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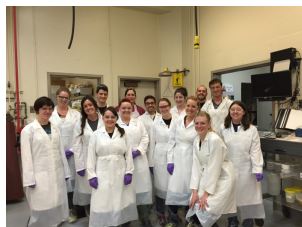
# Newsletter



July 2016

## A Year in Pictures: 2016 Highlights of WDA Student Chapter Events

*Submitted by Michelle Verant*



Student chapters of WDA across North America, Europe and Australasia had a busy and successful year providing opportunities for students to meet and learn from experts in diverse professions of wildlife health and disease. Most of these activities were supported by WDA Student Chapter grants offered through the Student Activities Committee. Activities ranged from monthly seminars, to full-day symposiums, shadowing zoo veterinarians, and working alongside state wildlife agencies to assist with disease surveillance or population monitoring and recovery programs.

These events often involved partnerships with other university organizations, departments and student groups, and included representatives from federal and state agencies and professional organizations. Topics ranged from emerging infectious diseases such as Ebola and SIV, to chronic wasting disease and avian influenza, wildlife field anesthesia, zoo and wildlife medicine to feral swine management and endangered species conservation.

*"This experience helped students gain an appreciation for field studies, endangered species, handling of wildlife, and wildlife health management, while allowing them to actively participate and make a difference."* – U of Arizona Student Chapter 2016 Report

Students organized and participated in workshops and field trips to gain valuable hands-on experience in field capture methods, diagnostic and necropsy techniques, and medical procedures for researching, caring for and managing wildlife.



A student team assists with a black-footed ferret recovery program in Arizona. Students helped with nightly spotlight surveys, health exams, and vaccinations.



Students in the Wisconsin WDA student chapter practiced parasite identification and dragged for ticks as part of the first annual WiscWDA Wildlife Health Symposium.



WDA students at Colorado State University lead an interpretive booth at a university-sponsored event.

Many chapters gave back to their communities and helped to increase awareness of the WDA and importance of wildlife health with volunteer days, community outreach events or alternative spring break trips.

*"These events allowed us to gain new student members, to engage the general public by discussing wildlife management and wildlife disease issues, and to increase exposure of our student chapter and the Wildlife Disease Association as a resource for wildlife disease professionals." – CSU Student Chapter 2016 Report*

A big thanks to all the professionals and WDA members that contributed to these opportunities for learning, practicing skills, exploring careers, networking and building relationships for our future wildlife professionals! And of course, none of this would have happened without the motivation, enthusiasm and dedication of all the hard-working students and student chapters!

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## WDA Small Grants Program

*Submitted by Carol Meteyer, Ian Barker, Ezequiel Hidalgo, Bonnie Raphael, Karrie Rose, Lisa Yon*  
WDA Small Grants Committee



With the support of the WDA Small Grants Program, we are excited to announce the completion of the first two projects: the Journal of Wildlife Diseases Supplement – 'Advances and Improvements in Wildlife Welfare', and the development of a set of protocols to guide the rehabilitation of key avian species for oiled wildlife response in New Zealand.

### **Advances and Improvements in Wildlife Welfare**

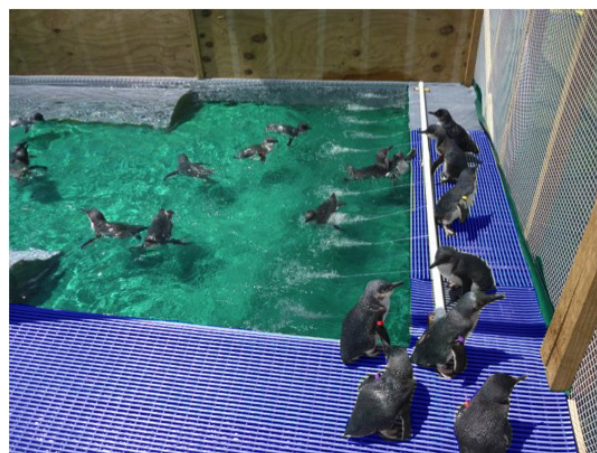
The 128 page JWD Supplement on wildlife welfare is filled with valuable contributions from international experts including wildlife veterinarians, wildlife biologists, disease ecologists, zoologists, and ethicists. The Supplement received financial support from 4 San Diego Zoo Global, AAWV, WDA-Wildlife Veterinary Section, and U.C. Davis, Karen Drayer-Wildlife Health Center, as well as WDA and the Small Grants Program, and scientific guidance from

