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Newsletter



July 2018

The Heart of the Hunter*Sarah Sirica*Photo credit: <http://tesf.org/our-team/>

Dave Hunter is a WDA member who's longest and perhaps best known job has been as a wildlife veterinarian for the Turner Endangered Species Fund (TESF), based in the United States. He received a BS from New Mexico State University in 1974, and his DVM from Washington State University in 1976. He was a wildlife veterinarian for the California Department of Game and Fish from 1986-89, and for the state of Idaho from 1989-1998, before transitioning to working for Ted Turner, the largest private landowner in the United States, with TESF and the Turner Enterprises, Inc. During the last twenty years, he has worked with bison as a commercial entity, but in the complex system more akin to their native ecosystem, rather than what is standard for commercial herds. His position with the TESF meant that he was responsible for wildlife health and dealing with conservation efforts

for this vast area of land, across many states and jurisdictions. Hunter was at the forefront of research on many emerging diseases including Johnes, Brucellosis, and Mycoplasma.

Dr Hunter has conducted research on wildlife health issues on many avian and mammalian species. He is currently affiliated as an Adjunct Professor at Texas A & M University, associate Professor of Research at Boise State University, University of Idaho, Montana State University. He is a founding member of International Wildlife Veterinary Services, Board of Directors International Wildlife Health Institute (IWHI), Friends of Peace Parks and EnviroVet. He is also past president of the American Association of Wildlife Veterinarians. He is a member of the IUCN Species Survival Commission, Veterinary Specialist Group and Bison Specialist Commission1.

In his last months before retirement, he took the time to answer a few questions about his interesting career –

Q: What is your background – schooling, personal experience, etc – that helped prepare you for the career you have had? How did you transition originally from private practice to a wildlife veterinarian career, and then on to this position?

A: *I was a medic during the Viet Nam war from 1965-1970 stationed at the 20th Casualty Staging Flight. I actually hated the war and was transformed by the work I did as a medic. When I left the service from Holloman Air Force Base in New Mexico I started my*

undergraduate work at New Mexico State University. I was accepted to Colorado State University and Washington State University's veterinary medicine program. Dave Jessup was a classmate (that will become important later) at Washington State Univ.

After graduating I went to the Animal Medical Center (in New York) as an intern for 13 months.

I was instrumental in starting the first emergency clinic in Seattle, WA. After many years I was ready for a new quest in my life. Dave Jessup was a wildlife veterinarian for California Department of Fish and Game. I was lucky enough to work with Dave and Bill Clark on captures for several years. When the second wildlife veterinary position was announced, I applied and became the second wildlife vet for California and quickly sold the practice. Dave and I were really two of only a few wildlife vets hired by a state. Dr. Tom Thorne was in Wyoming and collaboration with him and pathologists specializing in WY brought in a new era of work for veterinarians. Dr. Beth Williams was a pathologist that led the charge for veterinary pathologists specializing in wildlife diseases. It was a great time as everything was new concerning many wildlife diseases.

I left California and became the first wildlife veterinarian for the state of Idaho. I started a Wildlife Health Laboratory and we accomplished many studies on bighorn sheep, elk and bison. I was also part of the team of three veterinarians that brought all the wolves from Canada to Yellowstone National Park and Idaho.

Then I received a call late one night from Dr. Billy Karesh who was with Ted Turner. Ted had started raising bison and had John's disease in the herd. Ted had also started the Turner Endangered Species Fund to work with imperiled species on his properties (see TESF.org). Today, Turner Enterprises, Inc. now has approximately 55,000 bison on two million acres in five states. His goals of conservation and restoration of the habitats and ecosystems and push to bring bison back as the keystone species for the prairie environs allowed me to change positions again. (I guess you would say I like challenges). So here I am 20 years later and retiring on June 30th 2018.

Q: Please explain your title and the primary goals of your work for those who may not be familiar with you or the Turner Endangered Species Fund.

A: Those goals for the Turner Endangered Species Fund are fairly well delineated in the [TESF website](http://TESF.org). On many of the projects I am the veterinarian for record. I help with setting project designs, goals, training and personnel to assist in those endeavors. That also includes interaction with many state and federal regulators as I am licensed in all states that Ted has properties. There are many skilled and dedicated professional veterinarians and biologists I work with on the TEF portion of my position.

Q: How did you interface with local/regional/national people and organizations to achieve your goals, or was that necessary?

A: As mentioned above, working with universities, federal, state and regional personnel is critical to make Ted's dreams for the organizations successful. TEI and TEF have a stellar reputation with these agencies.

Q: What is different about your career than that of other WDA members, who work for universities and government agencies, for example?

A: I don't know that it is different. I believe that if you have a calling you should pursue it to the fullest measure possible. I always thought it would be a great achievement if I could lecture full time at a university. I think the stimulation of young eager minds every day would keep you motivated. I see it as we are different branches of the same tree. When I worked with Envirovet every year it was meant to include international professionals to discuss the first push for One Health.

Q: What were some of the most challenging diseases you have dealt with during your career? Do you have a specific example of a difficult situation and how you worked through it?

A: Pneumonia of Bighorn sheep. Finding a way of managing a healthy population of BHS is an issue that still plagues me. At California Fish and Game with Dave Jessup the love of the species began. In Idaho we started the Wildlife Health Laboratory and investigated many aspects of the disease processes of captive and free-ranging sheep. Pasteurella, Mannheimia, and Mycoplasma all appeared to cause demise of BHS populations in Idaho and Nevada. We looked for genetic issues that may infer protection when comparing with the DNA of Domestic sheep. Dr. Karen Rudolph was hired and continued working as a molecular biologist after I changed

positions. Managing the Turner bison herd to prevent John's disease from becoming an issue. Brucellosis in bison and elk are now on my radar screen. Little can presently be done since B. abortus is on the select agent list from Homeland Security.

Q: What were some of the exciting developments that you have been a part of with the TEF?

A: Several issues have spiked my interest. Northern gray wolves, Mexican gray wolves, Black footed ferrets, Bolson tortoises, gopher tortoises and several other species. The wolves were of great interest, as when with Idaho Department of Fish and Game I was part of a team of three veterinarians that transplanted them from Canada to Yellowstone and Central Idaho. With TEF we accomplished several studies on the wolves when they set up on

Ted's Montana ranch. We also had a breeding facility for Mexican gray wolves on a New Mexico ranch. The Black footed ferrets were also an interesting quest for TEF. Early on we had a ferret breeding and acclimation facility on one of the New Mexico properties. The ranches have managed for prairie dogs in order to have release sites for the ferrets. It is all good. I can't leave out the bison herd. From 12,000 bison when I was hired to 55,000 bison today. It has been quite a trip.

