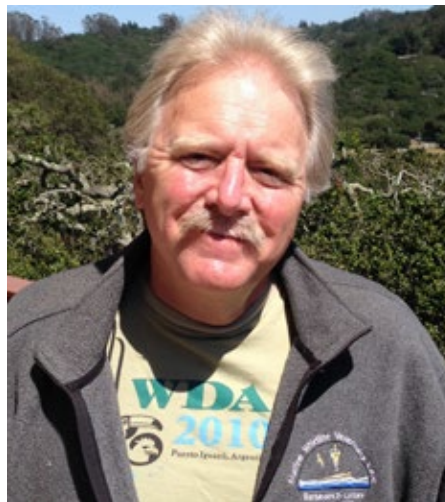


July 2019

Sarah Sirica, Quarterly Newsletter Manager  
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## The Man, The Myth, The Executive Manager: An Interview with Dave Jessup DVM, MPVM, Diplomate ACZM

Dave Jessup is stepping down this year after about a decade as WDA's Executive Manager. Prior to that, he was a veterinarian with the California Department of Fish and Game. His career, and then position as Executive Manager, have been very productive, and he has been an integral part of the expansion of WDA as well as setting a path for future success and resilience for our organization. You can usually find Dave at conferences or meetings joking around and having a great time, while simultaneously making sure things are running smoothly and no one is left out of the fun. I asked him a few questions about how he got to where he is, and what his hopes are for the future:



Foster, the vet at the Seattle Zoo, had also opened my mind to non-traditional pathways. These influences secured my interest in research and in zoo or wildlife medicine. At the time there were only 2 established veterinarians working for State wildlife agencies (Tom Thorne in Wyoming, Al Franzmann in Alaska), 2 more new in their jobs (Bob Lange in New Mexico, Steve Schmidt in Michigan),

and 2 working for USFWS (Louis Locke in Madison, WI, Jim Carpenter in Patuxent, MD), but none were near death or looking for an assistant.

The year I graduated (1976) there were only 4 one year internships with major zoos (New York, National, San Diego and St. Louis), so I applied for 2 of them, but did not get the nod. Having developed a love for pathology and having been personally mentored by pathologists, I applied for and got one of the 3 year veterinary pathology training slots at U.C. Davis. There I asked to be able to take as many of the non-domestic cases as possible, which they were happy to give me, but after I spent a week each month on biopsy, a week at the primate center, and a

### 1. How did you get into wildlife veterinary medicine?

During my 4 years at Washington State University (WSU) I had worked for USDA researchers John Gorham and Keith Ferrell taking care of their deer, bear, mink, ferrets, and trout. A talk given by Chuck Sedgewick about his career at the Los Angeles and San Diego Zoo's and with NASA's 'Chimps in Space' program, and working with Jim

# AN INTERVIEW WITH DAVE JESSUP

week on necropsy duty, like everyone else (leaving no time for a life). But I did get to meet and talk to Murray Fowler.

About 6 months later Murray made me aware that California Department of Fish and Game was considering hiring a veterinarian for the first time. They wanted someone with some pathology training, some chemical immobilization experience, and who was young, dumb and would work cheap. Clearly qualified, I applied for the job and was selected. After about 2 weeks on the job and my first field trip I told my wife I was pretty sure I'd found my calling. The short answer to your question is: a combination of luck, some useful background experience, knowing what I wanted and didn't want, and flexibility (no debt, willing to travel a lot, an understanding wife, willing to start from zero), and a belief I could and would 'make a difference' somehow.

## **2. What inspired you to become a member, and then later the executive manager, of WDA?**

I joined WDA as a member in 1977 when I went to work for CDFG. JWD was where all the good wildlife health research was published. Murray asked me to give a talk at the 1978 WDA Conference in Fort Collins on use of helicopters to capture big game species (something we did a lot of as soon as I started with CDFG). The combination of parasitologists, microbiologists, pathologists, veterinarians, public health researchers, and wildlife managers at WDA was very stimulating. There I met Chuck Hibler the Editor of JWD, Don Forrester the current WDA President, as well as Tom Thorne, Beth Williams, Bill Lance and others who confirmed that 'WDA was where it was at'.

Oh, yeah, also where I met Vic Nettles, Randy Davidson and the SCWDS crew, who I knew nothing about before.

With no Google and no internet, conferences and meetings were where you could find out what was going on, another reason I joined WDA and attended more than 40 WDA conferences in 42 years, despite limited travel budgets.

When the Executive Manager job was advertised in 2009 I had been on WDA Council for 3 terms, as well as Vice President, President and Past-president. I had served on the committee that selected Ed Addison as WDA's first Executive Manager, and had followed his work with WDA, so I was familiar with the job, how WDA was governed and run, and what it needed. So, I already had an interest in the job and a long time association with, and affection for, WDA. It was something I really wanted to try my hand at and knew the opportunity was not likely to come around again in my working lifetime.

## **3. How did you decide to make the transition from your previous career to EM?**

The years 2000-2010 were extremely productive in our work on marine animals, pollution and ecosystem health. We had discovered and documented a new form of harmful algal bloom (promoted by phosphate pollution) that caused loss of water repellency in marine birds and were going into publication on improvements in the washing of oiled sea otters. Just previously we had shown another form of harmful algal bloom (promoted by urea) caused epidemics of acute liver and heart failure. We had earlier shown the pernicious effects of *Toxoplasma* and *Sarcocystis*, various industrial pollutants,

and domoic acid intoxication, on sea otters and other marine species. We had responded very well to 5 or 6 major oil spills and proven the value of our program to its funding source. Our 'state of the art' Marine Wildlife Veterinary Care and Research Center on The U.C. Santa Cruz Marine Science Campus was built. We had gone from a staff of 7 State employees to 11 State, 3 University, 6 contractual employees and half a dozen volunteers. Frankly, we had reached a peak in growth and productivity, and I personally had done most of what I wanted to do when I moved over the CDFG's marine focused OSPR division in 1994.

We were facing a pretty stiff financial downturn that meant I may have to dismantle some of what I had helped build. And, having worked so hard for a 'world beating' program, I just didn't have the heart for that. I was growing frustrated with the leadership of our division and what I felt was a lack of support, and was getting angry with my supervisors and sometimes saying things, that had they been less tolerant, could have been a problem (I'm still working on patience and tact).

Simply stated 'it was time' and, as I say, I'd had my eye on the WDA Executive Manager job and it was something I wanted to 'bend my pick' on. I got a lot of encouragement from WDA Officers and colleagues and that helped sway me. Also, my daughter Amber, was still in high school and I wanted to spend more time with her, and 'be there' for her, as work had too often diminished my home life. A 60% time job working from home, as opposed to a full time plus job with 2 hours of commute (which was really getting old), seemed like an offer I couldn't refuse.

