



## Members' Corner

### Supporting Your Journal

*David Stallknecht, Elizabeth Howerth, and James Mills*

The *Journal of Wildlife Diseases* is our association's most important tool related to our mission to "acquire, disseminate, and apply knowledge of the health and diseases of wild animals". Our Journal has served our profession from a time when study of wildlife diseases was in its infancy, and despite an increasing number of journals that now publish wildlife disease related research, it continues to fill an important niche. In an age of on-line publishing, free access, and impact factors, our Journal has at times shown its age related to the expectations of today's wildlife disease researchers, and in response, our editorial board, executive manager, and staff have gone to great lengths to keep us up to date and competitive. However,

in the end, it is the membership that decides if we will continue to be the lead journal in our profession. There are two very important areas where you, as members, can greatly contribute to the "health" of our Journal.

#### **Manuscript submission:**

The continued submission of quality manuscripts is the most important factor that will decide whether the *Journal of Wildlife Diseases* remains relevant. The decision to submit a manuscript to a particular journal primarily should be based on finding the most appropriate target audience but in our real-time, bean counting world, this is often a secondary consideration. In today's publishing environment, quick publishing times, free access, and impact factors are all important considerations related to submission, and right or wrong, all

can be important to our careers. However, it is important to maintain a realistic perspective in deciding where to submit your manuscript. For example, ask yourself if there is a critical need for your manuscript to be published two months after submission? Will a 6 month delay result in a wildlife disease crisis or stop science in its tracks? Is it critical that your manuscript be submitted to a journal with a higher impact factor when such an impact factor does not reflect how many times your manuscript has or will be cited and is as dependent on subject matter as it is on quality? Also, and perhaps most importantly, won't the submission of a manuscript with a high likelihood of being cited actually contribute to our Journal's impact factor and benefit all of us? From our personal perspectives, some of our most cited manuscripts (old and new) have been published in the *Journal of Wildlife Diseases* and I suspect that many of our Journal's contributors have similar experiences. When deciding whether to submit to the JWD keep science first, do not be sidetracked by perceived cost or benefits related to impact or "instant publication", and always, if possible, submit a manuscript that may improve our Journal's standing.

Once the JWD is selected, the importance of submitting a well constructed, quality manuscript cannot be overstated; the review process involves many individual steps, all of which can be impacted by manuscript quality. Overall, it is the manuscript that is poorly organized, poorly written, or improperly formatted that significantly slows down the review process and this can impact all submissions. When submitting a manuscript, make the additional effort to follow JWD style and format; this significantly reduces editorial and production efforts. Make sure the manuscript is constructed and written in a concise format; additional text and pages greatly increase production costs. And finally, submit a well written and grammatically correct manuscript. The JWD benefits from and encourages submissions from new authors and authors whose native language is not English and fully recognizes the challenges associated with both. It is important to find reliable mentors willing to help authors with this process. Good writing is always the product of significant re-writing and this process should take place before the editor sees the manuscript. A quality manuscript also requires good science and the submission of a well con-

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# Members' Corner

structured manuscript will allow the reviewers and editors to concentrate on the science rather than presentation.

**Manuscript review:** This area of membership participation often is overlooked but represents the most important component of the entire submission-to-publication process. Finding competent reviewers, especially related to some of the more obscure diseases and species we work with, is challenging to say the least, and the process of selecting reviewers and receiving their reviews generally decides the time it takes for a manuscript to move from submission to publication. When asked to review a manuscript for the JWD **accept the invitation** (we are all too busy; this is not a legitimate excuse), **do your review in a reasonable time** (you are the one controlling review time at this point) and **provide a quality review** that is constructive and provides the assistant editor and editor with sufficient information to base their decision on. A well constructed review not only scrutinizes the science but also critiques the manuscript related to structure (is the presentation as clear and efficient as it should be and where can it be improved) and writing (do we need yet another review of this well described subject in the introduction?), and provides a solid basis to justify a recommendation (from the editor) related to publication. The success of submissions from all members are dependent on quality and timely reviews and these take a considerable amount of time from your colleagues—return the favor. For newer members, let the editor and assistant editor know that you would be willing to do this and don't be reluctant to accept these assignments; the only way to learn how to do this well is to jump in and do it often, and in reality, we receive some of our most comprehensive reviews from our younger scientists.

Overall, the fate of our Journal is in your hands and this stewardship requires an effort far beyond the payment of membership dues. Our hope is that every member will strive to keep our Journal competitive and provide a research base that serves the needs of our profession. We invite every member to contribute to the editorial process either officially as a future editor or assistant editor or as a willing reviewer. Our Journal is worth the effort.

## WDA News

### North American Model of Wildlife Management

*Dave Jessup, WDA Executive Manager*

About six months ago I got an unexpected e-mail from a British PhD student asking me how wildlife was managed in North America. His thesis on the subject focused on the model in use in Southern Africa where wildlife belong to the person on whose land they live and he was finding it hard to believe that any other way of managing wildlife could result in as many conservation and wildlife management benefits. Despite the fact that I had worked for a US State wildlife conservation agency for 33 years I found it a bit difficult to explain how the US and Canadian (they are largely the same) systems worked, how they had come about, and why they had some advantages, as well as some disadvantages when compared to wildlife management systems in Europe and Africa.

A month later an issue of the Wildlife Professional (Vol. 4, No. 3), the Wildlife Societies (TWS) public outreach magazine, was entirely devoted to the North American Model of Wildlife Management. I read it from cover to cover, particularly enjoying sections comparing wildlife management in Europe, Africa and North America, and sent the link

<http://www.wildlifeprofessional-digital.org/wildlifeprofessional/fall2010/#pg1>

to my new young British colleague. I hope you learn as much from this as I did. It is provided with the permission and compliments of TWS as part of the MOU between our two organizations committing us to share information and expertise.

### 2010 Australasian Section Annual Conference

*Jenny McLelland*

The 2010 Australasian Section annual conference was held at Far South Wilderness Lodge in southern Tasmania during December. With registration beginning on Sunday, we all enjoyed an afternoon in a beautiful bush setting settling in and catching up with old and new faces.

Monday started bright and early for a WDA-A with an 8am session – very early for WDA-A delegates! Talks included updates on avian influenza surveillance, lead in kea in New Zealand and infra-red exploration of Hendra virus transmission. Karrie Rose (Australian Registry of Wildlife Health) demonstrated the ABIN (Australian Biosecurity Information Network) WildHealth project community space which aims to provide access to a collaborative environment to support disease diagnosis, surveillance, research and training activities in Australia. Joanne Connolly (Charles Sturt University) presented some work to assess the health and abundance of platypus in the Murrumbidgee Catchment (supported by a WDA-A research grant) that really showed how important collaboration between different disciplines is as the project looked at differing habitat types, water quality, fish species present, riparian vegetation quality and land use.

Several speakers talked about various aspects of Tasmanian devil research including development of a mouse model to investigate devil facial tumour disease. We heard several talks

about koalas ranging from admission trends at a rehab facility and chlamydia investigations to pharmacokinetics of some drugs in koalas. Brucellosis (“...a fabulous disease...to look at, not to have!”) in Hector’s Dolphins, coronavirus in bats, mycoplasmas in sea lions, erysipelas in blackbuck, sparganosis in tree frogs, fluorosis in kangaroos, and lungworms in possums were but a few of the interesting diseases in interesting species presented.

Our regular visitor from Japan – Parasitologist, Mitsuhiro Asakawa talked about the trials of working with imported research monkeys and emeritus member David Spratt gave a fascinating talk on the origins of helminths of Australian marsupials.

Lee Skerrat from James Cook University talked about Mitigating the impact of diseases affecting biodiversity - a retrospective on the outbreak investigation for chytridiomycosis. Lee identified areas for improvement in this sort of disease investigation and outlined a response framework that will assist in assessing risk and responding early in any outbreak investigation.

We were fortunate to have two delegates Khaled Juma Mohammed Al-Rasbi and Talal Mubarak Rashid Al-Obaidanifrom the Royal Court of Affairs in Oman. Although not officially presenting, Khaled gave an impromptu talk about his role as breeding manager and some of the interesting species he worked with.

## ACTIVITIES

All that have attended a WDA-A conference will be aware that the while high quality and very important, talks must fit in around eating and exploration of the local area. Activities this year included a field post-mortem workshop, a full day field trip to the fabulous Bruny Island (although the choppy southern ocean was a little too much for the stomach of my 18month old~!) and a half day visit to Hartz Mountain and Hastings cave and thermal springs for lovely walks, bird watching and soaking.

Julia Malcolm ([www.malcolm-studios.com](http://www.malcolm-studios.com)) one of our members donated some beautiful original artwork of a Tasmanian devil and an orange-bellied parrot for the conference. The images are printed on the proceedings, conference bag and T-shirts. The original works were auctioned by Rupert Baker where they fetched generous prices to support student activities. Our live auction is a new feature (with the only items auctioned thus far being Julia’s artwork) but has proved to be a very popular and amusing night with the image inspected thoroughly by potential buyers from the mainland for any sign of devil facial tumour disease and Julia suggesting that cloning (photocopying) the devil picture may be in the interest of the species.

