

July 2009  
Issue 1

# Newsletter of the USGS National Wildlife Health Center

## News Summary

- New director for the National Wildlife Health Center
- Fungus associated with White-Nose Syndrome has a new name
- Avian salmonellosis mortality confirmed in many states

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## New Center Director

Dr. Jonathan Sleeman, a recognized authority on wildlife health issues, has joined the USGS National Wildlife Health Center in Madison, Wis., as its new director.

Sleeman comes to the USGS from the Virginia Department of Game and Inland Fisheries, where he was a wildlife veterinarian.

Currently, Sleeman is the President of the American Association of Wildlife

Veterinarians, and serves as an adjunct professor at the Virginia-Maryland Regional College of Veterinary Medicine and the University of Tennessee, College of Veterinary Medicine. He is a Diplomat of the American College of Zoological Medicine. His interests include the epidemiology of wildlife diseases, conservation medicine, teaching and training.

After receiving degrees in zoology and veterinary

medicine from the University of Cambridge in England, Sleeman completed a residency in Zoological Medicine at the University of Tennessee. He was named the Field Director of the Mountain Gorilla Veterinary Center in Rwanda from 1997 to 1998.

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## Research Progress on White-Nose Syndrome of Bats

Scientists continue to investigate the causes of bat white-nose syndrome (WNS), an emerging disease associated with the loss of an estimated half million insectivorous bats of five species in the eastern United States. Little brown bats and eastern pipistrelles have been particularly hard hit with as many as 90-100 percent of the local population wiped out at some winter hibernacula. Since 2007, white-nose syndrome has spread rapidly from the northeastern to Atlantic states.

Partnerships among State, federal, academic, and

nonprofit organizations have formed to investigate the disease, its effects on bat populations, and management options. Infection and transmission trials investigating the fungus, *Geomyces destructans*, as the cause of skin lesions on bats associated with WNS have been carried out at the NWHC. Other studies in which NWHC scientists are involved include soil sample surveys from caves to determine the distribution of *G. destructans* relative to affected hibernacula, summer bat surveys for evidence of latent infections,

and evaluation of possible treatment or control options. Concern about possible human activity spreading WNS caused the USFWS to issue cave closure recommendations this spring to the public to reduce the risk and speed of disease spread to cave sites in the central United States where much larger winter hibernacula exist.

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USGS scientists conducting necropsy on bats (Jay Schneider, left, Dr. David Blehert, right) at the National Wildlife Health Center.

## Research Progress on White-Nose Syndrome of Bats

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A paper published in *Mycotaxon* on June 12 defines the taxonomy and provides a species name for the fungus associated with the skin infection that is the hallmark of white-nose

syndrome in bats. NWHC microbiologist David Blehert is the corresponding author. The new name, *Geomyces destructans*, reflects the devastating effects of this fungus on hibernating bats. A recently completed USGS fact sheet on *Investigating White-Nose Syndrome in Bats*

is now available online. [http://www.nwhc.usgs.gov/publications/fact\\_sheets/pdfs/2009-3058\\_investigating\\_wns.pdf](http://www.nwhc.usgs.gov/publications/fact_sheets/pdfs/2009-3058_investigating_wns.pdf) and in hard copy from NWHC.

## Special Report on the Histopathologic Criteria to Confirm White-Nose Syndrome in Bats

USGS wildlife pathologist Carol Meteyer serves as senior author on a recently published paper in the *Journal of Veterinary Diagnostic Investigations*, "Histopathologic criteria to confirm white-nose syndrome in bats." This article describes the

mechanisms and criteria used to detect *Geomyces destructans*, the fungus associated with the skin infection in bats afflicted with white-nose syndrome. Other USGS authors on the paper include David Blehert, David E. Green, Valerie Shearn-Bochsler and Nancy

Thomas. The paper is featured as a special report in the July issue of the *Journal*, a leading source on issues pertaining to veterinary diagnostic science.

## Emaciated Seabirds Wash Up on Bay Area Beaches

In mid-April 2009, California State and Federal natural resource agencies and local wildlife rehabilitation centers began receiving many reports of dead and dying Brandt's cormorants and other seabirds along the coast from Marin County, north of San Francisco, south to Monterey. All of the birds were significantly emaciated when found. Preliminary results of tests for domoic acid, a natural toxin produced by marine algae

that proves fatal to birds, were negative, as were tests for Newcastle disease, avian influenza and West Nile virus. No signs of environmental contamination have been found. Trawl data from the National Marine Fisheries Service showed a decrease in the number of Northern anchovies in 2008, a popular food source for Brandt's cormorants that feed near shore. This food shortage, coupled with a strong wind event in mid-

April, may have generated a strong upwelling that displaced available prey offshore and out of reach. Brandt's cormorants appeared to be the primary species affected, and the mortality rate is estimated to be in the thousands.

