

News from the Field



National Wildlife Health Center's Quarterly Wildlife Mortality Report

<http://www.nwhc.usgs.gov>

Virulent Newcastle Disease responsible for cormorant mortalities in multiple Minnesota counties (MN)

Summer mortality events beginning in July 2008 involving double-crested cormorants were determined to be the result of virulent Newcastle Disease (vND) in 8 MN counties. In addition, individual cases of Newcastle Disease in cormorants were reported to NWHC from WI, MI, CT and MO. Mortality counts ranged from less than 10 birds up to 1200 birds at the various sites and often included other species such as ring-billed gulls and American white pelicans. While the virus was isolated from several pelicans and a common loon in this epizootic, characteristic brain lesions were not observed. At one MN site, infections of West Nile virus, salmonellosis, and intestinal parasitism contributed to the large number of pelican mortalities (1900 estimated) where the overall avian mortality was estimated to be 2500 birds. This was the second consecutive year that vND occurred at two of the MN sites. On-site incineration of carcasses and restricted access to affected areas were instituted to reduce spread of the virus. Canada also experienced increased cormorant mortality associated with avian paramyxovirus-1, the agent of Newcastle Disease, this summer around Lakes Ontario, Erie and Huron. Virulent Newcastle Disease outbreaks in cormorants have occurred intermittently throughout the United States since 1992. No known domestic poultry was involved with this summer's outbreak.

Botulism type C outbreaks at the Capital Reflecting Pool (Washington, DC)

On July 11, 2008, Capital Police observed multiple mallard ducks displaying neurologic signs and dying upon entering the Capital Reflecting Pool. Earlier reports in the vicinity that day indicated possible human illnesses which were later found to be unrelated. Onsite testing conducted by the FBI was negative for particular agents of concern and the US National Park Service Crew Supervisor confirmed no pesticide application had occurred recently in the immediate area. A total of 17 mallards were collected from the pool and necropsied at the MD Veterinary Diagnostic Lab. Tissues from those necropsied and an additional dead mallard collected from a nearby park were flown to NWHC for further evaluation. Botulism type C toxin was detected in samples from both locations. A second mortality event at the Reflecting Pool, involving 26 mallards, occurred on July 26-27. Samples submitted to NWHC were again confirmed to be botulism type C. Since draining and cleaning of the Pool as the potential source of the toxin, no additional mortalities have been reported.

Botulism type E mortalities recurring in the Great Lakes region (Lakes Michigan, Erie and Ontario)

Beach monitoring along the shores of the Great Lakes this summer has again detected a variety of birds dying from botulism type E intoxication. The first mortality reports attributed to the toxin began in late June from the western shores of Lake Michigan (Mason Co., MI) and northern shores of Lake Ontario (Canadian Cooperative Wildlife Health Centre reporting). Species affected have been mostly common loons, double-crested cormorants, several gull species, and various shorebirds, including Caspian terns and sandpipers. Botulism Type E was also suspected in the death of an endangered piping plover juvenile at Sleeping Bear Dunes National Lakeshore. Four affected Michigan counties (Oceana, Mason, Benzie, and Emmet) represent the furthest southern extent reported along the western Lake Michigan shoreline. Along the eastern shore, September mortalities were detected in Door (bayside) and Milwaukee counties in Wisconsin. Total numbers of birds

News from the Field

affected thus far are estimated at 200 for Lake Michigan, 113 for Lake Erie, and 12 for Lake Ontario. Last year, the total mortality from the four lakes was estimated at 17,125 with the majority of the mortalities detected between Oct-Nov. Botulism type C toxin has been detected at some locations including the Kingston, Ontario area and Presque Isle State Park (Erie, PA).

Seasonal summer avian botulism outbreaks across the states (HI, CA, NV, UT, MT, ND, SD, WI, FL, OH, PA, MA)

Botulism type C mortality events were observed in waterfowl across several states during the summer months. Botulism mortality occurs when birds ingest toxins produced by *Clostridium botulinum* bacteria. The Midway Atoll experienced a significant die-off of endangered Laysan ducks. An estimated 140 ducks died in a population of approximately 200-400 individuals. US Fish and Wildlife Service management actions were to drain and remove sediments from a catchment pond that was the primary site of the event. The largest avian botulism event was at Lake Bowdoin, Montana, where 2000 ducks and coots died in two locations on the lake. Turtle Lake Wildlife Development Area, North Dakota, experienced a month-long botulism event that killed more than 700 ducks and coots. Another large event occurred at Horicon National Wildlife Refuge, Wisconsin, where approximately 1000 birds, primarily mallards and green-winged teal, died over a 6 week period. The Salton Sea National Wildlife Refuge, California, lost 200 birds, mostly American white pelicans and some endangered brown pelicans, black-legged stilts, and gulls. Many affected areas experience annual mortality from botulism. Dry conditions, hot temperatures, and low oxygen levels in wetlands during late summer contribute to botulism outbreaks. Prompt carcass removal of impacted areas can reduce additional mortality from birds eating toxin-contaminated maggots on decomposing carcasses.