#### **4. What do you want people to know about WDA or about your position that you think they don't all realize?**

I would absolutely love it if everyone who cares about wildlife, conservation medicine, environmental health, 'One Health', global health (interplanetary health or whatever the name du jour is) understood what a great and giving organization WDA is. There is simply no other similar organization that gives and does as much, and costs so little to be a member of. It is so open, open to all professional backgrounds, at all levels, open to all nations with a very sincere effort to make its leadership global, and make vital information free, or as nearly so as possible, while staying a viable business entity.

Folks should also know WDA is one of the most supportive organization for students. It's very friendly, mostly first names, no titles, no cliques (other than perhaps those posed by language), no bowing and scraping. Nobody really has to be a member of WDA, so the core membership are mostly folks who really 'get it', not folks who are looking to check a box on their resume. That's nice too.

The Executive Manager is both Council's and the members 'gofer' as well as the person who must 'tend the flame', make daily business decisions, keep a steady hand on the financial tiller, and solve problems, big and small problems, happy and aggravating problems.

#### **5. What is one of your favorite memories or accomplishments from your time at WDA?**

I have lots and lots of good memories from WDA. Being in Berlin for the WDA Conference two weeks after the fall of the Berlin wall was amazing. Our first auction, what, maybe 33 years ago, at Corvallis,



# AN INTERVIEW WITH DAVE JESSUP

Oregon was a hoot, totally spontaneous, and set the stage for so much comradery and fun in years to come. That was also the year WDA began to make serious financial planning a priority.

The WDA Conference in 2010 at Iguazu Falls, which Marcy Uhart had worked so hard on, was my first as Executive Manager and I am very proud that we were able to use it to jump start the formation of the Latin American Section. The wonderful location, seeing a bit of Argentina, and receiving the Tom Thorne and Beth Williams Memorial Award made it all the more special. Our subsequent conferences in Quebec City and Lyon, France were pretty all around wonderful too.

In terms of accomplishments for WDA, our reaching the goal of endowing production of JWD and its free distribution in 124 nations with lower GDP is hard to top. That we will meet it by the end of this year (2019), a year ahead of schedule, and essentially by the support and strength of our membership, is pretty incredible. I know of no other small scientific society that has done anything similar, and it's all the greater because we have done so while increasing member benefits, and without raising membership fees in more than a decade, and may not need to in the foreseeable future.

## 6. What are your hopes for the future of WDA

That it will continue to go from strength to strength. That it will hold close to its core values and provide more and more knowledge about wildlife health and conservation to all who seek and can use that knowledge. That it inspires our coming generations, inspires the public to care more about sustainability of life on earth, and

about what we do, and perhaps that WDA inspires other organizations to be more open, cooperative and sharing.

## 7. What do you plan on doing after you hand over this role?

Get old gracefully and die in peace ?

Seriously, take a deep breath, be thankful every day, and try to decide how best to spend what is likely to be my last good decade. I have lots of deferred maintenance on my houses in California and Hawaii, some deferred maintenance on my carcass, and a number of interests not fully enjoyed yet. And, I may have a book or two in me.



CDFG wanted someone who had pathology training and capture experience, was young and dumb, could start from zero, and would work cheap. I fit that description.



## AN INTERVIEW WITH DAVE JESSUP



In the first 4-5 years capture and relocation of elk and subsequently bighorn sheep was a big part of the job. Above, Don Koch, who later became CDFG Director, with one of the first elk immobilized with carfentanyl in North America in the Owens Valley of California. To the left, Mark Drew and Dave Jessup with a bighorn ram captured by net gunning in the Chocolate Mts.

With a mandate from the California Legislature and special funding, over a 5 year period (1981-86) we captured and sampled bighorn sheep in every mountain range of California. And we were able to hire an assistant wildlife veterinarian to help me, Rick Clark (in helicopter).

The second half of my career with CDFG was spent on oil spills, other forms of pollution, and causes of mortality in sea otters, marine mammals and birds.

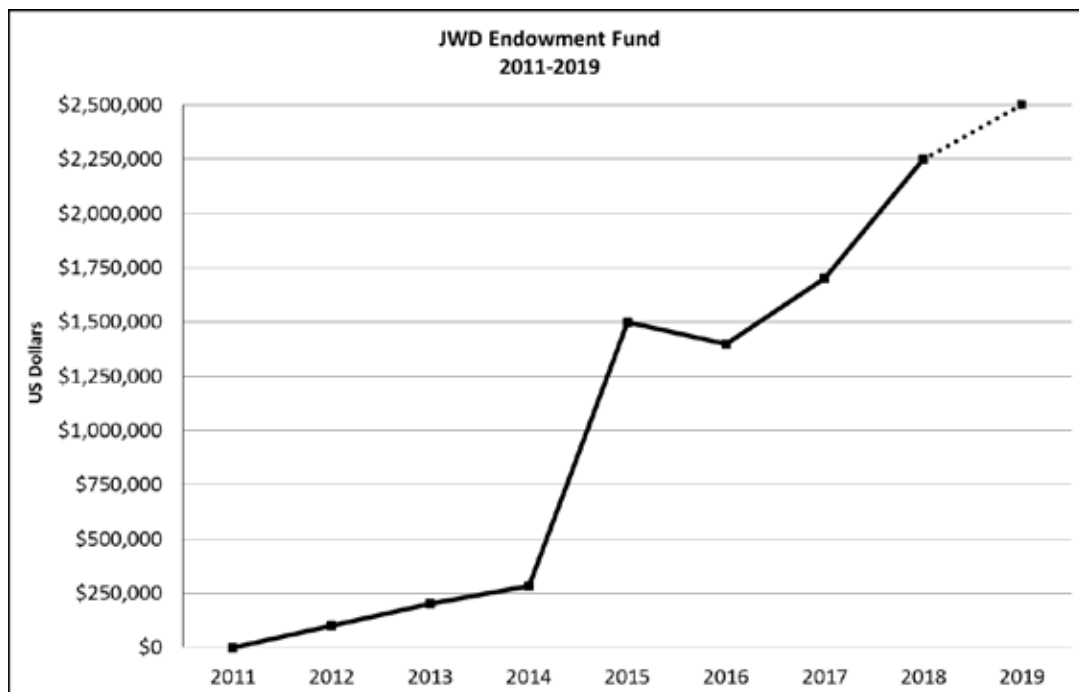


# 2019 Could Be the Year!

We are closing in on our goal of raising \$2.5 million to endow the costs of publishing JWD, and continuing to allow free access to it in 124 nations with medium to low per capita GDP. The income from this endowment will provide WDA with a third steady source of funding that will allow us to add member benefits and programs in the future, while:

- Keeping all current member benefits
- Keeping membership costs low
- Supporting students
- Supporting international Sections and membership

In thanks, all who donate by December 31, 2019 will be acknowledged in JWD for 5 years. Larger cumulative donations will be recognized by both name and logo. Please consider being part of “the biggest thing WDA has ever done”. We only have a little way left (dotted line), so please consider giving.



