Members' Corner

Wildpro – a New Open Access Resource for Wildlife Health and Management

Debra Bourne

Some of you will already know and use Wildpro® Multimedia. Others will not. Both groups may be interested to know that this wide-ranging and in-depth electronic resource on wildlife health and management, and emerging infectious diseases, is now fully open access (www.wildlifeinformation.org).

Wildpro Multimedia was conceived in response to the need for reliable, accessible information to support informed decision-making by wildlife professionals worldwide. It has been developed by the wildlife veterinary not-for-profit organisation Wildlife Information Network (WIN).

The initial model for Wildpro was developed by Susie Boardman (née Jackson), then a veterinarian at London Zoo, UK, and Josh Dein at the National Wildlife Health Center (NWHC), Madison, WI, USA, around the core concept that health or disease results from the interaction between the animal, its environment, and disease agents. Therefore information on natural history is provided to inform husbandry (while both natural environments and husbandry can affect disease development). Environmental assessment is recommended alongside clinical examination and necropsy for disease investigation, and population-level disease management is considered alongside individual animal treatment. Several taxon-based "Health and Management" volumes have been developed around this concept, e.g. on waterfowl, bears and lagomorphs.

Wildpro is also useful for collating and displaying information on emerging infectious diseases. Volumes have been written on Foot-and-Mouth Disease, West Nile Virus, chronic wasting disease, and raccoon rabies, in collaboration with NWHC (for WNV and CWD) and with the National Wildlife Research Center, Colorado (for raccoon rabies). Other topics include first aid and care of wildlife, disease investigation and management, and wildlife oil spill response.

Wildpro's format encourages logical thinking, while hyperlinks show conceptual links between related pieces of information and allow the user to move easily between these. All information is closely referenced, and written pieces are peer-reviewed before publication. The main Encyclopaedia is enhanced by a large and growing Electronic Library (more than 200 books and shorter documents so far), including some classic and hard to access texts as well as up-to-date guidelines.

In a 1996 survey, 96% of wildlife professionals given a demo version thought a fully-functional version of Wildpro would be useful. Wildpro now includes 13 finished volumes, with seven more under construction, covering subjects ranging from the health and management of cranes to the principles and practice of environmental enrichment, and, as part of the EU-funded WildTech project, a variety of infectious diseases at the wildlife-domestic-human interface.

Since 2007, Wildpro has been open access in developing countries. In 2010, WIN became a part of Twycross Zoo - East Midland Zoological Society and with this support Wildpro has been made Open Access worldwide. It is hoped that this will encourage additional use of this unique resource.

To access Wildpro, go to www.wildlifeinformation.org and click on the "Wildpro" tab or on "Click Here to Access". CD-ROMs of individual volumes can be purchased for use off-line e.g. away from Internet connections. Users of Wildpro are encouraged to contact the editors by e-mailing info@wildlifeinformation.org or dbourne@wildlifeinformation.org if you wish to contribute pictures, video, or documents for the library, to provide new information, or to suggest possible future volumes for development (preferably together with funding suggestions!). Thank you for your feedback on this new and potentially powerful resource.

Inside this issue

The Northeast Wildlife Disease Cooperative (NEWDC)

Julie C. Ellis

The Northeast U.S. is a hotspot for emerging infectious diseases that affect both animals and humans, because of its dense human populations and the presence of major ports like Boston and New York, where human and animal travelers pour into the country. West Nile Virus and Lyme Disease were detected here before anywhere else in the country. Eastern Equine Encephalitis and Tularemia persist in wildlife here, claiming both animal and human lives. In spite of our vulnerability, the Northeast does not have a designated wildlife disease laboratory capable of investigating potential disease outbreaks, nor for conducting surveillance to anticipate the emergence of new diseases before they become widespread. To address this gap, we are establishing the Northeast Wildlife Disease Cooperative (NEWDC), a state, federal, and private sector cooperative that will provide wildlife health and disease expertise in the Northeast U.S. NEWDC will complement and enhance existing federal and state wildlife diagnostic efforts by bringing together regional stakeholders including disease investigators, and facilitating communications. Wildlife health assessments and diagnostics for live and dead specimens will be conducted by several regional laboratories with expertise in (but, not limited to): terrestrial, freshwater, and marine wildlife pathology; zoonotic diseases; environmental toxicology and immunology; ultrastructural and molecular characterization of pathogens; bioterrorism and informatics. NEWDC can provide professional training in wildlife diseases, full-service diagnostics and health assessments, disease fact sheets and other related literature, and membership provides ready access to professionals and diagnosticians, inclusion in communications regarding regional wildlife disease issues, and assistance in development of research studies.

To find out more about the NEWDC, please attend our poster presentation (Title: “The Northeast Wildlife Disease Cooperative”) at the WDA meeting in Quebec City or contact us at NEWDC@tufts.edu.