Shirley, Dennis, Trudy and Trudy’s two sons worked hard

throughout the week filling us up with an ongoing supply of fabulous food. In true WDA-A fashion, the kitchen, dining and conference room were one in the same providing some competition for speakers towards the end of the sessions as delectable smells came wafting through.

## AWARDS

The 2010 award for the best student presentation was won by Tasha Czarny for her very enthusiastic work resulting in successful vitrification of oocytes isolated post-mortem from Tasmanian devils. Tasha is our new student representative and we look forward to working with her this coming year.

The Barry Munday Recognition Award recognises significant contributions to wildlife health made by a member of the Section in the preceding 5 years. Significant contributions to wildlife health include not just research or study of wildlife disease but also communication, education, training and mentoring, the composite of things at which Barry was so very skilled. Brett Gartrell from the New Zealand Wildlife Health Centre was the worthy recipient of this award.

Maurice Alley from Massey University, New Zealand and Chris Bunn, recently retired from the Australian Government Department of Agriculture Fisheries and Forestry, were both honoured for their lifetimes of work in the fields of wildlife health and contributions to the WDA-A with life membership.

We would especially like to thank our conference organisers – Colette Harmsen, Alexandre Kreiss, Sarah Michael and Sarah Peck who spent long hours before and during the conference making everything run smoothly .

The 2011 WDA-A annual conference will be held September 25<sup>th</sup>-30<sup>th</sup> in the Coorong, South Australia. For further information please contact me.

**Jenny McLelland ([jen.mclelland@gmail.com](mailto:jen.mclelland@gmail.com))**

**All WDA members, if you haven’t already PLEASE RENEW NOW!  
All memberships are based on the calendar year. Go to:  
<http://www.wildlivedisease.org/membership.htm>**

## Wildlifers in Agriculture: The road less traveled

Dave Jessup

Not everyone who works on wildlife does so just for the benefit of wildlife. Quite a number of WDA members come from the perspective of protecting the health of livestock. In the 1970's and 80's Barry Munday in Australia helped develop the area of wildlife disease investigations within the State government agriculture departments. Despite subsequent reduced support in agriculture ministries, Barry persisted and the field grew.

The primary responsibility of Roy Bengis in Kruger National Park, South Africa has been the protection of livestock health, but his contributions to the understanding of tuberculosis, anthrax and many other serious diseases of African wildlife are legendary. Many of the most active WDA members in Europe have funding through OIE and FAO, whose primary mission is agricultural animal health.

It frequently surprises wildlife health professionals in the US to find out that the US Department of Agriculture (USDA) has as much or more funding than the Department of Interior (USDI) for wildlife disease research and diagnostic testing, and wildlife habitat acquisition and management. Although many WDA members work for State and Federal (including USGS, NPS and USFWS under USDI) conservation agencies, as well as universities, zoos and non-governmental conservation organizations, relatively few work for agriculture agencies. If these last two sentences seem contradictory, they probably are. But, some long time wildlifers have spent major portions of their careers working in agriculture and making major contributions to wildlife health and management.

Dean Goeldner was in equine veterinary practice in the San Jose area when he became interested in wildlife veterinary medicine. As an introduction, he helped biologists capture, sample and collar mountain lions. Eventually Dean went to Washington DC to work for California Congressman Sam Farr under an AVMA congressional fellowship. In Rep. Farr's office he was able to address support for sea otter research, rhino and tiger conser-

vation funding and circus elephant welfare as part of his congressional experience. Then Dean spent four years as assistant director of AVMA's Governmental Relations Division. In 2003, he moved to USDA's Animal and Plant Health Inspection Service (APHIS) where he directed the chronic wasting disease (CWD) program, helping to craft policy and regulations and allocating an average of \$16 million in Congressional funding per year, much of it going to State wildlife agencies for surveillance and management. USDA APHIS has the ultimate US federal regulatory authority for all matters

related to animal health and disease, including wildlife. Dean spent most of 2010 with the U.S. House of Representatives Committee on Agriculture but returned to APHIS in 2011 and is looking for new opportunities to address wildlife health and disease issues.

Mitch Palmer, a former large animal practitioner, became a research pathologist at the National Animal Disease Center (NADC), of the Agricultural Research Service (ARS) in USDA. Although the mission of NADC is to conduct basic and applied research on diseases important to animal agriculture, Mitch was one of the first in ARS to focus on diseases transmitted between livestock and wildlife. As wildlife habitat decreases, the interface between livestock and wildlife becomes an ever-increasing area of concern. Mitch's research has focused on brucellosis and tuberculosis; diseases important to animal agriculture, which are passed back and forth between wildlife and livestock. In that capacity, Mitch has been able to work with

wildlife biologists and wildlife veterinarians to determine how these diseases are transmitted, measures that could be taken by both wildlife and agricultural interests to mitigate disease transmission, and potential vaccines for both wildlife and livestock.

Walt Cook was part of the 1994 U.C. Davis graduating class that contained quite a number of current wildlife vets. Walt fell under the influence of Tom Thorne and Beth Williams and decided to pursue a PhD at University of Wyoming. He worked for Wyoming Game and Fish before moving over the Livestock Board as Assistant State Veterinarian and later as State Veterinarian. In Wyoming, the single biggest issue for the state veterinarian's office is brucellosis, so Walt's understanding of wildlife issues and management was quite beneficial. Walt has since moved to the University of Wyoming as "Brucellosis Coordinator" where it is important to appreciate both the wildlife and livestock perspectives.



Feral horse round-up at Theodore Roosevelt National Park



# WDA News

Leslie Woods went through the zoological medicine track at UC Davis under Murray Fowler, Chuck Sedgwick and Mike Kock. After a year of small animal practice in Southern California, she joined the California State Veterinary Diagnostic Laboratory System/California Animal Health and Food Safety Laboratory System (CAHFS). She completed a PhD in Comparative Pathology and board certification in pathology (ACVP) while working at the diagnostic laboratory. She began her collaboration with the California Department of Fish and Game (CDFG) in 1993 when she first diagnosed adenovirus hemorrhagic disease that caused mortality of thousands of deer in more than 17 counties of California. She has collaborated with CDFG and National Park Service working on deer, elk, foxes, antelope, Pacific fishers and whatever other species Fish and Game submits to CAHFS for necropsy and diagnostic investigation. She loves the mix of livestock and wildlife.

Besides taking wildlife pathology cases, the CAHFS lab has cooperated with California Fish and Game in a number of other ways like the development of diagnostic tests for use in wildlife. Immunohistochemistry (IHC) for *Sarcocystis* and *Toxoplasma* has helped identify protozoal species in marine mammals. Other IHC tests were brought online to assist diagnosis of an outbreak of tularemia in hares in Northern California, and a canine distemper virus outbreak in foxes in 2010. Most recently an IHC has been developed to identify the presence of blue-green algae microtoxins in tissues of sea otters and dogs. Toxicologic surveys have performed by CAHFS personnel for domoic acid, a biotoxin produced by a "red tide" diatom that effects marine mammals and birds and which may be present in sea food and



effect people. And they have developed an RT-PCR widely used in surveillance of waterfowl for avian influenza. The broad mission of CAHFS includes human food safety, livestock and pet animal health as well as wildlife, and as we are increasingly recognizing, these are all linked under the "One Health" concept. Just as the "One Health" concept embraces the importance of the wildlife, livestock, human health interface, the mission statement of the Wildlife Disease Association stresses the importance of

diseases in wildlife "including interactions with humans and domestic animals". Agriculture is one of the "roads less traveled" to wildlife conservation.

Maybe next time you think of wildlife health professionals you will remember the representation they provide at the wildlife livestock interface is crucial for communication and coordination with agricultural professionals and stake holders. Without their efforts wildlife interests can easily be overlooked.

## WDA Section News

### New Zealand Report

#### Translocation of 30 Brown Kiwi from Little Barrier island to Pukaha Mount Bruce

*L.S Argilla BSc(Agric), BVSc, MACVSc(Avian Health)*

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Kiwi (*Apteryx* spp.) are flightless, nocturnal birds which belong to the order Apterygiformes (Heather and Robertson, 2005). They are endemic to New Zealand and are the unofficial national emblem as well as a taonga (treasure) species of strong significance for Maori. The closest relatives to kiwi are emus and cassowaries in Australia (Kiwi Recovery Plan 2008-2018).

The brown kiwi (*Apteryx mantelli*) is the most common of the kiwi species with around 25,000 birds remaining. They are classified as endangered on the IUCN red list with major threats to survival being predators such as dogs, stoats, ferrets and cats

(Birdlife Int. 2008). Brown kiwi are still in decline although the rate has been halted or reversed in intensively managed populations (Kiwi Recovery Plan 2008-2018).

In May 2010, the Department of Conservation caught 30 wild adult brown kiwi on Little Barrier Island to translocate them to Pukaha Mt Bruce nature reserve, a 940 hectare area of predator-trapped native forest. Kindly assisted by the RNZAF, the kiwi were transported to Masterton in a Hercules aircraft. From here they were taken to Pukaha Mt Bruce where they underwent a routine health check before being deemed healthy for release into the park.



