildlife Research.

Rudolf Ippen was born on the 4th of January 1927 in Szczecin, Poland. From 1947 to 1952 he studied veterinary medicine at the Humboldt University in Berlin. His academic career began in 1953 as veterinary pathologist under Prof. Johannes Dobberstein, founder and director of the Institute for Comparative Pathology in the former Academy of Sciences.

After its foundation in 1973, Rudolf Ippen worked in the Research Centre for Vertebrate Research under Prof. Heinrich Dathe, co-founder of Tierpark Berlin,

the zoo in former East Berlin. Within this centre, he acted as deputy director and head of the Department of Zoo and Wildlife Diseases. His lively and wide-ranging scientific activities were reflected not only in numerous publications, lectures, and two books, but also in a globally unique tissue archive of approximately 40,000 cases of zoo and wildlife diseases. He made an enduring contribution to the field as co-founder and organizer of the international "Symposia über die Erkrankungen der Zoo- und Wildtiere" (Symposia on Diseases of Zoo and Wild Animals), that have taken place every two years since 1959. The proceedings of these symposia, which were published under his leadership, have played an important role in increasing the scientific basis of this discipline.



Dr. Rudolf Ippen

After unification, Rudolf Ippen was elected in 1990 as director of the Research Centre and held this role until the foundation of the current Institute for Zoo and Wildlife Research in 1992. He remained dedicated to the preservation of the institute and to the continuation of research on zoo and wildlife diseases, and inspired many generations of students with his lectures on zoo and wild animal diseases.

The achievements of Rudulf Ippen in the disciplines of comparative pathology and diseases of zoo and wild animals have been acknowledged by multiple awards. These include the Mendel Medal (Brno, 1984), Robert Koch Medal (Berlin, 1990), the Konrad Lorenz Medal (Vienna, 1992), Honorary Memberships of the British Veterinary Zoological Society (London, 1994) and the European Association of Zoo and Wildlife Veterinarians (Zurich, 1997), and Emeritus Award of the Wildlife Disease Association (East Lansing, Michigan, 1995).

Rudolf Ippen distinguished himself by his extraordinary personal commitment and by his unique expertise, which extended far beyond his area of specialization. (Based in part on the German press release of the Berlin Research Association, 20 March 2009) www.idw-online.de.)

White-Nose Syndrome in Bats: Cave Advisory, March 26, 2009

U.S. Fish and Wildlife Service recommends suspending activities in caves to protect bats from white-nose syndrome

Advisory:

White-nose syndrome (WNS) is a malady of unknown origin that has killed hundreds of thousands of bats across the northeast United States during the past three years and continues unchecked. It threatens to spread to the Midwest and Southeast, home to many federally endangered bat species as well as some of the largest bat populations in the country.

The evidence collected to date indicates that human activity in caves and mines may be assisting the spread of WNS. The primary agent of concern is a fungus that is new to science and may possibly be an invasive species. This fungus grows best in the cold and wet conditions common to caves and abandoned mines and likely can be transported inadvertently from site-to-site on boots and gear of cave visitors. Therefore, the U.S. Fish and Wildlife Service is recommending actions to reduce the risks of further spread of WNS. We hope that slowing the spread of WNS will buy time that is critical to confirming the cause and potentially implementing management actions to minimize the impacts to native bat populations.

We recognize that the steps we are recommending will require sacrifice from the caving community and others, and we regret this inconvenience. However, the observed devastation to bat populations, exceeding 90 percent mortality at many affected sites, and the evidence for human-assisted spread justifies that we exercise an abundance of caution in managing activities that impact caves and bats. These measures will not be a cure for WNS, but they are necessary to help slow the spread of this affliction and to reduce the risks to bat populations in North America. While it is generally recommended that cavers avoid all caves and mines containing hibernating bats (hibernacula), even in states where WNS is not known to occur, we strongly recommend the following steps to further reduce risks of WNS:

1. **A voluntary moratorium, effective immediately, on all caving activity in states known to have hibernacula affected by WNS, and all adjoining states, unless conducted as part of an agency*-sanctioned research or monitoring project.** Caves infected with the WNS fungus may not show any obvious signs of its presence, and we do not know the actual geographic distribution of all affected sites. Human activity in affected caves may cause fungal spores and particles to become airborne, thereby contaminating exposed materials and allowing for transport. Although we have confidence in the current protocols for decontamination, there is no way to guarantee efficacy for all equipment in all circumstances, and they may not adequately address needs for technical or vertical gear.
2. **Cavers in regions outside the WNS-affected and adjacent states should be using clothing and gear that has never been used in caves or mines in the affected or adjacent states, and should thoroughly clean and contain all clothing and gear upon exiting those locations.** Because there is a lag time between the initial point of contact with the causative agent(s) of WNS and the first visible evidence of its presence, we cannot be certain that apparently unaffected sites do not pose a risk for contamination. In order to minimize the risk that WNS could travel across state, regional or national boundaries on clothing and equipment, we are advising that clothing and equipment used outside of the affected region be decontaminated following the protocols available on the Service WNS Web site (see below). This recommendation does not supersede state or local caving orders, and we request that cavers respect and observe all state and local cave closures and advisories.
3. **All scientific activities that involve entry into caves or mines where bats reside should be evaluated to determine if the activity has the potential to facilitate the spread of WNS.** Much of the research currently under way in bat hibernacula is related to WNS and/or monitoring, and continued research is essential to advancing our understanding of WNS. All non-WNS related research conducted in caves and mines should be coordinated with federal and state conservation agencies (as per No. 1 above). Potential benefits of research will be weighed against the risk posed to bats. Research or monitoring activities should not be conducted if risks cannot adequately be addressed.
4. **For all scientific activity, no equipment or clothing that has been used in any cave or mine in a WNS-affected or adjacent state should be used in a cave or mine in an unaffected state.** Within an affected state, no equipment or clothing that has been used in a WNS-affected county should be used in an unaffected or unknown county. As an added precaution, researchers should decontaminate all clothing and gear, using protocols available from the Service or a local state agency, when exiting any hibernacula.

At the issuance of this advisory, the investigation of key elements of the cause and spread of WNS has been under way for less than one year. Laboratory and field research currently being conducted will require time for analysis and replication. Therefore, these recommendations will remain in effect until the mechanisms behind transmission of WNS are understood, and/or the means to mitigate the risk of human-assisted transport are developed. We will provide quarterly updates on the status and scope of this advisory via the Service WNS Web site.

Background and supporting evidence:

We estimate that more than 400,000 bats have died from WNS, including 25,000 federally endangered Indiana bats, and many more bats are at immediate risk. As of March 18, 2009, at least 60 hibernacula in nine states (Connecticut, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Vermont, Virginia and West Virginia) are known to be affected by WNS.

Current data indicate that a newly identified fungus (*Geomyces* sp.) that thrives in the cold and humid conditions characteristic of the caves and mines used by bats is responsible, at least in part, for the impacts and mortality associated with WNS (see: Bat White-Nose Syndrome: An Emerging Fungal Pathogen? by Blehert et al. in Science Magazine, vol. 323, 2009, p.229).

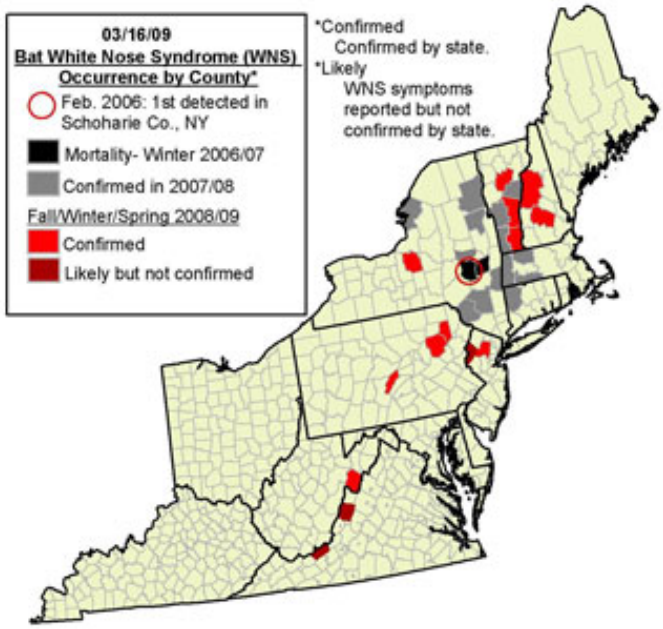
While the mechanism of transmission is still unknown, the rapid dispersal of WNS from a single New York cave in 2006 to numerous sites in contiguous northeastern states by 2008 suggests that

WNS is likely spread through direct bat-to-bat and bat-to-cave contact. Bats are likely the primary vector for WNS based on the rate of spread through 2008 and the behavior of the species affected. There is mounting evidence, however, that human activity may also be responsible for spreading the causative agent(s) of WNS, even during seasons when bats are not occupying caves. The fungus can grow on many different organic materials, and appears to persist in caves and mines year-round. Fungal spores, and/or other microscopic organisms, can easily become attached to skin, hair, clothing and equipment, and it is possible that such elements could remain viable for weeks or months after leaving a subterranean environment. The discontinuous nature of the rapid spread of WNS, especially to the most recently discovered sites in West Virginia and Virginia, suggests that something other than bat-to-bat transmission is contributing to the spread of WNS. The potential for the human-assisted spread of WNS is further supported by the fact that many of the recently affected sites are also popular destinations for recreational cavers, while many bat hibernacula in less-popular or inaccessible caves between the newly affected caves and those affected in 2008 remain unaffected. Records of caver movements also reveal a connection between sites in these affected regions, additionally suggestive of a link to human activity.

Little brown bat with WNS
Photo by Al Hicks New York Department of Environmental Conservation

Given the current evidence, and the recent advances in knowledge of the fungus associated with WNS, we have developed our recommendations to address the activities that are likely to contribute to the spread of WNS. At this time, the evidence is lacking to recommend the closure of commercial sites that offer cave tours to the general public. Visitors to commercial sites are less likely to visit multiple caves in a short time-period, generally wear plain clothes and shoes that are not repeatedly used for cave-related activities, and are considered to pose a very low risk for the spread of WNS to new caves. Additionally, we will be working with the owners and operators of commercial caves to help them employ methods to minimize the potential for contaminated materials from entering or leaving their sites.