the editors and reviewers from throughout the WDA led by Dr. Kevin Castle. The articles in this issue cover much more than techniques for handling wildlife and will have broad application for the biologists, veterinarians, and professionals that have responsibility for overseeing humane animal care and use. The content of the Supplement includes minimum standards of care for safe anesthesia in the field, including capture, holding, and release techniques to improve survival; anesthesia of fish; the application of clinical assays to quantify stress in brown bears and white rhinos; factors to consider when planning field-based surgery; safe capture methods for waterfowl; the potential of tourism-based human interactions to affect the health of foraging populations of green sea turtles, and more. This Supplement was inspired by a special session on wildlife welfare at the 2014 WDA conference in New Mexico sponsored by the American Association of Wildlife Veterinarians and is an important contribution to the safety and well-being of wildlife under our care.

### **Treatment for Oiled Wild Birds in New Zealand**

With the support of the WDA Small Grants Program, a set of fact sheets have been created by the Wildbase Oil Response team at Massey University (including Graeme Finlayson, Kerri Morgan, and Louise Chilvers) to aid in oiled wildlife response and rehabilitation for 7 key avian species in New Zealand. Each illustrated oil response fact sheets includes information for safe capture, handling, transport, husbandry, feeding, examination, treatment, and criteria for release for these species. The categories of information are color-coded for easy reference in the field and provide clear guidance through each step of the capture and rehabilitation process. Though some of the information applies to all species, these fact sheets point out the unique physical, biological, and behavioral characteristics to optimize safety and increase the likelihood of successful rehabilitation.

The fact sheets for the rehabilitation of oiled Little Blue Penguins, Yellow-eyed Penguins, Small Pelagic species, Large Pelagic species, Shags (Cormorants), Herons and Gannets, are now available for downloading at 'Reports From the Field' in the Member's Area, at the WDA website <http://www.wildlifedisease.org/wda/MEMBERAREA/MemberResources/WDAReportsfromtheField.a> (log in for access). Additional information is available on the Wildbase Oil Response website as well (<http://Massey.ac.nz/wildbaseowr>). Word on the street is that this is just the beginning and there will be more oiled wildlife care and response information to follow!



In addition, two more 2015 grant award projects are being prepared for publication including an **Update on Diseases of Importance in Wildlife in Europe** which will be submitted to the JWD for publication (Lisa Yon, Dolores Gavier-Widen, and Paul Duff), and **Bovine Tuberculosis in Wildlife - Overview and Update from South Africa: Publication of Disease Information from BTB Outreach Day** which will be available electronically and via limited hard copies (Michele Miller and colleagues).

The 2016 Small Grant Program will support: **Translation,**

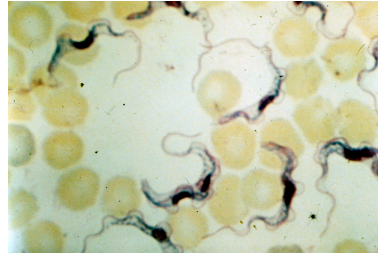
**Editing and Distribution of the IUCN/SSC Tapir Specialist Group Tapir Veterinary Manual (2014) in Portuguese and Spanish** (Renata Carolina Fernandes Santos, Viviana Quse, Patricia Medici), and a workshop that will **Define the Essential Attributes of a National Wildlife Health Center** (Jonathan Sleeman and Craig Stephen). The outputs of both of these will be made available to WDA members.

The Small Grants Program is an opportunity for members of the WDA to contribute to the WDA mission "To acquire, disseminate and apply knowledge of the health and diseases of wild animals in relation to their biology, conservation, and interactions with humans and domestic animals." We appreciate your enthusiasm for the Small Grants Program and look forward to receiving your creative proposals for the 4th cycle of the Small Grants Program, and for all of your efforts to further the mission of the WDA.

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## The Richard Botzler Wildlife Disease Slide Series

*Submitted by Dave Jessup*



Dr. Rick Botzler was Editor of Journal of Wildlife Diseases from 1991-96. Rick taught wildlife disease courses at California State University – Humboldt for more than 40 years and many of his students went on to become wildlife health professionals and leaders of WDA. He has now provided WDA with a set of images he used in teaching and presentation on various diseases and parasites.

The slides can be found in the WDA Members Area as

<http://www.wildlifedisease.org/wda/MEMBERAREA/MemberResources/ImageGalleries.aspx>, but you must log in as a member to be allowed access. They are posted in the Yogile software program that has also been used for the WDA Photo Library. Please feel free to download and use the images provided. This series of images are organized by taxonomy and subject and each slide is numbered. Each slide has an explanatory legend that is visible if you click on the slide.