Other ways to help include finding a sponsoring agency, organization, company, or university (contact [jgaydos@ucdavis.edu](mailto:jgaydos@ucdavis.edu)). Or maybe donating a used car, boat, or RV at: <http://www.careasy.org/nonprofit/wildlife-disease-association---wda>.





The **12th Meeting of the Asian Society of Conservation Medicine (ASCM)** will be held jointly with the **Wildlife Disease Association–Asia Pacific Section (WDA–AP)** on October 25th–27th in Phnom

Penh, Cambodia. This year we will be offering four pre–conference workshops (One Health Educational Workshop, Practical Approach to Avian Medicine, Postmortem and Clinical Pathology, and Wildlife Dental Workshop Level 1), and a post-conference excursion to Phnom Tamao Zoological Park. To access early bird fees register until June 30th. Abstract submission will be due on August 31st. Do not miss out! For more information, visit: [www.2019cambodia.ascm-aszwm.org](http://www.2019cambodia.ascm-aszwm.org)

The **19th International Symposium of World Association of Veterinary Laboratory Diagnosticians** will be held in Chiang Mai, Thailand on June 19th–22nd. The theme will be “Innovation of Clinical and Public Health Laboratories: Integrating on the Future of One Health”. On–site registration only! For more information go to: [www.iswavld2019.org](http://www.iswavld2019.org)

The **14th International Conference on Environmental Enrichment** will be held in Kyoto on June 22nd–26th. The topic this year will be “Learning from the Wild: Animal Welfare, Conservation and Education in Harmony”. Online registration will close on June 14th, but there will be on–site registration (late registration fees apply). For more information visit: [www.iceekyoto.org](http://www.iceekyoto.org)

The **9th Asian Society of Veterinary Pathology (ASVP) Conference** will be held in Hanoi, Vietnam on October 7th–9th under the theme: “New Era of Animal Health: Zoonoses, foodborne, emerging and oncologic diseases”. Early bird registration is due on August 30th. For more details, please visit the conference website: [www.vnuaasvp2019.com](http://www.vnuaasvp2019.com)

The **3rd Asian Wild Cat Conservation Workshop** will be held on December 7th–9th in Taichung and Nanto (Taiwan), and aims to enhance and strengthen the connections among experts on wild cats to work towards wild cat conservation in Asia. Registration is limited to 30 people (first come, first served) with registration deadline coming up on October 10th. The first announcement will be posted soon, so stay tuned for more information!



**68th Annual International Conference**  
**WILDLIFE DISEASE ASSOCIATION**  
**August 4-9, 2019 | Tahoe City, CA | USA**  
**Fostering Resiliency in a Time of Change**

# TUBERCULOSIS CONTROL IN EURASIAN WILD BOAR (*SUS SCROFA*) BY PARENTERAL VACCINATION WITH HEAT-INACTIVATED *MYCOBACTERIUM BOVIS*

Mariana Boadella,<sup>1</sup> Christian Gortázar,<sup>2</sup>  
Oscar Rodríguez,<sup>3</sup> Iker A. Sevilla  
Neiker,<sup>4</sup> and Jacob Mwanzia<sup>5</sup>

1. Sabiotec. Camino de Moledores  
s/n. Ciudad Real. Spain,
2. SaBio – IREC. Ronda de Toledo,  
12. Ciudad Real. Spain,
3. Rabat, Morocco,
4. Parque Tecnológico de Bizkaia,  
Derio Spain,
5. Abu Dhabi, United Arab Emirates.



Tuberculosis (TB) caused by members of the *Mycobacterium tuberculosis complex* (MTC) is a major public and animal health challenge in Africa. However, test and cull schemes are usually not viable due to economic constraints. Hence, vaccination emerges as an alternative for the control of zoonotic TB in Africa.

Heat-inactivated vaccines are a well-established tool for the control of bacterial infections in livestock, including mycobacterial infections (Bastida and Juste 2011). Domestic ruminants are often vaccinated against *Mycobacterium avium paratuberculosis* (MAP) - the causal agent of Johne's disease (Ott et al. 1999). Heat-inactivated MAP vaccinated goats and cattle showed cross-protection against MTC as compared to unvaccinated controls (Pérez-de-Val et al. 2012; Juste et al. 2014).

Heat-inactivated *M. bovis* (inactivated vaccine, IV)

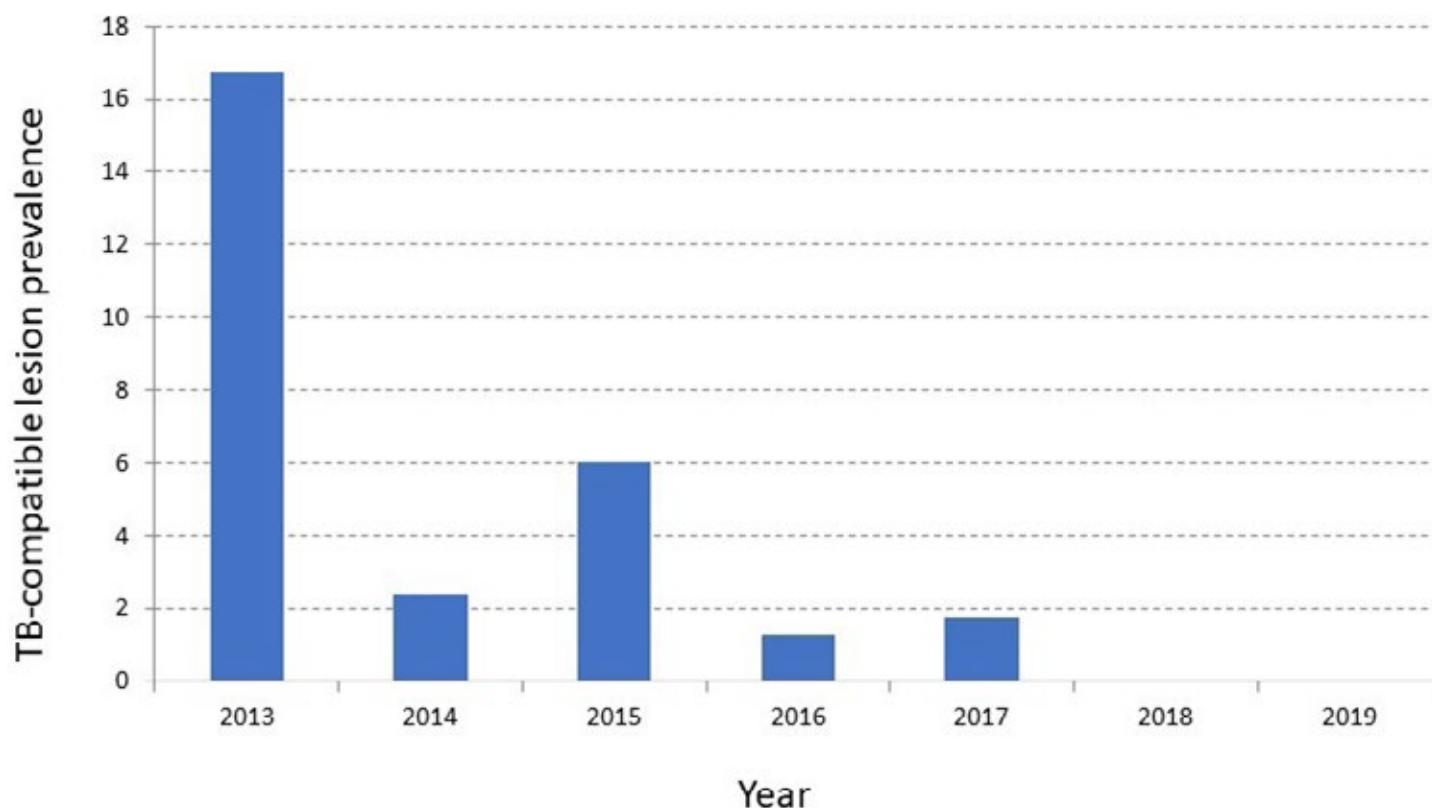
protects Eurasian wild boar and pigs (*Sus scrofa*) from generalized TB, both orally and parenterally, and both in the laboratory (Beltrán-Beck et al. 2014a) and in the field (Díez-Delgado et al. 2017, 2018). Being inactivated, this vaccine has the advantage of having no safety limitations as compared to live vaccines (Beltrán-Beck et al. 2014b).