Caves and mines in the newly affected regions of West Virginia and Virginia shelter bat species not previously impacted by WNS. They are also home to some of the largest wintering colonies of hibernating bats in the world, including some of the largest known U.S. populations of the Indiana bat, Virginia big-eared bat and gray bat, all endangered species. Because the Service has responsibility for endangered species, it is imperative that we take the measures necessary to protect these bats. If WNS spreads to these critical hibernacula, or to other significant hibernacula around the world, the impact on bat populations could be devastating.



Moving forward:

Service biologists are working with our federal, state, provincial and private partners to confirm the cause of WNS and to examine the ways in which the affliction spreads. We encourage those agencies and partners who manage cave resources to strongly consider limiting access to caves and mines to slow the spread of WNS.

WDA News

As we learn more about the potential role of human transmission of WNS, or when we have the means to greatly reduce such risks, we will make the information available on the Service Web site and will revise these recommendations accordingly. Until then, we appreciate the high level of cooperation from all partners in this ongoing effort, as well as the continued cooperation of the public. We fully support all efforts to exercise caution in caving activities, such as the caving moratorium in Virginia, and we applaud the local and national caving organizations for their dedication to a strong conservation ethic. Furthermore, we encourage our partners with national and local caving organizations to continue their outreach and education efforts to spread the word about WNS and about responsible resource stewardship.

For more information, updates, and a map showing affected counties, see http://www.fws.gov/northeast/white_nose.html.

Oiled Wildlife Care Network: Call for Grant Proposals

Oiled Wildlife Care Network
Wildlife Health Center, University of California
One Shields Ave., Davis, CA 95616

In 1990, California legislation directed the Department of Fish and Game, Office of Spill Prevention and Response (OSPR) to establish rescue and rehabilitation stations throughout California for marine species that may be at risk of impact from oil spills. From this directive, the Oiled Wildlife Care Network (OWCN) was formed as a collaborative program between the OSPR and the Wildlife Health Center at the University of California at Davis' School of Veterinary Medicine.

The OWCN supports research necessary for improving oiled wildlife spill response and the understanding of the short- and long-term effects of oil on wildlife. The OWCN is currently seeking research proposals from wildlife professionals interested in furthering OWCN goals for the 2009 – 2010 funding period.

The OWCN is currently seeking research proposals from wildlife professionals interested in improving oiled wildlife spill response and better understanding of the effects of oil on wildlife. Specifically, we are soliciting:

- Pre-proposals for full research projects (> $10,000/year for up to three years, with yearly re-application)
- Small grant proposals for lower-cost and/or pilot research projects (up to $10,000 for one year of funding)

NOTE: Projects with greater than 50% of effort focusing on Natural Resource Damage Assessment (NRDA; i.e., proving/recovering damages from responsible parties, chronic oil spill modeling and/or beach surveys) will not be considered. Research done on species that do not live in California must be applicable to those species or ecosystems that do occur in California. Deadline for Receipt of Pre-Proposals is 5:00 pm (PST) 1 May 2009 and Small Grant Proposals is 5:00 pm (PST) 24 July 2009. For additional information on the OWCN's grants program (including more detailed application instructions), please visit www.owcn.org

WDA Students

Third EWDA Student Workshop

Diseases at the Human Animal Interface
Leslie Reperant

The third edition of the EWDA Student Workshop was held from March 19th to March 22nd at Les Pensières, the conference centre of the Mérieux Foundation in Veyrier-du-Lac, France. This year again, it turned out to be another incomparable experience for all student and professional participants, and for the organizing committee. I personally wish to thank Josanne Verhagen and Miklos Gyuranecz, PhD candidates in the Netherlands and Hungary, respectively, for their amazing organizational skills and adaptability that enabled the workshop to run so smoothly during these four fast-paced days. We are also indebted to the team of Les Pensieres, and notably to Stephanie Lamblin, Amal Darghouth and Paul-Maurice Morel, for their support, their time and their warm welcome at the conference centre of the Mérieux Foundation.

WDA Students

This year, 20 professionals and 40 students from Europe, North America, Africa and South-East Asia, gathered for four days not only to share knowledge on infectious diseases at the human and animal interface, but also and maybe foremost to take part in mentoring activities and eye-opening discussions. The program of the workshop strived to illustrate the broad role of global health scientists, as teachers of state-of-the-art science for coming generations of global health scientists, as advisers for policy makers, and as educators for the general public. The transmission of knowledge and skills was the main objective of the workshop, and communication its main tool, used by student and professional participants coming from a wide variety of disciplines, including human medicine, veterinary medicine, biomedical science, biology, ecology, evolutionary biology, mathematics, astrophysics, and journalism, and from both the public and private sectors. We thank all the participants for their contribution to the workshop, proving once more the synergistic potential of multi-disciplinary communication – the outcome of these four days was successful far beyond what we had expected.

Participants in the Third EWDA Student Workshop

The Third EWDA Student Workshop was financially supported by Les Pensieres, conference centre of the Mérieux Foundation, the Bill and Melinda Gates Foundation, GlaxoSmithKline Biologicals, Merial, Novartis Vaccines and Diagnostics, Intervet SPAH, ViroClinics, Roche, EVL, the French Game and Wildlife Agency (ONCFS), the General Council of Haute-Savoie, and the Wildlife Disease Association.

The next EWDA Student Workshop is planned for spring 2011, and calls for a new student organizing committee (as part of the EWDA Student Chapter call for new officers). We would like to invite motivated students to take this wonderful opportunity to take part in such a fun endeavor! We are delighted to announce that Mr. Paul-Maurice Morel and the team of Les Pensieres generously proposed to host upcoming EWDA student workshops, as they beautifully suit the multi-disciplinary and educational vision of Dr. Charles Mérieux in our fight against infectious diseases. We're looking forward to the next workshop!

News from the Field

National Wildlife Health Center's Quarterly Wildlife Mortality Report

http://www.nwhc.usgs.gov

Leucistic Tiger salamanders in Yellowstone National Park (WY)

Tiger salamanders (*Ambystoma tigrinum melanostictum*) were monitored and collected from Slough Creek area of Yellowstone National Park as part of a summer survey. Large numbers of apparently healthy tiger salamanders were found in pools, some of which had severely reduced amounts of black pigment (melanin) in the skin of their heads, bodies and limbs. This condition is known as leucism or leucistic variation, where

melanin in skin cells is severely reduced. Leucism is different than albinism where the skin pigment, melanin, is completely absent. Leucism occurs in a variety of different species. Partial leucism is seen occasionally in other species of wildlife and is referred to as "piebald." During the monitoring of this population of tiger salamanders, a die-off of the aquatic larvae occurred. Healthy animals collected prior to the die-off, sick, and dead salamanders were submitted to NWHC for diagnostic examinations. A ranavirus was isolated from one of the sick salamanders and is the presumptive cause of the die-off. Additional diagnostic tests are in progress. Ranaviral infections are a well-recognized cause of mortality in free-living larval tiger salamanders in Western States and Canada (from Arizona to Saskatchewan). This tiger salamander population in Yellowstone National Park appears to have a unique genetic composition, and this mortality event may be the first occurrence of ranavirus-associated deaths in salamanders within the Park.

Multiple Sandhill crane mortality events in north central Oklahoma (OK)

Lesser sandhill cranes in north central Oklahoma were plagued by a variety of mortality events this winter. Biologists from Salt Plains National Wildlife Refuge responded to a die-off of over 100 cranes in early November. Carcasses examined at NWHC were found to have experienced extreme trauma and had multiple fractures and lacerations without any external evidence of injury. Severe winds during a storm event were the likely cause of death. In late December and mid-January, two separate events occurred with cranes being found dead in peanut fields. The first event involved about 24 birds and the second was 160 birds. The cranes were consuming the peanuts and are suspected to have died from mycotoxin poisoning. Mycotoxins are produced from fungus that grows on the peanuts in appropriate conditions. These fields normally have waste peanuts plowed under the soil, but wet conditions prevented farmers from tilling the fields.

Unusual mortality event in California brown pelicans (CA)

In mid-December, a higher than normal number of California brown pelicans were being submitted to rehabilitation facilities. Sick and disorientated pelicans were being found along the coast from San Francisco down to Los Angeles. The International Bird Rescue and Rehabilitation Center estimated that 300-400 pelicans, both adults and juveniles, were affected. Carcass testing by multiple state and federal labs revealed a variety to Los Angeles. The International Bird Rescue and Rehabilitation Center estimated that 300-400 pelicans, both adults and juveniles, were affected. Carcass testing by multiple state and federal labs revealed a variety of findings, including infarcts on the feet (suggestive of frostbite), anemia, and emaciation. Many sick pelicans responded to supportive care in rehabilitation. Field information from Oregon indicated that substantial numbers (~5,000) of brown pelicans were present on East Sand Island at the Columbia River in Oregon in December when typical migration is mid-November. Extremely cold weather during the week of December 10 occurred around the same time that the pelicans started to move south. Corroborating pathology findings and field data indicate that severe winter weather and subsequent forced migration were responsible for some of the observed morbidity and mortality. California brown pelicans have recently been proposed for delisting so understanding impacts of mortality events is critical for continued overall population health.

Soybean impaction in North Dakota waterfowl (ND)

A concerned citizen found nearly two dozen mallards and Canada geese sick and dead in Wells County, North Dakota at the end of October and reported them to North Dakota Game and Fish. The birds appeared to be engorged with soybeans and were emaciated. Sick birds had limp necks, but some were still capable of flying. Examination of carcasses at NWHC found that each bird had a severely distended esophagus with moist soybeans causing pressure necrosis. Blood vessels in the neck above the blockage were swollen with blood suggesting that the obstruction was preventing venous return. Soybean impaction has been previously described in waterfowl when soybeans dry in the field and swell with water after ingestion. This area of North Dakota had weather conditions reported as a wet summer with a dry fall.

Infected faucet snails detected at Lake Winnibigoshish (MN)

For the second consecutive year, Lake Winnibigoshish experienced avian mortalities this autumn due to intestinal trematodes infections with *Sphaeridiotrema globulus* and *Cyathocoytle bushinesis*. Mortalities also were detected at nearby Bowstring Lake (MN) for the first time. An estimated 857 birds died, primarily lesser

scaup and American coots. Snail surveys conducted this summer at Lake Winnibigoshish found the invasive host snail, *Bithynia tentaculata.* Parasite infection rate for snails was between 0-93% with the highest prevalence occurring near shore. All 3 trematodes, *S. globulus, C. bushinesis*, and *Legyonimus polyoon* were detected. In some instances, a single snail was infected by more than 1 species of metacercariae, the intermediate life stage of the parasites. Trematode-related waterfowl mortalities in the Upper Mississippi River NWR (WI) also occurred this spring and fall; mortality estimates were 2500-3500 birds, representing a decrease of 80% from 2007 mortality estimates. One possible reason is that lesser scaup were observed flocking in greater numbers at lower pools of the refuge where *Bithynia* populations are lower. Trematodiasis events have occurred annually at Upper Mississippi River NWR since 2002 with the death of between 50,000-60,000 individuals since its discovery in 2002.