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## 2017 WDA Annual International Conference in Chiapas, Mexico

*Submitted by Gerardo Suzan and the entire local committee for the 2017 WDA Conference*



The Wildlife Disease Association moves its annual international conference around the globe in an effort to meet where its members live and work in approximate proportion to regional membership (USA 50%, Canada 8%, Europe 18%, Australasia 13%, Africa and Mideast 5%, Latin America 5%). We also attempt to select locations with rich biological, historical and cultural heritage. In 2017 WDA will meet for the second time in Latin America, this time in San Cristobal de las Casas, Chiapas, Mexico (<http://www.visitmexico.com/es/san-cristobal-de-las-casas>).

This will represent the 67th Annual International Wildlife Disease Association (WDA) Conference, the 3rd WDA Latin American Section Biennial Conference, and the 5th International Congress of Disease Ecology (KALAANKAB).

This joint meeting provides a great opportunity to integrate multidisciplinary research with the participation of active researchers, graduate and undergraduate students, and policy makers towards integrated approaches that promote wildlife conservation, under One Health and Eco Health paradigms.

We expect that more than 300 people from different countries and disciplines will attend and present science-based health and conservation projects in English, Portuguese and Spanish, promoting the integration of international networks for wildlife conservation.

This conference will address trending topics of common interest to the community of WDA, WDA\_LA and KALAAN-KAB, including "Wildlife Diseases and Conservation", "Disease Ecology and Global Change", "Microbiomes", and novel theoretical frameworks and analytical tools to the study of infectious diseases from individuals to ecosystems will be presented.

San Cristobal de las Casas is located in southeastern of Mexico, about 80km from Tuxtla Gutierrez (the nearest airport), in the heights of the Sierra Chiapaneca about 2,200 meters above sea level. The landscape is wooded, the climate is temperate sub-humid with summer rains, and the vegetation is predominantly pine-oak. Chiapas State has a very high degree of biodiversity and about 48% of the territory is considered protected natural area. San Cristobal de las Casas itself has four protected ecological conservation areas.

San Cristobal de Las Casas is part of the region of the Altos Tzotzil Tzeltal, where the indigenous population are part of the Mayan culture and their customs and traditions maintain their cultural identity. It is cataloged as "Pueblo Magico" due to the architectural monuments of the sixteenth and eighteenth centuries, is considered one of the most beautiful cities in Mexico and Central America. The many museums reflect the unique identity and long history of San Cristobal de las Casas. The traditional gastronomy of the region results from the encounter of two cultures, indigenous and Spanish. We have the

unique opportunity to experience a part of the 'real' Mexico, not a commercial tourist area, somewhat off the beaten track, but an experience of a lifetime.

WDA Conference attendees will likely want to fly Angel Albino Corzo International Airport, which is located in the Chiapa de Corzo, about 25 minutes from Tuxtla Gutierrez, and 50 minutes from San Cristobal de Las Casas. Different busses inside the airport will take you directly to San Cristobal de las Casas.

The meeting venue, Casa Mazariegos, is an original 17th century house located in the heart of San Cristobal de las Casas near the main hotels of the historic center. <http://www.casamazariegos.com/>. The conference will begin with pre-conference workshops and will take place July 23 -28, 2017. For more information contact the local organizing committee at [sancristobalwda2017@gmail.com](mailto:sancristobalwda2017@gmail.com). The conference will include the traditional presentation of high quality wildlife health science, conservation and veterinary medicine in Spanish and English.

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## Nordic Section

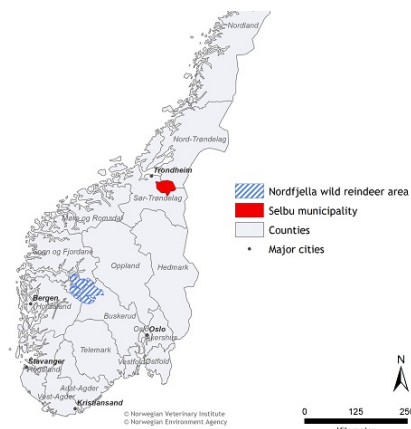
Submitted by Aleksija Neimane



### **Detection of Chronic Wasting Disease in two Norwegian moose** *Submitted by the Norwegian Veterinary Institute*

The Norwegian Veterinary Institute has diagnosed Chronic Wasting Disease (CWD) in two moose (*Alces alces*), called elg in Norway. This is the first detection of CWD in moose in Europe. The disease, well known in North America, was detected for the first time in Europe in a wild Norwegian reindeer (*Rangifer tarandus tarandus*) in April 2016.