Q: Do you feel like it is the responsibility of private landowners to help with conservation efforts? Did other people in your team feel this way too?

A: I have given several lectures to universities, WDA, NGOs on "The importance of private lands in the recovery of imperiled species". This was an effort to tout Ted's effort to restore the ranches and habitats for the future. Ted has done an amazing job of making these ranches profitable while fulfilling his dream. It has been an amazing ride.

Q: I'm assuming that Bison have been the main focus of your career with TEF, are there other species of interest that you have had the opportunity to work with/ help with conservation efforts?

A: Actually, bison are under Turner Enterprises, Inc. which is the profit side of the Turner operations. TEF is the non-profit side of Ted's vision. That said Ted asked me at a meeting to work with the Polish and Russian biologists on restoring the European Bison (Zubar). TEF traveled to Poland and assessed the Zubar issues. Ted then donated money to the restoration of the bison in those countries. He also helped fund the movement of bison from Canada to Alaska. The difference in the two mandates requires me to carry to business cards, one for TEI and one for TEF.

Q: What would you say is the best part of your career?

A: Waking up early every day is the best part of my life. I was asked by a student about my best day as a wildlife veterinarian. My answer was quick and without thinking. "I don't know if I have had it yet".

Q: Is there anything you would have done differently?

A: Yes, I would have done a better job on mentoring young veterinarians. Wildlife veterinarians are driven by the passion for the work and not the monetary reward. Today there are more states now that hire wildlife veterinarians, but competitive pay is not what many of the state's offer.

1. <http://tesf.org/our-team/>



Proposal to Create WDA Asia-Pacific Section



The WDA Council is currently reviewing a proposal to create a new section, representing Asia and the Pacific Island nations. This effort has been underway for the last four years, beginning with the suggestion of collaboration between the Asian Society for Conservation Medicine (ASCM) and WDA at an ASCM conference in Singapore by Dr. Pam Whiteley. The ASCM and the Japanese Society of Zoo and

Wildlife Medicine (JSZWM) are both organizations which facilitate networking and work for wildlife in the region, and are collaborating with this effort.

In 2014, the ASCM sent board members Dr. Yanai and Dr. Nabin to the WDA annual conference to discuss connections that could be made (1), and at the 2015 WDA conference there was a meeting concerning the establishment of a WDA Asian Section, with a large representation of Asian members, organized by Thierry Work and Dave Jessup. The JSZWM president, Dr. Tsubota, attended the 2017 WDA conference along with an ASCM representative, to discuss the process of section establishment (2).

1: The council meeting at the 63rd Annual WDA Conference in New Mexico, July 2014. Tokuma Yanai and Nabin Rayamajhi, the board members sent for discussion, with outgoing president Thierry Work and Marcela Uhart.

Asia is well known as a hotspot for emerging and re-emerging wildlife diseases. Objectives of the section include promotion of wildlife disease surveillance, networking of surveillance and conservation medicine, hosting workshops for wildlife conservation, convening special expert groups, publishing articles and texts on relevant topics, having joint annual meetings, and hosting a WDA international conference.

Several efforts are already well underway towards these objectives, including the



ASCM and WDA-A meeting taking place in Bali, Indonesia October 30-November 5 of 2018. There was an ASCM-WDA joint session on wildlife disease surveillance during the 2014 ASCM annual conference in Vietnam.

Workshops underway (with the ASCM) include One Health educational workshops for students started in 2014, and an Asian Zoo and Wildlife Forensic workshop which began in 2017 in Malaysia, and will be repeated in Cambodia in 2019.

The geographic areas covered could include East Asia, Southeast Asia, South Asia, and the Pacific Islands not currently represented within other WDA Sections. WDA Council will meet in July and could finalize steps for the establishment of the WDA-AP Section at that time.



2: At the 65th Annual WDA Conference in San Cristobal de las Casas, Mexico August, 2018. There were more logistical discussions about the formation of the WDA-AP with Toshio Tsubota, Marcela Uhart, Dave Jessup, Debra Miller (not pictured), Carlos das Neves and Pam Whitely.



New insights on Infectious Keratoconjunctivitis at the Wildlife-Livestock Interface

Infectious keratoconjunctivitis (IKC) is an old-known ocular disease of wild and domestic Caprinae that interact at the wildlife-livestock interface in alpine areas. Whereas IKC in domestic small ruminants has low economic importance, outbreaks in wild mountain ungulates (i.e. chamois and ibex) can cause severe population impact.



*Xavier
Fernández
Aguilar*

DVM, PhD

*SEFaS and
CRESA-IRTA*

The development of culture-independent methods for the detection of *Mycoplasma conjunctivae* has been essential to ascertain its etiological role in IKC and also to demonstrate a widespread occurrence of asymptomatic infections in domestic sheep flocks. To a lesser extent, asymptomatic infections had also been reported in wild ruminants, but without clear information on *M. conjunctivae* persistence. A growing body of evidence suggested that domestic sheep might have been acting as *M. conjunctivae* reservoir at the wildlife-livestock interface and a source of IKC outbreaks in alpine areas. However, based on disease field records, sporadic IKC can remain in some wild host populations. The lack of targeted surveillance on *M. conjunctivae* (not only IKC) conducted in all potential hosts and without enough spatio-temporal range prevented from performing most epidemiological assumptions.

Recent studies have shed light and contributed greatly to our understanding of IKC at the wildlife-livestock interface by combining different methodological approaches. Gelormini et al., 2017 described the dynamics of several recent outbreaks based on disease field records and the epizootic spread of a specific *M. conjunctivae* strain cluster in a 100km straight-line distance during a seven-year period in the Southern French Alps. The emergence of secondary outbreaks associated with eventual mutations, and sporadic IKC associated to diverse *M. conjunctivae* clusters is also described. In Fernández-Aguilar et al., 2017a we also came out with similar results by studying the dynamics of *M. conjunctivae* in host communities from different areas in the Pyrenees. Despite few cross-species transmissions being evidenced, independent *M. conjunctivae* sylvatic and domestic cycles accounted for most of the cases in each epidemiological unit. Persistence



of specific *M. conjunctivae* clusters in chamois populations was associated with recurrent epizootics after a temporal fading out and also to a low but steady prevalence (six and nine-year period, respectively).

Social behaviour and spatial structure of mountain ungulates probably enables *M. conjunctivae* persistence for relatively long time periods with different transmission dynamics, which ranges from the epidemic to the endemic occurrence, but also to the local fading out. In Fernández-Aguilar et al., 2017b the transition between two of these epidemiological scenarios is demonstrated entailing *M. conjunctivae* persistence. Overall, *M. conjunctivae*, as well as other mycoplasmas, shows high adaptability and persistence capacity once a spillover event occurs.