Botulism E bird mortalities down for the Great Lakes in 2008

Avian mortalities attributed to botulism type E in the Great Lakes between Jun - Dec 2008 were significantly less than last year's estimated total of 17,125 birds despite similar beach survey efforts. Carcass tallies for Lake Ontario were 162 birds and estimate 1628 dead. Lake Erie reported 458 carcasses with estimates of mortality as high as 2005 birds. Lake Michigan reported 234 carcasses. Although total mortalities were low in 2008, the distribution of affected birds expanded further south (Emmet County, MI) along the western shore of Lake Michigan than previously recorded. Lakes Huron and Superior reported no bird mortalities attributed to botulism E. Common loons and various gull species remain the primary birds affected. Type E avian botulism has caused the deaths of thousands of fish-eating birds per year since 2000. Carcasses were received by NWHC for confirmation of botulism type E in 2008 from Lakes Michigan (MI, WI) and Erie (PA), including Sleeping Bear Dunes National Lakeshore in Michigan. Botulinum type C toxin also was identified as the cause of death at some locations including the Kingston, ON (CAN) area and Presque Isle State Park (Erie, PA), earlier in the summer before Type E intoxication was detected.

Avian cholera die-offs in AR waterfowl and Arctic sea ducks (Nanavut)

A die-off event of over 1000 waterfowl, including primarily lesser snow geese, greater white-fronted geese, mallards, and northern pintails, occurred in 3 northeastern Arkansas counties beginning in late November and lasted several weeks. Carcasses were found at a water impoundment area at Bald Knob NWR as well as harvested rice fields in Poinsett and Lawrence counties. Avian cholera was determined to be the cause of death. This is only the second avian cholera die-off recorded from AR. The last event in 2001 involved 206 birds at a private duck club. Another large avian cholera outbreak occurred in Hudson Strait and East Bay Migratory Bird Sanctuary on Southampton Island in the northern Hudson Bay (Nanavut, CAN) colonies this winter. An estimated 1500 common eiders died. According to the National Wildlife Research Centre (Ottawa), East Bay accounts for 1/3 of all breeding female eiders and there is potential for population impacts.

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State	Location	Dates	Species	Mortality	Diagnosis	Labsites
AR	Bald Knob NWR, Lawrence County, Poinsett County	11/25/08-12/03/08	Lesser Snow Goose Greater White-fronted Goose Northern Pintail Mallard	1,000(e)	Avian cholera	NW
AR	Lawrence County, Sharp County	10/24/08-10/31/08	Unidentified Deer	25 (e)	Epizootic Hemorrhagic Disease suspect	UNK
AZ	Maricopa County	10/01/08-ongoing	Northern Flicker Mourning Dove	26	Open	NW
CA	Fresno Metropolitan Flood Control District	11/01/08-11/03/08	American Coot Western Canada Goose	16	Botulism suspect	NON
CA	Hayward Shoreline Park, Alameda County	09/10/08-11/17/08	Northern Pintail American Coot	450 (e)	Botulism suspect	NON

			Mallard Ruddy Duck Northern Shoveler Green-winged Teal American Wigeon Cinnamon Teal				
CA	Klamath Basin NWR	12/02/08-12/07/08	Lesser Snow Goose Greater White-fronted Goose	30	(e)	Avian cholera	NW
CA	Lassen Volcanic National Park	09/23/08-10/31/08	Boreal Toad Long-toed Salamander	111	(e)	Viral Infection: Ranavirus	NW
CA	Los Angeles County	12/15/08-01/15/09	California Brown Pelican	400	(e)	Emaciation/ Starvation Frostbite Anemia	CAF, NW
CA	Redwood National Park, Humboldt County	12/19/08-12/31/08	American Coot	300	(e)	Undetermined	UCD
CA	Sutter NWR, Butte Sink NWR	12/19/08-02/14/09	Gadwall American Wigeon American Coot Ruddy Duck Eared Grebe	682	(e)	Avian cholera	NW
CAN	Hudson Strait, Northern Hudson Bay	12/03/08-12/31/08	Common Eider	1,500	(e)	Avian cholera	CCW
GA	Hart County	09/28/08-10/04/08	Brown-headed Cowbird	20	(e)	Toxicosis: Famphur	SCW
ID	Ammon, Bonneville County	12/29/08-01/02/09	Mallard	200	(e)	Aspergillosis	ID
KS	Barton County	12/29/08-01/15/09	Greater White-fronted Goose Canada Goose	243		Avian cholera	NW
KS	Rice County	12/16/08-12/23/08	Greater White-fronted Goose Canada Goose Mallard	190		Toxicosis: strychnine Toxicosis: salt	NW
KY	Marshall County	12/09/08-12/10/08	Mallard American Wigeon	15		Predation	NW
MN	Lake Winnibigoshish, Bowstring Lake	10/20/08-11/04/08	Lesser Scaup American Coot Redhead Duck White-winged Scoter	857	(e)	Parasitism: *Cyathocotyle bushiensis*, Parasitism: *Sphaeridiotrema globulus*, Parasitism: coccidiosis	NW
MN	Mallard Lake	10/04/08-10/23/08	Ring-necked Duck Redhead Duck	12	(e)	Lead poisoning	NW
ND	Bowdon, Wells County	10/28/08-10/31/08	Mallard Canada Goose	20	(e)	Impaction: soybean	NW
ND	Stump Lake, Nelson County	10/31/08-11/05/08	Mallard	30	(e)	Aspergillosis	NW
NJ	Hibernia Mine, Mount Hope Mine, Delaware Water Gap NRA	12/28/08-ongoing	Little Brown Bat Northern Long-eared Bat	10,000	(e)	Fungal Infection: White-Nose Syndrome, Emaciation	NW
NY	Clinton County	10/21/08-10/30/08	Canada Goose	12		Aspergillosis	NY

NY	Hudson River, Washington County	12/05/08-12/31/08	Greater Snow Goose Mallard	58		Parasitism: *Sphaeridiotrema globulus*	NW, NY
OH	Stark County	10/24/08-10/30/08	European Starling	200	(e)	Emaciation, Toxicosis suspect	NW
OK	Burlington, Alfalfa County	11/06/08-11/08/08	Lesser Sandhill Crane	109		Trauma: storm	NW
OK	Cherokee, Alfalfa County	10/19/08-10/20/08	Common Grackle	100	(e)	Trauma	NW
OK	Cleo Springs	12/28/08-12/29/08	Lesser Sandhill Crane	24		Mycotoxicosis suspect	NW
OR	Ashland, Jackson County	12/01/08-12/31/08	Black-tailed Deer	12	(e)	Viral Infection suspect	OR
OR	Yamhill County	12/09/08-12/10/08	Canada Goose Taverner's Canada Goose Western Canada Goose	20	(e)	Open	NW
OR	Jefferson County	12/09/08-12/10/08	Mallard	23	(e)	Open	NW
OR	Ankeny NWR	09/04/08-09/05/08	Bullfrog	12		Viral Infection: Ranavirus	NW
OR	Staats Lake, Marion County	10/24/08-ongoing	Cackling Goose	20	(e)	Aspergillosis	NW, OR
PA	Shindle Iron Mine, Dunmore Slope Coal Mine	11/25/08-ongoing	Eastern Pipistrelle Little Brown Bat	375	(e)	Fungal Infection: White-Nose Syndrome, Emaciation	NW
Updates:							
AZ	Tumacacori National Historic Park	05/25/08-07/31/08	Bewick's Wren Lucy's Warbler Yellow Warbler	8		Undetermined	NW
CA	Tule Lake NWR	08/10/08-09/08/08	Northern Pintail Gadwall Mallard	1,000	(e)	Botulism type C	NW
CAN	St. Lawrence Estuary, Gulf of St. Lawrence	08/05/08-08/31/08	Beluga Whale Harbor Porpoise Smelt Northern Gannet Common Eider Northern Fulmar Double-crested Cormorant Shad Gray Seal Harbor Seal Razorbill	1,000	(e)	Toxicosis: Saxitoxin	OT
CT	New Milford, Winchester, Roxbury	03/17/08-05/01/08	Big Brown Bat Northern Long-eared Bat Little Brown Bat	7		Fungal Infection: White-Nose Syndrome suspect, Emaciation	NW, UCT
FL	Brandon	05/02/08-05/14/08	Muscovy Duck	21		Duck plague	SCW
FL	Davie	09/15/08-09/17/08	Muscovy Duck Mallard	13		Open: botulism suspect	UNK
FL	Pinellas County	05/07/08-05/08/08	Muscovy Duck	2		Duck plague	FL, OT, SCW

FL	Sanford	06/12/08-06/26/08	Mallard	11	Botulism type C	FL, NW
MA	Chester Mines, Egremont	01/15/08-05/01/08	Eastern Pipistrelle Northern Long-eared Bat Little Brown Bat	300 (e)	Open	NW
MN	Apple Valley	09/08/08-09/30/08	Mallard	37	Botulism type C	NW
NY	Hailes Cave, Williams Preserve Mine, Williams Hotel Mine, Schoharie Cave	01/01/08-05/01/08	Big Brown Bat Little Brown Bat	5775 (e)	Fungal Infection: White-Nose Syndrome Emaciation	COR, NW
NY	Main Graphite Mine	9/28/08-9/30/08	Little Brown Bat	7	Open: trauma suspect Parasitism: intestinal	NW
OK	Major County	02/04/08-02/07/08	Unidentified Sandhill Crane	85 (e)	Mycotoxicosis suspect Trauma	NW
OR	Crook County	03/26/08-06/08/08	Golden Eagle Red-tailed Hawk	11 (e)	Toxicosis: Famphur	NW
VT	Aeolus Cave, Elizabeth Mine, Brattleboro Pomfret	01/01/08-05/01/08	Little Brown Bat Northern Long-eared Bat Big Brown Bat Eastern Small-footed	10,000 (e)	Fungal Infection: White-Nose Syndrome Emaciation/ starvation	NW
WA	Moses Lake	03/20/08-03/24/08	Ring-billed Gull	50 (e)	Undetermined	NW
WI	Pools 7, 8, 9 Upper Mississippi River NFWR	09/15/08-11/17/08	American Coot Lesser Scaup Blue-winged Teal	1163 (e)	Parasitism: *Cyathocotyle bushiensis*, Parasitism: *Sphaeridiotrema globulus*	NW
WI	Milwaukee Harbor, Egg Harbor Beach	09/10/08-11/13/08	Ring-billed Gull Herring Gull Double-crested Cormorant	50 (e)	Botulism type E	NW, WI, WVL
WY	Yellowstone Na. Park	07/14/08-08/20/08	Tiger Salamander	7	Genetic malformation	NW

(e) = estimate, *** Mortality estimate not available at this time, “suspect” = Diagnosis is not finalized, but field signs and historic patterns indicate the disease.