Participating Laboratories and Personnel:

Cummings School of Veterinary Medicine at Tufts University: Julie C. Ellis, Sarah Courchesne, Barbara Davis, Flo Tseng, Maureen Murray

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Animal Health Diagnostic Laboratory, Cornell University College of Veterinary Medicine: Elizabeth M. Bunting, Krysten Schuler, Bruce Akey

Department of Animal and Veterinary Sciences, Animal Health Laboratory, University of Maine: Anne Lichtenwalner

WDA Section News

The Nordic section report 2011

The Nordic section has a stable membership, with a couple of new members the past year. The section board has had e-mail correspondence when necessary, and informed the membership of important news items, such as when *Echinococcus multilocularis* was found in Sweden for the first time, in February 2011. One board meeting was held in 2011, by teleconferencing.

The biennial Nordic section was held 2-5 June 2011, hosted by the Finnish members, arranged by Marja Isomursu at the wildlife section of the Finnish food safety authority, Evira. The venue was in Oravi in south-east Finland, with more lakes than land mass, home of the freshwater ringed seal, the Saimaa seal. Only about 300 seals live in the lake system, with

gill nets of hobby fishermen constituting the major threat to pups. Biology research is performed with radio tracking via glue-on transmitters on a small number of animals.

The meeting attracted 13 participants, four from Finland, five from Sweden, one from Denmark, two from Norway and one from Latvia. The two-day program included a two-year summary report from the Nordic-Scandinavian countries, various ongoing research project presentations and an afternoon workshop on the fox tapeworm. Also, there was a boat trip to look for Saimaa seals, with one brief observation of a young seal in the water, and a visit and overnight stay on an island in the national park Linnansaari for those who wished. Sauna was taken at least once daily, with a swim in the lake, and lots of freshwater fish on the meny. It was a small and interactive meeting for all, with most presentations in English, due to our external guests.

The general assembly for the Nordic section was held, and the Nordic section logo was officially introduced, a Nordic section collectors item pin was ceremoniously distributed to the present members, and the Nordic section gavel and sound block (see photos) were engraved (by Erik). The previous board members and officers were all re-elected for another two year period.

Presently the board is the same as the previous two years; Erik Ågren chair, Ann Sofie Hammer secretary, Henrik Uhlhorn treasurer, Marja Isomursu and Antti Oksanen country representatives for Finland, Bjørnar Ytrehus and Turid Vikøren country representatives for Norway, and Trine Hammer Jensen country representative for Denmark. Bjørnar Ytrehus is the newsletter editor and Erik Ågren section representative and is a member of the editorial board as an assistant editor for the JWD. Abstracts for most presentations will be posted on the Nordic section pages when updates are made possible.

The next meeting of the Nordic section is planned for an island somewhere in Sweden in 2013.

Wildlife Disease Association - Nordic Section Quarterly Report of Wildlife Disease Incidents for April, May and June 2011

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

Moose nasal bots spreading in Sweden – and human cases of myiasis

Erik Ågren (erik.agren@sva.se), National Veterinary Institute, Sweden

The moose nasal bot fly *Cephenemyia ulrichii* was first noted in northern Sweden in late 1970s. It has now been found at necropsy in moose from the southern half of Sweden. The nasal bots are usually not observed or reported during the moose hunting season from September or October to January, but are more often seen in moose necropsied at the Veterinary Institute from late winter through the summer when bots are large enough to be easily noted and identified.

Moose nasal bots have recently raised public and media attention due to reports of human infestation. One case in Sweden

(Jaensen, 2011) and earlier three cases in Finland (Mikkola et al., 1982) of ocular cephenemyasis have been reported. Female flies have deposited larvae in the conjunctival sac from people who spend time outdoors in forested areas. The migrating larvae cause intense ocular pain due to sharp mouth hooks. A related occurrence involving the reindeer hypodermal bot *Hypoderma tarandi* was recently reported from Sweden when migrating larvae were noted under the skin of a young boy (Kan et al., 2010). Anthelminthic treatment with ivermectin was successfully used to avoid painful ophthalmic lesions, which had been noted in three human cases reported by Chirico et al., 1987.

CHIRICO, J., S. STENKULA, B. ERIKSSON, M. GJÖTTERBERG, S. O. INGEMANSSON, G. PEHRSON-PALMQVIST, AND E. STENKULA. 1987. [Reindeer warble fly larva as a cause of 3 cases of human myiasis]. Läkartidningen 84: 2207-2208.

JAENSON, T. G. 2011. [Cephenemyia ulrichii larvae in the eye--unusual but serious problem. Cases of human ophthalmomyiasis from Dalecarlia and southeastern Finland]. Lakartidningen 108: 928-930.

KAN, B., C. ÅSEN, K. ÅSBAKK, AND T. G. JAENSON. 2010. [Suspected lice eggs in the hair of a boy revealed dangerous parasite]. Läkartidningen 107: 1694-1697.

MIKKOLA, K., J. SILVENNOINEN, AND W. HACKMAN. 1982. [The elk throat bot fly causing human ophthalmomyiasis]. Duodecim 98: 1022-1025.