In 2013, we started an ambitious wild boar TB control program in a wild boar farm by means of parenteral vaccination with IV. Postmortem inspection and sampling were performed on hunter-harvested wild boar (n=1771). The study site is dedicated to recreational wild boar hunting and has a breeding facility for re-stocking the hunting area. In the first three years (2013-2015), only part of the stock (two thirds) was vaccinated in order to maintain unvaccinated controls for study purposes. Since then (2016-2019) all new stock was vaccinated. Figure 1 shows the effects of vaccination on apparent TB prevalence as assessed by the presence of TB-compatible lesions. Since 2018, six year after starting the vaccination program, the farm remains TB-free.

We are interested in exploring similar approaches in other settings and even in other host species, since preliminary results in ruminants also suggest some protection conferred by heat-inactivated vaccines (e.g. in goats and in red deer, *Cervus elaphus*; Thomas et al. 2017, Roy et al. 2018).



# TUBERCULOSIS CONTROL IN EURASIAN WILD BOAR (*SUS SCROFA*) BY PARENTERAL VACCINATION WITH HEAT-INACTIVATED *MYCOBACTERIUM BOVIS*



## TB lesions in farmed wild boar after vaccination program implemented (2013)

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# RARE EARTH ELEMENTS IN WILD BIRDS FROM NORTHWESTERN ITALY

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## Introduction

Rare Earth Elements (REEs) are a chemically uniform group of substances belonging to Group IIIb in the Periodic Table, that share similar physical and chemical properties. There are 17 REEs, 15 named lanthanides (LNs), plus Yttrium and Scandium (Sc); despite their name, they are not that rare in nature, being the 15th most abundant components of the earth's crust (USEPA, 2012). REEs are non-essential elements for life. However, due to their unique physical and chemical properties, such as high densities, melting points, conductivity and thermal conductance (Goecke, 2015), they are essential in a variety of technologies worldwide. REEs are well known as indicators of geochemical soil processes and tracers of water masses (Censi et al., 2004; Oliveri et al., 2010) and, as recently reviewed (Pagano et al., 2015; Gwenzi et al., 2018), there are several routes which transfer REEs to the environment and, as a result, multiple different sources could exert damage to biota due to cumulative and synergic effects.



In this study, we determined REEs in wild birds (Eurasian jay, common kestrel, sparrow hawk, northern goshawk, hooded crow) from Northwestern Italy (Aosta Valley). Liver was the organ of choice due to its key role in the metabolism of REEs and its ability to detoxify by excreting REEs into the bile in animals and humans.

## Materials and Methods

Simultaneous determination of the presence of REEs was performed by Inductively Coupled Plasma-Mass Spectrometer (ICP-MS Xseries II, Thermo Scientific, Bremen, Germany), as previously described (Squadrone et al., 2017); samples were mineralized using a microwave digestion lab station (Ethos 1, Milestone, Shelton, CT, USA); 7 mL of HNO<sub>3</sub> (70% v/v) and 1.5 mL of H<sub>2</sub>O<sub>2</sub> (30% v/v) were added to 1.0-1.5 g of samples before the microwave digestion process.

## Results and Conclusions

Dose response studies have already suggested that REE concentrations in animal organs decrease from liver > kidneys > rib bone > muscle (Schwabe et al., 2012). As a consequence, SREE (sum of REEs) were often undetectable in muscle but we recorded a mean level of 0.030 mg Kg<sup>-1</sup> in wild bird liver, confirming the ability of this organ to bio accumulate REEs and suggesting its potential role of bio-indicator of animal exposure. The LNs were found with the following decreasing concentrations:

Sc>Y>Ce>La>Nd>Pr>Sm>Gd>Er>Yb>Eu>Ho>Tb>Tm>Lu.

REE content in animal tissues is related to the geochemical characteristics of the regions where animals live, thus our study constitutes the baseline data for future investigations of this area, moreover, it allows future comparisons worldwide since REEs in wildlife have been scarcely investigated.



# SNAKE FUNGAL DISEASE IN LAKE ERIE WATER SNAKES

Ellen Hayes, DVM  
PhD Student  
Wildlife Epidemiology Lab  
University of Illinois College of Veterinary Medicine

Ophidiomycosis (aka snake fungal disease/SFD) is an emerging fungal disease that threatens the health of captive and wild snakes worldwide. Infection typically causes lesions on the skin, ranging from raised scales to crusts and ulcers, but in some cases internal organs are invaded by fungus. At this time, the disease is currently known to affect more than 30 species of wild snakes in the United States and Europe, but new species continue to be identified as susceptible. Lake Erie watersnakes (*Nerodia sipedon insularum*) are a subspecies of the Northern watersnake found solely on a handful of islands in western Lake Erie. They were placed on the list of federally endangered and threatened species in 1999 and removed in 2011 following enormous public education and habitat preservation efforts. Ophidiomycosis was first diagnosed in this species during a large die-off event in 2009 and skin lesions have been observed regularly during annual population surveys. In 2018, up to 55% of snakes were affected by the disease, depending on the site. The population is monitored year-round by researchers at The Ohio State University's Stone Lab and the Wildlife Epidemiology Lab at the University of Illinois is conducting several projects to study ophidiomycosis in this species.