The two moose were necropsied at the Norwegian Veterinary Institute in Trondheim and their brain tissue tested positive for CWD-prion protein in both the routine ELISA test and the supplementary Western Blot test. The moose originated from Selbu municipality in the Trøndelag region, close to the Swedish border. Both were adult pregnant females. The first moose was euthanized due to altered behavior and emaciation. The other, found dead in a river, was in normal condition and necropsy revealed trauma as the cause of death.

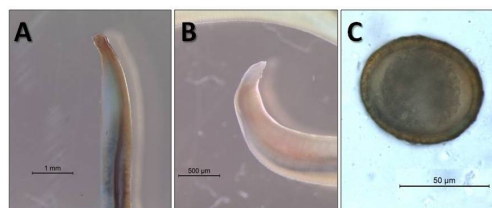


Selbu is located around 300 kilometers from Nordfjella, the mountain area where CWD was diagnosed in a wild reindeer in April 2016.

In cooperation with the Norwegian Food Safety Authority and the Norwegian Environment Agency, the Norwegian Veterinary Institute is now planning follow-up surveys on CWD in Norwegian wild cervid populations.

The full article can be accessed here: [www.vetinst.no/eng/Highlights/Detection-of-Chronic-Wasting-Disease-in-two-Norwegian-moose](http://www.vetinst.no/eng/Highlights/Detection-of-Chronic-Wasting-Disease-in-two-Norwegian-moose)

### **Baylisascaris procyonis in wild raccoons (Procyon lotor) in Denmark**



A) Head of *B. procyonis*; B) Tail of male *B. procyonis*;  
C) *B. procyonis* egg.

Since 2009, 18 wild raccoons have been examined in Denmark as part of the routine health surveillance of wildlife at the National Veterinary Institute. The zoonotic roundworm *Baylisascaris procyonis* was found for the first time in Denmark detected in two wild raccoons. Both raccoons originated from the western part of Jutland. The parasite has an indirect life cycle with raccoons as definitive host, and more than 130 vertebrate species, including rodents, birds, carnivores and primates as paratenic hosts. When infective eggs are taken up by the paratenic host, migration of the parasite larvae to vital organs cause severe disease known as visceral, ocular, cutaneous and neural larva migrans. *B. procyonis* was introduced to Europe in the early 20th century via imported raccoons.

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## Quarterly Wildlife Mortality Report

January 2016 to March 2016

Written and compiled by members of the U.S. Geological Survey National Wildlife Health Center - Wildlife Epidemiology & Emerging Diseases Branch.

### **White-nose syndrome confirmed in bat from Washington State**

White-nose syndrome confirmed in bat from Washington State White-nose syndrome (WNS), a devastating disease of hibernating bats, has now been confirmed in the





northwestern United States. A single, western subspecies of little brown bat (*Myotis lucifugus*) from King County, Washington was found unable to fly by a hiker in mid-March and taken to Progressive Animal Welfare Society (PAWS), a local wildlife rehabilitation center and animal shelter. The bat had evidence of wing membrane damage and died within several days of admittance to PAWS. The carcass was then submitted, in consultation with the Washington Department of Fish and Wildlife (WDFW), to the USGS National Wildlife Health Center (NWHC) for examination. At NWHC, the bat was confirmed to be infected with *Pseudogymnoascus destructans* (Pd), the fungus that causes WNS. The bat additionally had histopathological lesions consistent with WNS. The species identity of the bat was confirmed by genetic analysis. This discovery was made public on March 31, 2016, in a joint [news release](#) by the WDFW, the U.S. Fish and Wildlife Service, and the USGS. The area where this bat was found is approximately 1,300 miles from the previous westernmost detection of Pd. This new detection represents a significant change in the geographic distribution of WNS and to the previously established pattern of fungal spread in North America. White-nose syndrome has now been confirmed in 29 states (Rhode Island also had its first confirmed case of WNS in 2016) and five Canadian provinces ([WNS map](#)). The fungus has been detected on bats lacking clinical signs of WNS in another three states (Mississippi, Nebraska, and Oklahoma). As this latest detection represents a large geographic expansion in the distribution of Pd within North America, genetic analyses are underway to determine the origin of the fungal pathogen isolated from the Washington bat.