California Animal Health Food Safety Lab Network (CAF), Canadian Cooperative Wildlife Health Center (CCW), Cornell University (COR), Florida Fish and Wildlife Conservation Commission (FL), Idaho Wildlife Health Laboratory in Boise (ID), No diagnostics pursued (NON), USGS National Wildlife Health Center (NW), NY State Department, DEC, Division of Fish, Wildlife & Marine Resources (NY), Oregon State Diagnostic Laboratory (OR), Other (OT), Southeastern Cooperative Wildlife Disease Study (SCW), UC Davis (UCD), University of Connecticut Wildlife Laboratory (UCT), Unknown (UNK), Wisconsin Department of Natural Resources Wildlife Health Lab (WI), Wisconsin Veterinary Diagnostic Laboratory (WVL)

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

News from the Field

Species

Avian: American Coot (*Fulica americana*); American Wigeon (*Anas Americana);* Bewick's Wren *(Thryomanes bewickii);* Blue-Winged Teal *(Anas discors)*; Brown-headed Cowbird *(Molothrus ater);* Cackling Goose *(Branta hutchinsii);* California Brown Pelican *(Pelecanus occidentalis californicus);* Canada Goose (*Branta canadensis);* Cinnamon Teal *(Anas cyanoptera);* Common Eider *(Somateria mollissima);* Common Grackle *(Quiscalus quiscula);* Double-Crested Cormorant *(Phalacrocorax auritus);* Eared Grebe *(Podiceps nigricollis)*; European Starling (*Sturnus vulgaris);* Gadwall *(Anas strepera)*; Golden Eagle *(Aquila chrysaetos);* Greater Snow Goose (*Chen caerulescens atlanticus);* Greater White-fronted Goose *(Anser albifrons);* Green-winged Teal (*Anas crecca*); Herring Gull *(Larus argentatus)*; Lesser Sandhill Crane *(Grus canadensis canadensis);* Lesser Scaup (*Aythya affinis*); Lesser Snow Goose (*Chen caerulescens*); Lucy's Warbler (*Vermivora luciae);* Mallard (*Anas platyrhynchos*); Mourning Dove (*Zenaida macroura*); Muscovy Duck (*Cairina moschata);* Northern Flicker *(Colaptes auratus);* Northern Fulmar *(Fulmaris glacialis);* Northern Gannet *(Morus bassanus);* Northern Pintail (*Anas acuta*); Northern Shoveler (*Anas clypeata*); Razorbill *(Alca torda);* Redhead Duck (*Aythya americana*); Red-tailed Hawk (*Buteo jamaicensis*); Ring-billed Gull (*Larus delawarensis);* Ring-necked Duck (*Aythya collaris);* Ruddy Duck (*Oxyura jamaicensis*); Taverner's Canada Goose *(Branta hutchinsii taverneri);* Western Canada Goose *(Branta Canadensis moffitti);* White-winged Scoter *(Melanitta fusca);* Yellow Warbler (*Dendroica petechia);*

Mammalian: Beluga Whale *(Delphinapterus leucas);* Big Brown Bat *(Eptesicus fuscus);* Black-tailed Deer *(Odocoileus hemionus columbianus);* Eastern Pipistrelle Bat *(Pipistrellus subflavus);* Eastern Small-footed Bat *(Myotis leibii);* Gray Seal *(Halichoerus grypus);* Harbor Porpoise (*Phocoena phocoena);* Harbor Seal *(Phoca vitulina);* Little Brown Bat (*Myotis lucifugus*); Northern Long-eared Bat *(Myotis septentrionalis);*

Amphibian: Boreal Toad *(Bufo boreas boreas);* Bullfrog *(Rana catesbeiana);* Long-toed Salamander *(Ambystoma macrodactylum);* Tiger Salamander *(Ambystoma tigrinum);*

Fish: Shad (*Alosa sapidissima);* Smelt (Osmerus spp.*)*

WDA Section News

News from Europe

Paul Duff

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Disease threats to the last Iberian lynxes

Javier Millán.

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The Iberian lynx is the most endangered felid in the world, with no more than 200 individuals living in two separate areas in Andalusia, Southern Spain. These lynx show low rates of exposure to infectious agents according to a previous study [1]. Thus, if a disease epidemic took place, it may lead the remaining lynx to extinction. Sympatric carnivores may act as reservoir of some diseases and can also serve as sentinels of some others. From 2004 to 2006, and financed by the Andalusia Government, we sampled 200 carnivores (dead or alive) for evidence of contact with parasitic, infectious, and toxic agents. Included in the study were 26 free-living lynx. The other species were mainly free-roaming cats, rural dogs, red foxes (*Vulpes vulpes*), Egyptian mongooses (*Herpestes ichneumon*), and common genets (*Genetta genetta*).

The study confirmed that the Iberian lynx has little contact with viral agents: antibodies against parvovirus (PV), FeLV, and CAV-1 were each detected in one lynx (4.5%). Active infections with parvovirus, *Ehrlichia* spp., *Mycobacterium bovis* (including a fatal case), *Leptospira interrogans*, *Leishmania infantum*, and *Cytauxzoon* spp. were confirmed. In contrast, 53% of the domestic cats were exposed to infectious agents (including FIV, FeLV, FCV, FCoV, CDV, *Ehrlichia* spp., or *Chlamydophila* spp; seroprevalence range: 4.5–11.4%). We also found that 26% of necropsied cats had an active infection with some of these agents. Antibodies to CDV and PV were frequent in dogs (32% and 42%, respectively) and foxes (30% and 12%). Antibodies to and/or infections with *Ehrlichia* spp.,

M. bovis (including a disseminated case in a red fox [2]), *L. interrogans*, *Salmonella enterica*, *T. gondii*, *Neospora caninum* and *L. infantum* were detected in most of these species [3, 4, 5, 6]. We also carried out questionnaires to cat and dog owners in lynx areas that revealed that 14% of the dogs but none of the cats had been vaccinated, and no cat had been neutered [3]. The lynx and the other carnivores also shared species of ticks and fleas [7], some of which were infected by infectious agents [8, 9, unpublished results]. The domestic cat may also be acting as reservoirs of helminths, of particular relevance would be *Ancylostoma tubaeforme*, hookworm that parasitized 80% of adult cats and that may be pathogenic for lynx pups [10]. Finally, since some events, like the mining spill of Aznalcóllar, suggested that toxic agents may be affecting the Iberian lynx, carnivores were analyzed for the presence of toxics. The mean concentrations of heavy metals, metalloids and organochlorines were under those indicative of chronic intoxication in all the species [11, unpublished results]. All these results indicated that that the Iberian lynx was far from safe from infectious and parasitic disease risks. Management actions are necessary to avoid a potential disease outbreak among sympatric carnivores that might affect the two remaining Iberian lynx populations. A campaign to control domestic carnivore populations (by vaccination, euthanasia, and/or neutering) would reduce the incidence of circulating pathogens. In addition, disease must be taken into account when planning lynx translocations or reintroductions.

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Progress in Tuberculosis Control Among Spanish Wildlife

Bovine tuberculosis (bTB), caused by infection with *Mycobacterium bovis* and closely related members of the *M. tuberculosis* complex, is still a matter of concern in several European regions, particularly where wildlife reservoirs complicate disease eradication in livestock.

In Spain, bTB has been reported in several wildlife hosts, including endangered species such as the Iberian lynx. The highest bTB prevalence is reported in wild boar: A recent survey in Doñana national park (southern Spain) confirmed *M. bovis* infection in 52% of 124 randomly sampled wild boar. Therefore, several research teams including IREC, VISAVET, NEIKER and UAB-CReSA are joining efforts to contribute in controlling bTB in Spanish wildlife. Funding is provided by EU-FP7 (TB-STEP grant), the Spanish Government and Spanish Regional Governments, and private funds such as Santander – M. Botín.

Recent research allowed (1) setting up new diagnostic methods to facilitate large-scale surveys and to improve bio-security in wildlife translocations; (2) discovering the most relevant wildlife bTB hosts, and means to estimate their densities; (3) identifying the main risk factors for wildlife bTB; and finally (4) starting research towards the development of a vaccination scheme for wild boar. Some relevant recent literature is listed below:

1. Acevedo et al. 2008. Estimating red deer abundance in a wide range of management situations in Mediterranean habitats. Journal of Zoology
2. Aurtenetxe et al. 2008. Development and validation of

an enzyme-linked immunosorbent assay for antibodies against Mycobacterium bovis in European Wild Boar. BMC Veterinary Research

3. Ballesteros et al. 2009. Evaluation of baits for oral vaccination of European wild boar piglets. Research in Veterinary Science
4. Ballesteros et al. 2009. Selective piglet feeders improve age-related bait specificity and uptake rate in overabundant Eurasian wild boar populations. Wildlife Research
5. Balseriro et al. 2009. Bovine tuberculosis in roe deer. Veterinary Record.
6. Fernández de Mera et al. 2008. Differential expression of inflammatory and immune response genes in mesenteric lymph nodes of Iberian red deer (Cervus elaphus hispanicus) naturally infected with Mycobacterium bovis. Developmental and Comparative Immunology 32: 85-91.
7. Fernández-de-Mera et al. The effects of sex and age on phytohaemagglutinin skin-testing of deer. New Zealand Veterinary Journal 56: 71-73.
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11. Naranjo et al. 2008. Evidence of the role of European wild boar as a reservoir of tuberculosis due to Mycobacterium tuberculosis complex. Veterinary Microbiology 127: 1-9.
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H5N1 HPAI events in wild birds in Europe (January – March 2009)

Richard Irvine, Jill Banks, Brandon Londt, Ruth Manvell and Ian Brown.