New Zealand north island

Department of Conservation (DoC) vet Kate McInnes, assisted by vets Kerri Morgan, Baukje Lenting and Lisa Argilla from the New Zealand Wildlife Health Centre (NZWHC) performed the health screen on the kiwi. Assistance during the examination was also provided by Wildlife Technician Pauline Conayne (NZWHC), Darren Page (DoC) and DoC volunteer staff. A full beak to toe physical examination was performed to assess body condition, presence of any injuries or abnormalities, and the general health of the birds. Each kiwi was given 20mls of fluids (0.9% NaCl) orally and external parasites, in particular ticks, were treated with Frontline™ spray. As these kiwi originated from the northern North Island, most individuals carried many ticks which are not found in the Pukaha Mt Bruce forest. *Ixodes anatis* is the most common tick species found on brown kiwi, although the cattle tick *Haemophysalis longicornis* has also been shown to affect brown kiwi (Morgan, 2008). Heavy burdens of ticks may cause skin ulceration and anaemia.

A fecal sample was collected from each bird and submitted for parasitological screening as well as *Salmonella* and *Yersinia* culture. Parasitology showed low burdens of *coccidia*. All other lab results were within normal ranges.

All the birds were moderately dehydrated but were in otherwise good health. Most individuals were in a moderate to low body condition, with the majority of the birds given body condition score of 2-3 out of 9. This is the second translocation of brown kiwi from Little Barrier Island to Pukaha Mount Bruce, and the birds exhibited similar body condition scores during the previous transfer. It is suspected that Little Barrier Island is at carrying capacity for kiwi, as once birds were placed in Pukaha Mt Bruce, they rapidly gained weight with the abundance of food in this piece of bush (D. Page, pers. comm.).

Once given the clean bill of health, the birds were transported to the nature reserve and released into pre-formed burrows by DoC staff and volunteers.

This is the biggest ever translocation of brown kiwi in New Zealand the result of which will have a positive impact on the mainland brown kiwi population once these 30 "islanders" start contributing to the gene pool.

BirdLife International (2008). *Apteryx mantelli*. 2006. IUCN Red List of Threatened Species. IUCN 2006. [www.iucnredlist.org](http://www.iucnredlist.org).

Heather, B.D.; Robertson, H.A. 2005: The field guide to the birds of New Zealand. Penguin, Auckland.

Holzappel, S. 2008: Kiwi recovery plan, 2008–2018. Threatened Species Recovery Plan 60. Department of Conservation, Wellington.

Morgan, K.J. 2008. Kiwi first aid and veterinary care. De-

partment of Conservation, Wellington. 103 p.

## Western Australia Report

*Paul Eden*

Perth Zoo vets continue to manage an outbreak of chlamydophilosis (*Chlamydophila psittaci*) at a rehabilitation facility for threatened black cockatoo species. Aviaries within the centre have been placed under quarantine, and birds placed on treatment. Follow up screening will be undertaken in the next couple of weeks to assess the current status and determine if quarantine can be lifted.

Paul Eden gave a presentation on Perth Zoo's Conservation Medicine programs at a Threatened Species Forum. The WA Minister for Environment launched the Threatened Species Council (TSC) in October 2009. This was the inaugural forum for the TSC, and included presentations on research and conservation issues affecting WA flora and fauna. Representatives from Perth Zoo, Department of Environment and Conservation, King Park and Botanic Gardens Authority, WA Museum, and Department of Fisheries were present. A summary of discussions and recommendations will be forwarded to the Minister to continue developing the TSC, including a recommendation to invite non-government organizations to participate in future presentations.

Tom Hollingsworth, from the Department of Agriculture and Food WA, recently took over the role of State Representative for the AWHN. Tom has been working closely with key stakeholders, including Perth Zoo and DEC, to strengthen wildlife disease reporting in WA.

Paul Eden recently returned from a trip to Zambia with his partner, Kathy. During the trip, Paul and Kathy spent time with the Zambian Carnivore Program, monitoring a pack of African wild dogs in the South Luangwa National Park. They also spent time with staff from the South Luangwa Conservation Society and the Chipembele Wildlife Education Trust, and discussed issues such as illegal snaring of wildlife, educational programs, and strategies in managing human-wildlife conflict. Both found it a remarkable place to visit and were inspired by the people working towards addressing conservation issues in their locality.

## Limb amputation in a green sea turtle, *Chelonia mydas*

*Duan March, Coffs Harbor Pet Porpoise Pool*

A green sea turtle presented at the Pet Porpoise Pool on the 10.7.10. Fishing line was entangled around the left pectoral flipper. The area of flipper distal to the fishing line was necrotic and radiographs revealed that the line had actually fractured the humerus as well. Aside from the flipper the turtle was bright, though an initial blood smear revealed an apparent anaemia and heterophilia.

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The turtle received intracolemic fluids, Vitamin ADE and Vitamin B injections and commenced IM Baytril. Given the extent of the injury, it was decided to amputate the flipper and DECCW were consulted to authorize the procedure. Sea turtles with amputated pectoral flippers have been studied post release and found to successfully integrate back into the wild on many occasions. Females missing limbs have been recorded digging nests on beaches however some concern does surround the ability of a male amputee to successfully mate.

The turtle was anesthetized with Alfaxan at 5 mg/kg given IV via the dorsal cervical sinus, intubated and maintained on 2 % isoflurane. Following induction a period of apnea persisted for 22 minutes, after which the animal was ventilated via IPPV every 2 minutes. The distal end of the humerus was curetted and the incision closed. 0.01mg/kg Buprenorphine was given IM following the procedure. The animal had a very delayed recovery and received epinephrine iv, and was actually proclaimed dead at one point, following the absence of palpebral reflex, jaw tone or respiration for over one hour. The animal was left in the sun for a further two hours before any response to stimuli was observed. Following this response the animal receive 200ml iv fluids and Metacam at 0.2mg/kg, and was placed in a heated environment and shallow water heated to approximately 28 degrees.



Blood work was conducted post operatively and showed a poorly regenerating anaemia with a PCV of 5 and creatinine kinase of over 18,000. The turtle continues to receive Metacam SID and Baytril every second day and the animal is doing well and will have repeat bloods performed in 1 month. (*Ed: According to the author, the surgical site dehiscised several weeks after the surgery but then repaired through secondary intention.*)

## Wildlife Disease Association - Nordic Section Quarterly Report of

### Wildlife Disease Incidents for October, November and December 2010

*Edited by Bjørnar Ytrehus (bjornar.ytrehus@vetinst.no)*

#### Jackdaw (*Corvus monedula*) mortality in Sweden

*Erik Ågren (Erik.Agren@sva.se), National Veterinary Institute, Sweden*

Sweden, January 5, 2011: A (very) local UME (unexpected mortality event) in jackdaws (*Corvus monedula*) one night in southern Sweden. On a street in an urban area, partly along a park area with trees, at least 70 (up to 100 maybe), jackdaws were found around midnight, dead or dying along a stretch of the road (and only on the road, not on adjacent ground, estimated less than 100 m of the road strewn with

bodies). No observations of other dead or sick birds anywhere else in that area. A taxi driver later came forth and admitted driving through a flock of birds on that street during the night.

Media and local authorities gathered. The street was cordoned off by police. With almost real-time publishing in online newspapers, the media pressure was very high, especially as the large bird mortality of unknown cause had been seen in the US, and there were no other hot topics to write about. Five "intact" birds and one very flattened bird were couriered for a late evening pm at the National Veterinary Institute in Uppsala as it was a public holiday the day after. There was heavy blunt trauma and acute traumatic internal hemorrhage in all birds, no indication of infection, empty stomachs, and good body condition. Histopathology was unremarkable. Results pointed to "hit by car", and nothing else. Not "dropped dead out the sky" as the headlines tended to be in the media.

We have had a harsh, cold winter with lots of snow,

# WDA Section News

and large aggregations of corvid birds in urban areas. Salt to thaw ice on the streets had not been used on the actual site. The main question was why the flock was sitting on the street in the middle of the night, and why so many were struck by (at least) one car? Jackdaws are usually very "street smart" and this type of incident has not been reported before. Were the birds affected by something to make them unwary or have a sluggish reaction? Was the vehicle driving way above the speed limit? The ornithologists and biologists do not have any good explanation for the behavior. There was nothing to eat on the street, there were no hot air vents, no salt, etc.

From an epidemiologic view, infection or toxins were not that obvious suspicions, as the birds were all too nicely collected only on the street, the time period was too short, and there were no other observations before or after the finding. But, with an open mind, avian influenza, west nile virus, avian paramyxovirus, salt poisoning etc, had to be considered or eliminated by investigation.

Between 100-300 reader comments has after this event been noted in online editions of tabloids, for every newspaper article! Conspiracy theories are manifold: HAARP, fireworks, rat poison, eating salt from road, and regarding the Arkansas bird mortality: accidental air spill of chemical warfare substance phosgene from Iraq war, CERN atomic accelerator in Switzerland, extreme weather, solar flares and magnetic field disturbances causing confusion and disorientation, etc, etc. Helpful citizens and scientists have sent e-mails with theories to the institute: volcanic ash from Iceland (suffocation high in the atmosphere, then falling from the sky, with blunt trauma as a result), atmospheric jet streams forcing the birds to fly into the ground, biblical doomsday theories (soon year 2012...) and more!

