

Oct 2019

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Bonanza: Summary of the 2019 WDA Annual International Conference

The classic 1960's television western Bonanza was set near California's Sierra Nevada Mountains and Lake Tahoe. If you have any doubt about that just go to the Blue Agave Mexican restaurant in Tahoe City and there you will find life size cut outs of 'Pa', 'Adam', 'Hoss', and 'Little Joe'. What more proof do you need? And WDA's 2019 conference held at Granlibakken (means big tree, but Swedes and Norwegians seem to disagree - big surprise - what coniferous species it refers to) was indeed a Bonanza.

For starters the weather was spectacular, warm and sunny but not too hot during the day, cooling off to perfect sleeping temperatures at night. No air conditioning, heating or cooling required! A HUGE conference greening factor. And the conference was indeed green. Housing and all events an easy walk, no transportation required once you got there. No plastic straws, paper cups or plates – and plastic drink cups at the bar only if you forgot your conference mug. It's quite possible, depending on where you come from and how you live, that your carbon footprint for the week at Granlibakken was less than it would be if you were at home.



The Sunday Icebreaker was up in a beautiful grove of trees, the drinks were 'on the house', and the band played great covers of classic rock and roll as the moon traversed the clear mountain night. Meals were outstanding, most of them made from scratch on site,

and with options for those with 'food issues'. All meals and events covered by registration fees, for all attendees (students were very well taken care of). Oh, and free drinks at most functions all at about the same relatively low costs WDA has managed to maintain for years. It's hard to compare WDA Conferences, but many folks felt this was certainly one of the best, if not the best ever. With 417 attending it stands as the largest WDA conference in North America (Estes Park was 410) and just shy of the record at Lyon, France of 422. Huge kudos to Mike Ziccardi, Kirsten Gilardi and the whole U.C. Davis - Wildlife Health Center and Deanna Clifford and California Fish and Wildlife staff.

The plenary session on Monday featured Herman Fund speaker Peter Johnson on why the study of disease biology needs community ecology. This is the kind of perspective all us 'disease wonks' really need; and reminds us how tenuous our own understanding of the

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complexities of ecological processes may be. Jonna Mazet's review of the Predict program's great global success searching for potential pandemic viral threats, and many contributions to empower colleagues in the developing world, provided an upbeat perspective on what we can do to make our world better and healthier for wildlife and people.

Student sessions on Tuesday featured talks by Chris Cleveland from University of Georgia and SCWDS, the winner of the WDA 2019 Student Research Recognition Award, Kaylee Byers from University of British Columbia, and Viviana Gonzalez-Astudillo from University of California-Davis and CAHFS, winners of the WDA 2019 Student Scholarship Awards. As usual students did a spectacular job, both with platform presentations and posters. And their presentations were capped off with a student - mentor event just before the Auction.

With 340 items donated, the 2020 WDA Auction (Dave's last as auctioneer) was a huge success. It was held in a big tent with two bars outside to 'keep things loose'. Such items as a garment quality buffalo robe, traditional Japanese prints on rice paper, and a copy of Mike Kock's book "Through My Eyes" brought excellent prices. Many other beautiful items of jewelry, art, books and memorabilia went for bargain prices. In a new twist, several items that didn't get minimum bids were put up on WDA's EBay site the following week. Auction income was just over \$20,000, by far the largest WDA auction ever. This includes \$3000 in donations for the JWD Endowment (that was matched by \$3000 from the same anonymous donor who matched last year's surprise effort). That means WDA netted \$6000 for the Endowment, AAWV got approximately \$3250, and over \$14,000 was raised for WDA Student Activities.

At the Thursday plenary session Pete Morkel spoke to the dire need for conservation efforts in Africa and the 'between a rock and a hard place' position many Africans find themselves in due to impoverished economies, poor governance, high birth rates, ecological degradation, and climate change. Dave Jessup provided a look at the progress made by wildlife health professionals in the last 40 odd years, including some of the good, the bad, and the just plain ugly. The session was capped off by a special award given to Bill Lance, CEO of Wildlife Pharmaceuticals for his many contributions to improving wildlife care (see photo below). His one line acceptance remark "When you find a tortoise sitting up on a fence post, you know he had some help" was about as eloquent as it gets.



Surrounded by forest, there were many great walks around Granlibakken, one going down to Lake Tahoe, and another into Tahoe City. Fly fishing opportunities in the Truckee River, a full 'ropes course' with zipline, an onsite yoga studio, swimming pool and tennis courts, and several beautiful decks where you could just chill and have a cold drink.

The Banquet was wonderful, funny and touching. Deb Miller was at her best as mistress of ceremonies for WDA. Anastasia

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Towe was presented with the Terry Amundson Best Student Presentation Award and Honorable Mention went to Kaylee Byers. Megan Moriarty and Kaylee Byers were co-winners of the Best Student Poster Awards with Honorable Mention going to Risa Pesapane.