One major gap in our understanding of this disease is why some individuals and species show more severe clinical signs while other snakes have the fungus on their bodies but no lesions. One possible explanation is the response of the snake's immune system to the fungus and innate immunity is the primary immune defense in reptiles. We are launching a project to study Lake Erie watersnakes with a range of ophidiomycosis lesions and determine whether innate immune function is associated with severity of disease and quantity of fungus on the skin. We will accomplish

this by collecting blood from snakes to (1) measure the ability of the plasma to lyse sheep red blood cells, which indicates the activity of complement, one aspect of innate immunity, and (2) test for the presence and activity of chitotriosidase, an enzyme that breaks down chitin and has been associated with the immune response to fungal infections. We will also record the number, type, and location of lesions on snakes' bodies and collect skin swabs to measure fungal quantity.

This project is important for a great number of reasons. It will provide important information that will benefit not only Lake Erie watersnakes, a species of conservation concern, but all snakes that are impacted by ophidiomycosis. Little is known about the reptile immune response and even less is known about how snakes respond to ophidiomycosis, so this study will help to fill that knowledge gap. It will also promote snake conservation at a time when snake populations worldwide are threatened by factors such as climate change, habitat degradation, human persecution, and infectious disease. Snakes are important contributors to ecosystem biodiversity and promote human health by controlling populations of rodents and ticks that spread zoonotic diseases. Ophidiomycosis can affect all snake species, so it is critical to know why snakes are variably susceptible in order to design conservation programs that protect snake health.

One important conservation program for Lake Erie watersnakes is the annual population survey, fondly termed "Nerodio" after the watersnake genus, *Nerodia*. Typically held during the late spring, the event attracts biologists, conservationists, and snake enthusiasts from around the country to spend the days catching watersnakes on five different islands and collecting population health data. A given day may involve catching 200 snakes, followed by measuring length, mass, and sex, and checking for previously placed PIT (passive integrated transponder) tags or placing tags in snakes who have not been previously



# SNAKE FUNGAL DISEASE IN LAKE ERIE WATER SNAKES

captured. In 2019, six Wildlife Epidemiology lab members participated in Nerodio to collect data on ophidiomycosis. This marks the third year of our participation and has allowed for estimates of disease prevalence, in addition to other projects investigating hematology, diagnosis, biosecurity, and possible treatment for the disease. This year, we also collected all the necessary samples for the innate immunity project! In addition to collecting snakes, this event is a great opportunity to educate members of the public about the snakes, their role in the ecosystem, and ophidiomycosis, as we commonly interact with them while out catching snakes. Dr. Kristin Stanford, locally known as the “Island Snake Lady,” leads the Lake Erie watersnake conservation efforts and was even featured on an episode of Dirty Jobs!

The innate immunity project is part of the WDA Wildlife Health/Disease Crowd Funding call and fund raising is currently in progress through the WDA – Experiment partnership. Please support this important research by visiting the link below and backing the project and sharing the link with your community!

<https://experiment.com/projects/investigating-the-role-of-innate-immune-function-in-snakes-battling-fungal-disease>

For more information about ophidiomycosis and the Wildlife Epidemiology lab, visit:

<https://vetmed.illinois.edu/wel/>

And for more information about Lake Erie watersnakes, visit:

<http://www.respectthesnake.com/>

*[Editor’s Note: Ellen’s project was fully funded on Experiment at the time of publishing.]*



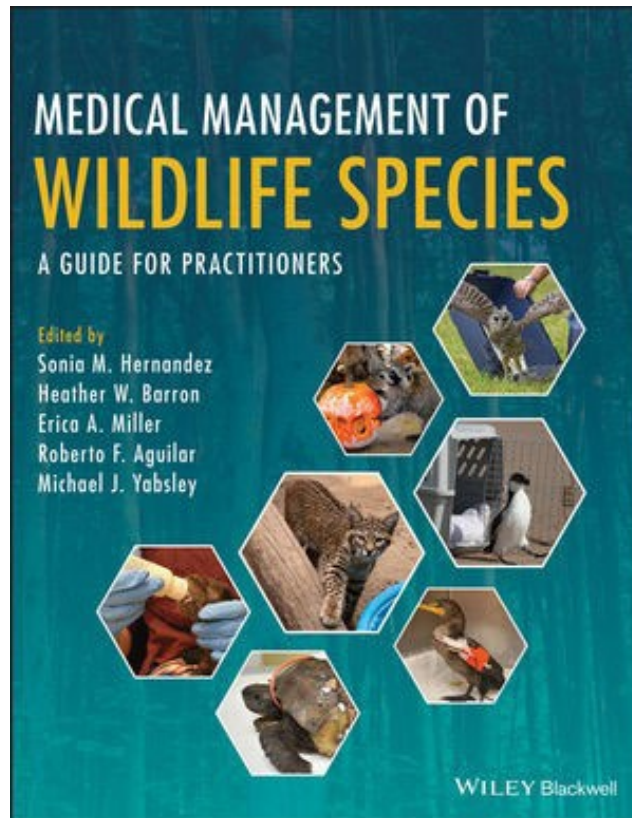
Picture 1: Volunteers work to find Lake Erie watersnakes during the 2019 Nerodio.



Picture 2: Students from the Wildlife Epidemiology Lab pose with the day’s catch during the 2019 Nerodio.



Picture 3: Snakes are sampled for ophidiomycosis during the 2019 Nerodio.



Coming soon, but available for pre-order now, is a new text from Wiley Blackwell publications targeted to veterinarians, students and anyone involved in wildlife rehabilitation who manage the medical care of wild species. Aside from the species-specific medical management chapters, there are several chapters that cover general principles of animal care that are in high-demand (e.g. orphan care), and which attempt to contextualize how wildlife rehabilitation fits in our management of wildlife (e.g. the role wildlife rehab centers play in wildlife disease research and post-release monitoring of rehabilitated wildlife).

Use the link to order your copy soon!

[www.wiley.com/en-us/Medical+Management+of+Wildlife+Species:+A+Guide+for+Veterinary+Practitioners-p-9781119036586](http://www.wiley.com/en-us/Medical+Management+of+Wildlife+Species:+A+Guide+for+Veterinary+Practitioners-p-9781119036586)

# STUDENT CORNER

Dear Students,

As usual we are happy to share with you some good news!

Firstly, of note for the **WDA-Australasia student members**: this year the SAC and the WDA Council decided to allocate part of the budget to help 3 students to attend the event by offering 3 **free conference registrations**. The application form is available on the WDA-Australasia website.