Today, unless there is an ongoing major news item, media will have a field day with this kind of incident. One epidemiologist and one person from the information department at the institute kept the press informed, published preliminary result as soon as possible on the institute web page and answered calls. The final results of the investigation are of course also important to spread to the media, to make a closure of the incident. As the wildlife pathologist, I was interviewed for one hour on radio regarding the incident, other mass mortalities in birds (timely enough 8 000 doves were falling out of the sky in Italy during the weekend), domestic animals and in wildlife in general. Journalist calls take time to handle, but can be useful opportunities to inform

the public about the work with wildlife disease surveillance.

As an additional note: During the summer and autumn 2010 there were multiple reports and cases of rock pigeon (*Columba livia*) with avian paramyxovirus 1 in central and southern Sweden, with sporadic cases during the winter. The initial report was "100 pigeons falling down dead in the town".

## Rodent migrations and tularemia in Sweden

*Erik Ågren*

Increased small rodent populations with migrations of rodents could be noted for the second half of 2010, as indicated by reports of large numbers (40 or 50) dead rodents along roads or in gardens. Submitted carcasses had, in most cases, bite wounds from small predators (weasels, mink, etc). Small rodents and hares are routinely examined for *Francisella tularensis* bacteria, as tularemia is endemic in Sweden (the B-type bacteria). Tularemia was diagnosed in two Yellow-necked field mice (*Apodemus flavicollis*) found dead in Södertälje, along the east coast, but not in small rodents from the western regions with rodent migrations.

## Myxomatosis in wild rabbits in Sweden

*Erik Ågren*

Myxomatosis outbreak in wild rabbits (*Oryctolagus cuniculus*) have been noted in Skåne, the southernmost county in Sweden, with many observations of sick and dead rabbits, as colonies tend to be urbanized. Myxomatosis is endemic in southern Sweden, but is rarely reported except when there are larger outbreaks. A call for carcasses for diagnostic purposes was made, and the diagnosis could be verified at the institute.

## Fatal parvovirus enteritis in wild raccoon dogs (*Nyctereutes procyonoides*)

*Marja Isomursu (marja.isomursu@evira.fi)*

*Finnish Food Safety Authority, Production and Wild Animal Research Unit, Oulu, Finland*



# WDA Section News

In October 2010, parvovirus enteritis was confirmed as the cause of death in two raccoon dogs (*Nyctereutes procyonoides*) found dead in two separate locations in southeastern Finland. Post mortem examination revealed watery diarrhea and severe necrotizing enteritis typical of canine parvovirus infection. PCR-examination of the small intestine was positive for parvovirus. Both diseased raccoon dogs were young-of-the-year, aged ca. 5-6 months. They both had grown and developed normally and were in moderate body condition with no concurrent illnesses.

Parvovirus epidemics in raccoon dogs have been previously described in Finnish fur farms in the 1980's (Neuvonen et al. 1982). The epidemics were characterized by gastroenteritis and increased mortality of 2-5 week-old pups. Infections in wild Finnish raccoon dogs have not been recorded before. So far, the most prominent infectious disease of Finnish raccoon dogs has been sarcoptic mange. Moreover, raccoon dogs harbour the majority of the recognized high *Trichinella* spp. biomass in Finland. In 1988-1989, an epidemic of sylvatic rabies caused mortality in the population. The effect of parvovirus remains to be seen. The cases were found in autumn shortly before raccoon dogs retire to their dens for winter hibernation which will restrict the spread of the disease.

Raccoon dogs first invaded Finland from Russia, through the southeastern part of the country beginning in the 1930's. Omnivorous and highly fertile (mean litter size 9 pups), the species flourished and expanded in range and population size especially during the 1980's. Now the dense population seems to be spreading from Finland further westward, to Sweden and Norway.

## Reference:

Neuvonen, E., Veijalainen, P. and Kangas, J. 1982: Canine parvovirus infection in housed raccoon dogs and foxes in Finland. *Veterinary Record* 110: 448-449.

## Trichomoniasis in Stock Pigeons (*Columba oenas*) in Denmark

Anne Sofie Hammer ([ansh@vet.dtu.dk](mailto:ansh@vet.dtu.dk))

National Veterinary Institute, Århus, Denmark

During early spring and summer 2010, an ornithologist reported of increased mortalities among young stock pigeons (*Columba oenas*). At necropsy, animals submitted from April 2010 showed histopathological

changes in the heart, kidney and liver, characterized by cellular degeneration and necrosis and inflammatory cell infiltration. Various analyses for bacterial, viral or parasitic agents were inconclusive. However, at necropsy of a young animal found dead at the end of September 2010, profound necrosis and yellow coatings were present in the pharynx, esophagus and proventriculus. Additionally, this animal had similar histopathological changes in the heart and liver as previously described. Incubation of mucosal scrapings in InPouch™ TF (Trichomonas foetus Test) selective medium at 37°C for few days revealed high numbers of trichomonads by microscopic evaluation. Due to the fact that this method depends on relatively fresh material, it has not previously been possible to demonstrate live trichomonads from birds with particular necrotic lesions in the pharynx and esophagus.

## Carbofuran poisoning in White-tailed Eagles (*Haliaeetus albicilla*)

Anne Sofie Hammer

The sea eagle (white-tailed eagle, *Haliaeetus albicilla*) has recently reoccurred as a normal breeding bird in Denmark. In 2009, 28 breeding couples were present, predominantly in the southern parts of Denmark. In June 2010, one young and one adult female sea eagle were found dead beneath the nest. There were no remarkable macroscopic or histopathological changes. In both animals, small black round particles of approximately 1 mm in diameter were found imbedded in remains from a bird. Subsequent analysis determined the presence of carbofuran, which is a highly toxic carbamate pesticide that will kill birds even in very small amounts. Carbofuran has been prohibited in EU since 2008 and the origin of carbofuran in the eagles has not yet been solved by the authorities.

## Tularemia in Mountain Hares (*Lepus timidus*) in a Lemming year

Bjørnar Ytrehus ([bjornar.ytrehus@vetinst.no](mailto:bjornar.ytrehus@vetinst.no)), Turid Vikøren, Kjell Handeland, Tone Bjordal Johansen, Berit Dønne, National Veterinary Institute, Norway

Hunters in mountain areas in South Norway observed high abundance and high mortality of Norway Lemmings (*Lemmus lemmus*) this autumn. This species is well known for its dramatic 3-4 year population cycle, in which the species' population periodically rises to in-

# WDA Section News

credible levels, high mortality and population collapse. There are many theories about how and why the lemmings die, from mass suicide to anti-browsing substances and increased predation. One of the theories, proposed by H. Horne at NVI in 1908, is that the mortality is caused by an acute bacterial disease, the "lemming pest", later characterized as infection with *Francisella tularensis*.

In spite of trying to urge hunters and managers to submit fresh carcasses of lemmings and other rodents, we did not receive any. However, several Mountain Hares (*Lepus timidus*) found dead were submitted from mountain areas in both the southernmost, western and eastern parts of South Norway, from below 59° to 63°N. Many of these hares had pathological and bacteriological findings consistent with acute septicaemia caused by *Francisella tularensis*.

In some regions, local hunters claimed that they had observed "lots of hares" during the summer, but that they had "disappeared" during the autumn. This may suggest that there have been a considerable mortality among Mountain Hares in this period.

## Rabies in Polar Fox (*Vulpes lagopus*) in Arctic Norway

*Bjørnar Ytrehus (bjornar.ytrehus@vetinst.no), Turid Vikøren, Kjell Handeland, Irene Ørpetveit, National Veterinary Institute, Norway*

The 4<sup>th</sup> of January one of several Polar Foxes lurking around the dogs kept at the meteorological station at Hopen (76.30° N 25.01° E) suddenly approached and attacked two of the much larger polar dogs (see image). The personnel who witnessed the attack released the dogs, which are trained to scare away Polar Bears, in order to chase the fox away. However, the fox did not flee, but approached both humans and dogs in an aggressive manner and was killed by the dogs.

The carcass of the fox was transferred to Oslo and necropsied. The animal was a young adult male. Consistent with the anamnesis, there were several bite marks on the thorax and abdomen and the cause of death was laceration of lungs with subsequent haemothorax. The fox was meagre, but otherwise in normal condition. Its eyes were lying deep in the orbit and the membranae nictitans were prolapsed. The stomach contained only small amounts of seaweed and white hairs, the gall

bladder was dilated, there were only small amounts of content in the small intestines, the content of the colon was dark and watery and faeces was smeared around its anus.

IFAT for rabies virus antigens was performed on imprints made from brain tissue and real-time PCR for detection of

lyssavirus RNA was performed on brain tissue. Both tests were found to be positive.

Hopen is a small cliff island south-east of Spitsbergen in the Svalbard archipelago. During the winter, the pack ice have surrounded the island, bringing with it seals, bears and foxes that follow the ice rim. The rabid fox may consequently originate from other islands in the archipelago or from islands even further east. Rabies is occasionally diagnosed on Svalbard and epizootics have occurred. It is however 12 years since last time an animal from the islands was found positive for rabies virus. Rabies has never been diagnosed in mainland Norway.