Billy Karesh was the very deserving recipient of the Tom Thorne and Beth Williams Memorial Award.



Torsten Morner received a much deserved WDA Emeritus Award, which should assure he never again forgets to renew his membership.



The announcement that the recipient of the Ed Addison Distinguished Service Award was Marie-Pierre Ryser brought the house down. There was laughing, and crying and dancing.... lots of dancing and joy for the rest of the evening.



Dave with fellow celebrants Marcy Uhart, Frances Gulland, Billy Karesh and Marie-Pierre Ryser.

One other announcement was made. The Endowment of the Journal of Wildlife Diseases and its world wide distribution in lower income countries will be named in honor of David A. Jessup.

And, at the end of the banquet, WDA President Deb Miller turned over the gavel and leadership of WDA to Carlos das Neves, our new President. (see below)

WDA Conferences are designed to be both fun and informative, informal and meaningful, and by having several a year (the Latin American Section met in Costa Rica in July, the Australasian Section met at the end of September), we try to keep them reasonably sized so people have lots of opportunity to get to know one another. The 2019 WDA Annual International Conference was a 'bonanza' on all counts. Now we can all look forward to next year's meeting in 'La Mancha', home of Don Quixote and University of Castilla – Cuenca, August 30-September 5, 2020.



HIGHLIGHT ON STUDENT AWARD WINNERS



Winner of the *Terry Amundson Best Student Presentation Award*:

Anastasia Towe, Fourth year veterinary student and PhD candidate at the University of Tennessee, for her presentation entitled: "BATRACHOCHYTRIUM SALAMANDRIVORANS IN THE CUBAN TREEFROG (*Osteopilus*



Best Student Poster (two winners this year – with a decimal point tie for 1st place):

Megan E. Moriarty, PhD candidate at UC Davis, for her poster entitled: "Longitudinal assessment of domoic acid exposure and relative hazard of death due to cardiomyopathy in southern sea otters (*Enhydra lutris nereis*)"



Terry Amundson Best Student Presentation Honourable mention:

Kaylee A Byers, PhD candidate at the University of British Columbia, for her presentation entitled: "Making a mountain out of a rat hole: Could current rat control practices have unintended consequences?"



Student Poster - Honourable mention:

Risa Pesapane, PhD candidate at UC Davis, for her poster on "Molecular characterization and prevalence of *Halarachne halichoeri* in threatened southern sea otters (*Enhydra lutris nereis*)"

HIGHLIGHT ON STUDENT AWARD WINNERS



Research Recognition Travel Award Winner:
Chris Cleveland, University of Georgia



Graduate Student Scholarship Award Winners:
Kaylee Byers, University of British Columbia



Graduate Student Scholarship Award Winners:
Viviana Gonzalez-Astudillo, University of California-Davis

Student Travel Grant:

Catharina Vendl
Melanie Fetterly

Photo contest:

Andrew Di Salvo: landscape and people in nature
Kevin Keel: wildlife and people's choice
Michelle Verrant: landscape and people in nature
Nistara Randhawa: wildlife and people's choice

WILDLIFE DISEASE ASSOCIATION – AFRICA & MIDDLE EAST SECTION JOIN HANDS WITH KENYA VETERINARY ASSOCIATION TO ORGANISE A 2 DAY MEETING

Stephen Chege – Chairperson, WDA-AME Section thewildvet@gmail.com

The Wildlife Disease Association Africa & Middle East (WDA-AME) section joined hands with Kenya Veterinary Association (KVA) wildlife branch to organize a 2 day meeting in Kenya where veterinary professionals and paraprofessionals gathered and exchanged experiences and ideas on matters wildlife health and conservation. The theme of the meeting was “Enhancing veterinary professionals in wildlife conservation”. A total of 71 participants attended the meeting and were drawn from different disciplines; the academia, government and Non-governmental organizations. WDA-AME sponsored 5 students through a competitive process to attend the meeting. One of the students had this to say “I am blessed to have been selected to attend this meeting, it has really been an eye opener to me”. I call upon WDA as a whole to continue supporting students in realizing their dream in wildlife conservation.



CUENCA 2020 JOINT CONFERENCE



Joint Conference



— Alta velocidad (AVE, Alvia y Avant)
 Alta velocidad en construcción
 — Larga distancia (Alvia, Altaria, Talgo y Tren-Hotel)



Fuente: ADIF. EL PAÍS



CUENCA 2020 JOINT CONFERENCE



We are looking forward to
welcoming you in
Cuenca



Kristin Burns, OWCN
Communications

Did you know that September is National Preparedness Month? Each fall the Federal

Emergency Management Agency (FEMA) launches its “Ready” national public service campaign to educate families and communities to prepare for emergencies, including natural and human-made disasters. While humans can prepare for the worst, wildlife can’t. So who plans on their behalf?