Echinococcus multilocularis surveillance in Sweden

Erik Ågren

The fox tape worm Echinococcus multilocularis was found in February 2011 for the first time in Sweden. The surveillance was immediately expanded from 300 to 3,000 red fox intestines from hunted foxes to assess the prevalence and geographic spread in Sweden. Final parasitology results in June showed three additional positive foxes, in three separate counties, indicating a spread but very low (0.1%) prevalence on a national level. Fox scat collection and analysis for echinococcus eggs as an alternative or complimentary surveillance method is ongoing, as well as rodent capture and liver analysis. The compulsory tapeworm deworming of dogs entering Sweden from continental Europe will probably be discontinued due to these findings.

Severe nose bot fly infestation in a wild reindeer flock in Southern Norway

Bjørnar Ytrehus and Kjell Handeland,
Norwegian Veterinary Institute

In the middle of May 2011 a hunter observed a flock of 30-40 wild tundra reindeer on the southern part of Hardangervidda (8° E, 60°N) showing signs of lethargy, respiratory distress and complete lack of fear. On close view he observed “worms creeping out of the nose of them”. A young animal was culled and the head submitted for laboratory examination. At reception, the tongue, pharynx and larynx had been removed and could therefore not be inspected. In the nostrils, on the muzzle and cheeks and within the nasal conchae about 30 third-stage larvae of the reindeer nose bot fly (Cephenemyia trompe) were found. The larvae were also found in the tissues around the retropharyngeal lymph nodes and lateral to the pharynx (figure 1). The adjacent lymph nodes showed follicular hyperplasia with a greenish discoloration and moist cut surfaces. The tissues surrounding the larvae show a greenish discoloration and edema.

Larva of the reindeer nose bot fly (Cephenemyia trompe) in the tissues surrounding pharynx (removed).

The local wildlife manager was urged to follow the affected reindeer flock, but it could not be reloacted. A few other small flocks that were observed did not show any obvious signs of disease.

The nose bot fly is a common problem in domesticated reindeer herds in northern Norway, and there are large variations in infection levels between years, districts and individuals (Nilsen, 1995). Little is known about the impact of this infestation in the wild reindeer populations in southern Norway. However, the clinical signs observed in the reported flock may indicate severe health distress by heavy infestation, possibly most pronounced when the third-stage larvae are in the migratory process of leaving the host.

NILSSEN, A. C. AND R. E. HAUGERUD. 1995. Epizootiology of the Reindeer Nose Bot Fly, Cephenemyia-Trompe (Modeer) (Diptera, Oestridae), in Reindeer, Rangifer-Tarandus (L), in Norway. Canadian Journal of Zoology-Revue Canadienne de Zoologie 73: 1024-1036.

Trauma and undetermined cause of death in various avian species (Alabama, Arkansas, California, Kentucky, Louisiana, North Carolina, Oklahoma, Texas)

New Year's Eve of 2010 Arkansas Game and Fish Commission received reports from residents in White County, Arkansas, of thousands of red-winged blackbirds, common grackles, and European starlings appearing to fall from the sky. Specimens were sent to US Geological Survey's National Wildlife Health Center (NWHC), Arkansas Livestock and Poultry Commission, and Southeastern Cooperative Wildlife Disease Study (SCWDS). The cause of death was determined by all laboratories to be impact trauma. A resident in the area reported seeing birds flying into houses and mailboxes after hearing several loud noises. This mortality event received considerable press coverage and was followed by several other blackbird mortality reports that were also determined to be caused by trauma but were considered to be unrelated. For example, several days after the mortality event in Arkansas, approximately 500 dead red-winged blackbirds, brown-headed cowbirds, common grackles, and European starlings were found near a power line in Pointe Coupee Parish, Louisiana by the Louisiana Department of Wildlife and Fisheries. Birds from this event were examined by NWHC and SCWDS and found to have hemorrhaging and fractures consistent with colliding with a stationary object such as a power line. In Alabama and California, between 100 to 200 common grackles and European starlings died from impact trauma along interstates and highways in mid-January.

In early January 2011 approximately 1,000 dead birds were also found by US Fish and Wildlife Service (USFWS) biologists in a salt marsh complex in Aransas, Texas. The species involved in this event included American white pelicans, black-bellied plovers, northern pintails, roseate spoonbills,

Roseate Spoonbill

Forster's terns, and sandhill cranes. USFWS reported severe weather including hail the day before the birds were found. Specimens examined by NWHC were found to have injuries, including severe blunt trauma to the head, consistent with those that could be caused by hail.

Other mortality events involving red-winged blackbirds which occurred in January were investigated in Alabama, Oklahoma, and at Pocosin Lakes National Wildlife Refuge (North Carolina). The cause of death for these events could not be determined. No toxins or significant underlying infectious diseases were detected. In some cases, it was known that flocks consisting of several hundred thousand birds were in the area. Overall, the number of mortality events involving "blackbirds" reported to NWHC in the first quarter of 2011 was quadruple the average number of reports from the same period during the previous five years. Publicity of the Arkansas event was frequently cited as a reason for diagnostic evaluation requests.