Images: The rabid fox attacks the polar dogs at Hopen (photos: Ragnar Sønstebø).



## **Virulent Newcastle Disease Virus in Double-Crested Cormorants (Maryland, Minnesota, North Dakota, Wisconsin)**

Beginning in July 2010, double-crested cormorants displaying neurological signs including lethargy, paralysis of the wings and legs, twisting of the neck, and/or erratic swimming were observed at nesting colonies located in Maryland, Minnesota, North Dakota, and Wisconsin. Double-crested cormorants submitted to the USGS-National Wildlife Health Center from these sites tested positive for virulent Newcastle Disease virus (NDV). Newcastle Disease virus belongs to the group of viruses known as avian paramyxovirus-1 (APMV-1). This APMV-1 virus is often lethal to double-crested cormorants; its designation as virulent NDV indicates potential virulence to poultry. Additional mortalities at these sites included American white pelicans, ring-billed gulls, California gulls, and mallards; however, the cause of death in these species was attributed to other diseases including West Nile virus, salmonellosis, and aspergillosis. For a summary of recent NDV mortality events involving wild birds and the geographic expansion in the eastern US, see the Wildlife Health Bulletins (Sep 2010, Dec 2010) at: [http://www.nwhc.usgs.gov/publications/wildlife\\_health\\_bulletins/index.jsp](http://www.nwhc.usgs.gov/publications/wildlife_health_bulletins/index.jsp).

## **Rabies in Brazilian Free-Tailed Bats (Texas)**

In August 2010, several thousand dead and sick Brazilian free-tailed bats were found in the vicinity of a roost-site in Williamson County, Texas. Bats were reportedly seen flying during the day and landing on the ground too weak to fly. The cause of death in these bats was determined to be rabies virus, a member of the lyssavirus group. A large-scale rabies-associated mortality event, such as the one observed at this site, generally decreases the frequency of contact among bats in the population, resulting in decreased transmission of the virus and subsequent recovery of the bat population as long as environmental conditions (e.g., food supply) remain favorable. Due to the large population size at this roost (estimated to be over one million bats), officials with the Texas Department of Transportation confirmed that signs were already in place at the site to remind the public never to handle bats.

## **Grebe Mortality at San Diego Reservoir (California)**

Multiple agencies responded to a mortality event of Western and Clark's grebes at Sweetwater Reservoir in San Diego County, California. Initial reports indicated more than 250

grebes were known dead with few other species affected. Carcasses were in various states of decomposition; mortality was estimated to have begun around July 1, 2010. Examination of grebe carcasses by the USGS-National Wildlife Health Center, the San Diego County Veterinarian, and the California Animal Health and Food Safety Laboratory all revealed severe emaciation on gross examination of affected birds. Laboratory testing did not identify any bacterial or viral pathogens, parasites, or toxins in tissues or water samples. Mortalities continued throughout July and totaled 600 birds, which comprised about 90% of the resident grebe population. No abnormal environmental conditions were noted during field investigations, and no other nearby areas were affected. Fish surveys conducted by California Department of Fish and Game identified schools of shad throughout the lake, and populations were consistent with other similar lakes in southern California. The cause of this mortality event is still undetermined. A substantially larger mortality event involving an estimated 150,000 eared grebes occurred at the Salton Sea in 1991-1992. The cause of this mortality event remains undetermined as well, although field signs and carcass conditions (e.g., gulping fresh water, excessive preening, and allowing close approach) were dissimilar (Meteyer et al. 2004).

Meteyer, C. U., Audet, D. J., Rocke, T. E., Radke, W., Creekmore, L. H. and Duncan, R. (2004) Investigation of a large-scale Eared Grebes (*Podiceps nigricollis*) die-off at the Salton Sea, California, in 1992. *Stud. Avian Biol.* 27: 141-151.

## **Wood Stork Mortality at Blackburn Bay (Florida)**

In July 2010, a small group of wood storks (mostly juveniles) in Sarasota County were involved in an unusual mortality event. Clinical signs observed in affected birds included disorientation, incoordination, and "drunken"-type behaviors. Many had evidence of trauma presumably from wandering into traffic and died shortly after arriving at a rehabilitation facility. Mortalities totaled 16 birds although a rookery population of approximately 40 storks was considered at risk in the area. Water samples collected during this event did not identify any harmful algal blooms in the area. Toxicology results from one of two birds that died from traumatic injuries identified several compounds including common euthanasia drugs pentobarbital (and its metabolite metobarbital) and phenytoin, benzenemethanol (a local anesthetic), methamidophos (an organophosphate), and D-limonene (a citrus oil-based pesticide). In addition, this bird also tested positive for botulism type C although it is possible that these results were confounded by the other toxins present. Three affected storks did survive this event with supportive care. Wood storks are listed as endangered by the US Fish & Wildlife Service although reclassification of the southeastern US breeding population to threatened status is currently under

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review. They are the only stork species regularly found in the US. Their diet consists mainly of fish although they occasionally consume crustaceans, amphibians, reptiles, mammals, birds and arthropods. There are anecdotal reports of wood storks feeding on landfills or their run-off water which may explain the source of exposure to the various compounds identified in this case, although this could not be confirmed.

## Quarterly Wildlife Mortality Report

July 2010 to September 2010

State	Location	Dates	Species	Mortality <sup>a</sup>	Diagnosis <sup>b</sup>	Lab site <sup>c</sup>
AZ	Mesa	06/01/10-ongoing	Mourning Dove Eurasian Collared Dove White-winged Dove	8	Viral Infection: Avian Paramyxovirus 1 (Pigeon Paramyxovirus)	NW
CA	Catalina Island	07/07/10-ongoing	Bald Eagle	4	Undetermined, decomposed, Emaciation	NW
CA	Ellis Lake, Marysville	06/22/10-08/01/10	Hybrid Duck	150 (e)	Botulism suspect	NON
CA	Joshua Tree National Park	08/24/10-08/25/10	American White Pelican	5	Steatitis	NW
CA	Sweetwater Reservoir	07/01/10-08/15/10	Western Grebe Clark's Grebe	600 (e)	Emaciation	CFG, NW, OT
FL	Blackburn Bay	07/08/10-07/30/10	Wood Stork	16	Trauma, Toxicosis: Pentobarbital, Toxicosis: Methanmidiphos	NW, UFL
FL	Ft. Meyers/Cape Coral	08/01/10-08/15/10	Muscovy Duck Snowy Egret	15 (e)	Botulism type C	NW
FL	Longboat Key, Lido Key	08/17/10-09/15/10	Laughing Gull Royal Tern Common Tern	65 (e)	Aspergillosis, Salmonellosis	NW
FL	St Johns River	05/20/10-07/01/10	Bald Eagle Osprey	5 (e)	Blue-green algae toxicosis suspect	FL, NW
GA	Holly Creek, Murray County	09/04/10-09/14/10	Bullfrog	35 (e)	Viral Infection: Ranavirus, Parasitism: <i>Lernaea</i> sp., Fungal infection: <i>Saprolegnia</i> sp.	NW
ID	Jefferson County	06/29/10-07/02/10	Little Brown Bat	30 (e)	Predation	NW
ID	Power County	07/23/10-08/09/10	Mallard	100 (e)	Botulism type C	NW
IL	Upper Mississippi River NWR	09/01/10-09/13/10	American White Pelican	14 (e)	Undetermined	NW
MA	Buttonwood Park Zoo	07/14/10-07/19/10	Mallard	15	Botulism type C	NW
MD	Poplar Island	07/19/10-08/30/10	Mallard Osprey	70	Emaciation, Predation, Renal failure	NW
MD	Poplar Island	07/19/10-09/20/10	Herring Gull Unidentified Gull	16	Aspergillosis	NW
MD	Poplar Island	07/19/10-09/24/10	Double-crested Cormorant	84 (e)	Viral Infection: virulent Newcastle Disease, Salmonellosis	NW
ME	York County, Cumberland County	08/01/10-10/28/10	Double-crested Cormorant	8 (e)	Emaciation, Salmonellosis, Viral Infection: Avian Paramyxovirus 1 suspect Trauma suspect	NW, NH
MI	Gulliver Creek, Inland Harbor, and Birch Point	08/25/10-11/29/10	Long-Tailed Duck 573 White-winged Scoter Common Loon Red-necked Grebe Herring Gull		Botulism type E	MI, NW
MI	Mackinac County	08/01/10-09/30/10	Unidentified Grebe Double-crested Cormorant Unidentified Gull Common Merganser Pied-billed Grebe	300 (e)	Botulism type E	MI, NW
MN	Lake Alice	07/28/10-08/12/10	Mallard Double-crested Cormorant Wood Duck Canada Goose Great Egret	15 (e)	Open	NW
MN	Lake Johanna	07/27/10-ongoing	Ring-billed Gull American White Pelican	100 (e)	Aspergillosis	NW