Expansion of plague-affected area into black-footed ferret area in Conata Basin (SD)

Sylvatic plague reached the Conata Basin area of South Dakota earlier this July. The Conata Basin is a portion of the Buffalo Gap National Grasslands, south of Badlands National Park, where the last remaining plague-free area existed for black-footed ferret reintroduction. Prior estimates indicated the plague had spread to about 10,000 of the 25,000 acres of black-tailed prairie dog habitat. Prairie dogs carry fleas infected with *Yersinia pestis*, the bacteria that causes plague. Black-footed ferrets primarily feed on prairie dogs. Ferret populations in Conata Basin were estimated around 300 animals (roughly half of the free-ranging black-footed ferret population), but the plague outbreak may have killed as many as 100. Fall spotlight surveys are underway to obtain more accurate estimates. US Fish and Wildlife Service and partners plan to dust 11,000 acres with insecticide and continue to vaccinate ferrets against plague. As a new management option, USGS – National Wildlife Health Center and other partners are working to develop a plague vaccine that can be delivered via oral bait for prairie dogs and ferrets to protect against plague-associated mortalities.

Documented anthrax mortality in wildlife (MT)

Two deer, 14 elk, and a black bear are suspected to have died from naturally occurring anthrax in several creek drainages near a ranch that was experiencing anthrax mortality in bison. An estimated 250 bison died. Wildlife mortalities were spotted during aerial surveys around the ranch by Montana Fish, Wildlife and Parks. Anthrax is a bacterial disease caused by *Bacillus anthracis*. Bacterial spores can remain dormant in soil for long periods of time and mortalities tend to recur at contaminated sites although this was the first documentation of anthrax in Gallatin County, Montana. Appropriate weather conditions during summer promote germination of the spores that animals then ingest during feeding. Since anthrax is a zoonotic disease Montana Fish, Wildlife and Parks provided information on proper field dressing of harvested animals to hunters.

News from the Field

Epizootic hemorrhagic disease detected in northern US (WA, SD, MI)

Reports of epizootic hemorrhagic disease (EHD) in white-tailed deer occurred in 3 new northern states during August and September 2008. Die-offs involving 20-500 animals were detected in the Snake River Drainage area (Walla Walla, WA), Butte and Lawrence counties (SD) and Oakland County, MI. EHD is caused by a virus, closely related to bluetongue viruses, and is transmitted by the *Culicoides* sp. midge. Because of the insect vector, mortalities are more commonly detected in the southeastern US, although it has occurred previously in CO, AZ, and NE. A northward range expansion in the eastern US was noted in 2007 (2007-4 Quarterly Mortality Report).