Gelormini et al. 2017. BMC Vet Res, 13:67.

Fernández-Aguilar et al., 2017a. Plos One, 12(10): e0186069.

Fernández-Aguilar et al., 2017b. Appl Environ Microb, 83:e00690-17.



Veterinary Institute will test all animals taken out for CWD, providing opportunities for collection of positive cases. From this, the government will provide knowledge of disease prevalence for the area. Sampling will further give opportunities for research and increased understanding of this severe disease in cervids. Despite increasing winter, and periodically bad weather the culling teams have been successful, resulting in about 350 animals so far. For efficiency, the hunters are aided by helicopter for transport of carcasses, and make use of snowmobiles, as conditions are getting better.

Surveillance and Eradication Efforts for CWD in Norwegian Free-ranging Reindeer

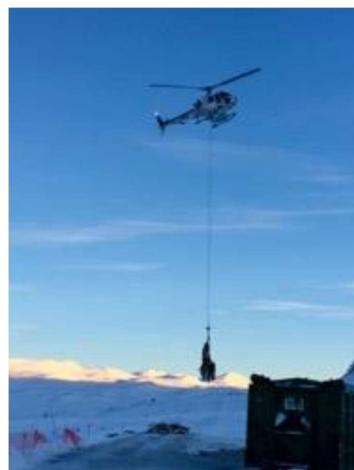
During the 2017 hunting season, hunters harvested about 700 animals leaving some 1500. These are to be handled by

professionals, 30 hunters from or engaged by the government. The Norwegian



Knut Madslien and Jørn Våge

Norwegian Veterinary Institute (NVI)



*Lifting Carcasses out of the mountain.
(Photo by Knut Madslien, NVI)*

Reduced intensity – awaiting next step

Apart from the culling of free-ranging reindeer in Nordfjella mountain area and regular slaughter of semi-domesticated reindeer the CWD sampling has toned down as the hunting season also for red deer is ending soon

Depending on hunting efficiency this winter the government strategy include possible gathering of herds into fences for a more slaughter- like handling. Poles are in the ground, awaiting to be covered. Such slaughter is done annually with some 125.000 semi-domesticated reindeers. The culling plan is scheduled with efforts to clear this area of cervids by 1th of May next year. As the sun and the light returns in January and February, we will know how the plan proceeds.

Surveillance and restocking

Since detection in 2016 Norway has sampled and analysed about 31.000 individuals across the four species reindeer (*Rangifer tarandus tarandus*), red deer (*Cervus elaphus atlanticus*), roe deer (*Capreolus capreolus*) and moose (*Alces alces*). CWD has so far, as of December 2017, been detected in 9 free- ranging reindeer, three moose and one red deer.

The plan for eradication includes a period of at least five years after the last reindeer has been removed, prior to a restocking process of which the details have not been determined. 2018 surveillance will include efforts to find possible healthy donor populations with favourable genetics for restocking.

Wildlife Veterinary Section Candidates 2018

Chairperson

Sonia Hernandez, DVM, DACZM, PhD



I was raised in Madrid, Spain but spent formative years in New Orleans, graduated from vet school (LSU '96) and went the "clinical track" (internship; residency Cornell 2001), private practice clinician, academic clinician and independent researcher before pivoting away from individual and more towards population animal health (PhD Ecology, 2008). I have been in my current academic position (associate professor) in a split position between the Warnell School of Forestry and Natural Resources and SCWDS, at the University of Georgia for nearly a decade. My professional time is divided between research and teaching and the focus of my

lab is investigating how anthropogenic activities influence wildlife health and disease with a big focus on urban wildlife. My energy is now mostly devoted to getting other people (under-, grad- and vet students) to become passionate about wildlife health!

I have done a little bit of everything in my professional career (from clinical wildlife medicine, zoo work, exotic pet work, research on endangered species, collaborative work with agencies, etc.) while being very active in various professional organizations (ACZM Education Chair, AAZV Chair of International and Wildlife Conservation Committees, but most recently, AAWV Vice-President for 4 years; WDA Student Awards Committee; TWS Wildlife Disease Working Group, and Chair of NAVC's One Health Section). These experiences have taught me to be inclusive, as I believe a diversity of perspectives enrich the outcome.

I have been a proud and active member of WDA for 2 decades. Within WDA, veterinarians and other professional members enjoy a very collegial relationship, but outside of the organization, the Wildlife Veterinary Section (WVS) can help to promote cooperation with other wildlife professionals, especially when collaborating with similar groups of allied organizations (e.g. TWS Wildlife Disease Working Group). The WVS can lend a louder voice to wildlife health. Within the organization, this means keeping the Section members connected to each other and updated on the most important wildlife issues (newsletters and meetings); but towards the outside, we must find new ways to ally with others to speak loudly for wildlife health. Our future is our students. I am currently the faculty advisor for a very active student chapter of the WDA and thus in touch with their struggles as they develop their careers. I would like to capture more students for our section early in their careers. WDA has also always been very international. I have watched the growth and expansion of wildlife veterinary medicine in Latin-American and hope we can encourage more of their members to join the Section. Finally, many wildlife practitioners choose other professional organizations simply because of their exposure during vet school-we can help to make them feel welcomed at WDA!

I hope my diversity of experiences, my culture of inclusivity, and my energy and passion towards wildlife health can be used to serve the WVS as its Chair

Secretary

Sandie Black



I have been a member of the WDA since my veterinary school days, now over three short decades ago! Following a residency in Zoo and Wildlife medicine and pathology at the Toronto Zoo and Ontario Veterinary College (mentored by such luminaries as Ian Barker and Kay Mehren) I landed at the Calgary Zoo, and have stayed here ever since- as Associate Veterinarian/Pathologist, then Associate Veterinarian and lastly Head of Veterinary Services. My work at the zoo has encompassed clinical medicine as well as the development and implementation of several conservation breeding programs. My research interests have varied from diseases of wild sheep and goats to carnivore anesthesia to capture effects, health and chronic stress of Narwhal (the August field season for narwhal work has

often coincided with the timing of the WDA conference, one small but significant drawback of Arctic research). I have been involved with wildlife health issues throughout my career, working on a subcommittee for national wildlife handling guidelines (CCAC), serving on the executive of the CAZWV, serving as a board member for WDA in the 1990's, and

acting as a member of the International Whooping Crane Recovery Team (current) as well as the Canadian swift fox and Vancouver Island Marmot recovery teams (past). If elected, I look forward to working with the executive and members of the WDA Wildlife Veterinary Section to increase our reach through mentorship, partnership and communication activities.