During the first two months of 2009 there were no reported detections of H5N1 HPAI in Member States of the European Union (ADNS, 2009). However, during March H5N1 HPAI was detected from samples collected from a mallard duck (*Anas platyrhynchos*) that had been shot at Lake Starnberg, Bavaria, near Munich, Germany (OIE, 2009). The infected mallard duck was one of 39 wild birds that were shot and sampled in January 2009. In total, the sampled birds comprised 35 mallards and four Canada geese (*Branta canadensis*); the samples from the other 38 wild birds were negative for influenza A virus infection.

The detection of H5N1 HPAI in wild bird species in Europe (2005 to date) has been most frequent from samples collected from wild birds found dead, and AI wild bird surveillance activities undertaken by EU Member States have shown that swans have been a key species (Hesterberg *et al.*, 2009). Several other wild bird species have also been involved in wild bird mortality incidents associated with the detection of H5N1 HPAI in different EU Member States, predominately various wild waterfowl species (ADNS, 2006; ADNS, 2007). In comparison, the detection of H5N1 HPAI from so-called 'healthy' wild birds in Europe has been much less common, with the most recent prior detection having been from a pochard (*Aythya ferina*) trapped and sampled on Lake Sempach in Switzerland in February 2008 (OIE, 2008). Globally, there have been other sporadic detections of H5N1 HPAI from 'healthy' wild birds species reported (includes: Chen *et al.*, 2006; Lvov *et al.*, 2006; Minta *et al.*, 2006), largely from regions where disease has been previously detected and/or established.

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

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http://www.oie.int/wahis/public.php?page=single_report&pop=1&reportid=7874

Developing rabies outbreak in terrestrial wildlife species in North- East Italy

Since October 2008 there have cases of rabies in a roe deer (*Capreolus capreolus*), 2 badgers (*Meles meles*) and approximately 10 foxes (*Vulpes vulpes*) in Northern Italy. We understand that rabies vaccination in domestic animals commenced in October 2008 and fox, baited vaccination commenced more recently. We are grateful to Prof Ezio Ferroglio for this information but would appreciate any further information from Italy.

European Section

Material for publication in *News from Europe* can include recent wildlife disease outbreaks and new diseases in Europe, short case and meeting reports; job and scholarship announcements. We encourage electronic submissions, and will help with the English language if required.

Please E-mail, fax or post submissions to Paul Duff, VLA Diseases of Wildlife Scheme (VLADoWS), VLA Penrith, Merrythought, Calthwaite, PENRITH, Cumbria, CA11 9RR, United Kingdom, *e-mail* p.duff@vla.defra.gsi.gov.uk. *Fax* ++44(0)-1768-

Training and Education

Wildlife Chemical Immobilization Class

Centre for Veterinary Wildlife Studies Faculty of Veterinary Science

Certificate Programme in Wildlife Chemical Immobilization Presented by: Department of Paraclinical Sciences, Faculty of Veterinary Science, University of Pretoria in association with Wildlifevets.com Veterinary Wildlife Services, SANParks Course start dates: 8 – 14 March 2009 and 13 – 19 September 2009 Course Fee: Please contact us for the course fee. Brief Description: This is a comprehensive hands-on CPD registered course in safe and ethical methods of capturing wildlife through chemical immobilization. Special attention is given to new preparations, new equipment and modified techniques.

The course is presented at Ngongoni Lodge near Nelspruit and at Skukuza in the Kruger National Park

Delegates: Veterinarians and veterinary students registered with the South African Veterinary Council, foreign veterinarians and veterinary students.

Why CE at UP? Continuing Education at University of Pretoria (CE at UP) offers career-focused courses for in-

dividuals and professionals. The entity's portfolio includes more than 400 certificate courses presented in association with recognized academics from the University of Pretoria.

What do we offer? CE at UP offers both scheduled courses and customized in-house training.

Certification: A University of Pretoria certificate will be issued on successful completion of a programme. For quotations on tailor-made in-house training, contact quote.ce@up.ac.za.

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MSc Courses In Wildlife: Royal Veterinary College, U. of London And Zoological Society of London

MSc Wild Animal Health
MSc Wild Animal Biology

One year full time study starting each Autumn, leading to an MSc qualification from the University of London. Courses are delivered in partnership with the Zoological Society of London.

MSc Wild Animal Health applicants require a first degree from a recognised veterinary school and learn alongside experts in the field, to acquire knowledge and skills in wild animal management and the epidemiology, treatment and control of disease.

MSc Wild Animal Biology applicants require a first degree in Biology or Zoology. Participants acquire an understanding of wild animal health and welfare through practical exposure, and receive training in relevant research methodologies.

As our courses are popular, we recommend early application. Visit our website or call to find out more.

Web: www.rvc.ac.uk/postgrad
Tel: +44 (0) 20 7468 5134

Postdoctoral Research Associate Position Available in Edinburgh

A full-time Postdoctoral Research Associate position is available in the Institute of Evolutionary Biology, University of Edinburgh, UK

A post-doc position is available starting on May 1, 2009 to work on co-infection dynamics in a wild mammal population in the UK. This will be part of a NERC funded grant led by Amy Pedersen (University of Edinburgh), Andy Fenton (University of Liverpool) and Owen Petchey (University of Sheffield) to quantify within-host parasite interactions and assess the stability of parasite communities. This work will involve a combination of fieldwork (small mammal trapping), laboratory assays, and theoretical modeling.

The postdoc will help manage the field trapping programme, conduct laboratory assays for parasite identification, carry out data analysis and help develop the parasite community models.

Experience in small mammal trapping, disease ecology and mathematical modeling are recommended but not essential. The postdoc will have the unique opportunity to link experimental field based approaches with a community ecology theoretical framework to better understand the role of parasite interactions in shaping host-parasite communities.

The post will be for up to 36 months and will be based within the lab of Amy Pedersen at the Institute of Evolutionary Biology (http://www.biology.ed.ac.uk/research/institutes/evolution/) & Centre of Infection, Immunity and Evolution (CIIE; http://ciie.bio.ed.ac.uk/) at the University of Edinburgh.

The salary range is £28,290 - £33,780; dependent on experience.
Applications will be accepted until April 3, 2009.
For the Postdoctoral Research Associate (Ref. #: 3010681) application and specific job description, please go to:
http://www.jobs.ed.ac.uk/vacancies/index.cfm?fuseaction=vacancies.detail&vacancy_ref=3010681
For specific information about the project, please email Amy Pedersen. (a.pedersen@sheffield.ac.uk) and/or Andy Fenton (a.fenton@liverpool.ac.uk).

MS Assistantship in Elk Ecology at the University of Wyoming

An MS assistantship is available to study interchange, brucellosis seroprevalance, and habitat selection of fed and non-fed elk in southwestern Wyoming. The student will work with a team of scientists from the University of Wyoming, the US Geological Survey, and the Wyoming Game and Fish Department. The objectives of this study are to: 1) evaluate the amount of interchange between fed and non-fed elk along the Wind River and Wyoming Range front via fine scale movement data from GPS collars, 2) determine if supplemental feeding causes predictable changes in the migration patterns and summer habitat selection of fed and non-fed elk, and 3) evaluate landscape-level distribution of fed and non-fed elk during fall hunting by using stable isotope methods to identify feedground elk from hunter-kill samples. The study will use a combination of habitat and movement data from GPS collared elk, behavioral observations, and isotopic analyses. Preference will be given to applicants with (1) experience in field ecology, wildlife biology, conservation biology, or a related discipline, (2) previous field experience with ungulates, (3) strong quantitative skills, and 4) a desire to conduct research grounded in ecological theory with relevance to wildlife management in Wyoming.

A competitive graduate assistantship will be provided, which will include an annual stipend, tuition, and benefits for the duration of the student's research. The student will be co-advised by Dr. Matthew Kauffman (Wyoming Coop Unit) and Dr. Paul Cross (USGS – Bozeman). The position will be housed in the Wyoming Cooperative Fish and Wildlife Research Unit within the Department of Zoology and Physiology at the University of Wyoming. Position will start in fall 2009.

To apply please send a cover letter outlining your interests and experience, a resume or CV, GRE scores, transcripts, and contact information for three references to Dr. Matthew Kauffman via email at mkauffm1@uwyo.edu. Hard copy applications will not be accepted. Review of applicants will begin immediately and continue until a suitable applicant is found.

Postdoctoral Fellowship in Amphibian Pathology and Molecular Diagnostics

The Wildlife Disease Laboratories at the Zoological Society of San Diego are seeking a Postdoctoral Fellow in Amphibian Pathology and Molecular diagnostics in support of an Institute of Museum and Library Services funded project that will develop and refine tools necessary to control population-limiting infectious diseases (e.g. chytridiomycosis and Ranavirus infection) in amphibian survival assurance colonies maintained in zoological collections worldwide. The Fellow will be based in a newly established Amphibian Disease Diagnostic Laboratory within the Arnold and Mabel Beckman Center for Conservation Research at the San Diego Zoo's Wild Animal Park. The fellowship will provide exposure and/or training in a full spectrum of techniques applied to amphibian disease investigation including histopathology, real-time PCR and epidemiology. Training materials available for the fellowship are diverse and include diagnostic submissions from a variety of amphibian species recovery programs in the United States and Central America. Ideal candidates for this position will have a D.V.M. or equivalent degree and a minimum of two years post-DVM experience in disciplines that may include Anatomic Pathology, Epidemiology, Molecular Diagnostics or Microbiology. Opportunities to participate in the general zoo animal pathology diagnostic services at the San Diego Zoo and Wild Animal Park and/or to prepare for the certification examination in Veterinary Pathology are available depending on the interests and background of the applicant. The anticipated start date is negotiable, but the position will be available by July 2009. This is a 12-month program with an optional extension for an additional 12 months by mutual agreement. If you are interested please apply on line and e-mail your cover letter and curriculum vitae to Dr. Allan Pessier, Wildlife Disease Laboratories, Zoological Society of San Diego, P.O. Box 120551, San Diego, CA 92112-0551 (619) 231-1515, Ext 4510# apessier@sandiegozoo.org
Closing date February 2, 2009

Training, Education, and Volunteer Positions

PhD Opportunity at IREC: Risk Assessment for Vector-Borne Zoonotic Diseases

The Wildlife Disease Department at IREC (www.uclm.es/IREC) is looking for a highly motivated candidate to work on vector-borne zoonotic diseases (viral and bacterial pathogens; mosquito and tick vectors) in Spain, starting in July 2009. The successful candidate will develop skills in vector ecology, molecular biology and GIS. Please send CV and contact Christian.Gortazar@uclm.es for more information.