Avian cholera at Tule Lake NWR (California)

Avian cholera mortality occurred once again at Tule Lake at the beginning of 2011. Total mortality was estimated to involve 5538 birds of numerous waterfowl species including geese, swans, and ducks. Avian cholera mortality events at this location have occurred almost annually since 1969 with the largest event estimated to have killed 10,000 birds in 2008. Avian cholera is caused by the bacterium, *Pasteurella multocida*, which is shed at high levels in the feces and nasal discharge of infected individuals. Both inapparent carriers and an environment contaminated by animals shedding the bacteria can serve as reservoirs of infectious material to naïve susceptible animals in the area. Careful handling and prompt disposal of carcasses, preferably by incineration, reduces the bacterial load in the environment but will not completely eliminate disease recurrence due to inapparent carriers.

Suspected mycotoxicosis in Canada geese (Delaware)

Sick and dying Canada geese at a private refuge that included both resident and migratory birds were first reported in early January 2011. The area consisted of a 5 acre partially-aerated pond and surrounding fields with standing corn where geese had been observed feeding. Supplemental whole corn was also provided mainly for mallards at the site and was discontinued shortly after the onset of the die-off. Only Canada geese appeared to be involved. Mortality began slowly and quickly escalated over the course of a week. Mortality continued for approximately four weeks and resulted in 1247 dead geese. Clinical signs were vague consisting mostly of depression and lack of flight response; many were simply found dead. Other birds were seemingly unaffected. Examination of carcasses from early in the event did not reveal any significant lesions while those collected during peak mortality had evidence of kidney and liver damage. Birds collected late in the event also had evidence of mild aspergillosis. Grain samples collected from the geese as well as from standing corn tested strongly positive for fumonisin B1 toxin by two independent labs. High levels of this toxin are known to cause liver changes in domestic poultry but its effects on waterfowl have not been previously studied.

Newcastle disease virus detected in double-crested cormorants (Florida)

Seven juvenile double-crested cormorants were admitted to quarantine at a rehabilitation facility in Pinellas County, Florida beginning in late December 2010 with clinical signs of head weaving, weakness and torticollis. Several birds died within 24 hours of admission and were submitted for diagnostic evaluation to the USGS National Wildlife Health Center and Florida Fish and Wildlife Conservation Commission Wildlife Health Program. Newcastle disease virus (NDV) was isolated from samples from four individuals submitted to the USDA National Veterinary Diagnostic Services Laboratory (Ames, IA). Salmonellosis was detected in a fifth individual which had histologic evidence of encephalitis and conjunctivitis but from which NDV was not isolated. This is the first reported detection of Newcastle disease virus in wild birds from Florida and only the second report of the disease in the state. The detection of NDV during winter months is unusual in cormorant populations. Nestling and juvenile double-crested cormorants often experience high fatality rates while older birds do not. Those individuals that survive infection by Newcastle disease virus are thought to mount an immune response that neutralizes the virus and inhibits viral shedding and isolation but permanent neurologic damage remains. The source and extent of the infection in free-ranging Florida cormorant populations was not known. No other birds at the facility appeared affected and other rehabilitation facilities were alerted by state officials to monitor for signs of the disease, although none was detected.

Fungal pneumonia in mallards (South Dakota)

Beginning in late January 2011 a large-scale mortality event involving mallards was reported by USFWS biologists in Sully County, South Dakota. The final mortality estimate for this event was about 8,000 mallards. The majority of the birds were found dead and were in fair to excellent body condition. Some sick birds appeared weak and lethargic and were in emaciated to poor body condition. Biologists were able to collect fresh dead carcasses and also euthanize several sick birds for submission to the USGS National Wildlife Health Center. The primary cause of death in the mortality event was determined to be fungal pneumonia, but interestingly the two groups of birds (fresh dead versus sick) seemed to be infected by two different types of fungi. *Aspergillosis fumigatus* (causative agent of aspergillosis in birds) was cultured from the lungs and airsacs of the sick birds that were euthanized whereas *Rhizopus* sp. was identified in the lungs and airsacs of the birds that were found dead. Both types of fungi have been associated with moist conditions on spoiled grain which was a likely source for exposure by the mallards in this event.

White-nose syndrome mid-winter season update

White-nose syndrome (WNS) in cave-hibernating bats was detected in four new U.S. states (North Carolina, Ohio, Indiana, Kentucky) and two new Canadian provinces (New Brunswick, Nova Scotia) during the first quarter of 2011. With the exception of the New Brunswick hibernaculum, where an estimated 4980 bats died, all other new locations reported minimal to no bat mortality at the time of their surveys. Because winter bat surveys are conducted once during the season to minimize disturbance to hibernating bats, total

Photo by Ryan Von Linden, NY DEC

mortality estimates are not available until the following season when returning population counts are assessed. The disease also continued to spread into new counties within WNS-confirmed states and provinces (Maryland, Virginia, West Virginia, Pennsylvania, Connecticut, Tennessee, Quebec, and Ontario). Thus far, WNS has not been confirmed in any new bat species this season. Six species, including little brown, northern long-eared, tricolored, Indiana, eastern small-footed, and big brown bats, are known to be susceptible to WNS. Genetic evidence of *Geomyces destructans*, the causative agent of WNS, has been identified on three additional species (Southeastern myotis, Cave myotis, and Gray bats).