Treasurer

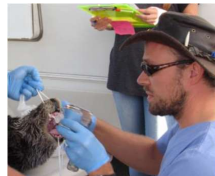
Julia Burco



I have been a member of WDA for the past 15 years and the Wildlife Veterinary Section since its inception. Playing a more active role as treasurer would be a perfect opportunity to share many of the experiences I have learned early in my career and coordinate with other wildlife health professionals. I have diverse background in wildlife health; ranging from oil spill response and avian infectious diseases from my PhD work with the Wildlife Health Center at UC Davis to working with a diverse array of free-ranging wildlife and health issues in my current position as a state wildlife veterinarian for Oregon Department of Fish and Wildlife, where I have worked for the past eight and a half years. I am very passionate about training students, biologists, and the public in techniques for monitoring and evaluating wildlife health and

currently organize our busy externship program for 4th-year veterinary students interested in wildlife medicine.

Tristan Burgess



I am an Australian wildlife veterinarian and epidemiologist, currently the proprietor of Acadia Wildlife Services and an Assistant Professor at Unity College, Maine. I am nominating for the position of WVS treasurer, because I believe ours is a very important organization, and one that has contributed greatly to my professional development. I have been a member of WDA and WVS since vet school and I would like to give back to the section. I bring a comprehensive ability to count (learned while doing an epidemiology PhD) and my experience operating a wildlife health consulting firm. I look forward to the opportunity of serving the

WVS membership in this capacity.

Social Media Editor

Anne Justice-Allen



I have been the Chairperson of the Wildlife Veterinary Section for the past 4 years. During that time the section membership has increase in numbers and diversity. The section now provides support for professionals to travel to the Wildlife Disease Association annual meeting. I have been the Department Veterinarian at the Arizona Game and Fish Department for the past 9 years. In that capacity I oversee disease surveillance and response in the state, and participate in policy and protocol development at a regional and national level. I mentor undergraduate and graduate students through internships at the Department and I am an adjunct instructor at Midwestern University in Glendale, Arizona. As the Social Media Editor for the WVS, I hope to increase member engagement on environmental issues, and collaboration to address disease and health management of wildlife.

VOTING CLOSES July 15, and section members should have received a survey monkey link. If you have not, or if you have further questions regarding elections, please contact Anne Justice-Allen at ajusticeallen@azgfd.gov



Wildlife Disease Association Latin America (WDA-LA) Section Update

The WDALA was incorporated in 2010 and to date has managed to increase the number of members year after year. By 2013, the number of members

doubled, and by 2017 increased by more than 25%. We are pleased that the current board is represented by members from North America (Mexico), Central America (Costa Rica and Guatemala) and South America (Colombia, Argentina and Brazil), and we seek to strengthen communication between the various regions of



WDA-LA Columbia 2015

Latin America, while providing support for students and professionals who are venturing into areas related to the association.

Today, most of members in the Latin American Section are students, accordingly, as a board, we are excited to support and seek activities that favor students to continue their careers in an integrative way of thinking that contribute to develop local and regional initiatives that favor conservation and health policies.

In 2018, the student section of the Latin America Chapter is being consolidated, and the Board is committed to supporting the initiatives of the student chapter, and working together with them. In this way, we are taking advantage of the enthusiasm and innovative ideas that will undoubtedly arise from the youth of the Latin America chapter. We are expecting that the direct collaboration with the Chapter will increase the establishment on collaborative networks in Latin America.



*Gilbert Alvarado, WDA-LA
Student Section Representative*

These and other initiatives have been implemented, such as new scholarships for students, local activities, and several conferences. The first conference took place in 2013 in Sao Paulo, Brazil, followed by the conference in Bogota, Colombia in 2015. In 2017, the WDALA, in conjunction with the WDA, held the International Conference in San Cristobal de las Casas, Mexico. In 2019 the fourth conference of the Section will be held in San José, Costa Rica. It will take place for the first time in Central America, to continue spreading the work done in Latin America and promote the insertion of members from the Mesoamerican region and the Caribbean.

It is our interest that the 2019 conference will represent a platform in which participants may know of the work done in Latin America. Simultaneously this opportunity will create and promote contact networks between experts, young professionals and Latin American students. In addition, the conference will seek to increase the number of countries that are part of the WDALA, and above all encourage work in Latin America that supports the conservation of local fauna, and raise awareness of the value of multi and interdisciplinary work in Latin America as a single region



WDA-LA Brazil, 2013



67th Annual International Conference **WILDLIFE DISEASE ASSOCIATION** August 5-10, 2018 | St. Augustine, FL | USA

Connecting Wildlife Health, Conservation and Management in a Changing World

www.conference.ifas.ufl.edu/wda2018

REGISTRATION NOW OPEN!

Register Today!

Regular Registration Deadline: July 2, 2018
(Fees will increase after this date)

The WDA 2018 registration fee provides full participation in the conference, including registration materials and a program book, as well as morning, mid-day and afternoon refreshments; the Sunday welcome social; the Monday student/mentor event (if applicable); Monday, Tuesday, and Thursday lunch; and the Tuesday auction dinner.



Conference Apparel

The UF Chapter of the Wildlife Disease Association is coordinating the sales of conference t-shirts and tank tops. Please visit their page at the link below to pre-order your conference apparel. The deadline to pre-order apparel is **July 1, 2018**. A small quantity of merchandise will be available for direct purchase at the conference. However, onsite purchases will be at a higher price and sizes will be limited.

Get your apparel at: scwda-fl.squarespace.com/merchandise/

Photo Contest

We are pleased to announce the return of the WDA Photo Contest at the 2018 WDA International Conference. Proceeds will benefit the WDA Student Activities Committee and the Florida Student Chapter of the Wildlife Disease Association. Please visit scwda-fl.squarespace.com/photo-contest/ to sign up!



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The 13th European Wildlife Disease Association (EWDA 2018) Conference will be held on August 27 - 31, 2018 at Larissa, Thessaly, Greece. The EWDA Wildlife Health Surveillance Network meeting (August 26, 2018) and the annual meeting of ECZM (August 26-27, 2018) will take place in parallel.

The theme **"Wildlife health and conservation: expectations in a challenging era"** sets the focus to the changing environment and the need to promote disease and conservation management in a more effective manner. All classic topics will be included, as well as other newly emerged ones, such as Wildlife Tuberculosis, Vector Borne Diseases, Infections between free-living and captive wildlife animals, Emerging viruses with eco-pathological impact and disease concerns in northern temperate, Aquatic animals and ecosystems, Health and conservation of neglected species or of small-sized populations, Wildlife and public health, etc.

Climate change is only one of the aspects causing challenges to the conservation of various species. Emerging and re-emerging diseases have a serious eco-pathological

impact and scientists are invoked to contribute with their advances in approaches and applications regarding the topics above. Therefore, the aim of the conference is to provide the environment for discussion, distribution of ideas, experiences and expectations about the topics shared.