Internship - Raptor Center at the University of Minnesota College of Veterinary Medicine

The Raptor Center at the University of Minnesota College of Veterinary Medicine is offering a one year self-funded internship. Established in 1974, The Raptor Center specializes in the medical care, rehabilitation, conservation, and study of eagles, hawks, owls, falcons, and vultures. In addition to treating more than 700 birds a year, we provide training in raptor medicine and surgery for veterinarians from around the world, reach more than 250,000 people each year through public education programs and events, and identify emerging issues related to raptor health and populations. Interns manage cases under the supervision of faculty and assist with all aspects of clinical medicine, and surgery of raptors including capture and restraint, anesthesia, diagnostics, necropsy, record-keeping, and research projects. Interns assist in teaching and supervising veterinary students. In addition, interns are assigned evening and weekend duty on a rotating basis and are expected to participate in sponsored events.

Candidates must possess a DVM, VMD or equivalent degree. Interest or experience in ecosystem health, conservation biology, wildlife management, pathology, toxicology or related disciplines is a plus. Applicants must be proficient in English. This is a self-funded position. Estimated annual living expenses are $20,000/year. Preference will be given to candidates with grant or scholarship funding. Interested applicants should submit a current curriculum vitae, a letter of interest indicating career goals, and three letters of reference. The position is open until filled. Internship dates are flexible.

For further information contact: Dr. Michelle M. Willette, The Raptor Center, 1920 Fitch Avenue, St. Paul, MN 55108, (612) 624-1353, Fax - (612) 624-8740, wille203@umn.edu

Senior Bear Keeper Required for Animals Asia Foundation

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

This position is responsible for overseeing teams of local bear keeping staff with the daily care and management of the bears housed in numerous Sanctuaries within the rescue centres.

Senior Bear Keepers report directly to centre Senior Bear Manager. It will also involve working alongside and liaising with the Senior Vet and the resident Vet team and our Animal Conditioning Consultant to manage various daily operations.

Both formal qualifications and proven practical experience are essential for this position.

Accommodation is provided, along with a competitive salary and the opportunity to help these most stoic and beautiful animals.

Responsibilities:
Co-coordinating various daily operations such as staff training, animal care and management, enrichment programs, and food ordering system.

Qualifications and experience:

- Formal qualification in zoology, biology, conservation or animal behaviour/care
- Three to five years work experience in a zoo or similar working environment
- Excellent communication, management, and practical skills

Patience and willingness to work within a different culture are essential. Appointment is full-time, five (5) days a week with some weekend work. Minimum of 1-2 year contracts. Contract includes:

- On-site accommodation
- Subsidised meals
- Relocation Assistance
- Medical Insurance

For more information please visit our Vet Centre on: www.animalsasia.org

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

Training, Education, and Volunteer Positions

Short Term Volunteer Veterinarian Required at the Tacugama Chimpanzee Sanctuary

The resident volunteer veterinarian is taking extended leave and Tacugama Chimpanzee Sanctuary requires a volunteer veterinarian to cover this absence. The veterinarian is responsible for the daily health and welfare of over 90 chimpanzees and undertakes additional tasks to support the overall daily operation of the sanctuary.

Tacugama Chimpanzee Sanctuary was established in 1995 by the Government of Sierra Leone, through the help of conservationist Bala Amarasekaran and the Conservation Society of Sierra Leone to rescue, care for and rehabilitate confiscated pets and orphaned or abandoned wild chimpanzees. It plays a vital role in stopping conserving and protecting chimpanzees in the wild through education, communication and legal enforcement. Tacugama is located 30 minutes from Freetown, the capital of Sierra Leone, in West Africa.

The role of the veterinarian will include overall observation and management of chimpanzee health following standard operating procedures. Responses to identified health problems are likely to include dispensing of medication, immobilizing chimps as necessary for treatment, implementation of disease prevention measures and attending to any medical emergencies. Health checks and close monitoring of newly rescued chimps may also be needed. A key requirement is the capture, filing and maintenance of daily data records. The veterinarian reports to the programme director.

We are looking for an enthusiastic team player who possesses a recognised university degree in Veterinary Sciences. Ideally you will:

- have a minimum of 5 years experience as a qualified veterinary practitioner
- have previous experience working with primates
- have travelled / lived overseas
- be willing to live in basic conditions
- enjoy working with others to develop their knowledge and skills

Late May to September 2009

It is an amazing experience working with chimpanzees and living in a beautiful, developing country. We will provide you with on-site accommodation. A daily meal is prepared for all staff and we will cover basic living expenses.

Please send your CV, covering letter and two references as soon as possible by email to info@tacugama.com and ensure that your email subject is "Short Term Vet Application".

Employment

Assistant Scientist in Dept. of Wildlife Ecology, University of Wisconsin-Madison

Closes: 1 June 2009 or until filled

Project Description: The successful applicant for this position will work on Chronic Wasting Disease (CWD) in close collaboration with the Wisconsin Department of Natural Resources (WDNR). The position will conduct analytical evaluation, assessment of management activities to control CWD, and provide technical assistance to WDNR CWD management programs. Specific project goals include evaluation and development of effective surveillance strategies for CWD, analysis of spatial and temporal disease patterns and prevalence, evaluation and assessment of CWD management activities, and evaluation of CWD transmission patterns. This position will identify research problems and appropriate methodology for CWD monitoring and surveillance and provide guidance and technical advice to management agencies on these programs, focused disease control efforts, and related WDNR programs. The scientist works in close collaboration and coordination with WDNR staff, other CWD research projects at the University of Wisconsin-Madison, and other state or federal agencies. The scientist works in close collaboration with the Wisconsin Interagency Health and Science Team to provided scientific advice and technical assistance on CWD management programs and provides a liaison to other CWD researchers at the state and national level to ensure rele-

vant findings are available to inform WDNR management decisions.

Qualifications: A Ph.D. in Wildlife Ecology, Biology, Veterinary Science or related discipline with strong quantitative emphasis or a Ph.D. in Statistics with strong biological emphasis. Knowledge and experience in epidemiology, spatial analysis, disease mapping, and statistical analysis strongly preferred. Post-doctoral research experience is preferred. A strong independent work ethic, good verbal and written communication ability, ability to work independently and as part of a research team, demonstrated record of publication, and good interpersonal and communication skills.

Salary: $45,000 - $50,000/year depending on qualifications, plus benefits, for a 12 month appointment. Appointment beyond the first year depends on performance and additional funding.

Start: 1 July 2009 or as soon thereafter as possible.

Candidates should send a formal letter of interest, curriculum vitae, transcripts, and 3 letters of recommendation to: Michael D. Samuel, Department of Wildlife Ecology, 204 Russell Lab, 1630 Linden Drive, University of Wisconsin, Madison, WI 53706.

Wildlife Health Specialist Veterinary Diagnostician

Approximate Salary: $59,194.80 to $88,948.80 Permanent, full time vacancies as they may occur in this geographical location. In order to receive consideration, applicants must indicate their availability to work in one or more geographic locations.

Department: Wildlife, Division: Wildlife

Location: Reno, Sparks, Elko, Nevada, USA

Applications accepted until recruitment needs are satisfied. Qualified individuals are encouraged to apply immediately. Lists of eligible candidates will be established and hiring may occur early in the recruiting process. Recruitment will close without notice when a sufficient number of applications are received or a hiring decision has been made.

Wildlife Health Specialist performs a variety of duties to enhance and maintain the health of the State's wildlife; develops and administers wildlife disease and nutritional surveillance strategies; designs wildlife health studies; and provides technical expertise and science-based recommendations to department management in regard to new and established programs, projects, and activities.

Qualifications:

- Doctor of Veterinary Medicine degree from an accredited college or university and three years of animal disease diagnosis and pathology experience.
- Possession of licenses by the Nevada Pharmacy Board and the Nevada State Board of Veterinary Medicine to administer medicines including controlled substances is required within 12 months of appointment and as a condition of continuing employment.
- A license to practice veterinary medicine issued by the Nevada State Board of Veterinary Medicine is required within 12 months of appointment and as a condition of continuing employment.

It is essential that applications include extensively detailed information with time frames regarding education and experience. The most qualified applicants will be contacted by the hiring agency for interview. Announcement Number 8084 Posted 12/01/08, Direct Inquiries to: Kristina Ross (775) 688-1522 or email krisr@ndow.org For more information see: https://nvapps.state.nv.us/NEATS/Recruiting/ViewAnnouncement.aep?recruitmentId=8084

Veterinary Epidemiologist - Battelle

Battelle is a world leader in science and technology research. Atlanta Analytical Services (AAS) is a part of the Chemical and Advanced Material Solutions Product Line and provides laboratory support to the Centers for Disease Control and Prevention. The position is located in the National Center for Immunization and Respiratory Diseases (NCIRD), Influenza Division (ID) at the Roybal Campus, Atlanta , Georgia . AAS is working with HHS/CDC in supporting efforts for pandemic influenza preparedness. Rapid diagnosis and genetic characterization of circulating viral strains coupled with epidemiologic surveillance are essential components to increase influenza pandemic readiness and response. AAS is supporting CDC in research and development efforts to eliminate gaps in influenza by increasing the diagnostic tools available to clinical providers, public

health laboratories and domestic and international partners, by monitoring influenza viruses in animal and human populations through molecular technologies, traditional surveillance strategies and incorporating laboratory surveillance with classic epidemiology to facilitate detection of new epidemic variants and provide complete and accurate information about influenza viruses posing a pandemic threat.

Position Summary: AAS is seeking a researcher to work in the Epidemiology and Prevention Branch, Influenza Division, CDC who has experience in veterinary medicine to develop and conduct surveillance and epidemiologic studies of human, animal and zoonotic influenza. The candidate will lead and coordinate activities in the Influenza Division to further investigate human cases of novel influenza A virus infections, (usually considered animal viruses) and provide coordination between the epidemiology and laboratory branches within the Influenza Division and also participate in new or ongoing studies in the Influenza Division related to influenza at the animal-human interface (AHI). The candidate will also provide input into communication materials and reports of novel influenza A in humans. The selected candidate will work in the Atlanta Metropolitan Area at the Centers for Disease Control and Prevention (CDC) Roybal Campuses. Salary will be determined based on education and experience. A full benefit package will be provided. Relocation support will not be provided. The selected candidate will have to obtain and maintain a CDC security clearance.