For the latest WNS updates, consult the USGS-NWHC Wildlife Health Bulletins. http://www.nwhc.usgs.gov/publications/wildlife_health_bulletins/index.jsp

Lake Michigan volunteer AMBLE - avian monitoring for botulism lakeshore events (Wisconsin)

The USGS National Wildlife Health Center, with help from many partners and support from the Great Lakes Restoration Initiative, has established "Lake Michigan Volunteer AMBLE - Avian Monitoring for Botulism Lakeshore Events." The goal of the AMBLE program is to empower a network of concerned citizens to monitor bird health and beach conditions along miles of Lake Michigan shoreline, thus increasing knowledge of avian botulism trends. The AMBLE focus area for 2011 is Door County, Wisconsin, a peninsula with almost 300 miles of shoreline. Forty-nine AMBLE volunteers were trained by NWHC staff in May. These volunteers will perform weekly surveillance of avian health along 35 sections of Door County shoreline from June through November. More information is available at: www.nwhc.usgs.gov/amble/

National Wildlife Health Center's Quarterly Wildlife Mortality Report

http://www.nwhc.usgs.gov

January 2011 to March 2011

State	Location	Dates	Species	Mortality [a]	Diagnosis [b]	Labsite [c]
AK	Anchorage	01/02/11-02/07/11	Moose	3	Toxicosis: cyanide	WY
AL	Danville	01/10/11-01/11/11	Red-winged Blackbird Common Grackle European Starling	142	Undetermined	NW
AL	Limestone County	01/12/11-01/14/11	Common Grackle European Starling	200 (e)	Trauma: impact	NW
AR	Franklin County	01/25/11-01/25/11	Cedar Waxwing	5	Trauma	SCW
AR	Greenwood	01/01/11-03/03/11	Striped Skunk	7	Rabies	ARD
AR	Pine Bluff	02/21/11-03/01/11	Brown-headed Cowbird Red-winged Blackbird	30	Undetermined	SCW
AR	White County	12/31/10-01/01/11	Red-winged Blackbird Common Grackle European Starling	5,000 (e)	Trauma	AR, NW, SCW
AZ	Tucson	02/13/11-02/14/11	Brazilian Free-tailed Bat	55	Undetermined	NW
CA	Sonoma County	01/10/11-01/10/11	European Starling	100	Trauma	NW
CA	Orange County	02/02/11-02/02/11	Canada Goose Greater White-fronted Goose	30 (e)	Lead poisoning	NW
CA	Sacramento and Delevan NWR	01/15/11-01/16/11	American Coot Ruddy Duck Ross' Goose	10	Avian cholera	NW
CA	Tule Lake NWR	02/10/11-03/31/11	Unidentified Waterfowl Unidentified Domestic Or Hybrid Goose Lesser Snow Goose Unidentified Duck American Wigeon	5,538	Avian cholera	NW
DE	New Castle County	01/10/11-02/14/11	Canada Goose	1,247	Mycotoxicosis suspect,	DE, NW, PAD
FL	Polk County	02/15/11-02/25/11	Laughing Gull	100 (e)	Open	NW
FL	St. Johns River	01/14/11-01/21/11	Brown Pelican	30	Emaciation	NW
FL	Pinellas County	12/30/10-01/08/11	Double-crested Cormorant	7	Newcastle Disease Virus, Salmonellosis	FL, NVL, NW
IA	Iowa River	01/19/11-01/26/11	Canada Goose	20 (e)	Aflatoxicosis suspect	NW
ID	Camas NWR	03/24/11-04/04/11	Lesser Snow Goose Ross' Goose Tundra Swan Mallard	14	Avian cholera	IDP, NW
IL	Beecher	02/17/11-02/18/11	Brown-headed Cowbird	12 (e)	Trauma	NW
IN	Crawford County	01/29/11-04/30/11	Little Brown Bat Northern Long-eared Bat Tri-colored Bat	40 (e)	Fungal Infection: white-nose syndrome	NW
KS	Moline	02/07/11-03/01/11	Mallard Ring-necked Duck Gadwall	50 (e)	Emaciation	NW
KY	Western Kentucky	12/28/10-01/02/11	European Starling American Robin Red-winged Blackbird Common Grackle	150 (e)	Trauma: impact	KFW, OT
LA	Lake Charles	02/15/11-02/15/11	Tree Swallow	7	Trauma	SCW
LA	Pointe Coupee County	01/03/11-01/03/11	Red-winged Blackbird Common Grackle European Starling Brown-headed Cowbird	500 (e)	Trauma	NVL, NW, SCW
MD	Baltimore City	01/06/11-01/06/11	American Crow	12	Bacterial infection: *Clostridium perfringens*	MDA, NW
ME	Waterville	01/18/11-02/01/11	American Crow	27 (e)	Undetermined	NW
MN	Upper Mississippi River NWR	03/29/11-04/20/11	Lesser Scaup Bufflehead American Coot Ring-necked Duck	4,700 (e)	Parasitism: Trematodiasis suspect	NON
NB	Albert County	03/15/11-05/20/11	Tri-colored Bat Little Brown Bat Northern Long-eared Bat	4,980 (e)	Fungal Infection: white-nose syndrome	CCW, OT, UG
NC	Pocosin Lakes NWR	01/09/11-02/04/11	Red-winged Blackbird	4,000 (e)	Undetermined	NW
NE	Clark and Lindau WPA	03/12/11-03/25/11	American Coot	80 (e)	Avian cholera	NW