The NWHC is currently working with WDFW, Idaho Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, and other federal agencies to assist with additional active surveillance in the Pacific Northwest to determine prevalence and geographic range of Pd. Enhanced surveillance efforts are also underway in British Columbia, Canada in accordance with the [Canadian National WNS Plan](#). The recent detection of WNS in Washington additionally illustrates the importance of wildlife mortality investigation as part of a comprehensive wildlife disease surveillance strategy, and we encourage wildlife managers to report unusual bat mortality or bats displaying clinical signs suggestive of WNS to the NWHC for further investigation.

#### **Chronic wasting disease update**

Chronic wasting disease (CWD) is a fatal, contagious, neurodegenerative disease of cervids (Family *Cervidae*), including North American deer (*Odocoileus* sp.), elk (*Cervus canadensis*) and moose (*Alces alces*). The disease continues to be detected in new geographic locations and with increasing prevalence in some areas where the disease has been monitored the longest. Since the beginning of calendar year 2016, CWD has been documented in free-ranging deer and elk populations in new geographic locations within in Alberta, Nebraska, Texas and Wyoming, and was detected for the first time in Arkansas. The disease was also detected in captive white-tailed deer (*O. virginianus*) facilities in Texas and Wisconsin. A [map](#) of the current known distribution of CWD in North America is available from the USGS National Wildlife Health Center (NWHC). In addition, the first detection of CWD in Europe and in wild reindeer (*Rangifer tarandus*), were announced (see above) by the [Norwegian Veterinary Institute](#) and the [Norwegian Environment Agency](#).

The first detection of CWD in Arkansas, announced by the Arkansas Game & Fish Commission (AGFC) in February 2016, was a hunter-killed cow elk taken in 2015 in Newton County. Subsequent to this initial detection AGFC has conducted outbreak surveillance to determine the geographic distribution of CWD and the disease prevalence within the affected area. To date, CWD has been detected in five contiguous northwestern Arkansas counties in both white-tailed deer and elk, and 23% (62 of 266) of the randomly collected deer samples have been positive. This high level of prevalence, as measured in the initial round of sampling, suggests that CWD has been present and undetected in this population for a protracted period of time. In a second phase of sampling designed to determine geographic distribution, AGFC is collecting samples from vehicle-killed deer, deer found dead, and animals exhibiting clinical signs consistent with CWD.

On April 4 2016 the Norwegian Veterinary Institute [announced](#) detection of CWD in a cow reindeer from the Nordfjella population in southern Norway. Researchers with the Norwegian Institute for Nature Research (NINA) were capturing reindeer for a telemetry project in March 2016 when they observed the animal. The adult female, sick and in less than average physical condition, died and was submitted for necropsy. Brain samples collected from the reindeer tested positive for CWD by enzyme-linked immunosorbent assay (ELISA), western blotting, and immunohistochemistry (IHC). Caribou (*Rangifer tarandus*) were previously determined to be susceptible to CWD in a [research setting](#) and scientists expressed concern over how the disease would manifest in a highly-gregarious cervid species. The detection, from the area of Sogn and Fjordane, is the first report of CWD in free-ranging reindeer and the first report in Europe. Norway routinely samples reindeer as a part of their [national surveillance program](#) for CWD and other transmissible spongiform encephalopathies (TSEs).

Subsequent to intensified disease monitoring, the Norway Environment Agency [announced](#), on May 25, 2016, the detection of a CWD-positive moose (*Alces alces*, commonly referred to as elk in Europe) from the Selbu municipality of Sor-Trondelag. This region is approximately 300 kilometers from where the initial CWD-positive reindeer was detected. On June 15, 2016, the Norwegian Veterinary Institute [announced](#) a second CWD-positive moose, also from the Selbu region. Both moose were necropsied at the Norwegian Veterinary Institute in Trondheim and their brain tissue tested positive for CWD by ELISA and western blot. Both moose were adult pregnant females. The first moose was euthanized based on clinical signs consistent with CWD. The second, found dead in a river, was in normal condition and necropsy revealed trauma as the cause of death. At this point, the origin of CWD in Norway and any relationship between the reindeer and elk cases is undetermined.

To view, search, and download historic and ongoing wildlife morbidity and mortality event records nationwide visit the Wildlife Health Information Sharing Partnership event reporting system (WHISPers) online database: <http://www.nwhc.usgs.gov/whispers/>

To request diagnostic services or report wildlife mortality:  
<http://www.nwhc.usgs.gov/services/>