When it comes to oil spills in California, it’s the Oiled Wildlife Care Network (OWCN), a world leader in oiled wildlife response, preparedness and research. Led by the Karen C. Drayer Wildlife Health Center at the UC Davis School of Veterinary Medicine, the OWCN was established in 1994 in partnership with the California Department of Fish and Wildlife – Office of Spill Prevention and Response (OSPR). To date the OWCN has directed the oiled wildlife response of more than 100 spills—inland and marine—and cared for more than 10,000 oiled birds, mammals and reptiles/amphibians.

The organization also plays an active role in large-scale oil spill crises around the world, such as the Deepwater Horizon oil spill in the Gulf of Mexico, and aids in national and international preparedness. A partner in the collaborative Global Oiled Wildlife Response System (GOWRS) project, the OWCN helped establish international standards of animal care and is working to develop a governance



system for the notification and mobilization of international wildlife response resources during large oil spills.

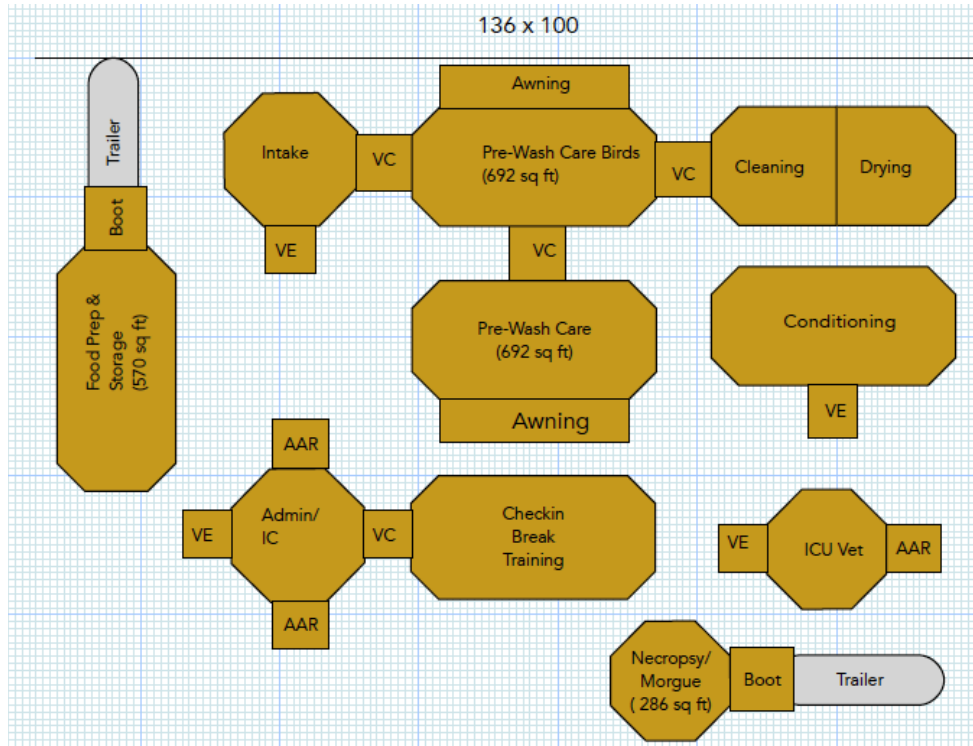
“Every month is preparedness month at the OWCN,” says Danene Birtell, OWCN readiness coordinator. “The challenges and complexity of oil spills are always evolving, so we are always testing, training and exploring ways to improve our methods for collecting and caring for oiled wildlife.”

The OWCN maintains a constant state of readiness for the next oil spill through

ongoing trainings, drills and exercises, with more than 40 member organizations throughout California, 1,300 trained responders, and specialized equipment and facilities. That includes mobile resources, since response and care don’t end when spills occur outside the immediate reach of a wildlife facility. Over the last few years, OWCN has expanded its cache of mobile vehicles and shelter options for the quick transport and assembly of disaster response facilities in remote areas, as can be the case with an inland spill.

In September, the OWCN conducted a Limited Deployment Drill of its mobile facility equipment at the U.S. Coast Guard Strike Team base in Novato, California. The OWCN management team, OSPR representatives and member organization International Bird Rescue worked together to erect a tent “city” of roughly 4,800 square feet, capable of accommodating 100 injured or ill animals at once, and up to 75 responders.

READY, SET, MOBILIZE



Mobile equipment by nature is a lot of moving parts. In addition to testing the efficiency and safety of set up, this drill gave the team the opportunity to conduct a thorough inventory to ensure each and every piece of shelter equipment, caging and care supplies were on hand to create wildlife recovery, field stabilization and primary care stations for the care, cleaning, conditioning, and release of a variety of species.

“Our mobile facilities are designed to do everything an existing care facility can do, nearly anywhere in the state,” said Curt Clumpner, deputy director of OWCN Animal Care Operations.

Learn more about OWCN’s mobile facility deployment at the UCSG and the organization’s latest activities at the OWCN blog, <https://owcnblog.wordpress.com/>.