			Green-winged Teal Gadwall American Wigeon Northern Pintail			
NJ	Wood Bridge	02/07/11-03/12/11	House Sparrow	100 (e)	Salmonellosis	NW
NJ	Great Swamp NWR	03/07/11-03/11/11	Unidentified Frog	75 (e)	Emaciation	NW
NM	Bitter Lake NWR	02/06/11-02/20/11	Ross' Goose Lesser Snow Goose American Coot Northern Pintail Northern Shoveler	103	Avian cholera	NW
NM	Eddy County	03/28/11-05/13/11	Unidentified Bat Yuma Bat	22 (e)	Undetermined	NW
OH	Toledo	01/20/11-02/28/11	Canada Goose Mallard American Black Duck	200 (e)	Undetermined	NW
OK	Gould	01/09/11-01/10/11	Sandhill Crane	12 (e)	Pneumonia: fungal	NW
OK	Haskell County	01/28/11-01/28/11	European Starling	40 (e)	Trauma suspect	NW
OK	Red River	02/09/11-02/24/11	Sandhill Crane	10	Mycotoxicosis suspect	NW
OK	Sooner Lake	01/04/11-01/14/11	Red-winged Blackbird	1,200 (e)	Undetermined	NW
SD	Sully County	01/20/11-03/03/11	Mallard	7,000 (e)	Aspergillosis	NVL, NW
SD	Lacreek NWR	01/13/11-01/14/11	Canada Goose	10 (e)	Lead poisoning	NW
TN	Wilson County	01/19/11-01/19/11	European Starling	21	Toxicosis: avicide	SCW
TX	Travis County	01/30/11-01/30/11	Brazilian Free-tailed Bat	600 (e)	Undetermined, Exposure suspect (cold)	NW, SCW
TX	Muleshoe NWR	02/02/11-02/24/11	Sandhill Crane	100 (e)	Undetermined	NW
TX	Olton	01/19/11-01/19/11	Cooper's Hawk Red-winged Blackbird Unidentified Sparrow Unidentified Pigeon	12 (e)	Trauma	NW
TX	San Jose Island	01/09/11-01/09/11	American White Pelican Black-bellied Plover Northern Pintail Forster's Tern Black Skimmer	1,000 (e)	Trauma: weather suspect	NW
VA	Wise County	02/16/11-05/15/11	Little Brown Bat	12 (e)	Fungal Infection: white-nose syndrome	NW
WI	Upper Mississippi NWR	03/29/11-04/20/11	Lesser Scaup American Coot	340 (e)	Parasitism: *Cyathocotyle bushiensis, Sphaeridiotrema globulus*	NW
Updates/Corrections						
AZ	Buckeye	12/01/10-12/21/11	Eurasian Collared Dove	180 (e)	Viral Infection: pigeon paramyxovirus 1	NW
NV	Topaz Lake	10/18/10-11/01/10	Western Grebe	25	Emaciation, Toxicosis Suspect	NW
VA	Cumberland Gap Historic Park	07/22/10-07/26/10	Northern Long-eared Bat Little Brown Bat	12 (e)	Predation	SCW

[a] (e) = estimate
[b] Suspect diagnosis = diagnosis is not finalized, but field signs and historic patterns indicate the disease.
[c] Arkansas Livestock and Poultry Laboratory (AR), Arkansas Department of Health Laboratory (ARD), Canadian Cooperative Wildlife Health Centre (CCW), Delaware Department of Agriculture Laboratory (DE), Florida Fish and Wildlife Conservation Commission (FL), Kentucky Division of Fish and Wildlife (KFW), Idaho Wildlife Health Laboratory (IDP), Maryland Department of Agriculture (MDA), No diagnostics pursued (NON), National Veterinary Services Laboratory (NVL), USGS National Wildlife Health Center (NW), Other (OT), Pennsylvania Animal Diagnostic Laboratory (PAD), Southeastern Cooperative Wildlife Disease Study (SCW),University of Guelph (UG), Unknown or not specified (UNK), Wyoming State Veterinary Laboratory (WY).
Written and compiled by: Anne Ballmann, LeAnn White, and Jennifer Bradsby.
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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

Texas A&M University-Kingsville Caesar Kleberg Wildlife Research Institute

Position Title: M.S. Graduate Research Assistantship
Start Date: June 1st, 2011, pending final approval of funding.
Application Deadline: Begin reviewing applications May 15th, and will continue until a suitable candidate is selected.
To Apply: Send cover letter stating interests and career goals; resume; copies of transcripts; GRE scores; and names, addresses, phone numbers, and email addresses of 3 references to the following:
Dr. Alan Fedynich
Caesar Kleberg Wildlife Research Institute
Texas A&M University-Kingsville
700 University Blvd., MSC 218
Kingsville, Texas 78363
361-593-4130
e-mail: alan.fedynich@tamuk.edu

American College of Veterinary Pathologists/Society of Toxicologic Pathology Coalition for Veterinary Pathology Fellows