A quite satisfying number of high quality **oral and poster presentations** have been selected to support the above aim, and we would like to thank all of the authors for their contribution.

The Conference is organized to offer you a wide range of the latest scientific advancements, a balanced combination of interesting wildlife activities and social events, and an opportunity to sense the Greek history and culture.

For further information about the Conference, please visit

our website <https://ewda2018.vet.uth.gr> or follow our Facebook page <https://www.facebook.com/ewda2018>

Do not miss the opportunity to register on line! Registration closes August 10. **Greece is a place worth to remember for many reasons. We hope to make the 13th EWDA Conference one more!**



Join us at the Annual Conference of the
Asian Society for Conservation Medicine
and
Wildlife Disease Association Australasia
in Bali, Indonesia



October 28 - November 1, 2018
Inna Grand Bali Beach hotel, Sanur, Bali, Indonesia

For the first time, WDA Australasia and the Asian Society for Conservation Medicine are exploring common ground in wildlife health in our extraordinarily diverse region of the world with a joint meeting. We will explore shared wildlife health challenges and the health of shared fauna in a global One Health context.

Abstract Submission deadline: July 30, 2018

Find out more about both parts of the conference at
2018bali.ascm-aszwm.org and wdaa2018.exordo.com

Joint Conference of the Asian Society of Conservation Medicine (ASCM) and the Wildlife Disease Association - Australasia Section (WDA-A). October 28th through November 5th, 2018 in Bali, Indonesia.

The ASCM will host the initial two days, and WDA the latter two days with a workshop or tour day between. You will need to register separately for each part.

Registration:

To register for the Asian Society for Conservation Medicine (ASCM) part of the conference Sunday- Monday, October 28th and 29th (including the workshops on Tuesday 30th October), please follow the link to [ASCM Bali 2018](#).

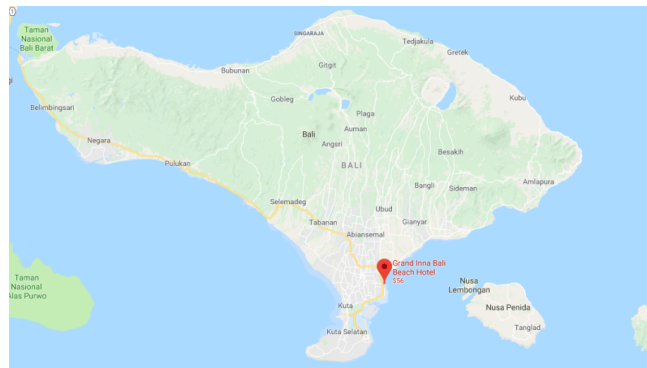
To register for the WDA Australasia (WDA-A) part of the conference

on Wednesday October 31st and Thursday November 1st, and/or for the optional field trip between Friday 2nd and Monday 5th November, please follow the link to the [WDAA 2018](#). [Note: You will need to make an account and follow the prompts to register unless you registered at one of the last two previous WDA-A conferences]



Conference Importance: This is a rare opportunity for WDA members to join with and hear from WDA's Australasian section and WDA members in Asia, and to meet with and hear from of the Asian Society of Conservation Medicine. An excellent time and place to develop collaborations in Asia. Also, WDA members in Asia have a proposal to WDA Council about forming a new regional WDA section, to be called the WDA Asia Pacific Section. Those who attend have the opportunity to be founding members of this new WDA Section.

Conference Venue: Inna Grand Bali Beach hotel, Sanur, Bali, Indonesia. Sanur is less than 20km from Bali's international airport, however traffic can be congested. Sanur is east of Denpasar, Bali's capital and where Udayana University and the Faculty of Veterinary Medicine is located. Boats leave Sanur beach for Pulau (island) Lembongan and other places, and it's a great place to watch sunrise.



Travel: Delegates are responsible for their own travel, travel insurance (which is highly recommended) and medical prophylaxis. Delegates travel to Bali at their own risk and travel advice can be found at the [Australian Government Smart Traveller site for Indonesia](#). Please check your Visa requirements to enter Indonesia. WDA-A cannot acquire Public Liability and Products Liability Insurance for our annual Conference and field excursions if they are conducted outside Australia. Consequently, WDA-A takes no responsibility for any aspect of your visit to Bali. Please ensure you have suitable insurance.

There is accommodation available (booked independently) at the conference venue Inna Grand Bali Beach Hotel, and there are many options in Sanur and the Permuteran area, near Bali Barat NP. You are advised to bring a hat, sun lotion and mosquito repellent as precautions. For wildlife walks, please consider shoes and long pants (gaiters if you wish for extra walks in the savannah area). There are vipers, cobras, monkeys, deer and many other wildlife in Bali Barat NP.

Field Trips: There is also an optional four-day post-conference tour to West Bali National Park (Bali Barat NP) near Permuteran in north west Bali, open to all. This region has

lower rainfall, includes savannah and other ecosystems and is also popular for snorkelling and diving. The tour cost will include bus travel, some visits and lunch both ways, and National Park entry on two days and dinner on three nights. At the meeting in Sanur you will need to book for the early morning wildlife walk, and/or snorkel near Menjangan Island, and/or the afternoon mangrove boat trip. You will pay the operators directly. If you wish, you can organize your own dive or diving lesson. (Please use PADI etc. certified dive groups).

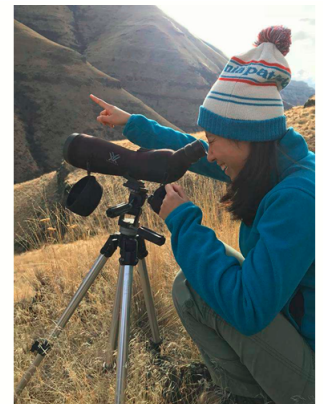
Wildlife health advocacy and activities by WDA Australasia

WDA Australasia has been actively contributing to wildlife health in Australasia and internationally over the past months. This year, for the first time, WDA is holding an annual conference in Asia. [Join us in Bali](#), Indonesia, from 28th October to 1st November for this unique and exciting meeting and contribute to the integration of the global wildlife health community. WDA Australasia is a strong supporter of the proposal to form a new geographic Section of WDA representing Asia.

WDA Australasia was represented (and presented) at the Australian Government Environmental Biosecurity Roundtable in May. This important biannual forum is an opportunity for the Section to shape the conversation regarding wildlife disease preparedness in Australia. Additionally, WDA Australasia was invited onto the expert advisory working group for the Australian National Priority Exotic Environmental Pests and Diseases List. Through this group we can work towards making sure that the exotic wildlife disease incursion pathways that we are most concerned about are given priority listing by the Australian Government to improve Australia's wildlife disease preparedness. Representatives of WDA Australasia have also recently met with Australia's Threatened Species Commissioner to highlight the significance of wildlife disease to the conservation of biodiversity and the importance of building wildlife disease awareness, preparedness and management into threatened species conservation.