Quarterly Wildlife Mortality Report July 2008 to September 2008

State	Location	Dates	Species	Mortality	Diagnosis	Labsites
AK	Shoup Bay	07/25/08-08/01/08	Black-legged Kittiwake	40 (e)	Trauma,	NW Emaciation
AL	Decatur	07/27/08-07/29/08	Canada Goose	41	Open: emaciation	NW
CA	Stanislaus	05/28/08-06/23/08	Mallard	65 (e)	Botulism type C, Airsacculitis, Viral infection suspect	CSS
CA	Dublin	07/14/08-07/21/08	Mallard Canada Goose	15 (e)	Undetermined	UCD
CA	Newark	09/04/08-09/06/08	Mallard	15 (e)	Botulism suspect	NON
CA	Rancho Cordova	09/08/08-09/12/08	Mallard	15 (e)	Botulism type C	UCD
CA	Salton Sea	08/11/08-10/24/08	American White Pelican Unidentified Gull California Brown Pelican Unidentified Teal Northern Shoveler	358 (e)	Botulism type C	NW
DC	US Capitol Reflecting Pool	07/11/08-07/27/08	Mallard	45	Botulism type C	MD, NW
FL	Davie	09/15/08-ongoing	Muscovy Duck Mallard	13	Open: botulism suspect	UNK
FL	Indian Town	09/20/08-09/21/08	Black-bellied Whistling Duck Domestic Mallard	20 (e)	Undetermined	NON
FL	St. George Island	07/15/08-7/16/08	Unidentified Gull	25	Undetermined	NON
GA	Floyd County	07/01/08-07/05/08	House Finch	14 (e)	Undetermined	SCW
GA	Houston County	08/07/08-09/22/08	Purple Martin	8	Aspergillosis	SCW
LA	Bossier County	05/01/08-08/13/08	Mourning Dove	6	Trichomoniasis	SCW
MA	Lowell	07/01/08-07/15/08	Mallard	24 (e)	Botulism suspect	NON
MD	Jug Bay Wetlands Sanctuary	07/31/08-08/20/08	Eastern Box Turtle	6	Viral Infection: Ranavirus	NW
MD	Elkton	07/16/08-07/30/08	Red Bat	10	Trauma	NW
MI	Bloomer Park, Rochester	08/08/08-08/25/08	White-tailed Deer	20 (e)	Epizootic hemorrhagic disease	MI, MSU
MI	Ludington State Park, Mason, Emmett Co., Mears State Park, Oceana Co.	06/27/08-ongoing	Ring-billed Gull Double-crested Cormorant Unidentified Tern Herring Gull	52	Botulism type E	MI
MI	Sleeping Bear Dunes National Seashore	06/30/08-ongoing	Caspian Tern Ring-billed Gull Least Sandpiper Double-crested Cormorant Common Merganser	20 (e)	Botulism type E	NW, OT
MN	Voyageurs National Park, Angle Island WMA, Agassiz NWR	07/14/08-09/30/08	Double-crested Cormorant American White Pelican Ring-billed Gull	1,250 (e)	Newcastle Disease Virus, Emaciation, Trauma	NVL, NW

News from the Field

MN	Marsh Lake, Lac qui Parle WMA	07/10/08-09/30/08	American White Pelican Double-crested Cormorant Unidentified Gull Great Egret Canada Goose	2,800 (e)	Viral Infection: West Nile, Newcastle Disease Virus, Salmonellosis, Parasitism: Coccidiosis (<i>Eimeria sp.</i>), Parasitism: Contraceacum, Undetermined	NVL, NW
MN	Minnesota Lake, Faribault Co., Pigeon Lake, Meeker Co., Lake Superior, Cook Co., Mille Lacs, Mille Lacs Co.	06/30/08-09/30/08	Double-crested Cormorant American White Pelican Ring-billed Gull Common Loon Great Blue Heron	1,000(e)	Newcastle Disease Virus, Viral Infection: Avian Paramyxovirus 1, Emaciation, Botulism type C	NVL, NW
MO	Round Spring Cave	08/24/08-08/24/08	Eastern Pipistrelle	24 (e)	Trauma	NW
MT	Eyraud Lakes	08/25/08-09/01/08	American White Pelican	5	Emaciation: starvation	NW
MT	Lake Bowdoin, Malta	07/20/08-09/30/08	Mallard Blue-winged Teal Green-winged Teal Northern Shoveler Gadwall	2,000	Botulism type C	NW
MT	Lewis and Clark County	08/27/08-09/01/08	Long-legged Bat	50 (e)	Emaciation	NW
MT	Florence	06/26/08-07/01/08	Red Crossbill House Finch Pine Siskin	50 (e)	Salmonellosis	NW
MT	Spanish, Elk, and Cherry Creeks	07/01/08-09/01/08	Elk Deer	16	Bacterial Infection: anthrax	MT
ND	Chase Lake NWR	07/03/08-08/20/08	Black-crowned Night-Heron Unidentified Gull American White Pelican	16	Emaciation, Salmonellosis, Viral infection: West Nile	NW
ND	Kellys Slough NWR	08/21/08-08/27/08	Semipalmated Sandpiper Least Sandpiper Franklin's Gull	13 (e)	Botulism type C, Aspergillois	NW
ND	Oahe Reservoir, Missouri River	08/29/08-10/01/08	Mallard Gadwall	57 (e)	Botulism type C	NW
ND	Turtle Lake 2 Wildlife Development Area	08/04/08-09/02/08	Mallard American Coot American Wigeon Blue-winged Teal Gadwall	719	Botulism type C	NW
NC	Beaufort County	08/23/08-09/30/08	Mallard	1,300 (e)	Botulism	SCW
NE	Massie and Wilkins Waterfowl Production Area	07/14/08-08/06/08	Plains Leopard Frog	200 (e)	Viral Infection: Ranavirus, Parasitism suspect	NW
NV	Reno-Sparks Area	07/14/08-09/01/08	Rock Dove Mourning Dove	300 (e)	Parasitism: Trichomoniasis	NVA
NV	South Reno	07/01/08-07/18/08	Canada Goose Mallard Gadwall American Coot Rock Dove	22	Botulism type C	NW
OH	Dublin	06/29/08-07/03/08	Mallard Hybrid Mallard	22	Botulism type C	NW
OM	Midway Atoll, Papahānaumokuākea Marine National Monument	08/10/08-08/21/08	Laysan Duck	140 (e)	Botulism type C	NW
PA	Presque Isle State Park	05/26/08-ongoing	Ring-billed Gull	113 (e)	Botulism type C,	NW