Training positions:

* The Charles and Sharron Capen Fellowship in Veterinary Pathology
* The Linda Munson Fellowship for Wildlife Pathology Research

Request for applications for each position can be downloaded from http://www.vetpathcoalition.org. The deadline for receipt of applications is 15 July 2011. Point of contact: Gary L. Cockerell, DVM, PhD, Diplomate ACVP Director, ACVP/STP Coalition for Veterinary Pathology Fellows
email: gcockerell@vetpathcoalition.org, phone: 269-720-7310

National Park Service Office of Public Health

Position Title: Veterinary Epidemiologist
This position closes on July 12, 2011. Send a cover letter and CV to Sonya Coakley at Sonya_Coakley@nps.gov.
Contact Information:
Dr. Margaret Wild (Position Information)
Phone: 970-225-3593
Email: Margaret_Wild@nps.gov
Sonya Coakley (PHS Information)
Phone: 202-513-7215
Email: Sonya_Coakley@nps.gov

The Raptor Center at the University of Minnesota College of Veterinary Medicine

Position Title: One Year Unpaid Internship
Submit current curriculum vitae, a letter of interest indicating career goals, and three letters of reference. Anticipated start date is Fall 2011. Please submit applications to:
Michelle M. Willette, DVM (email: wille203@umn.edu)
The Raptor Center
1920 Fitch Avenue
St. Paul, MN 55108
(612) 624-1353
Fax - (612) 624-8740

EcoHealth Alliance

Position Title: Senior Disease Ecologist
Please send a CV, letter detailing your research interests and vision, and email addresses for two references to jobs@ecohealthalliance.org. For further information visit www.ecohealthalliance.org/jobs or email jobs@ecohealthalliance.org

The Amphibian Research Group at the University of Newcastle (Australia)

Position Title: Two PhD Candidates Sought
All interested students are encouraged to contact Assoc. Prof. Michael Mahony (02) 49216014 or Michelle Stockwell (02) 49215105 by the 26th June.

The College of Veterinary Medicine at the University of Georgia

Position Title: Head, Department of Population Health
More information can be found at http://www.vet.uga.edu/populationhealth/searches.php. The initial evaluation of applications will begin on July 15, 2011 and continue until a suitable candidate is identified. Applications received by August 15, 2011 are assured full consideration.

PhD opportunities to study chytridiomycosis at James Cook University, Townsville, Queensland, Australia

Projects: 1) Immunity to amphibian chytridiomycosis and
2) Virulence of amphibian chytridiomycosis
Please send CV, cover letter and 2 reference letters to Lee.Berger@jcu.edu.au by July 10th, 2011.
For more information on the virulence project contact Lee.Berger@jcu.edu.au and on the immunity project contact Lee.Skerratt@jcu.edu.au

Health, Wildlife Conservation Society

Position Title: Director, Field Wildlife
Send an application letter and CV with the names and contact information of three references to recruitment@wcs.org, and Pamela Watim (pwatim@wcs.org). For more information about Wildlife Conservation Society, please visit our website at: http://www.wcs.org. Submit applications as no later than August 15, 2011.

The WDA Newsletter is looking for a new editor!

Those interested in this great opportunity please contact either:
Jenny Powers: jenny_powers@nps.gov, or
Dave Jessup: wda.manager@gmail.com

Please see the WDA website for full descriptions of training and employment opportunities.
http://www.wildlifedisease.org/opportunities.htm



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 60th 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 *Québecois* people and their rich culture. See page 11 for an exciting opportunity to cruise on the St. Lawrence River.

Both a silent and live auction will be held on Monday August 15th. In order to help raise money for the WDA, those who attend the conference have the option to donate items they feel other attendees might want to buy and own. Items donated often have a wildlife them and/or are items from home countries. **REMEMBER TO BRING AUCTION ITEMS!!!**

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:

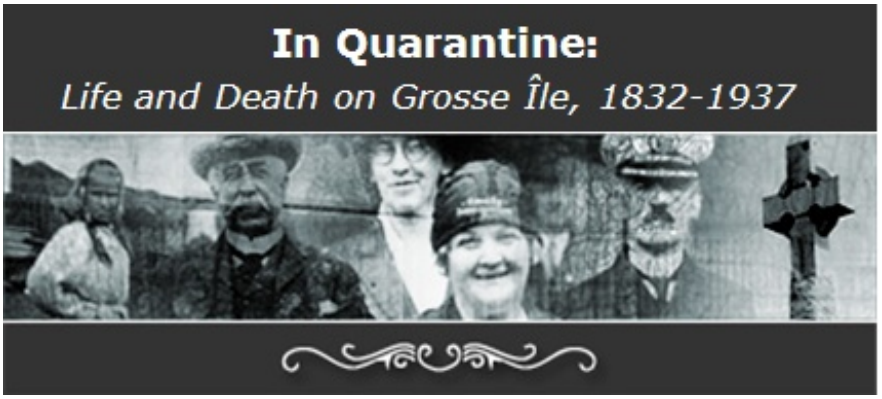
* Disease Ecology
* Surveys & New Reports
* Tools and Techniques
* Wildlife-Domestic-Human Animal Interface
* Socio-political Challenges of Disease Management
* Impact of Diseases on Wildlife Resources
* Marine/Aquatic Health Issues
* Canadian Wildlife

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)



Cruise on the St. Lawrence River to Grosse Île / the Irish Memorial National Historic Site of Canada, Canada's Ellis Island



An opportunity to relax and enjoy the stunning scenery of Quebec on a small yacht with your WDA colleagues. All meals and amenities provided. May see beluga whales !!