Supporting student and early career development is a priority of the Section and we are delighted to see the reinvigoration and expansion of the WDA Australasian Student Chapter to over 310 members from all of the vet schools and many other faculties across the region.

Thanks to generous donations from members, including notably the Schultz Foundation, this chapter is well-funded and can support activities that make a real difference to student development and engagement in wildlife health.



Student Corner

Washington State University WDA Student Chapter
Featuring an excerpt of their Annual Progress Report to the WDA



Hells Canyon Bighorn Sheep Field Trip

In November 2017 we took a group of 15 students to the Asotin Creek bighorn population

in Hells Canyon. Frances Cassirer, PhD from the Idaho Dept. of Fish and Game instructed the group and we learned about the history of bighorns in Hells Canyon, the challenge of pneumonia, and current research projects and conservation strategies. We all got experience learning how to safely use a dart rifle and how to locate bighorn sheep via radiotelemetry and take health observations via binoculars and spotting scope. We stayed overnight in a cabin and went hiking for group bonding.

(The fieldtrip was partly funded by a WDA Student Chapter Grant.)



Making wildlife diseases part of the curriculum

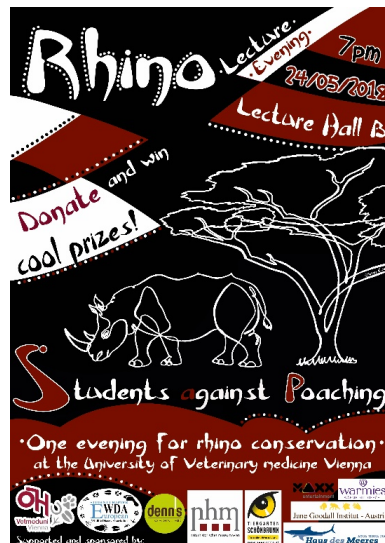
One of our most impactful accomplishments this year was providing the impetus to gain a formal wildlife disease course in the curriculum offered to WSU CVM students. We achieved this by writing a letter, obtaining signatures from WDA students, and meeting as WDA officers with the Dean of Students to express our student support of a formal wildlife disease elective, as WSU does not currently offer such a course in the curriculum for veterinary students. The Dean responded enthusiastically and has arranged for Dr. Alan Pessier to head a formal wildlife course beginning in Fall 2018. It was empowering to see how we could come together as a group to create change within our veterinary school.

European WDA Student Chapter

Rhino Lecture Evening

Students against poaching – One evening for rhino conservation University of Veterinary Medicine Vienna, Austria

A report by Nina Trimmel: nina.trimmel@gmail.com



One year ago I was waiting at my gate at Vienna Int. Airport, ready to board my first ever flight to Africa, to attend SYMCO - the South African Wildlife Symposium. Never would I have guessed that I just embarked on the most emotional journey of my life thus far.

I never thought that all the things I was able to experience then would bring me here, in front of an audience of more than a hundred fellow colleagues, eager to listen to what five vet students had to say about rhino conservation.

On the 24th of May, 2018 my friends, Vicky Frisch, Philipp Figueroa, Sophia Unterkreuter, Monika Hoppe and I were hosting a charity fundraiser at the University of Veterinary Medicine in Vienna, Austria.

Our idea was born during that trip last year with 75 fellow vet students, where we were able to experience and learn what it means to be a wildlife vet in this very beautiful but agitated country.

What left the deepest impressions in those three adventurous weeks, were our lectures with Dr.

Johan Marais and Dr. Dave Cooper, both dedicating their life's work to rhino conservation. Their talks about the fight for rhinos were extremely fascinating, but also depressing and eye opening.

It left us wondering afterwards, what can we - as vet students from a different country - do to help save rhinos from extinction? Once home, I realized how easy and peaceful life can be here, compared to other countries where poverty and conflict is part of the daily routine.

I perceive that we often don't appreciate this fact. And while having all the resources one needs to have an impact on certain issues, like conservation, our privileges might even

encourage this convenient kind of ignorance.

But exactly that is what struck us the most. To not be ignorant about everything that seems to be inconvenient. Of course everybody has their own priorities and difficulties in life and does not always have the motivation or possibilities to participate in topics as demanding as this one. Yet one doesn't have to be rich or have to have plenty of time to contribute. Just by letting these issues touch your heart, or at least by being aware of them, one can already do so much.



Speakers and organizers at the rhino conservation evening

So, although we were back home and busy with university, we couldn't get rid of the idea that was born back in the bushveld. Hence we decided to follow the words of Dr. Cooper and Dr. Marais. We wanted to get other people involved and spread the word.

After 5 months of intensive work it was finally time to present what we so eagerly prepared. Our own presentations dealt with the hard facts about the poaching crisis, poacher's backgrounds but also with information why the rhino is a vital species to our ecosystems and contributes enormously to our planet's biodiversity. Our talk included how vets contribute in their ways to saving rhinos, like treating wounded animals after a poaching incident (e.g. "Saving the Survivors", "African Wildlife Vets") and nursing and fostering orphaned rhino calves back to health (e.g. "The Rhino Orphanage"). We covered topics of counter-measurements like Anti-Poaching Units, Rhino- Dehorning, community involvement and education (e.g. "Action for Rhinos") and talked about the highly controversial issues of legalization of rhino horn trade, as well as trophy hunting as strategies with the potential to help or destroy conservation efforts. We not only presented topics ourselves, but also had the opportunity to introduce great guest speakers with profound expertise in the conservation field to our audience.

From our own university, Prof. Franz Schwarzenberger was enthusiastic about joining our efforts. He is dedicated to essential issues in Conservation Medicine and thus has thoroughly studied rhino

reproductive biology.. As part of our lecture evening, he told us more about rhino reproduction management and explained why it is not easy to breed rhinos in captivity.

Our former colleague Friederike Pohlin, D.V.M, who currently is a resident and PhD student at the University of Pretoria in South Africa, talked about her work in the "Epi-Use Rhino Rehabilitation Project", where she is studying the effects of transport stress in African rhinos. She is part of a series of wildlife conservation and management projects (e.g. "Rhinos Without Borders") of which she also informed our audience.