News from the Field

			American Crow		Botulism type E,	
			Common Loon		Trauma	
			Great Blue Heron			
			Unidentified Waterfowl			
SD	Black Hills Area	09/22/08-10/15/08	Deer	25 (e)	Epizootic hemorrhagic disease	SD
SD	Conata Basin, Buffalo Gap National Grasslands	05/15/08-08/15/08	Black-footed Ferret	100 (e)	Sylvatic plague	CDC
SD	Waubay NWR, Bitter Lake	07/25/08-09/01/08	Black-tailed Prairie Dog			
SD	Zabrasha Game Production Area	08/01/08-08/25/08	American White Pelican	34 (e)	Viral Infection: West Nile	NW
			Redhead Duck	77	Botulism type C	NW
			Unidentified Gull			
			Unidentified Grebe			
			Unidentified Duck			
TX	Study Butte	07/01/08-8/1/08	Mourning Dove	10 (e)	Parasitism: Trichomoniasis	NW
UT	Bear River Marshes	07/03/08-07/31/08	California Gull	12 (e)	Undetermined	NW
UT	Logan	09/04/08-09/05/08	Mallard	5 (e)	Botulism type C	NW
VT	Windsor, Fairlee, East Poultney, Rupert	04/01/08-7/7/08	Little Brown Bat	15 (e)	Trauma suspect,	NW
			Indiana Bat		Open: emaciation	
WA	Snake River drainage	08/29/08-09/12/08	White-tailed Deer	500 (e)	Epizootic hemorrhagic disease	WA
WI	Alma	06/30/08-07/15/08	Little Brown Bat	7	Undetermined	NW
WI	Blue River	06/01/08-07/15/08	Little Brown Bat	40 (e)	Emaciation: starvation suspect	NW
WI	Deerwood Park, Holmen	07/01/08-07/27/08	Eastern Bluebird	100	Emaciation	NW
WI	Fort McCoy	06/01/08-07/31/08	Eastern Bluebird	80 (e)	Parasitism: Simuliidae	NW
WI	Horicon NWR	08/10/08-09/22/08	Mallard	1,000 (e)	Botulism type C	NW
			Green-winged Teal			
			Great Blue Heron			
			Ring-billed Gull			
			Unidentified Shorebird			
WI	Lake Onalaska, Upper Mississippi River NWR	09/15/08-ongoing	American Coot	430 (e)	Parasitism:	NW
			Lesser Scaup		<i>Cyathocotyle bushiensis</i> ,	
			Blue-winged Teal		Parasitism:	
			Double-crested Cormorant		<i>Sphaeridiotrema globulus</i>	
			Ruddy Duck			
WI	Milwaukee Harbor	09/10/08-ongoing	Ring-billed Gull	50 (e)	Botulism type E	NW, WI, WVL
			Herring Gull			
			Double-crested Cormorant			
WI	Neenah	06/16/08-07/21/08	Little Brown Bat	50 (e)	Pasteurellosis	NW
			Big Brown Bat			
WI	Wisconsin Rapids	06/25/08-07/22/08	Little Brown Bat	10	Emaciation	NW
WV	Tucker County High School, Hambleton	09/29/08-09/29/08	Blackpoll Warbler	501	Trauma	SCW
			Black-throated Blue Warbler			
			Common Yellowthroat			
			Magnolia Warbler			
			Ovenbird			
<u>Updates:</u>						
AZ	Biltmore Lake	06/01/08-07/01/08	Mallard	70 (e)	Botulism type C	NW
			Unidentified Goose			
			NOS Passerine			
			Canada Goose			
AZ	Maricopa	05/01/08-07/01/08	Muscovy Duck	30 (e)	Botulism suspect	NW
			Mallard			
CA	Redding	02/12/08-05/20/08	Skunk	60 (e)	Canine distemper	UCD
			Unidentified Fox			
			Raccoon			