Position Responsibilities: The candidate will provide epidemiological support for novel Influenza A research, being studied at CDC and as part of one of the 4 World Health Organization's Collaborating Centers for Influenza Surveillance and Research. Specific duties will include:

1. Serve as the influenza technical and scientific lead for novel influenza A virus surveillance and investigation activities within the Epidemiology and Prevention Branch, Influenza Division

2. Lead and coordinate activities in the Influenza Division to further investigate human cases of novel influenza A virus infections; collaborate and communicate with state epidemiologists and veterinarians, USDA and other CDC researchers in such studies

3. Improve the development of influenza AHI surveillance of novel influenza A virus infection and develop plans and standard operating procedures for responding to human cases of novel influenza A virus infection through collaboration with federal, state, local authorities and Influenza Division colleagues and other groups

4. Work with other scientists in the development, design, and evaluation of operational research and demonstration projects intended to determine the most efficient and cost-effective methods of improving surveillance of novel influenza A virus infection

5. Develop operational policies and plans for surveillance, prevention and preparedness activities, to rapidly detect and respond to novel influenza A virus infection or outbreaks at the AHI occurring in the United States

6. Collaborate with scientists on the design, presentation, and evaluation of research and epidemiologic studies of novel influenza A virus infection and develop recommendations impacting public health

7. Collect, analyze and interpret data; prepare reports for publication and presentation; participate in seminars and conferences and communicate progress orally and in writing to the technical monitor and senior scientist

Required Qualifications: Candidate must demonstrate the following minimum requirements in order to be forwarded for consideration:

- A doctorate in veterinary medicine. A mastery knowledge of veterinary medicine and public health
- Knowledge of epidemiology, ecology, pathophysiology, and prevention and treatment of influenza virus infections in animals (including wildlife) and humans
- Knowledge of the principles, concepts, methods, and techniques for the diagnosis of influenza as well as zoonotic diseases.
- Ability to perform epidemiologic studies and interpret results of studies to advance public health and scientific knowledge
- Ability to coordinate program evaluation and rec-

ommend improvements
- Ability to review, evaluate and interpret world literature on novel influenza A and apply this knowledge to ongoing work
- Posses excellent communications skills both orally and in writing so as to make clear, convincing presentations or recommendations, represent the client, provide guidance, and respond to inquiries
- Must have strong interpersonal relations and ability to relate to divergent scientists to foster and maintain a cooperative relationship with client's partners.

A bioterrorism risk assessment for handling select agents may be required. Preferred qualifications include experience with influenza epidemiology and novel Influenza A. Applicants may forward CVs to pasztorf@battelle.org

Born Free USA Primate Sanctuary Director

Born Free USA united with Animal Protection Institute ("Born Free USA") is a national non-profit animal advocacy organization, working to end animal cruelty and exploitation through legislation, litigation, public education, and direct care. Born Free USA provides "hands-on" care for animals at the Born Free USA Primate Sanctuary located in Dilley, Texas, where more than 500 primates, many rescued from abusive situations in laboratories, roadside zoos, and private possession, live in as natural an environment as possible with minimal human interference. The head office of the organization is in Sacramento, CA, with an office in Washington DC.

Born Free USA boasts a 40 year history of successful animal advocacy. Our main campaign activities include: animals in entertainment, with a focus on zoos and circuses; the international wildlife trade; trapping and fur; and working to prohibit the keeping of exotic animal as pets.

Born Free USA is currently seeking an experienced, energetic and hard-working individual (or possibly a couple) to manage the continued development and day-to-day operational activities of the Born Free USA Primate Sanctuary in Dilley, Texas. This position reports to the CEO of Born Free USA or to the Senior Executive as directed.

Applicants should be committed to the goals of the organization. The working environment and culture of the organization is friendly and team-oriented.

Responsibilities include:
- Overall responsibility for the daily care of the animals at the Sanctuary, including feeding, habitat cleaning, maintenance of grounds and ensuring receipt of veterinary care as required and in line with official policy.
- Manage the on-site staff to ensure efficient and effective delivery of all operations at the Sanctuary.
- Develop and agree the annual operating budget with the CEO and ensure Sanctuary expenditures are managed and reported in line with the annually agreed budget.
- Maintain all records including; animals (numbers, health, behavior, status), equipment, utilities, insurance, buildings status, supplies and so forth relating to the Sanctuary.
- Ensure that all necessary equipment, feed and other supplies are available for Sanctuary use.
- In line with any protocols agreed with the CEO, manage volunteer support as appropriate.
- Provide regular updates and reports to the CEO as directed.
- Provide strategic input to the CEO and the Board for the continued development of the Sanctuary to ensure its ability to deliver high standards of animal welfare and quality of life for all residents throughout their lives.
- In line with relevant Board Policies and in consultation with the CEO make appropriate decisions regarding new residents. Liaise with the relevant individuals, outside bodies, law-enforcement agencies, etc.
- According to an agreed schedule, provide Born Free USA head office with text and images for public relations and fundraising purposes.
- In consultation with the CEO, act as spokesperson and contact point for the Sanctuary. Deal with all Sanctuary-related correspondence.
- Oversee all new construction to ensure it is completed on time, to specification and on or under budget (where possible).

Qualifications:
- Relevant qualifications (preferably veterinarian) in animal care (primates) and/or 3+ years experience at senior level managing/supervising the operation of an animal rescue and care facility.
- Must reside on Sanctuary property. Housing is

provided.

- 3+ years experience of financial management of a project or program (budget, cash flow, expenses, operational costs, capital expenditure, etc.).
- Relevant experience directly managing staff.
- Knowledge of proper record-keeping practices.
- Working knowledge of general construction including plumbing, carpentry and electrical.
- Risk management skills including an understanding of relevant safety procedures and protocols to ensure operations are undertaken within a safe working environment.
- Excellent written and oral communication skills. Presentational skills a plus.
- Ability to prioritize daily tasks as needed and to apply adaptive management when necessary.
- Should possess the following skills and attributes: self-motivation, creativity, planning, multi-tasking, organizational, leadership, problem-solving, collegiality.
- Must be able to carry out the physical demands of the job.
- Must share, uphold, and further the organization's vision and philosophy with respect to the goals and purpose for the Sanctuary, as well as aspire to the highest standards relating to the care of non-human animals.

Compensation: Salary commensurate with experience; excellent benefits package, including health insurance, paid vacation, and dental/vision reimbursement. This job is open to US citizens. Born Free USA is an Equal Opportunity Employer.

To Apply: Please send resume and cover letter by Email to Jessica Stout. jessica@bornfreeusa.org; fax to 916-447-3070, or mail to Born Free USA, c/o Human Resources, P.O. Box 22505 Sacramento, CA 95822.

Pennington Endowed Chair for Wildlife Diseases—Louisiana State University

Location: The position will be located at the Bob R. Jones Idlewild Research Station (LSU AgCenter Southeast Region) near Clinton, Louisiana; however, depending on successful applicant's area of expertise, he/she will have a shared appointment in either the School of Renewable Natural Resources or the Department of Veterinary Science on the LSU AgCenter's Baton Rouge campus. The research station has 1,100 acres of woodlands, 70 acres of ponds and lakes, and 75 acres for the maintenance of captive white-tail and red deer herds. Opportunities for collaboration with faculty members in the LSU School of Veterinary Medicine are available and encouraged.

Position Description: The successful applicant will develop new and /or improved technologies to identify and manage diseases of Cervid species according to sound environmental and economic principles. The program should be designed to benefit the sportsmen, landowners, governmental agencies and businesses associated with deer management in Louisiana and throughout the nation.

General Information: Long known as the "Sportsman's Paradise" Louisiana has been recognized for its natural resources including its diverse wildlife component. Louisiana's wildlife contributes financially to the state as a whole ($31 million in annual sales and taxes, 2006) and to its citizens directly supporting in excess of 12,000 jobs with a total economic effect of $1.2 billion annually (2006). The bulk of this interest is divided between waterfowl and upland game, with the largest game component being whitetail deer. In addition to the native herds, there is a growing interest in captive herd management with an increase of 140% in captive herd licenses issued over the past five years, with an associated increase of 400% in fenced acres.

Qualifications: PhD in wildlife or range management; veterinary science, veterinary medicine, microbiological sciences, epidemiology, medical/veterinary entomology or closely related field. The successful applicant must have record of professional accomplishments in the area of wildlife diseases to warrant appointment to the rank of professor and member of the LSU Graduate Faculty. Additional requirements include 1) a national reputation in his/her academic discipline, as demonstrated by publications in peer-reviewed and popular periodicals and competitive funding from governmental agencies, stakeholder individuals/groups and industry; 2) leadership roles in professional organizations in his/her academic discipline and in professional organizations associated with wildlife improvement; 3) record of collaborations with wildlife enthusiasts and colleagues in other academic disciplines who conduct research and outreach activities associated with wildlife improvement; 4) record of excellence in

graduate education and graduate student-mentoring; and 5) strong evidence of participation in multi-state, multi-agency, and multi-disciplinary programs.

Salary and Benefits: Salary will be commensurate with qualifications and experience. The LSU AgCenter has an attractive benefits package with a wide variety of benefit options. Benefits offered include retirement, multiple medical insurance options, supplemental insurances (dental, life, long-term disability, accident, vision, long-term care, etc.), Tax Saver Flexible Benefits Plan (saves tax dollars on some child care and medical expenses), university holidays (14 per year, typically includes a week off at Christmas), generous annual (vacation) and sick leave benefits, Employee Assistance Program, and possible educational leave and tuition exemption for coursework at campuses of the LSU System. Specific benefits depend on job category, percent effort and length of employment.