Located in the middle of the St. Lawrence River, Grosse Ïle was a quarantine station for the port of Québec City from 1832 to 1937. At the time, the island was the main port of entry for immigrants coming to Canada. You will be touched by the story of Grosse Île, a witness to both human tragedy and exceptional dedication. Learn of the troubling experience of immigrants who set sail in hopes of a better future, and of those who cared for them upon arrival.

Fare of $135 includes bus and boat transportation, lunch and supper aboard boat, and access fee to island.

Departure from hotel at 12h00. board boat in port of Québec City, «Le Vent des Ïles» 24.4 meters length. **Lunch** on board. Arrival Grosse Ïle at 15h00. Departure from island 19h00. **Supper** aboard. Return to port around 21h15. Return hotel 21h30.

Maximum 170 participants**.** **NOTE**: This excursion is under subscribed and WDA encourages its members to consider signing up now, both for the unique and enjoyable experience, and also to help make this private event for WDA members break even.

To sign up for the Grosse Ile excursion please go to the conference registration page at https://timssnet2.allenpress.com/ECOMWDAS//Timssnet/Meetings/registration_form.pdf

Wildlife Disease Association, Australasian Section Annual Conference

25th -30th September, 2011 Camp Coorong, South Australia

Please join us on the shores of Lake Albert near the end of the great Murray/Darling river system for a week of fabulous food, walks and talks! The Coorong is a strip of wetlands over 100km long at the end of the highly regulated Murray Darling system (http://www.abc.net.au/science/articles/2006/09/14/3126075.htm)

Our hosts are the Ngarrindjeri people (www.ngarrindjeri.com) who have lived in and with the Coorong for 1000s of years. Throughout the week they will be sharing their culture with us. Delegates and their families will have the opportunity to visit the onsite cultural museum and learn traditional weaving techniques among other things. For further details contact wdaaconference2011@gmail.com or jen.mclelland@gmail.com

The Wildlife Society, 18th Annual Conference, Waikoloa, Hawaii— 5-10 November 2011

Wildlife professionals from across North America will participate in one of the most significant wildlife conferences that TWS has ever assembled. As home to some of the greatest plant and animal biodiversity on the planet, Hawaii offers the perfect venue for the largest single gathering of wildlife professionals in North America. Perhaps more than any other state Hawaii spotlights the most pressing challenges that natural resource managers and conservationists face today—including the rapid spread of invasive species and the impacts of a changing climate. For information about the conference see http://wildlifesociety.org/

11th International Effects of Oil on Wildlife Conference

January 2012 New Orleans, Louisiana, USA

We are now accepting abstracts for papers and posters on topics related to the effects of oil on wildlife. The conference theme is “Global Impacts: Many Species, One Response”. Suggested topics include: Government and Industry Concerns, Contingency Planning Field Response and Capture Methods, Wildlife Rehabilitation Techniques, Current and Future Research Legal Issues and Interests, Sea Turtles and Marine Mammals, Post Release Monitoring Environmental Impacts, and Priorities for Wildlife Effects of Non-Petroleum Spills. Abstracts for papers should be sent to eow@tristatebird.org by 5 July 2011. Submissions will be reviewed and notification of acceptance will be made by 15 July 201. Guidelines for abstract submission will be available at www.eow2012.org after 15 May 2011. Registration information will be distributed in the near future. Please continue to check our website at www.eow2012.org for updates. E-mail us at eow@tristatebird.org or call us at +001 302.737.9804 x 113 with questions or suggestions

Proudly Presented By: Tri-State Bird Rescue & Research, Inc.

1st International Congress on Pathogens at the Human-Animal Interface (ICOPHAI): Impact, Limitations, and Needs in Developing Countries

The three-day congress held 15-17 September 2011 will include eight thematic plenary sessions: The three-day congress will include eight thematic plenary sessions: Enteric food- and water-borne infections; Emerging zoonoses and the wildlife interface; Respiratory zoonotic diseases and global impact; Drug discovery and antimicrobial resistance; Immunology and vaccine development; Parasitic zoonoses and the environment; Genomics and molecular epidemiology; Policy, Capacity Building and other significant issues.The organizing and scientific committees invite you to submit abstracts and plan to participate in this important congress. This unique comprehensive congress will be held in Ethiopia at the United Nations Conference Center, state of the Art venue with simultaneous translations to several languages. The organizing and scientific committees look forward to welcoming you to the congress in Addis Ababa, the political capital of Africa. Register to receive further news and submit your abstract on-line: http://www.conference-service.com/ICOPHAI2011/welcome.cgi Deadline for abstract submission is June 30, 2011.