# News from the Field

State	Location	Dates	Species	Mortality <sup>a</sup>	Diagnosis <sup>b</sup>	Lab site <sup>c</sup>
MN	Lake Vermillion	07/27/10-ongoing	Double-crested Cormorant Double-crested Cormorant	125 (e)	Viral Infection: Avian Paramyxovirus 1 suspect	NW
MN	Upper Mississippi River NWFR	09/06/10-11/26/10	American Coot Lesser Scaup Ring-necked Duck Bufflehead Mallard	4,290 (e)	Parasitism suspect	NW
MN	Marsh Lake	07/05/10-09/28/10	Double-crested Cormorant Ring-billed Gull American White Pelican Unidentified Egret Canada Goose	1,417**	Viral Infection: virulent Newcastle Disease (NDV ONLY FOUND IN CORMORANTS), Salmonellosis, Aspergillosis, Parasitism: <i>Contracaecum</i> sp., Viral infection: West Nile virus	NW
MN	New Ulm Municipal Airport	07/17/10-07/17/10	Tree Swallow	70 (e)	Toxicosis suspect	NW
MN	Red Lake Rock and Crowduck Island	07/29/10-08/06/10	American White Pelican Double-crested Cormorant Ring-billed Gull	800		(e) Open NW
MN	Well's Lake	07/27/10-10/01/10	Double-crested Cormorant Great Egret Mallard	357**	Viral Infection: virulent Newcastle Disease (NDV ONLY FOUND IN CORMORANTS), Aspergillosis, Salmonellosis	NW
MT	Musselshell County	07/25/10-07/26/10	Western Small-footed Bat Little Brown Bat	7	Trauma suspect	NW
MT	Big Hole River	08/19/10-08/20/10	Common Raven	5 (e)	Undetermined	NW
MT	Eyraud Lakes	07/09/10-07/19/10	California Gull	30 (e)	Airsacculitis	NW
MT	Lost Creek	08/17/10-ongoing	Highorn Sheep		Pneumonia	MT
MT	Miles City	07/19/10-07/27/10	Wood Duck	10	Aspergillosis	NW
ND	Williams County	07/08/10-ongoing	American White Pelican Ring-billed Gull Double-crested Cormorant American White Pelican California Gull	5 (e)	Emaciation	NW
ND	Chase Lake NWR	07/21/10-07/31/10	Double-crested Cormorant American White Pelican Ring-billed Gull	375**	Viral Infection: virulent Newcastle Disease (NDV ONLY FOUND IN CORMORANTS), Salmonellosis	NW
ND	Chase Lake NWR	09/10/10-10/18/10	Unidentified Egret American White Pelican	525 (e)	Viral Infection: West Nile Virus suspect	NW
ND	Christenson Lake WPA	07/01/10-08/31/10	Ring-billed Gull Double-crested Cormorant Canada Goose	73	Botulism type C	NW
ND	Garrison Dam	07/19/10-07/19/10	Little Brown Bat	20 (e)	Undetermined	NW
NE	Summer Haven Lake	07/24/10-07/24/10	Purple Martin	12 (e)	Trauma	NW
NV	Esmeralda County	05/01/10-ongoing	Pied-billed Grebe Eared Grebe	22	Toxicosis: salt	NW
NV	Sheldon NWR	08/12/10-08/17/10	Bullfrog	100 (e)	Predation	NW
OH	Proctorville	07/22/10-07/22/10	Mallard	30	Toxicosis: Carbofuran	NW
OH	Cuyahoga County	06/28/10-07/21/10	Mallard Canada Goose	30 (e)	Botulism type C	NW
OR	Coos Bay	09/23/10-09/26/10	Northern Pintail Green-winged Teal American Wigeon Northern Shoveler	500 (e)	Drowning suspect	NW
OR	Corvallis Area, Multiple Counties	07/01/10-09/01/10	Black-tailed Deer	75 (e)	Viral Infection: Adenovirus hemorrhagic disease	OR
SD	Sand Lake, Mud Lake, Zabrasha GPA	07/19/10-09/10/10	Franklin's Gull Mallard Northern Pintail American Coot Northern Shoveler	692	Botulism type C	NW
SD	Swan Lake	07/21/10-09/20/10	American Coot Northern Pintail Western Grebe Mallard Wood Duck	134	Botulism type C	NW

# News from the Field

State	Location	Dates	Species	Mortality <sup>a</sup>	Diagnosis <sup>b</sup>	Lab site <sup>c</sup>
TX	McNeil Bridge, Williamson County	08/01/10-08/31/10	Brazilian Free-tailed Bat	2,000 (e)	Rabies	NW
WA	Walla Walla County	07/29/10-07/30/10	Little Brown Bat	80 (e)	Undetermined	NW
WA	Potholes Lake	07/15/10-08/24/10	American White Pelican	28 (e)	Botulism type C, Viral Infection: West Nile virus	NW
WI	Cambers Island	09/01/10-09/15/10	Unidentified Gull	12	Botulism suspect	NON
WI	Door County	07/06/10-11/17/10	Unidentified Gull	46	Botulism type E	NW
			Double-crested Cormorant			
			Ring-billed Gull			
			Unidentified Tern			
			Herring Gull			
WI	Holcombe	06/15/10-07/01/10	Big Brown Bat	12 (e)	Predation	NW
WI	Horicon NWR	06/30/10-10/22/10	American White Pelican	50 (e)	Botulism type C	NW
			Canada Goose		Viral Infection: Avian Paramyxovirus 1 suspect	
			Mallard			
			Double-crested Cormorant			
WI	Lake Onalaska	09/06/10-11/26/10	American Coot	355 (e)	Parasitism: <i>Sphaeridiotrema</i> <i>globulus</i> , <i>Cyathocotyle bushiensis</i>	NW
			Mallard			
			Lesser Scaup			
			Blue-winged Teal			
			Ring-necked Duck			
WI	Spider and Pilot Islands	07/27/10-09/15/10	Double-crested Cormorant	450 (e)	Viral Infection: virulent Newcastle Disease, Botulism type E, Emaciation	NW
WY	Yellowstone National Park	08/04/10-ongoing	Tiger Salamander	20 (e)	Open	NW
<u>Updates / Corrections</u>						
CT	North Brandford	05/31/10-06/15/10	Wood Frog	2000 (e)	Viral Infection: Ranavirus suspect	NON
HI	Hawaiian Islands	03/01/10-ongoing	Stripebelly Puffer	200 (e)	Open	NW, OT
			Guineafowl Puffer			
			Porcupine Puffer			
ID	Ada County	06/02/10-06/15/10	California Gull	300 (e)	Botulism type E	NW
TX	Uvalde and Kinney Counties	06/20/10-06/30/10	White-tailed Deer	11 (e)	Bacterial Infection: anthrax	A&M
TX	Houston	03/26/10-04/02/10	Cedar Waxwing	50 (e)	Toxicosis: ethanol	NW
VA	Montgomery County	06/13/10-06/13/10	Unidentified Bat	10	Undetermined	NW

<sup>a</sup> (e) = estimate

<sup>b</sup> Suspect diagnosis = diagnosis is not finalized, but field signs and historic patterns indicate the disease.

<sup>c</sup> Texas A & M (A&M), Disease Laboratory of the California Department of Fish & Game (CFG), Florida Fish and Wildlife Conservation Commission (FL), Michigan Department of Natural Resources and Environment (MI), Montana Fish, Wildlife, and Parks Diagnostic Laboratory (MT), New Hampshire Fish and Game Department (NH), No diagnostics pursued (NON), USGS National Wildlife Health Center (NW), Oregon State Diagnostic Laboratory (OR), Other (OT), University of Florida (UFL).

Written and compiled by: Anne Ballmann, LeAnn White, Krysten Schuler, Jennifer Bradsby, and Jennifer Chipault.

To report mortality or receive information about this report, please contact the USGS National Wildlife Health Center, 6006 Schroeder Road, Madison, WI 53711

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

To view new and ongoing wildlife mortality events nationwide visit [http://www.nwhc.usgs.gov/mortality\\_events/ongoing.jsp](http://www.nwhc.usgs.gov/mortality_events/ongoing.jsp)

## WDA STUDENT AWARDS COMPETITION - 2011

Each year the Wildlife Disease Association (WDA) sponsors student awards competitions. At the 2011 WDA meeting in **Quebec City, Quebec, Canada (August 14-19, 2011)**, students are encouraged to compete for four awards:

- 1) Graduate Student Research Recognition Award
- 2) Graduate Student Scholarship Award
- 3) Terry Amundson Student Presentation Award
- 4) Student Poster Award

Additional information concerning application requirements and judging criteria are available on the WDA website at:

[http://www.wildlifedisease.org/Student\\_Awards.htm](http://www.wildlifedisease.org/Student_Awards.htm)

Applicants for all awards **must be** student members of the WDA at the time applications or abstracts are received. Information about WDA student membership can be found at:

<http://www.wildlifedisease.org/membership.htm>

Applicants for the Graduate Student Research Recognition and Graduate Student Scholarship Awards **must be pursuing an advanced (graduate) degree** at the time of application.

### APPLICATION INSTRUCTIONS:

#### 1. Wildlife Disease Association Graduate Student Research Recognition Award

**DEADLINE:** Applications must be **received** no later than Friday, April 1, 2011.

This award is given to the student judged to have the best research project in the field of wildlife health/disease, based on written communication and scientific achievement. The winner receives a plaque and up to \$5,000 US to cover travel, housing, registration, and similar expenses related to the annual WDA conference. The student will be the keynote speaker during the student presentation session at the conference.