Beginning in January 2020, WDA will provide BioOne Complete access to WDA regular, student, emeritus, and lifetime members **at no cost**. This member benefit will allow you to search a wide variety of biological and ecological journals from your laptop, view whole articles – not just abstracts – much like a library subscription or private reference service. We hope it will facilitate the efforts of our members who do not have access to full scientific libraries. It clearly helps WDA meet its mission to ‘acquire, disseminate and utilize knowledge of wildlife health/disease for the conservation of wildlife’ (WDA Mission paraphrased).

Among the journals included in BioOne Complete are: Avian Disease, Avian Medicine and Surgery, Canadian Journal of Veterinary Science, Journal of Parasitology, Wildlife Society Bulletin, Journal of Wildlife Management, Wildlife Monographs, and Journal of Zoo and Wildlife Medicine.

BioOne is a non-profit organization founded in 1999 by both library and publisher (including Allen Press) interests to address the inequities posed by commercial journal publishing. BioOne is committed to meeting library, publisher, and researcher needs through a growing portfolio of products and services.

[BioOne Complete](#), BioOne’s flagship product, is a database of over 200 subscribed and open-access titles in the biological, ecological, and environmental sciences. It provides libraries and individuals with cost-effective access to high-quality, curated research and independent society publishers with a dynamic, community-based platform and global distribution.

WDA is committed to providing its members with more benefits while keeping costs extremely low. When considering your memberships and your professional needs, do a little comparison shopping and you will find you can’t beat what WDA offers. And we are friendly, international, and open to all who care about wildlife health and conservation.

RESULTS OF WDA'S SECOND ANNUAL CROWDFUNDING WILDLIFE HEALTH AND DISEASE GRANT

Crowdfunding as a means to fund scientific research is becoming well-established in North America, and is gaining ground worldwide. There are some specific advantages to crowdfunding over traditional funding mechanisms, such as access to rewards to more junior scientists without an extensive prior publication record, quick access to funds, and increased visibility in the media or scientific community.¹

WDA's Futures Committee has identified grant funding for small research projects, particularly those supporting graduate students, as a priority. WDA has partnered with Experiment, which is the largest crowdfunding platform for scientific research. According to their website, research projects on [Experiment](#) have a funding success rate of 44%. Last year's WDA-Experiment Wildlife Health/Disease competition was a great success, funding 11 projects and raising over \$55,000.

This year's proposals were submitted to WDA by May 2019, and the campaign on the Experiment platform launched June 3. To qualify grant proposals needed to:

- 1) Deal with a significant health or disease issue in free-ranging marine or terrestrial wildlife.
- 2) Have implications for, or a focus on, wildlife populations and the ecosystems in which they live, not individual animal treatment and/or captive wildlife.
- 3) Emphasize species conservation and application of a One Health approach.

Although both Experiment and WDA publicized the grant call, grant proponents bore the primary responsibility for lining up support. Grant proponents must follow through and promote and publicize their grants, help find supporters and advocates throughout the process.

In 2019, WDA sponsored 7 prizes. \$1000 was awarded to the project with the greatest number of

donors on the 21st day of the campaigns: this was awarded to Amanda Høyer Boesen whose project 'Effects of Lead Exposure in Scandinavian Brown Bear' had about 150 backers!

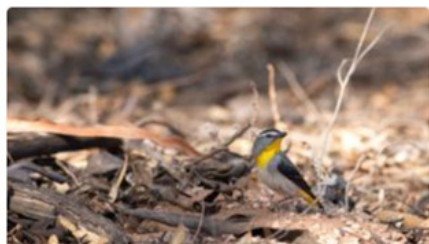
\$500 was awarded to the project with the second-most number of donors on the 21st day: this was awarded to a team of scientists whose project 'Building an Active Surveillance System for Lead in Northeastern Wildlife' had over 80 backers.

\$100 was awarded to four runners-up: "How does avian social behavior relate to risk of infection by malarial parasites?", "Can we utilize natural bat colony behavior as a vaccination strategy?", "Investigating the role of innate immune function in snakes battling fungal disease", and "Comprehensive health assessment of gopher tortoises inhabiting fragmented habitat in South Florida."

In total this year, six of projects were funded with a total of approximately. \$24,000 was raised. Please visit <https://experiment.com/grants/wda2019/> to learn more about the campaigns and the ambitious scientists who participated.

The Projects

Browse the participating projects



How does avian social behavior relate to risk of infection by malarial parasites?

Blood parasites can have devastating effects on bird populations, and climate change is expected to increase...



Ian Hoppe
University of Nebraska–Lincoln

100% funded \$6,000 goal 5 lab notes



Can we utilize natural bat colony behavior as a vaccination strategy?

Bats are one of the most prolific and ecologically important groups of mammals on the planet, but they are often...



Angela Bosco-Lauth
Colorado State University

102% funded \$4,750 goal 4 lab notes



Building an active surveillance system for lead in Northeastern wildlife

Many species of wildlife are exposed to lead in the environment, sometimes with devastating consequences. Some...