For students attending the upcoming WDA Conference in Tahoe, CA, we are preparing for you the **student mentor mixer party** with a new concept this year: prior to the party you will get a PDF file with mentors who decided to answer a few questions to give you the opportunity to first have an overview about them and to prepare questions or to just help you organize your meetings. For now, we already have **51 mentors!** Poster of the party

The registration for the Photo Contest is still open! Don't forget to subscribe via your Ex Ordo account as onsite registration will be more expensive (special fees for students) and to show us your talented pictures. All the money collected will be for the WDA student community. You can follow the link to register: <https://wda2019.ucdavis.edu/photo-contest-registration> WDA photo contest picture

Let's have a look now on the worldwide WDA student community:

## Europe:

In April 2019, the **7th EWDA Student Symposium** "Conflict or Coexistence: Facing the Human Wildlife Interface" was held at the veterinary school of Lyon in France: a great success! Have a look at the article they wrote for you:





The 7th biannual EWDA Student Workshop took place at VetAgro Sup in Lyon, this time uniquely preceded by two days of symposium. This way, we provided an intense, interactive workshop for a selected group of about 40 students, while at the same time, the knowledge and lectures of all the renowned speakers could be enjoyed by a much larger (about 120) group of students, from 19 different countries of Europe. The topic of this year's event was 'Conflict or Coexistence: Facing the Human-Wildlife Interface'.

On the 13th and 14th of April, the event started with two days of symposium, during which experts from all over Europe introduced Human-Wildlife Conflicts from their different perspectives. Besides veterinarians and biologists, specialists from the social science field presented their visions. This promoted the importance of collaborating with each other to accomplish a far better and more comprehensive approach to this issue.

Parallel to the lectures, smaller groups of students could follow workshops in marine bird necropsies, which were well appreciated. Lectures were alternated with panel discussions, during which also the students could give their input and raise questions.

Following the symposium, from the 15th until 17th of April, the traditionally biannual student workshop took place. The lectures of the previous two days served as background knowledge.

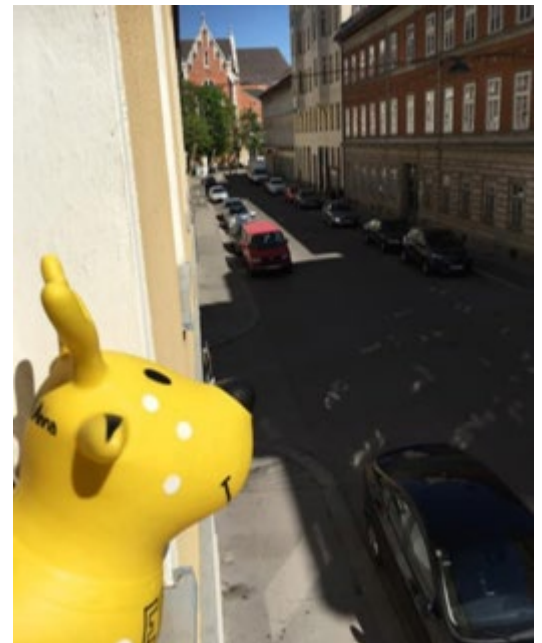
The workshop started off with fourteen student presentations. This gave students the opportunity to gain experience in public speaking and to share with the others their own research/project, knowledge and passion. All presenters received feedback to further improve their future performance.

These presentations were followed by an introduction to scientific writing. The students spent the remainder of the time working in small groups under the supervision of one of the seven mentors. Each of their groups worked on their own topic of conflict and was challenged to come up with a practical solution, as well as means to communicate this to the relevant stakeholder.

They presented their results on the last day, and it was very interesting to see how all the different groups came up with very diverse, as well as creative ideas in the short amount of time available!

Besides the hours of serious work, we had fun and got to know each other during the social programme. This consisted of an excursion to the Grand Parc de Miribel-Jonage (a great place for bird-watching) and a movie night during which Blood Lions™ was watched, about captive bred lions. The latter was followed by an interesting discussion about hunting and wildlife conservation and the dark side of voluntourism. An EWDA Student Workshop is not complete without the traditional Student Chapter Auction – this year for the first time presented by the Austrian team made up of Julian Keleş and Katharina Seilern.

All participants were challenged to arrive to Lyon in a creative way, avoiding the plane, and send in some evidence of their travel. Anna and Nadine, who hitchhiked from Vienna surprised us all with their very



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creative short movie and are now the lucky first caretakers of EDWART (photo), the challenge prize. EDWART is hoping to visit many new homes in the coming years and is looking forward to all the different ways he will arrive there!

All in all, it was a very inspiring event and source of many new friends!

*"Big smiles, laughs, hours after hours of productive discussions and an incredible need to meet these people again filled my suitcase on the way back home."* - Stefania Tampach, EWDA Country Representative Greece





The **Austrian student chapter** continues to be very active, their last event was a 2 day symposium, the “EWDA Wildlife Days” putting together great speakers and students: This chapter has been very busy and here are a few pictures from their previous events.



On May 22nd and 23rd the Austrian Student Chapter organised the first Austrian “EWDA Wildlife Days”. The focus was mainly on Reptiles, Amphibians, Birds and small Mammals inhabiting gardens all over Europe. In total we invited four speakers to give lectures to approximately 20 interested students. On Wednesday the 22nd Dr. Steve Thompson from Purdue University (USA) gave a two-hour presentation about transmitter implantation in North American Rattlesnakes. Afterwards there was a little get-together with cake and drinks.

The next day we had three speakers presenting more details about diseases and management of garden wildlife populations. First, Steve Smith from the Institute for Wildlife and Ecology (Vetmeduni Vienna) was giving a talk about using molecular techniques to monitor for pathogen infection in wildlife species where he presented a case study of *Batrachochytrium* screening in populations of *Salamandra salamandra* throughout Austria.

Katharina Seilern-Moy from ZSL (UK) presented their Garden Wildlife Health project where citizen science is being used for wildlife diseases surveillance in garden birds and hedgehogs. After Katharina’s talk, Pia Cigler from the Reptile and Exotics Service (Clinics for small animals, Vetmeduni Vienna) presented important clinical diseases in the species being presented before and went into detail on treatment and diagnostics of these diseases.

All in all the EWDA Wildlife days were a great opportunity for wildlife-interested students to widen their horizon about some conservation topics which don’t get that much focus during their studies. Last but not least we really would like to thank Vetmeduni Vienna’s International Office for supporting and advertising activities organized by the EWDA Student Chapter Austria.