For consideration, applicants must electronically submit their application (formatted in PDF (preferred) or MS Word files) as an e-mail attachment to the chair of the student awards committee, Dr. Emi K. Saito, at [Emi.K.Saito@aphis.usda.gov](mailto:Emi.K.Saito@aphis.usda.gov). **The application should include the following documents:**

- 1) A summary of their research structured as follows: *Title, abstract, introduction, materials and methods, results, discussion, references, tables, and figures.*

The abstract, introduction, materials and methods, results, and discussion must be limited to 10 double-spaced pages with a typeface of font 10 or larger, and 1" margins. The title page should be separate.

- 2) A cover letter, written by the applicant, stating how the research relates to the WDA mission. The mission statement is available inside the back cover of the Journal of Wildlife Diseases or on the WDA website (<http://www.wildlifedisease.org/>).
- 3) One letter of support from the faculty advisor indicating degree of student involvement in planning and execution of the research project.

Grounds for disqualification include:

- Items missing.
- Submissions received beyond the deadline date.
- Failure to secure status as a student member of the WDA at the time of application.
- Absence from a graduate degree program at the time of application.

#### 2. Wildlife Disease Association Graduate Student Scholarship

**DEADLINE:** Applications must be **received** no later than Friday, April 1, 2011.

This award acknowledges outstanding academic and research accomplishment, productivity, and future potential in pursuit of new knowledge in wildlife disease or health. The scholarship has a value of \$2,000 US and is awarded annually to an outstanding student pursuing Master's or doctoral degrees specializing in wildlife disease research.

To be considered, the candidate must have completed a four-year baccalaureate degree. Candidates with an overall grade point average of 3.5 or above in 4.0 systems or 80% or better in percentile systems will receive priority. **Students not scored on the 4.0 grade point system MUST include an official explanation of the grade point or grade score system used at their institution and preferably provide a conversion to a 4.0 or percentile grade point average.** The candidate should be committed to leadership, scholarship, and service in the wildlife health profession.

To be considered, applicants must electronically submit one copy of the following documents (formatted as PDF (preferred) or MS Word files). Documents should be submitted as an e-mail attachment to the chair of the student awards committee, Dr. Emi K. Saito at [Emi.K.Saito@aphis.usda.gov](mailto:Emi.K.Saito@aphis.usda.gov):

# Student News

- 1) All collegiate transcripts. Official transcripts (i.e., with the imprint or official seal of the institution and signature of the responsible university officer) or copies signed by the student's faculty advisor are acceptable.
- 2) Up to two letters of support, including a letter from the student's faculty advisor, that directly **address the following specific abilities** of the applicant: *academic achievement, scholarly promise, research ability, oral and written communications skills, industriousness, leadership abilities, judgment, and potential for contribution to the field of wildlife diseases*. Additional letters (> 2) will not be read or evaluated, and letters not directly addressing the above qualities will not score well.
- 3) A curriculum vitae demonstrating evidence of superior scholastic achievement and productivity (specifically list and describe coursework and all scholarships, awards, publications, and presentations).

Grounds for disqualification include:

- Items missing.
- Submissions received beyond the deadline date.

### **3. Wildlife Disease Association Terry Amundson Student Presentation Award**

**DEADLINE:** Applications must be **received** no later than Friday, April 15, 2011.

This award acknowledges outstanding oral presentation of research findings at the annual WDA conference. The winner receives \$250 US and a plaque. To be considered, the student must give an oral presentation (usually 12 minutes with 3 minutes for questions) on their research project to the WDA conference audience in the student presentation session.

To be considered for the award students must **submit an abstract clearly indicating the submission as a student award submission to both Dr. Emi Saito** (via email:

[Emi.K.Saito@aphis.usda.gov](mailto:Emi.K.Saito@aphis.usda.gov)) **AND via the on-line abstract submission form** on the conference website <http://www.wildlifedisease.org/WDA2011Conference.html>

Under the menu item *Preferred Type of Presentation*, select *Presentation*.

- Quality and style of text, figures, and images
- Quality and style of text, figures, and images
- Relevance to management of wildlife/ecosystem health

- Under *Student Presentation*, check *Yes*.
- If, as a student, you prefer not to be in the competition, select *No* for *Student Presentation*.
- The abstract should follow the general guidelines in the "Call for Abstracts/Papers."

Abstracts may be scored on a competitive basis to determine which will be chosen for the conference and for consideration for this award.

Abstracts describing completed research projects with conclusions based upon the data generated are more likely to be selected. Candidates will be scored on the following criteria:

- Quality, innovation, and impact of science
- Quality of visual aids
- Delivery and style
- Relevance to management of wildlife/ecosystem health

### **4. Wildlife Disease Association Student Poster Award**

**DEADLINE:** Applications must be **received** no later than Friday, April 15, 2011.

This award goes to the best student poster detailing a wildlife disease or wildlife health research project presented at the annual WDA conference. The winner receives \$250 US and a plaque.

To be considered for the award students must **submit an abstract clearly indicating the submission as a student award submission to both Dr. Emi Saito** (via email:

[Emi.K.Saito@aphis.usda.gov](mailto:Emi.K.Saito@aphis.usda.gov)) **AND submit an abstract via the on-line abstract submission form** on the conference website <http://www.wildlifedisease.org/WDA2011Conference.html>.

- Under the menu item *Preferred Type of Presentation*, select *Poster*.
- Under *Student Presentation*, check *Yes*.
- Students preferring not to be in the competition should select *No* for *Student Presentation*.
- The abstract should follow the general guidelines in the "Call for Abstracts/Papers."

Candidates will be scored on the following criteria:

- Quality, innovation, and impact of science
- Organization and layout of poster
- Quality and style of text, figures, and images



# Student News

All four awards are non-renewable and each award may be received only once by a given candidate. Submit scholarship and research recognition award applications electronically, as email attachments, to:

Dr. Emi K. Saito, Chair  
WDA Student Awards Committee  
[Emi.K.Saito@aphis.usda.gov](mailto:Emi.K.Saito@aphis.usda.gov)

A mailing address and telephone number are available for inquiries only:

National Surveillance Unit  
Centers for Epidemiology and Animal Health  
USDA APHIS Veterinary Services  
2150 Centre Ave, Bldg B, MS2E6  
Fort Collins, CO 80526  
970-494-7286



## Update on Student Activities and New Student Chapters

### *Jane Harms, WDA Student Representative on Council*

Welcome to 2011! The New Year brings some exciting news regarding recent additions and changes to the WDA student chapters, as well as a number of new and upcoming ventures by our Student Activities Committee. To start, I would like to extend a warm welcome to our newest student chapter, "The Student Chapter of the Wildlife Disease Association at The University of Tennessee". It is great to see a new chapter begin and we look forward to working with you! Along with the addition of a new chapter, the student chapters at the Western College of Veterinary Medicine (University of Saskatchewan) and at the University of Georgia have both been recently revitalized by enthusiastic students, and it is excellent to have these chapters on board as well! The new chapters join established student chapters based at Colorado State University, Texas A & M University, University of Arizona, Oregon State University, and the European WDA student chapter. Several student chapters have also elected new officers, and these details can be found on the student section of the WDA website.

Student chapters are an important part of the WDA parent organisation, as they share their interest in wildlife health issues with other students at their institutions, and introduce students to the WDA. The goals of WDA student chapters are to:

- \* Educate students interested in wildlife health and disease about the profession and career opportunities, job qualifications and education, externships, volunteer, and research opportunities
- \* Enhance the skills of students interested in wildlife health and disease through lectures, workshops, conferences, field trips
- \* Connect students interested in wildlife health and disease to mentors in WDA through the faculty advisor and guest lecturers

If you are interested in joining or starting a student chapter or if would like some more information on what our chapters are up to, please visit the WDA website and look under the "Students" tab, or email me.

The new Student Activities Committee (SAC) took over from the very active and productive 2009-2010 SAC last May. Since then, the committee has been hard at work developing a new student Facebook group site (ready to launch soon!), planning student activities for the upcoming WDA Annual Conference in Quebec City, and focusing on ways to attract new student members to the WDA. Student membership in WDA is an incredible deal for students, and for the price of a student member-

# Student News

ship, benefits include joining an international, multidisciplinary group of scientists who will be mentors, colleagues, and friends, access to online and hard copy of the Journal of Wildlife Diseases, reduced registration fees for the annual conference, quarterly newsletters, and much much more. Please think about joining today!

Another important topic that both the WDA council and the SAC have been working on for several months is the issue of funding for student chapters. Thanks to a huge amount of work done by many council members, we are close to having a standard method in place to address requests for chapter funding, and will be announcing this in the very near future. Hopefully, this will provide support for student chapter activities, as well as encourage new membership to both student chapters and to the WDA. More details on this exciting new undertaking will be available soon!