We were able to motivate a lot more people to join us, like our video ambassador Dr. Andrew "Andy" Fraser, who we met during our trip to South Africa. Andy is a private wildlife veterinarian who runs Rooiberg Veterinary Services in the Limpopo Province. Together with his team he assists private wildlife ranchers with the daily management and treatment of a wide variety of wildlife species. His message involved the treatment of wounded rhino and how he personally experiences the poaching crisis.



Dr. Maria Fabregas, wildlife behavioural ecologist at the University of Pretoria sent us a video message about her efforts to study the transition between captivity and the wild, and the importance that behaviour and adaptive potential have in reintroduced animals. She is also working for orphan rhino rehabilitation and release programs, and told us about how rehabilitation methods affect orphan welfare and adaptation potential after releasing the animals into the wild.

Another highly enlightening contribution came from our video ambassador Prof. Richard Kock, who is a wildlife veterinarian and ecologist, infectious disease researcher and conservationist and currently holds his professorship at the Royal Veterinary College in the UK. We had the honour to interview him ourselves. Being an important part himself in different rhino reintroduction programs, he spoke about the complications the conservation community faces and how important educating and involving society in these issues are.

Needless to say, we wouldn't have been able to arrange our evening without the help of our students union, who played a key role by providing for all the organizational issues. The EWDA Student Chapter Austria played another huge part in connecting us with different speakers, contributors and organisations, therefore many thanks to Julian Keles, who currently holds the chair. Also our university itself offered help, by allocating the necessary premises and advertising our evening through their social media. Our sponsors contributed by giving us a lot of prizes for the announced prize draw, so we could raise even more revenues. Lovely colleagues helped us bake cakes, make snacks and sell drinks and tickets for our prize draw. We were able to raise a

respectable amount of money which is going to be donated to the following organisations: "Saving the Survivors", "African Wildlife Vets", "The Rhino Orphanage", "Epi-Use Rhino Rehabilitation Project – Rhinos without Borders" and "Action for Rhinos".

Last and probably most important, all our international supporters and video ambassadors who provided us with material for our presentation, made it much easier for us to display the vital information about poaching and conservation. So many people who share our passion contributed to our aims of hosting a unique event, and we can't be thankful enough for their time and the effort they made to support us.

I am confident that we were able to show people what we have learned during this incredible time in Africa, namely, that conservation is in fact an issue all of us should be passionate, or at least aware about. The support we got from all around the world motivates us to continue fighting for what we believe in. We want to make a change and conserve our planet's diverse nature, because it is something that we are and will ever be dependent on. Finally we encourage you all, to let troubling things touch your heart, we promise, you will feel more alive than ever before.

Please visit the websites of the organisations we support and consider making a donation:
<https://www.savingthesurvivors.org>
<http://www.africanwildlifevets.org>
<http://www.rhinoswithoutborders.com>
<http://actionforrhinos.com>
<https://therhinoorphanage.co.za>

If you have any suggestions for a young wildlife professional in focus or if you have any other ideas for the Student Corner, please send an email to Catharina Vendl, Student Representative on Council, (catharinavendl@gmail.com).

USGS Quarterly Wildlife Mortality Report

July 2018

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

Avian Schistosomiasis Outbreak in Montana

In April 2018, the Montana Department of Fish, Wildlife and Parks received reports of approximately 235 dead waterfowl on two ponds of neighboring properties in Madison County, Montana. The primary species involved included mallards (*Anas platyrhynchos*), unidentified teal species, Canada geese (*Branta Canadensis*), and snow geese (*Chen caerulescens*). Approximately 30 additional waterfowl were reported dead on a third pond five days later. Six carcasses (3 mallards and 3 Canada geese) were examined at the U.S. Geological Survey's (USGS) National Wildlife Health Center (NWHC) and found to be infested with avian schistosome parasites. Although this is the first case of schistosomiasis

documented by NWHC in Montana, it has previously been associated with at least 18 other avian mortality events from all four flyways in the United States.

The morphology of the parasites and associated pathology observed in the examined birds from this event was consistent with *Trichobilharzia physellae*, which is the most common schistosome species in waterfowl. Resident and migratory ducks and geese are among the natural hosts for this schistosome. Infected birds pass eggs in their feces and the parasites then infect and develop in mollusk hosts. Free-swimming cercariae are then released from the mollusks and re-infect avian hosts by penetrating their skin and

migrating to the blood vessels. Humans can also be infected by the free-swimming cerariae, causing a form of dermatitis known as “swimmer’s itch.” Although this infection can be very uncomfortable, humans are inadvertent hosts and the infection is self-limiting.