Tristan Burgess
Center for Wildlife Studies

100% funded \$4,210 goal 5 lab notes



Effects of lead exposure in Scandinavian brown bears

Toxicants of human origin are a growing concern to conservation. Lead (Pb) is a toxicant that accumulates in...



Amanda Høyer Boesen
Inland Norway University of Applie...

101% funded \$3,955 goal 8 lab notes



Investigating the role of innate immune function in snakes battling fungal disease

Ophidiomycosis (snake fungal disease) is a threat to snake health. Caused by the fungus *Ophidiomyces ophiodiicola*...



Ellen Haynes
Wildlife Epidemiology Lab, Universi...

110% funded \$2,300 goal 4 lab notes



Comprehensive health assessment of gopher tortoises inhabiting fragmented habitat in South Florida

Low fecundity has been reported for many gopher tortoise (*Gopherus polyphemus*) aggregations in south Florida...



Annie Page-Karjian
Florida Atlantic University's Harbor ...

100% funded \$2,400 goal 9 lab notes

1. Sauermann H, Franzoni C, Shafi K (2019) Crowdfunding scientific research: Descriptive insights and correlates of funding success. PLoS ONE 14(1): e0208384. <https://doi.org/10.1371/journal.pone.0208384>

BE A PART OF SOMETHING BIG

By Joe Gaydos and Dave Jessup

Since 2012, the Wildlife Disease Association has been raising funds and members making donations to endow the Journal of Wildlife Diseases. Endowments are a way to assure that something important will exist long after we are gone. In this case, we want to ensure, in perpetuity, the publication of the Journal of Wildlife Diseases. Also, it will help us continue to provide free access to the journal for colleagues in the 2/3rds of nations with lower per capita GDP – the places where conservation and health challenges are most severe but the ability to pay for good science the most challenging.

Originally, our goal was to set aside \$2.5 million in a safe, conservative invested account that produced approximately \$100,000-120,000 in interest and income annually. We have reached this goal, but realize that setting aside \$3 million will allow us to include other costs associated with journal publication. This is the biggest thing that the Wildlife Disease Association has ever done. We thank those that have already donated (below) and invite those that have not to be a part of this epic endeavor, or to increase your donation if you are moved to do so. When you renew your WDA dues this fall, please consider making a personally-significant contribution to the JWD Endowment and know you've invested in the long-term health of the organization that takes care of wildlife health world-wide. All donors will be recognized (as below) on a page in JWD for 5 years So you still have a chance to be part of the biggest thing WDA has ever done.

If you've donated to endow the Journal of Wildlife Diseases ...

We thank you! If you have not, please invest in something you love...

Donors giving cumulative gifts totaling...

\$5,000 and above

American Association of Wildlife Veterinarians, International Wildlife Veterinary Services, United States Department of Agriculture, and the Wildlife Conservation Society



\$1,000 to \$4,999

Anonymous, E. M. Addison, R. Clark, T. J. DeLiberto, A. Fairbrother, D. Jessup, W. B. Karesh, L. Locke, J. Mills, C. Pinney, S. Raverty, H. Schwantje, and C. Wyckoff

\$999 - \$500

I. Barker, L. Creekmore, T. deMaar, C. S. Deperno, B. Elkin, H. Ernest, T. G. Ksiazek, F. A. Leighton, L. Lowenstine, K. Mehren, J. Powers, M. J. Pybus, B. Raphael, K. Rose, C. Rupprecht, E. K. Saito, D. Schultz, T. Work, T. Yuill, and B. Zimmerman

\$499 - \$100

E. Agren, A. Aguirre, M. Anderson, N. E. Anderson, C. T. Atkinson, L. Baeten, P. Barrows, S. Bender, R. A. Bloch, T. Bollinger, R. Botzler, D. Bourne, D. Buckle, M. K. Campbell, S. Carver, K. Castle, M. Cattet, D. G. Constantine, T. Cornish, T. Creekmore, J. Ducrocq, B. Ellis, P. Gaffney, D. Gavier-Widen, J. K. Gaydos, J. Gillespie, C. Gillin, D. Goeldner, B. Gonzales, T. Grillo, C. Harms, C. Harris, S. M. Hernandez, C. Hilton, T. M. Hull, K. Burek Huntington, S. W. Jack, A. Justice-Allen, K. Keel, R. Kock, T. Kuiken, J. Langenberg, D. Ley, K. Mansfield, I. Marco, J. Mazet, D. McAloose, D. Miller, E. Miller, M. Miller, M. Miller, P. Nol, S. Ostrowski, A. Peters, T. Portas, M. Poss, K. Prager, Ranjbar Orthodontics, A. Reiss, C. Rennie III, T. E. Rocke, J. J. Root, S. Schafer, A. Shima, V. Simpson, M. Souza, D. Spratt, M. Stoskopf, E. Thompson, F. Tseng, M. Uhart, L. Uhazy, C. Van Riper III, Veterinary Information Network Inc., R. Wack, P. Whiteley, Wildlife Health International, B. Wolfe, P. Wolff, S. Wright, and M. Ziccardi.