**Fabian Bagó**  
Student Chapter  
Country  
Representative  
Vienna, Austria



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The **Italian student chapter** co organized a wildlife medicine day with the Piacenza Wildlife Rescue Center, this inspiring collaboration between professionals and students is related here:

**Country:** Italy

**Representative names:** Salvatore Andrea Cafiero, Francesca Vitali

**Type of event:** Conference

**Title of event:** I Giornata Di Medicina della Fauna Selvatica (= First Meeting on Wildlife Medicine)

**Date of event:** 10th November 2018

**Location:** Conference Room of the Piacenza Wildlife Rescue Center, located in Croara Vecchia, Piacenza - Italy

**Number of participants and type of students (e.g. vet students, PhD, post-docs):** around 130 participants; 80 students (mostly undergraduate) and 50 veterinarians (including researchers and professors in academia)

**Speakers:**

1. Dr. Francesca Vitali and Salvatore Andrea Cafiero, EWDA Italy representatives
2. Dr. Riccardo Rossi, DVM, Director of Piacenza Wildlife Rescue Center
3. Dr. Renato Ceccherelli, DVM, Director of CRUMA-LIPU, Livorno
4. Prof. Giuliano Ravasio, DVM, PhD, Researcher at the University of Milan
5. Dr. Francesca Ciucani, DVM
6. Dr. William Magnone, DVM, President of SIVASZOO
7. Dr. Michela Comolli, DVM
8. Prof. Davide Zani, DVM, Associate Professor at the University of Milan

**Report:**

The conference “I Giornata Di Medicina della Fauna Selvatica” (“First Meeting on Wildlife Medicine”) was co-organized with Dr Riccardo Rossi, Health Director of the Piacenza Wildlife Rescue Center. The topic was focused on an introduction to the wildlife medicine of Italian mammals and birds, in particular on basic clinical approach and principles of anesthesiology, radiography, ultrasound, CT scan and reintroductions. The event took the entire day from 9 am to 6 pm; it was open to both students and veterinarians. Students came from various Italian Veterinary Universities (Milan, Turin, Bologna, Camerino, Parma, Pisa, Perugia and Padova), furthermore 2 erasmus students from Madrid participated at the conference; for many of them this day has been an occasion to know EWDA Student Chapter for the first time and meet students from other faculties. In order to mix academic teaching and fieldwork experience, the invited speakers were selected from either University of Milan or wildlife rescue centers.

The seminary began with an introduction of EWDA Student Chapter and a review on the role of Wildlife Medicine presented by Francesca Vitali and Salvatore Andrea Cafiero. Dr Riccardo Rossi spoke about the rescue and clinical management of local wildlife, speaking about the use of radiology within the rescue center activities; Dr Giuliano Ravasio spoke about anesthesia in European wild mammals; Dr Francesca Ciucani showed her graduating project on different protocols of roe deer's anesthesia.

In the afternoon, Dr William Magnone introduced SIVASZOO and explained the role of zoos in conservation and research; Dr Michela Comolli talked about her experience on ultrasound in free-ranging wildlife rescued at Piacenza Wildlife Rescue Center, especially on pregnancy diagnosis in roe deer. The day ended with Prof. Davide Zani who introduced the increasing importance of TC-scan and other II level diagnostic imaging tools for first care and decision-making approach, from human medicine to wildlife. Both in the morning and afternoon, Dr Renato Ceccherelli spoke about his wide experience with avian patients: he lectured on anesthesia, endoscopy and oil-spill response.

The conference had been very interesting and useful to share the knowledge and experience between students and veterinarians.

We named the event "1ST Meeting on Wildlife Medicine" because we would like to repeat it in upcoming years, as a periodical symposium.

The organisers gratefully acknowledge ACME S.r.l., Medical Swan S.a.s., ViBi S.r.l. for funding.



*The conference program*



*The seminar was held in an ancient church, now a conference room*



*The speakers (from left to right: Dr Francesca Ciucani, Dr William Magnone, Dr Renato Ceccherelli, Dr Riccardo Rossi, Dr Francesca Vitali, Prof Davide Zani, Salvatore Andrea Cafiero, Dr Giuliano Ravasio, Dr Michela Comolli)*

And last but not least welcome to the new student representatives for Sweden with Johanna Johnsson, Poland with Magdalena Walczak and Ireland represented by Grace Thronton!

[ewdastudent.wordpress.com/country-representatives/](http://ewdastudent.wordpress.com/country-representatives/)

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The ***Africa Middle East Student chapter*** is happy to share with you the first event held at the university of Cape Town! They invited 3 dedicated wildlife researchers to talk about their work. We invite you to read more about this evening session here:

## University of Cape Town SAWDASC Lecture Evening

By Camilla Smyth

We're excited to share that in April this year we held our first event at the University of Cape Town (UCT). This event served both as an introduction of the Southern Africa Wildlife Disease Association Student Chapter (SAWDASC) to UCT and also as a lecture evening. Although UCT does not have a vet school, there was a strong turnout of interested students from a range of different fields including the Department of Biological Sciences, the Department of Environmental and Geographical Sciences and also from the University's Zoology and Botany Club.

The evening started with a brief introduction of the WDA and the SAWDASC, and then we jumped straight into the lecture presentations. We were lucky enough to have three wildlife researchers present their work. First we had Friederike Pohlin, who is currently enrolled in a PhD in Veterinary Science at the University of Pretoria, present on physiological responses of black and white rhinoceroses to capture and transport. Then, Margaret Nolan, who just completed her PhD in Veterinary Science at the University of Pretoria presented on elephant population management in South Africa using immunocontraception. Finally, Marion Leiberich, who also just completed her PhD in Veterinary Science at the University of Pretoria presented her research on assessing the value of enrofloxacin (an anti-microbial drug) and carprofen (an anti-inflammatory drug) combination treatment in Southern white rhinoceros through the use of pharmacokinetic modelling.

After each presentation there was time for questions. We were very pleased with the enthusiasm and interest shown by the students through the questions they came up with and through their active engagement with the content of the presentations.

It was a very successful evening and we'd like to thank our presenters for making it possible. We're hoping to organize another lecture evening at UCT in the second half of the year.



*Marion Leiberich presenting her research at the UCT lecture evening*



*Organisers and presenters. Left to right: Caton Schutte, Camilla Smyth, Margaret Nolan, Marion Leiberich and Friederike Pohlin*



The **UGA scWDA chapter** held their annual Creatures at Creature Comforts fundraiser. Every year they co-host an event with UGA's Wildlife Treatment Crew called Creatures at Creature; it is an event at a local bar (Creature Comforts) that educates the public about wildlife and wildlife disease. Reptiles, amphibians, small mammals, and humans alike joined in for the fun festivities. This year 100 people were about to learn about the ecology, behavior, and benefits of reptiles and amphibian.

### **Congratulations to all those Student Chapters for their great work!**

You can also check the other student chapter's activities on the WDA website (progress reports for this year will be available soon).