Sea Otter Strandings on Alaska Peninsula and Unalaska

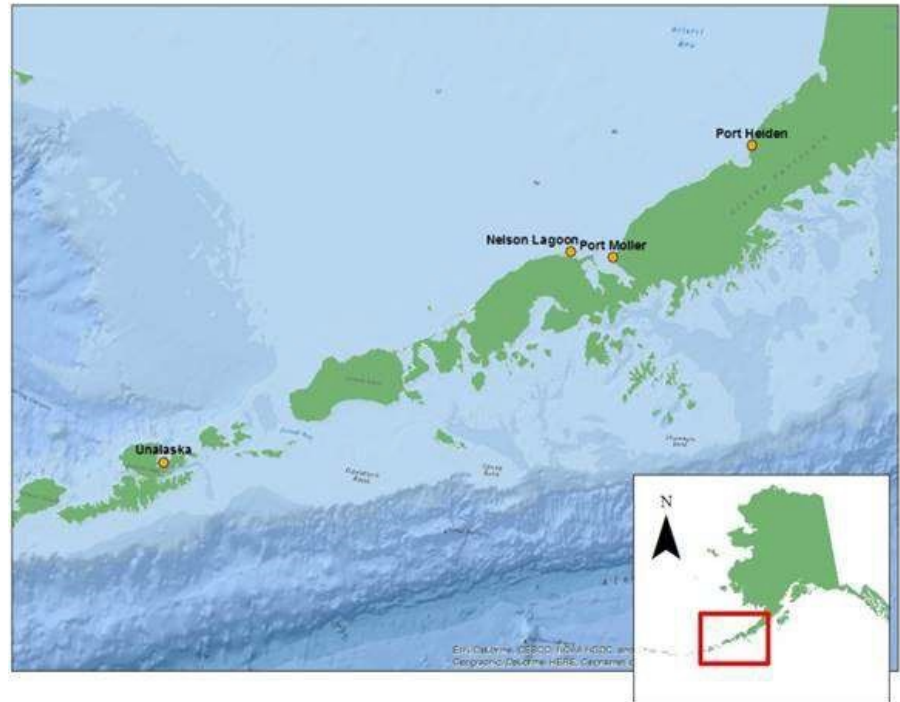


Figure 1: map showing geographic region of Alaska Sea Otter strandings

Image Credit: USFWS Marine Mammal Program

The U.S. Fish and Wildlife Service (USFWS) Region 7 Marine Mammal Program (MMP) reported unusual morbidity and mortality in northern sea otters (*Enhydra lutris kenyoni*) near Port Moller and Nelson Lagoon on the southern Alaska Peninsula between January and April 2018 (Figure 1). Initial reports began in mid-January with 10-17 dead otters reported. A total of 195 dead otters were counted by local residents on a 35 mile stretch of the southern Bering Sea on January 29. Additional reports continued in Alaska, including a few dead otters in Unalaska (starting in February) and observations of 30-40 dead otters around Port Heiden (March-April). On March 4, 2018, the USFWS Migratory Bird Management (MBM) Program conducted a northeast-bound, low-level reconnaissance survey of the southern Alaska Peninsula shoreline from Cold Bay to Pilot Point searching for dead or dying sea otters and other marine mammals. A total of 56 dead sea otters were observed on the survey, the majority of which (91%) were in the Nelson Lagoon/Port Moller area (Figure 2). With the assistance of local community members, three carcasses from Port Moller, two from Unalaska, one from Port Heiden, and selected tissue samples from five additional carcasses at Nelson Lagoon were expedited to the U.S. Geological Survey's (USGS) National Wildlife Health Center (NWHC). *Streptococcus lutetiensis* (formerly known as *Streptococcus infantarius* ssp. coli, a member of the *S. bovis-equinus* complex) was confirmed as the cause of death in three otters from Port Moller and the single otter from Port Heiden. The Port Heiden animal also had evidence of trauma. Gross, microscopic, and bacteriological examination of the submitted tissues from the five additional animals also revealed evidence of *Streptococcus lutetiensis* infection, particularly in the heart, similar to findings in Port Moller and Port Heiden animals. Carcasses from Unalaska appeared to have died of natural or undetermined causes, such as injury or emaciation, and tested negative for *Streptococcus* spp. The spike in mortality along the Alaska Peninsula appears to have subsided, as no further observations were reported in April. The USFWS and NWHC continue to monitor the situation through citizen observations and reporting. This mortality event on the southern Alaska Peninsula involved more sea otters than previously recorded events for that area and time frame. In previous years, *Streptococcus* spp.-related mortality has occurred across sea otter range in Alaska including Kachemak Bay, Kodiak Island, Unalaska, Prince William Sound, and Southeastern Alaska. This bacterial complex is a common cause of septicemia in Alaska sea otters. It has also been reported as a cause of endocarditis and septicemia in other mammalian species, including humans (Counihan et al, 2015). The source of the bacteria in the marine ecosystem is unknown.

Figure 2: Aerial photograph showing stranded Sea Otters.

Image Credit: USFWS Migratory Bird Management, Anchorage, AK

Michelle St. Martin, USFWS MMP, contributed to this event summary. For additional information regarding this sea otter mortality event, please contact Barb Bodenstein (608-270-2447, bbodenstein@usgs.gov).



Photo Credit: USFWS Migratory Bird Management, Anchorage, AK

References:

Katrina L. Counihana, Verena A. Gill, Melissa A. Miller, Kathleen A. Burek-Huntington, Rance B. LeFebvre and Barbara A. Byrne. 2015. Pathogenesis of *Streptococcus infantarius* subspecies *coli* Isolated from Sea Otters with Infective Endocarditis. *Comparative Immunology, Microbiology and Infectious Diseases*, Volume 40, June 2015, Pages 7-17.

White-nose Syndrome (WNS): Update on Winter 2017/2018 Surveillance

The documented distribution of both white-nose syndrome (WNS) and *Pseudogymnoascus destructans* (Pd), the fungus that causes white-nose syndrome, expanded pursuant to the 2017/2018 winter surveillance. WNS was confirmed in bats in two additional Canadian provinces (Manitoba and Newfoundland) and in the State of Kansas and South Dakota, bringing the total number of North American jurisdictions with confirmed cases of the disease to seven Canadian provinces and 33 states. Conversely, there appears to have been only a limited expansion of Pd in Washington state into Lewis County since WNS was first confirmed in King County in Spring 2016. The Canadian detections, reported by the Canadian Wildlife Health Cooperative (CWHC), involved little brown bats (*Myotis lucifugus*) found dead on the above-ground landscape at two locations in western Newfoundland and at a hibernaculum in the Lake St. George area of Manitoba. In the United States, WNS was confirmed in both tricolored bats (*Perimyotis subflavus*) and, for the first time, in cave myotis (*Myotis velifer*) in Barber, Cherokee, Comanche, and Kiowa counties located in the southeastern and south-central regions of Kansas. Clinical signs, including wing damage, pale orange fluorescence when examined under longwave ultraviolet light, and mortality at hibernacula, were associated with the Kansas detections. In western South Dakota, a bat with wing damage and tentatively identified as a long-legged bat (*Myotis volans*) was trapped in late May near Jewel Cave National Monument (Custer County) and later confirmed positive for WNS. The fungus was also detected for the first time on bats captured on the landscape in May in western South Dakota (Jackson County) and eastern Wyoming (Goshen County). These detections involved big brown bats (*Eptesicus fuscus*), as well as a new myotis species, the Western small-footed bat (*Myotis ciliolabrum*), that had evidence of wing damage. Because these bats were not trapped in association with a hibernaculum, the source(s) of exposure to the fungus remains unknown.

Environmental samples collected at several hibernacula in the region this spring did not detect the presence of Pd. Additional detections of the fungus in the absence of clinical disease were reported on bats at hibernacula in Woodward County, Oklahoma and four counties in Texas (Blanco, Foard, Kendall, and Wheeler). Species involved included little brown bats, tricolored bats, Townsend's big-eared bats (*Corynorhinus townsendii*), and a single Mexican free-tailed bat (*Tadarida brasiliensis*). Eleven species of North American bats are currently known to develop WNS (including nine *Myotis* spp.); an additional eight bat species have been documented with Pd, in absence of disease, suggesting natural exposure to the fungus. Population level effects associated with Pd and WNS may be challenging to determine as the disease spreads westward, where locations and population status of susceptible bat species are less well known.

Please visit www.whitenosesyndrome.org for more information about the national multi-agency WNS response effort. A fact sheet titled "White-Nose Syndrome in North American Bats – USGS updates" is available online. Also, a WNS poster and handout are available for use as needed at <https://www.whitenosesyndrome.org/resource/white-nose-syndrome-poster-available-your-use>.

For additional information regarding white-nose syndrome surveillance efforts in North America, please contact Anne Ballmann (608-270-2445, aballmann@usgs.gov).

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 (WHISPer) online database: <http://www.nwhc.usgs.gov/whispers/>

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