Up to \$99

A. Atkins, M. Alley, K. Bagamian, A. Ballman, T. Barnes, V. Beasley, P. Belinsky, T. Bellamy, L. Berger, T. Besser, S. Bjorck, A. M. Bjornstad, P. Boujon, C. Boyce, P. Bright, B. Bron, J. Burco, T. Burgess, R. B. Burns III, K. Cameron, J. Catao-Dias, M. Conner, A. Chamings, E. Cook, M. Coombe, R. Cummings, P. Curry, F. J. Dein, M. Dew, R. O. Dittmar II, D. S. Dombrowski, E. Dubovi, P. Eden, L. Englund, A. Evans, D. Fauquier, P. Ferro, M. J. Forzan, J. Foster, K. Gailbreath, R. Gerhold, K. Gold, C. Gortazar, H. Haefele, D. E. Green, H. Haefele, B. Hartup, S. Hemsley, C. G. Himsworth, J. Hufschmid, C. Jardine, M. Jensen, M. Kadohira, W. Kistler, L. Klein, M. Kock, N. Lamberski, B. Lawson, D. Leandro, L. Lewis, A. B. Lichtenwainer, R. Maclean, N. Marreros, R. McManamon, D. McRuer, J. Mencher, E. Merrill, C. U. Meteyer, S. Michael, C. Miller, K. Miller, J. Mortenson, A. Neimanis, K. Niedringhaus, J. Niemuth, P. Nol, P. Oesterle, D. Okeson, J. Okoniewski, A. Peel, M. Petretto, S. Pfitzer, A. Phillips, B. Pollock, T. Ramey, E. Restis, A. Robbins, S. Robinson, M. P. Ryser, C. Sangster, D. Schock, V. I. Shearn-Bochsler, L. Shender, C. Shilton, A. Shostak, S. Shriner, R. R. Sim, S. Sirica, K. Sladky, C. Soos, M. Sriram, N. Stacy, D. Stanek, C. Staubach, M. Straub, T. Stephens, T. Stephenson, T. Taylor, Theimer, D. Tompkins, B. Trindle, P. Tuomi, K. Uetsuka, P. van Tulden, L. VanWormer, M. Verant, R. Verin, A. C. Vos, J. Ward, A. Wetterau, E. Wheeler, D. Whiteside, C. Whittier, G. Wibbelt, B. Wood, N. Yang and K. Yoneda.

If you have not yet made a gift to help secure the sustainability of JWD in perpetuity, please consider doing so now, or perhaps increasing your donation. No donation is too small. We would love to have 100% of WDA members support this important campaign and will be acknowledging all support in coming publications.

If you would like to make a donation of stocks or bonds or discuss options for making similar donations please email Angela Behm abehm@jandsadvisers.com or call her at 608-662-7500.

**Note:* If you have donated to the Endowment and do not see your name above or we have gotten your total giving as of September 1, 2019 wrong, please notify us and we will correct our records.

STUDENT CORNER

Dear Student Community.

This year the first North American student workshop took place at UC Davis right before the conference in Tahoe. The organizers are sharing this successful event here. Congratulations to them for their amazing work!

For students who were present at the conference in Tahoe, there was a survey from SAC available through October. Your answers are helping us to improve the SAC events for the next meetings, thank you for your help!

This year has been rich in student activities all around the world and sounds like it will continue for this new academic year! The EWDA student chapter renewed their board a few weeks ago and the Nordic Student Country Representatives from Denmark, Sweden and Norway are organizing a joint student workshop beginning December in Copenhagen; You can find all the information below:

-The Student Activities Committee



First NA WDA Student Workshop Summary

We held our 1st North American WDA Student Workshop on the UC Davis Campus from August 1-4. We had 14 speakers and 35 participants including

graduate students, vet students, veterinarians and other professionals in ecology and disease biology. Participants came from all sections of the United States, Canada, Europe, and Australia!



We greatly appreciate the time and effort of our speakers to provide such wonderful and interactive lectures. Thank you to Dr. Sonia Hernandez, Dr. Debra Miller, Dr. David Schneider, Dr. Michelle Hawkins, Dr. Jonna Mazet, Dr. Kevin Keel, Dr. Bill Sutton, Ms. Krysta Rogers, Ms. Leila Harris, Dr. Julie Blanchong, Dr. Pam Whiteley, Dr. Karrie Rose and Dr. Sarah Hamer for leading us through diverse topics of wildlife medicine and pathology, disease modeling, statistical analysis, field techniques of wildlife health, and much more.

We also learned a lot about our diverse and talented participants through our 3-minute thesis session and icebreaker the first night. It was inspiring to see what is up and coming in our wildlife health field as these students and young professionals build their research careers in the near future.