News from the Field

CA	Southern California	01/01/08-04/01/08	Gray Fox			
FL	Hillsborough	05/01/08-05/13/08	Red-tailed Hawk	18 (e)	Chlamydiosis	SDC, UCD
GA	Houston	01/20/08-01/21/08	Muscovy Duck	11	Duck plague	SCW
			Red-winged Blackbird	25 (e)	Salmonellosis	SCW
			Passerine, NOS			
KS	Lake McKinney	03/14/08-04/30/08	Lesser Snow Goose	550 (e)	Avian cholera	NW
			Mallard			
			Northern Pintail			
			American Wigeon			
			Green-winged Teal			
KY	Coal Run Village, Frankfort	03/25/08-03/26/08	American Crow	50 (e)	Undetermined	SCW
					Clostridium perfringens suspect	
ND	White Lake	06/20/08-07/14/08	Mallard	110 (e)	Salt toxicosis	NW
			Gadwall			
			Eared Grebe			
			Ruddy Duck			
			Franklin's Gull			
			Unidentified Teal			
			Northern Shoveler			
			American Wigeon			
			American Coot			
NE	Keith	05/26/08-08/30/08	House Sparrow	100 (e)	Viral Infection suspect	NW
NH	Sargents Purchase	05/04/08-05/29/08	Little Brown Bat	10 (e)	Predation,	NW
					Emaciation	

(e) = estimate; "suspect" = Diagnosis not finalized, but field signs and historic patterns indicate the disease.

Center for Disease Control (CDC), California State University at Stanislaus (CSS), Maryland Diagnostic Laboratory (MD), Michigan Department of Natural Resources (MI), Michigan State University (MSU), Montana Fish, Wildlife and Parks Diagnostic Lab (MT), No diagnostics pursued (NON), Nevada Dept of Agriculture - Animal Disease & Food Safety Lab (NVA), National Veterinary Services Laboratory, Ames IA (NVL), USGS National Wildlife Health Center (NW), Other (OT), Southeastern Cooperative Wildlife Disease Study (SCW), South Dakota University Diagnostic Laboratory (SD), University of California-Davis (UCD), Unknown (UNK), Washington State Disease Laboratory (WA), Wisconsin Veterinary Diagnostic Laboratory (WVWL).
Written and compiled by: Anne Ballmann - Eastern US, Krysten Schuler - Western US, and Julia Hoeh - Technician.

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

Eastern United States

Anne Ballmann
Wildlife Disease Ecologist
Phone: (608) 270-2445
FAX: (608) 270-2415
Email: aballmann@usgs.gov

Western United States

Krysten Schuler
Wildlife Disease Ecologist
Phone: (608) 270-2447
FAX: (608) 270-2415
Email: kschuler@usgs.gov

Hawaiian Islands

Thierry Work
Wildlife Disease Ecologist
PO Box 50167
300 Ala Moana Blvd. Rm 8-132
Honolulu, HI 96850
Phone: (808) 792-9520
FAX: (808) 792-9596
Email: thierry_work@usgs.gov

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

Species:

Avian:American Coot (*Fulica americana*); American Crow (*Corvus brachyrhynchos*); American White Pelican (*Pelecanus erythrorhynchos*); American Wigeon (*Anas Americana*); Black-bellied Whistling Duck (*Dendrocygna autumnalis*); Black-crowned Night Heron (*Nycticorax nycticorax*); Black-Legged Kittiwake (*Rissa tridactyla*); Blackpoll Warbler (*Dendroica striata*); Black-throated Blue Warbler (*Dendroica caerulescens*); Blue-Winged Teal (*Anas discors*); California Brown Pelican (*Pelecanus occidentalis californicus*); California Gull (*Larus californicus*); Caspian Tern (*Hydroprogne caspia*); Canada Goose (*Branta Canadensis*); Common Loon (*Gavia immer*); Common Merganser (*Mergus merganser*); Common Yellowthroat (*Geothlypis trichas*); Double-Crested Cormorant (*Phalacrocorax auritus*); Eared Grebe (*Podiceps nigricollis*); Eastern Bluebird (*Sialia sialis*); Franklin's Gull (*Leucophaeus pipixcan*); Gadwall (*Anas strepera*); Great Blue Heron (*Ardea herodias*); Great Egret (*Ardea alba*); Green-winged Teal (*Anas crecca*); Herring Gull (*Larus argentatus*); House Finch (*Carpodacus mexicanus*); House Sparrow (*Passer domesticus*); Laysan Duck (*Anas lay-sanensis*); Least Sandpiper (*Calidris minutilla*); Lesser Scaup (*Aythya affinis*); Lesser Snow Goose (*Chen*