Application Deadline: February 1, 2009 or until a suitable candidate is identified. Submit a letter of application, and full resume including a statement of research interests and goals, original transcripts and have three letters of reference along with address, email address and phone number of references sent to: Dr. Dearl Sanders, Chairman of the Search and Screening Committee/Bob R. Jones Idlewild Research Station 4419 Idlewild Road, Clinton, La. 70722

Phone: 225-683-5848; Fax: 225-683-3281
Email: dsanders1@agcenter.lsu.edu
Web Site: www.lsuagcenter.com

Regional Veterinary Manager Needed for Mountain Gorilla Veterinary Project in Rwanda

The Mountain Gorilla Veterinary Project, MGVP, Inc. seeks a regional veterinary manager, based in Rwanda, with frequent travel to Uganda and DRC. Applicants should have experience with great ape medicine, travel/living in foreign countries, and conversational French. Research and pathology experience preferred. Job duties include clinical medicine, training, research, and administration. The Regional Veterinary Manager reports to the MGVP Director and manages 6 Field Veterinarians, a Laboratory Manager and approximately 15 lay staff. This team shares responsibility for the health care and health monitoring of wild mountain gorillas as well as confiscated gorillas and other primates in the region; participating in approved research studies in collaboration with the Project Director and affiliated scientists, including the collection of samples for the Biological Resource Center; performing complete and detailed postmortem examinations on gorillas (and other wildlife when resources allow); maintaining accurate medical records and producing timely reports; utilizing "IMPACT" for data collection; administering an employee health program; and assisting with care and general maintenance of all vehicles, medical supplies, equipment and facilities owned by or leased for the Project. The regional veterinary manager will be responsible for developing and administrating a budget for Rwanda and DRC, and for helping to meet the objectives of the MGVP's new collaboration with UC Davis for expanded research and training in the areas of animal and human health. The position is for two years upon successful completion of the first with a possible extension at the end of two years. Applicants should apply to the MGVP Director, Dr. Mike Cranfield, MGVP, Inc. 1876 Mansion House Drive, Baltimore, MD, 21217, Cranfield.mike@gmail.com, no later than May 5, 2009 for orientation in July, and a start date of August 1, 2009. Salary commensurate with experience and cost of living in Rwanda. Benefits include health insurance, evacuation insurance, residence for applicant and 3 weeks vacation.

Tenure Track Positions at the School of Community Health Sciences

The School of Community Health Sciences (SCHS) at the University of Nevada Las Vegas invites applications for two tenure track faculty positions at the Assistant, Associate, or Full Professor levels. One position is in Epidemiology and the other is in Environmental Health/Microbiology/Infectious Diseases.

As a relatively new school, seeking accreditation, our most important goal is to continue developing a strong academic and research program.

We seek motivated and collegial additions to our faculty. The successful candidates will:

- Develop and teach live and internet based courses
- Advise, direct, and mentor students including chairing and serving on student committees;
- Seek extramural funding, conduct research, and publish research findings;
- Engage in appropriate community and professional service; and
- Support the mission, philosophy, and objectives

Employment

of the School of Community Health Sciences and the University of Nevada Las Vegas

For complete descriptions and application details, call (702) 895-2894.

Avian Toxicologist Opening – Bayer CropScience

Bayer CropScience is one of the world's leading innovative crop science companies in the areas of crop protection, non-agricultural pest control, seeds and plant biotechnology. We are seeking a highly motivated candidate to fill an anticipated avian toxicology opening within our Global Ecotoxicology Department. All applicants are expected to possess excellent communication and team skills and must be willing to work independently.

Position type: 1-2 year assignment with possible conversion to permanent at our research park in Kansas

Job description: You will design and oversee avian laboratory studies needed to achieve and maintain regulatory approvals for BCS products. You will develop partnerships within the academic, regulatory and industry communities and incorporate innovative and progressive approaches to avian effects testing and risk assessments. You will assist in the conduct of endangered species risk assessments. The incumbent will:

- Partner with other Bayer CropScience scientist to develop strategies and testing plans to support terrestrial (avian) risk assessments;
- Assist in data development and risk assessments involving terrestrial vertebrate endangered species;
- Provide scientific leadership in the experimental design of non-routine avian toxicity studies;
- Take an active role in the internal development of new testing methodologies to meet evolving guideline requirements;
- Assist in study protocol writing, data analysis and interpretation and report writing.
- Your qualifications:Higher degree (Ph.D. preferred) in avian toxicology or related subject.
- Experience with animal studies which may include dosing, animal observations, data collection, data analysis and reporting;
- In addition to a strong knowledge of applied avian toxicology, a background in ecology is also desirable
- Strong knowledge in bio-statistical analysis
- Basic understanding of GLP requirements;
- Proficiency with Windows, MS Office (Excel, Word, Access and Power Point) and statistical software;
- Ability to prioritize and adjust to a frequently changing environment;
- Some travel required

Contact: Matt Kern (matt.kern@bayercropscience.com) or David Fischer (david.fischer@bayercropscience.com)

Meetings and Conferences

2009 Wildlife Disease Association Conference August 2 – 7th, 2009

Semiahmoo Resort and Spa in Blaine, Washington

The luxurious, but affordable Semiahmoo Resort and Spa has been reserved for WDA 2009. This beautiful sea-side resort, set at the end of a mile-long sandy spit, is located about half way between Seattle, Washington and Vancouver, British Columbia. It is easily accessible from either international airport. Rooms are reasonably priced, lunches served outside overlooking Mt. Baker will be included with your registration and the picnic will be on the beach. In addition to a full week of wildlife disease continuing education and meeting with colleagues, you'll want to be sure to make time for sunrise and sunset beach walks, wildlife watching from the grounds of the resort, whale watching, kayaking, salmon fishing, and hiking in the North Cascades wilderness. See http://sites.google.com/site/wda2009/ for more information.

3rd International Chronic Wasting Disease Symposium

The Utah Division of Wildlife Resources would like to extend an invitation for you to attend the 3rd International Chronic Wasting Disease Symposium to be held in beautiful Park City, Utah on July 22-24, 2009. The theme for this symposium is "CWD - Advancing the Science and Developing the Tools".As new research continues to broaden our understanding of CWD, wildlife managers have been presented with new and unique challenges that necessitate a fresh look at how CWD should be managed in cervid populations. This symposium will explore issues such as prion research and biology, management and control of CWD in wild and captive cervids, human dimensions of CWD, and CWD surveillance, just to name a few. The accommodations at the Park City Marriot are those of a First-class mountain hotel, and symposium registration includes breakfast, lunch, snacks, and a delicious banquet. Park City, Utah is a beautiful, historic Rocky Mountain town and premier summer vacation destination located only 36 miles from the Salt Lake International Airport. It is a great location to combine work and family, vacation, or to use as a starting point to tour some of the 7 National Parks of southern Utah that are within a 4-10 hour drive from Salt Lake City. Sign up now to take advantage of early registration pricing for this unique and informative symposium!

Please visit our website at http://www.regonline.com/builder/site/Default.aspx?eventid=650932

for more information and to take advantage of early registration pricing today!!! Please feel free to distribute to anyone that may be interested in attending this exciting symposium.

JOINT CONFERENCE Australasian Section Wildlife Disease Association and Wildlife Society of the New Zealand Veterinary Association 10 – 16 December 2009 in the Catlins, South Otago, New Zealand

The conference will be convened amongst the picturesque surrounds at 'Woodstock Lodge' in the nature-lovers paradise of the Catlins. See www.woodstocklodge.co.nz

The Catlins is an internationally renowned wilderness area with natural features that will compliment the conference programme well. Viewing of a number of threatened endemic species will be possible during the conference with New Zealand sea lions and yellow-eyed penguins having population concentrations in this region. Other features of the Catlins include old growth coastal forest remnants, the Catlins River valley, a fossilized forest of geological interest, an abundance of native passerine species – tuis, fantails, bell birds and many wild southern beaches. Websites of interest about the region include: http://www.catlins.org.nz/ and http://www.catlins-nz.com/

Joint WDA - Wildlife Society of the NZVA 10-13 December, WDA only 14-16 December. The first three days will have a strong New Zealand focus in line with the Wildlife Society's past programmes, with a broader Australasian focus for the remainder of the programme.

Registration forms and the call for papers, along with all additional conference information will be posted on the following websites in the coming months, as well as email updates:

New Zealand Wildlife Health Centre	http://wildlife.massey.ac.nz
Wildlife Disease Association Australasia	http://www.wda-aust.org/
Wildlife Disease Association	http://www.wildlifedisease.org/
Wildlife Society of the NZVA	http://www.nzva.org.nz/sibs/wildlife/

Keep an eye on the websites for 'Early-bird' registration deals. For any further enquiries, please contact Kerri Morgan (K.J.Morgan@massey.ac.nz) or Helen McConnell (H.M.McConnell@massey.ac.nz).

We look forward to seeing you in December. Kerri Morgan, Brett Gartrell and Helen McConnell (Conference co-conveners) New Zealand Wildlife Health Centre, Massey University, Palmerston North, New Zealand

Preliminary Announcement for the Ninth EWDA Conference, 2010

On the Dutch island of Vlieland: 'The interface between wildlife diseases and public health'

The next EWDA conference will be held from 6 to 10 September 2010 on the island of Vlieland, The Netherlands. 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. 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.

Zoonotic wildlife diseases threaten not only wild animals, but through these also domesticated animals and humans. Emerging infectious diseases are known to arise for 75% from the animal reservoir, in which wildlife plays an important role. The conference central theme, ' The interface between wildlife diseases and public health', bridges animal and human health, and will therefore be of great interest for people from many different disciplines, ranging from both public health professionals and wildlife diseases specialists, to ecologists, biologists, epidemiologists et cetera.

The scientific committee is currently working on a programme that will cover different aspects of wildlife zoonotic diseases. Topics that will be addressed include the different pathogens (and their vectors) of present and future interest for wildlife, domestic animals and humans, and also related topics such as climate change and its impact on the ecology of certain species, human behaviour and altered risk for contact with reservoir/ vector species, the impact of import of exotic species and migration of wildlife species.

Next to plenary sessions, different workshops will be organised. And of course, ample time for meeting friends and colleagues is scheduled, be it during the breaks or during excursions. Vlieland is the right place to get a breath of really fresh air. After this conference, your heart will be free of troubles while your head will surely be full of interesting new scientific knowledge.

Please, note this date in your agenda and watch the EWDA website, further information and the possibility to register and send your abstracts will follow soon!

For tourist information you can look at: www.waddenzee.nl or www.vlieland.nl

Opportunity for Workshops at EWDA 2010

The next EWDA conference will be held from 6 to 10 September 2010 on the island of Vlieland, The Netherlands. We have left Monday 6 September free for people who would like to organize workshops in conjunction with the EWDA conference. At the conference hotel, Hotel Seeduyn, which is perched on the dunes overlooking the North Sea, we have reserved six rooms with a capacity ranging from 30 to 112 people. People who are interested in organizing a workshop should apply to Thijs Kuiken (t.kuiken@erasmusmc.nl).