This workshop was full of didactic and theoretical material, but we still had the opportunity to host a casual social to chat and network. We were even lucky enough to participate in a bat sampling event in the nearby Yolo National forest. After an intensive 3 days, we created a strong community among established researchers and students.





Starting from top left moving clockwise: Dr. Mazet lecturing on one health research, Dr. Blanchong leading an interactive session on genetics, Dr. Hernandez engaging students in wildlife disease investigation, Dr. Schneider opening our minds to innovative disease modeling, Dr. Miller leading our opening 3MT session, Dr. Keel lecturing on application of pathology in wildlife conservation.



Starting from top left moving clockwise: Leila Harris shows us how to perform a wing punch biopsy in bats; Learning disease modeling in R in Dr. Sutton's statistics session Practicing radio telemetry in Dr. Hamer's session, Students engaging in didactic lecture



Finally, this could not have been possible without the help of our host, UC Davis, and sponsors: Schubot Center at Texas A&M University, Wildlife Disease Association, WDA Small Grants Award, and Alongside Wildlife Foundation. We will be gathering all lecture data from speakers for a final package available to all WDA members. We will also be getting started to form a new committee for the next workshop so stay tuned. If you are interested in helping organize this next event, please contact us at wdastudentworkshop@gmail.com. We look forward to hearing from you.

STUDENT CORNER

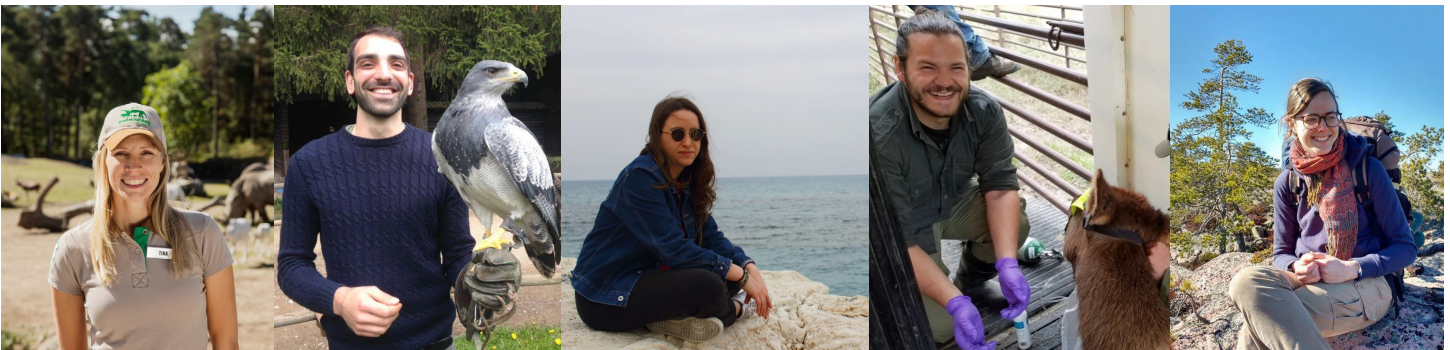
Latest news from EWDA Student Chapter:

After the elections that took place in June the EWDA Student Chapter can now officially introduce to the WDA student community the new board for 2019-2021:

- Chair: Marco Vecchiato, Italy
- Secretary: Tina Jansson, Sweden
- Communications Officer: Stefania Tampach, Greece
- Workshop Coordinator: Sinan Julian Keleş, Austria
- Past-Chair/Advisor: Anna Hillegonda Baauw, The Netherlands

With enthusiasm and with fresh new ideas they have started working in September. More information about the members of the new board can be found in the EWDA Student Chapter website:

<https://ewdastudent.wordpress.com/about-2/board/>



Upcoming events:

Something is going on in Scandinavia. We are excited to announce that the representatives from the Nordic countries are organizing the First Nordic Wildlife Student Symposium "Traversing Tracks" in 6-7-8 of December! Don't miss the great chance to learn all about Nordic Wildlife. Emerging infectious diseases in the Nordic countries, climate change, human/wildlife conflict and One Health are some of the topics they will be highlighted during this event. All students interested in working with wildlife are welcome to attend an interdisciplinary and Nordic wildlife-oriented student chapter. Follow the event on Facebook (Traversing Tracks: Nordic Wildlife Student Symposium) for updates about further topics, speakers and other exciting details!