News from the Field

caerulescens); Magnolia Warbler (*Dendroica magnolia*); Mallard (*Anas platyrhynchos*); Mourning Dove (*Zenaidura macroura*); Muscovy Duck (*Cairina moschata*); Northern Pintail (*Anas acuta*); Northern Shoveler (*Anas clypeata*); Ovenbird (*Seiurus aurocapillus*); Pine Siskin (*Carduelis pinus*); Purple Martin (*Progne subis*); Red Crossbill (*Loxia curvirostra*); Redhead Duck (*Aythya americana*); Red-tailed Hawk (*Buteo jamaicensis*); Red-Winged Blackbird (*Agelaius phoeniceus*); Ring-billed Gull (*Larus delawarensis*); Rock Dove (*Columba livia*); Ruddy Duck (*Oxyura jamaicensis*); Semipalmated Sandpiper (*Calidris pusilla*)

Mammalian:

Big Brown Bat (*Eptesicus fuscus*); Black-Footed Ferret (*Mustela nigripes*); Black-Tailed Prairie Dog (*Cynomys ludovicianus*); Eastern Pipistrelle Bat (*Pipistrellus subflavus*); Elk (*Cervus elaphus*); Gray Fox (*Urocyon cinereoargenteus*); Indiana Bat (*Myotis sodalis*); Little Brown Bat (*Myotis lucifugus*); Long-legged Bat (*Macrophyllum macrophyllum*); Mule Deer (*Odocoileus hemionus*); Raccoon (*Procyon lotor*); Red Bat (*Lasiurus borealis*); Skunk (*Mephitis*); White-Tailed Deer (*Odocoileus virginianus*)

Amphibian:

Plains Leopard Frog (*Rana blairi*).

Reptile:

Eastern Box Turtle (*Terrapene carolina carolina*).

WDA Section News

News from Europe

Paul Duff

Visit the EWDA website at www.ewda.org and find out about our activities, including conferences, workshops, courses and members' interests. The website is kindly provided free of charge by the UK Central Science Laboratory. Please contact r.delahay@csl.gov.uk if you have any announcements or other material for submission to the site.

EWDA Conference 2008 Abstracts Available

Ivan Vickovic and Branko Sostaric

The [EWDA 2008 Conference Book of Abstracts](#) is now available in PDF at www.ewda2008.org

Conference photos are also available through same link – please enjoy them and download as many as you wish – either as single photos from Photo Galleries or as entire Photo Albums (download time may greatly vary depending on quality and type of internet connection).

Please have in mind that the Conference web site will be shut down by second half of 2009. After that time (only) the Book of Abstracts will be downloadable from the European Wildlife Disease Association web site (www.ewda.org)

It was great having you in Rovinj, and hope to see you all in two years.

Tuberculosis in Cattle and Wild Boar in Catalonia, NE Spain

Ignasi Marco, Gregorio Mentaberre, Santiago Lavín.

Bovine tuberculosis caused by *Mycobacterium bovis* is a zoonotic disease distributed worldwide that affects a wide range of domestic and wildlife species. Despite the success of eradication campaigns, infection has persisted in many parts of the world. It has often been linked to wild mammal reservoir hosts. In 2004, an adult male wild boar, hunted at a Catalonian Hunting Reserve, presented lesions consistent with tuberculosis during an investigation into diseases in this species in Catalonia (NE Spain). It was the first description of the disease in a free-living wild species in NE Spain. In the same area, 150 free-ranging cattle co-existed in an extensive regime and the herd was known to be affected with the disease for several years. In 2005, the prevalence of tuberculosis in the wild boar from this area was estimated to be about 76%. It was decided to reduce the wild boar density in the affected area by means of hunting and test as much as possible. However, during 2006 and 2007 prevalence of the infection did not