## The Colorado State University Student Chapter

The Colorado State University Student Chapter is now in its second year of operation, and we are excited about our ever-increasing program diversity. The core of our chapter programs is



Dr. Kevin Lafferty

the monthly seminar series held each fall and spring semester. We have hosted a variety of speakers. This spring, our first seminar speaker was Dr. Kevin Lafferty from the United States Geological Survey (USGS) and The University of California at Santa Barbara. Dr. Lafferty is a world renowned parasitologist known for his work on the important role that parasites play in ecosystems. He has demonstrated that, with the inclusion of parasites, the structuring of food webs can change dramatically. His talk was followed by a lively social that boasted members

from many departments on campus including Microbiology, Immunology, and Pathology, Fish, Wildlife, and Conservation Biology and Biology as well as Federal agencies such as the USGS and United States Department of Agriculture (USDA) from off campus.

In November, we hosted a local speaker, Dr. Sue VandeWoude, from Colorado State University. She gave a talk entitled "Retroviral ecology and disease in felids large and small." Her current research focuses on how habitat fragmentation affects the disease ecology of pathogens that are infecting domestic and wild felids. She has studied retroviruses in felids for over a decade and much of her work now incorporates cutting edge molecular techniques to answer questions regarding disease ecology. The talk was followed by a social for our Mentor program that we established in Spring 2010. This program has been successful in increasing the interaction between ambitious students that would like to pursue a career relating to wildlife disease and mentors that can help them achieve their desired career goals.

The last speaker we hosted this semester was Dr. Tom DeLiberto, National Wildlife Disease Coordinator for the USDA. His talk focused on the rapidly spreading White Nose Syndrome (WNS) that has been decimating bat populations across the eastern United States. His talk was very informative, comparing and contrasting the WNS outbreak to other wildlife epizootics. Dr. DeLiberto made a convincing argument that this may be one of the

most devastating wildlife pathogens in the US. On another note, we are proud to announce initiation of a new disease workshop. The goal of the workshop is to introduce attendees to the process of recognizing and diagnosing wildlife disease. The workshop will focus on several wildlife diseases "case studies" to facilitate hands-on training in lab and field techniques while emphasizing education and critical thinking for participants. In addition, we developed a new student chapter logo (shown to the right). This new logo has been placed on t-shirts



to raise funds and awareness about our chapter beyond that of our University campus. We also had our annual elections and are excited to welcome in the new officers and committee chairpersons for the upcoming 2011 programs.

Overall our student chapter is flourishing with new membership and new programs in the works. The success of our chapter, however, would not be possible without the support of the Wildlife Disease Association Executive Committee, the Associated Students of Colorado State University (ASCSU), numerous CSU Departments and Colleges, and our Faculty Advisor, Dr. Kate Huyvaert. Please visit our website at [www.csuwda.colostate.edu](http://www.csuwda.colostate.edu) for news, videos of our seminars, and upcoming events.



Dr. Kate Huyvaert and the 2010 Executive Committee: Chris Mayack, Julia Herman, Christy Wyckoff, Justin Lee and Jenn Malm-

# Training, Education, and Employment

## Residency Grant — Lyon, France

<http://www.ecvph.org/>

A grant for a 3 years residency programme in veterinary public health, population medicine, is offered by VetAgro sup, Veterinary campus of Lyon for a start early in 2011. A tentative programme and more details will be available on <http://www3.vet-lyon.fr/ens/epid/index.htm>

A cover letter is to be send preferably by e-mail to:

Professeur Marc ARTOIS  
VetAgro Sup, campus vétérinaire de Lyon  
69280 Marcy l'Etoile (France)  
[m.artois@vet-lyon.fr](mailto:m.artois@vet-lyon.fr)

## NOAA Hawaiian Monk Seal Research Program, Honolulu, HI, USA

NOAA Fisheries Hawaiian Monk Seal Research Program (HMSRP; Honolulu, HI) is hiring a Veterinary Medical Officer (Veterinarian) to oversee its Health and Disease Program (HDP).

To apply for this position please:

1. Visit [www.usajobs.gov](http://www.usajobs.gov)
2. Search for job announcement NMFS-PIC-2011-0010 (qualified applicants with Federal employment status) or NMFS-PIC-2011-0012 (all qualified US citizens)

The job announcement is now open and will be closing on January 24, 2011.

For more information on how to apply please contact:  
Barb Schloetter  
Phone: 206-526-6296  
Email: [barbara.w.schloetter@noaa.gov](mailto:barbara.w.schloetter@noaa.gov)

## USGS Laboratory Animal Care Veterinarian

The USGS National Wildlife Health Center (NWHC) has a vacancy for a laboratory animal care veterinarian to perform and manage the clinical care and treatment of animals housed at the National Wildlife Health Center (NWHC).

While this is a part-time position (at least 20 hours/week), we expect there to be an opportunity expand these hours, as needed, to assist Center staff in the review of experimental animal procedures and protocols including, surgical, anesthesia and other veterinary procedures.

For more information about the position and application process, please see the link to the vacancy announcement below.

[www.usajobs.gov](http://www.usajobs.gov)

**These are only brief announcements. Please see the WDA website for full descriptions of training and employment opportunities.**

## Clearinghouse Internet Site for Internships with Animals

[www.animalinternships.wikia.com](http://www.animalinternships.wikia.com)

This site is for individuals of all walks of life, from student to professional to retired, and allows them to post or search for animal related volunteer opportunities.

## Masters in Conservation Medicine

### Tufts University, Grafton, MA, USA

One year non-thesis masters with an emphasis on a One Health approach to the study of wildlife and environmental health. 10-12 students will be accepted into the inaugural class. For more information on the program please see:

<http://www.tufts.edu/vet/mcm>.

## Tenure-Track Position in Anatomic Pathology

### Western College of Veterinary Medicine

### Saskatoon, SK, Canada

In addition to proficiency in diagnostic anatomic and clinical pathology, current areas of expertise within the Department include: pathogenesis of infectious disease in domestic and wildlife species, skeletal and metabolic disease, oncology, and innate immunity.

Applicants must have a DVM (or equivalent); PhD (or equivalent); and eligibility for licensure with the Saskatchewan Veterinary Medical Association (SVMA). Board certification or eligibility for certification with the American College of Veterinary Pathologists (ACVP) would be required.

Complete applications will include: a statement of professional goals and interests; current curriculum vitae; and the names and contact information of at least three professionals willing to serve as references.

For information see: [www.usask.ca](http://www.usask.ca); [www.usaskfaculty.ca](http://www.usaskfaculty.ca); [www.usask.ca/wcvm](http://www.usask.ca/wcvm); [www.usask.ca/wcvm/vetpath](http://www.usask.ca/wcvm/vetpath).

The review of applications will begin **February 1, 2011**. The search will continue until the position is filled.

Appropriately signed electronic or paper-based applications should be sent to:

Vikram Misra, Acting Head  
Department of Veterinary Pathology  
Western College of Veterinary Medicine  
52 Campus Drive, Saskatoon, SK, Canada, S7N5B4  
Phone: 306 966-7280  
E-mail: [Vikram.misra@usask.ca](mailto:Vikram.misra@usask.ca)

# Meetings and Conferences



## Wildlife Disease Association Conference

August 14 – 19, 2011

Quebec City, Québec, Canada

**Mark your calendars now and we will ensure that you experience the best of this journey into the Culture and nature of the province of Québec!**

The 60<sup>th</sup> Wildlife Disease Association Annual International Meeting will be held August 14 – 19, 2011. This is going to be the first time that this international meeting will take place in the Province of Québec or eastern Canada.

Situated on the north shore of the mighty St. Lawrence River, part of the International St. Lawrence Seaway and gateway to the interior of the continent, Québec City is blessed with French European charm, and 400 years of history, culture and adventure. Founded in 1608, Québec City, the only walled city north of Mexico, is a popular tourist destination. In addition to a full week of wildlife disease continuing education and meeting with colleagues, you'll want to be sure to make time for excursions on the St. Lawrence River and nearby mountains and tours of historical sites as well as superb cuisine and hospitality, which will permit an appreciation for the fauna and flora characteristic of the surrounding forest and maritime region as well as the *Québécois* people and their rich culture.

This year's theme, "Wildlife Resources in a Changing World", will highlight the historical and contemporary significance of wildlife species as a resource for both native and non-native inhabitants of the province of Quebec. This sustainable use of wildlife as a resource is increasingly challenged by the growing changes in ecosystems, population dynamics and intrinsic values that wildlife have in the modern world.

Watch the WDA Conference Web Page (<http://www.wildlifedisease.org/meetings.htm>) for more information.



The Wildlife Disease Association (WDA) invites submission of abstracts for its 2011 Annual International Meeting that will be held August 14 – 19 in Quebec City, Quebec, Canada. The conference theme is "Wildlife Resources in a Changing World". Presentations and/or posters can be on any wildlife health-related topic.

Topics at this meeting will include:

- \* Disease Ecology
- \* Surveys & New Reports
- \* Tools and Techniques
- \* Wildlife-Domestic-Human Animal Interface
- \* Socio-political Challenges of Disease Management
- \* Impact of Diseases on Wildlife Resources
- \* Marine/Aquatic Health Issues
- \* Canadian Wildlife

See the WDA Conference website (<http://www.wildlifedisease.org/meetings.htm>)

If you have enquiries after submission please reach Lena Measures ([lena.Measures@dfo-mpo.gc.ca](mailto:lena.Measures@dfo-mpo.gc.ca))