QUARTERLY WILDLIFE MORTALITY REPORT

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

Re-visiting the risk of an exotic amphibian disease to North America: Bsal

It has been six years since devastating declines in European salamander populations led to the discovery of a novel amphibian pathogen, *Batrachochytrium salamandrivorans* (Bsal; Martel et al. 2013). North America has the greatest diversity of salamander species in the world (Yap et al. 2015); the discovery of Bsal represented an immediate threat to salamander biodiversity. In response, the U.S. Geological Survey (USGS) National Wildlife Health Center (NWHC), in collaboration with the USGS Amphibian Research and Monitoring Initiative (ARMI), developed a spatial risk model that incorporated multiple datasets including information on Bsal ecology, salamander species diversity, pet trade (Richgels et al. 2016). Pursuant to the published risk assessment, several actions to better assess and reduce the risk of Bsal to North American salamanders have been implemented:

- The U.S. Fish and Wildlife Service promulgated emergency regulations under the Lacey Act's Injurious Wildlife provisions to halt imports of captive salamanders known to be susceptible to Bsal. Prior to this rule nearly 150,000 salamanders per year were imported into the United States from regions in Southeast Asia where Bsal is thought to be endemic.
- Several research groups have initiated infection trials to characterize infection outcomes and host range of Bsal in North American amphibian species.
- The NWHC and ARMI have maintained an extensive risk-based surveillance effort of over 10,000 sampled amphibians with no detections of Bsal.
- A Bsal task force (see salamanderfungus.org) has been established to facilitate interactions among academic, federal, state, tribal, pet trade, and non-governmental amphibian organizations to share new information, research, and coordinate action to continue to address Bsal risk.

The NWHC is initiating an effort to re-visit Bsal risk with the following objectives:

- Collate new data and re-evaluate Bsal risk components, including introduction, exposure, and consequence.
- Leverage our extensive surveillance database to generate alternative scenarios of potential release and detection, and create an interactive mapping application to help generate scenarios for risk-based surveillance and response planning.

The threat of Bsal has not been averted; we are at a unique point where we can learn from what has been done since Bsal was discovered in Europe and the threat of Bsal to US salamanders can be still be addressed in a proactive fashion.

References

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Temperature-driven avian influenza virus transmission comes with a lag in sea ducks

A team of NWHC researchers, led by Dr. Jeff Hall, in collaboration with the Maine Department of Inland Fisheries and Wildlife, conducted a long-term study of influenza A virus (IAV) detection in sea duck species near Bar Harbor, Maine, from 2011-2017. Like many studies of influenzas that naturally circulate in wild waterfowl, they detected seasonal spikes in prevalence, but the timing was not the same between years. Temperatures 11 days before sampling were predictive of virus presence. Notably, there was no correlation between detection of IAVs and temperature the day of sampling.

Waterfowl and shorebirds are the primary hosts of IAVs and the virus relies on a fecal-oral transmission cycle that is subject to a variety of environmental influences, especially temperature (Brown et al. 2009). This finding underscores a frequently overlooked aspect of epidemiology and transmission, that the important environmental conditions for transmission may have existed days or even weeks prior to host sampling and pathogen detection. When defining the ecologically-appropriate environmental covariates to measure patterns of infection and transmission, the biology and timing of the pathogen transmission cycle should be incorporated. The IAVs detected were not pathogenic to people or poultry, and did not cause mortality in the sea ducks. However, sea ducks and other maritime birds, such as gulls and shorebirds, are a good target for surveillance of highly pathogenic IAVs because they are natural hosts for IAVs and can move viruses inter-continently.

References

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Sylvatic Plague at the Rocky Mountain Arsenal National Wildlife Refuge

In mid-July 2019, U.S. Fish and Wildlife Service (USFWS) staff began noticing deceased prairie dogs around the southwestern portion of the Rocky Mountain Arsenal National Wildlife Refuge. On July 24 and July 29, two deceased black-tailed prairie dogs (*Cynomys ludovicianus*) in testable condition were collected from a colony near the refuge visitor center and sent to the Colorado State University Veterinary Diagnostic Laboratory for diagnostic evaluation, including plague and tularemia. Both animals tested positive for plague (*Yersinia pestis*).

The refuge has been actively managing black-tailed prairie dog populations for the last five years to support black-footed ferret (*Mustela nigripes*) recovery and population growth. The refuge sylvatic

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plague management plan for prairie dogs outlines several plague management tools including: sylvatic plague vaccine (SPV), Fipronil, Deltamethrin (dusting), and increased monitoring efforts to identify all impacted prairie dog colonies. Areas of the refuge under plague management were not severely affected this summer; however, roughly 250 acres of prairie dog colonies in areas not managed for plague suffered almost 100% mortality as the event progressed.

The refuge worked closely with the Tri-County Health Department, DSG [soccer] Park, Commerce City, and Colorado Parks and Wildlife to determine the best response to the outbreak; this included temporary closure of the refuge and several surrounding public lands to visitors to limit human and pet exposure to plague and allow time for Deltamethrin application. The refuge returned to normal functions after the Labor Day holiday when prairie dog colony monitoring demonstrated no further animal mortalities and flea surveillance determined the efficacy of dusting. Summary contributed by Dr. Samantha Gibbs, USFWS.

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

- Main website: www.usgs.gov/nwhc.
- Disease Investigation Services: www.usgs.gov/nwhc/services.
- Report Mortality Events and Submit Specimens: 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: <http://whispers.usgs.gov/>