Don't forget to join our Facebook group to learn more:

[https://www.facebook.com/groups/179217258777710/?epa=SEARCH\\_BOX](https://www.facebook.com/groups/179217258777710/?epa=SEARCH_BOX)

Marianthi Ioannidis, for the WDA Student Activities Committee



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

## **Aerosol transmission of gull-origin H10N7 influenza A virus in ferrets**

While conducting a larger investigation into the epidemiology of influenza A viruses (IAV) in wild birds in Iceland, researchers from the U.S. Geological Survey's (USGS) National Wildlife Health Center (NWHC) isolated four H10N7 IAVs from wild caught gulls (*Laridae*). Genomic analyses showed four gene segments in these viruses were genetically associated with H10 IAVs that caused IAV outbreaks and deaths among European seals in 2014. Further characterization suggested minimal antigenic variation among the gull-origin H10N7 isolates and other archived H10 IAVs recovered from human, seal, mink, and various avian species in Asia, Europe, and North America. However, the gull-origin virus showed significantly higher binding affinity to human-like glycan receptors when compared with another Eurasian avian-origin H10N8 IAV that caused human infections. Further studies of the gull-origin IAV in ferrets demonstrated that this H10N7 virus can be transmitted between ferrets through direct contact and aerosol routes. Our research further suggests gulls are important global contributors to IAV ecology and may harbor influenza viruses that could pose a risk to other wildlife or humans.

For additional information contact: Bob Dusek ([rdusek@usgs.gov](mailto:rdusek@usgs.gov)).

### References:

- Guan M, Hall JS, Zhang X, Dusek RJ, Iliver AK, Liu L, Li L, Krauss S, Danner A, Li T, Rutvisuttinunt W, Lin X, Hallgrimsson GT, Ragnarsdottir SB, Vignisson SR, TeSlaa J, Nashold, Jarman R, Wan XF. 2019. Aerosol Transmission of Gull-Origin Iceland Subtype H10N7 Influenza A Virus in Ferrets. *Journal of Virology* Jun 2019, 93 (13) e00282-19. <https://doi.org/10.1128/JVI.00282-19>

## Chronic wasting disease update (June 2019)

Chronic wasting disease (CWD) is a fatal, contagious, neurodegenerative disease of cervids (Family Cervidae), including North American deer (*Odocoileus* sp.), elk (*Cervus canadensis*), moose (*Alces alces*), and caribou (reindeer, *Rangifer tarandus*). 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. In addition, population-level impacts attributable to CWD have been documented in western U.S. populations of white-tailed deer (*O. virginianus*, Edmunds et al. 2016), mule deer (*O. hemionus*, DeVivo et al. 2017), and elk (Monello et al. 2014). Currently the disease has been detected in free-ranging and/or commercial captive cervids in 26 U.S. states, three Canadian provinces, South Korea, Norway, Finland, and most recently, Sweden. Since the beginning of calendar year 2018, CWD has been documented in free-ranging deer and elk populations in new geographic locations within Canada (13 new management units in Alberta and Saskatchewan) and the U.S. (57 new counties among Arkansas, Iowa, Kansas, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, North Dakota, Pennsylvania, Tennessee, Virginia, West Virginia, Wisconsin, and Wyoming). During the same time frame, CWD has been detected in six new commercial captive facilities in Canada (Alberta, Saskatchewan, and Quebec) and 22 new commercial captive facilities in the U.S. (Colorado, Illinois, Michigan, Ohio, Oklahoma, Pennsylvania, South Dakota, and Wisconsin). A map showing the current documented distribution of CWD in North America is available from the U.S. Geological Survey's (USGS) National Wildlife Health Center (NWHC) at [https://www.usgs.gov/centers/nwhc/science/expanding-distribution-chronic-wasting-disease?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/centers/nwhc/science/expanding-distribution-chronic-wasting-disease?qt-science_center_objects=0#qt-science_center_objects).

"First occurrences" for CWD in 2018 and 2019 include Illinois (first captive reindeer in North America, and the first CWD-positive captive facility in the state), Mississippi (free-ranging white-tailed deer), Montana (free-ranging white-tailed deer and mule deer), and Tennessee (free-ranging white-tailed deer), Quebec (commercial captive red deer, *Cervus elaphus*), Finland (free-ranging moose), and Sweden (free-ranging moose). In the cases of free-ranging moose in Scandinavian countries (Norway, Finland, and Sweden), all affected individuals have been old-aged (>10 years); a published report suggests a different CWD strain, potentially spontaneously-occurring, has affected these animals (Pirisinu et al. 2018). In Tennessee, CWD was first documented in December 2018. Subsequent outbreak surveillance detected a total of 186 positive deer in a three-county region at the border with Mississippi, suggesting that the disease had been present in the state for a protracted period prior to discovery. Detailed information about CWD in Tennessee is available from the Tennessee Wildlife Resources Agency at <https://www.tn.gov/twra/hunting/cwd.html>.

Chronic wasting disease has attracted substantial attention in the 116th U.S. Congress. A total of nine bills (to date) have been filed and are under consideration, including the Chronic Wasting Disease Transmission in Cervidae Study Act (H.R.837 and S.382), the Chronic Wasting Disease Management Act (H.R.1550 and S.689), the Chronic Wasting Disease Research Act (H.R.2081 and S.1326), the DEER Act (H.R.1919 and S.613), and a portion of the ACCESS Act (H.R.1326). CWD also was addressed in the Agriculture Improvement Act of 2018 (H.R.2, "Farm Bill") as a "High Priority Research and Extension Initiative" (Sec. 7209) and "supporting research projects at land-grant colleges and universities ... with established deer research programs for the purposes of treating, mitigating, or eliminating chronic wasting disease." The progress of these bills can be tracked at <https://www.congress.gov>.



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The United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) finalized the revised “CWD Herd Certification Program Standards” in May, 2019. Additional information regarding the voluntary program can be obtained from APHIS at <https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/cervid/cervids-cwd/cervids-voluntary-hcp>.

Additional information regarding CWD is available from NWHC ([https://www.usgs.gov/centers/nwhc/science/chronic-wasting-disease?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/centers/nwhc/science/chronic-wasting-disease?qt-science_center_objects=0#qt-science_center_objects)), USDA APHIS ([https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/sa\\_animal\\_disease\\_information/sa\\_alternate\\_livestock/sa\\_cervid\\_health/sa\\_cwd](https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/sa_animal_disease_information/sa_alternate_livestock/sa_cervid_health/sa_cwd)) and the U.S. Centers for Disease Control and Prevention (CDC, <https://www.cdc.gov/prions/cwd/index.html>).

For additional information contact: Bryan Richards ([brichards@usgs.gov](mailto:brichards@usgs.gov)).

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For additional information on the USGS National Wildlife Health Center see the following links:

- Main website: [www.usgs.gov/nwhc](http://www.usgs.gov/nwhc).
- Disease Investigation Services: [www.usgs.gov/nwhc/services](http://www.usgs.gov/nwhc/services).
- Report Mortality Events and Submit Specimens: [www.usgs.gov/NWHC/submit](http://www.usgs.gov/NWHC/submit).

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: <https://www.nwhc.usgs.gov/whispers/>