## Avian Cholera in Waterfowl in California and Nationwide

Tulelake and Lower Klamath National Wildlife Refuges (NWR) experienced substantial mortality from avian cholera this spring. U.S. Fish and Wildlife Service refuge managers reported nearly 2000 dead birds were collected as part of their disease control operations. Snow geese and Ross' geese comprised 90 percent of the birds collected. The mortality event began in early March and subsided in mid-to-late April. Avian cholera events are annual events at the refuges. The mortality totals in 2009 were less than those in 2008 that lasted two and one-half

months with mortality estimated at 4500 birds. Cold weather conditions contribute to avian cholera outbreaks by concentrating birds in certain migration stopover locations. Prompt collection and disposal of carcasses removes the causative bacteria, *Pasturella multocida*, from the environment. Additional avian cholera outbreaks in early 2009 totaling several hundred birds occurred at Kern and Butte Sink NWR, both in California. Lesser outbreaks were documented in the Mississippi and Central Flyways at Bellrose Waterfowl Reserve, Ill.; Hackberry Flat Wildlife

Management Area, Okla. and Rainwater Basin Wetland Management District, Neb.



Ross's Goose  
Photo by: Steve Carson

## Avian Salmonellosis Mortality Confirmed in Many States

Outbreaks of avian salmonellosis (*Salmonella typhimurium*) were confirmed in wild birds across many states between Feb – May 2009 (see Fig.1). Concerned citizens across the country reported finding dead or distressed wild birds near their homes and bird feeders. Public concern most likely was heightened due to the recent salmonella cases in humans and numerous product recalls. No evidence exists that the strains found in dead wild birds this year were the same strains of Salmonella that prompted the recalls in peanuts, pistachios, or wild bird seed. Large-scale mortalities of passerines using feeding

stations are common across the United States and often occur during times of increased supplemental feeding, such as winter and spring.

The NWHC distributed a Wildlife Health Bulletin on avian salmonellosis in wild birds in April available on the National Wildlife Health Center website.

[http://www.nwhc.usgs.gov/publications/wildlife\\_health\\_bulletins/WHB\\_09\\_01\\_salmonella.pdf](http://www.nwhc.usgs.gov/publications/wildlife_health_bulletins/WHB_09_01_salmonella.pdf)

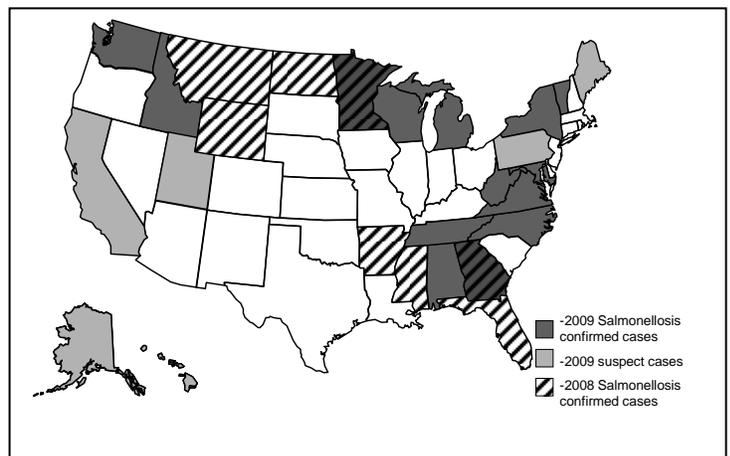


Fig. 1. Avian salmonellosis cases.



## USGS Scientists Share Information at Annual Meeting of the Wildlife Disease Association

Eight scientists from the USGS National Wildlife Health Center participated in the 58th annual meeting of the Wildlife Disease Association, August 2 - 7 in Blaine, Wash. Two of the USGS presentations were "White-nose syndrome: An emerging fungal pathogen" and "A PCR method for

detecting the white-nose syndrome-associated *Geomyces* sp. fungus on the skin of bats." The conference theme, *Wildlife Health from Land to Sea: Impacts of a Changing World*, was inspired by events of a changing climate, economy, and political environment across the planet and is

centered in how those changes impact the natural world and health of wildlife from terrestrial ecosystems to the oceans.

## Field Investigation of Wildlife Mortalities Workshop

USGS wildlife disease specialists Krysten Schuler and Carol Meteyer presented a workshop on "Field Investigation of Wildlife Mortalities" to participants at the Wildlife Disease Association's annual meeting in Blaine, Wash. on August 2. The workshop covered

how to collect mortality information in the field, proper sample collection, and necropsy techniques; also included was a wet lab portion using avian and mammalian carcasses for hands-on experience. Meeting attendees included wildlife biologists, wildlife

managers, veterinarians, epidemiologists, ecologists, parasitologists, pathologists, microbiologists, and others.

## Collaborative Field Study on the Ecology of Avian Influenza in Wild Birds

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*Understanding the ecology of AI in birds in this region will contribute to our ability to address the threat of introduction of HPAI to the US.*

USGS scientist Bob Dusek will be participating in a collaborative field study on the ecology of avian influenza in wild birds in the Sakha Republic (Yakutia) in eastern Russia, August 18-September 22. The collaboration is with scientists from the Institute of Biological Problems of the Cryolithozone, Siberian Division of the Russian Academy of Sciences in Yakutsk, Russia. This part of Russia receives migratory

birds from areas that have had outbreaks of H5N1 HPAI. Understanding the ecology of AI in birds in this region will contribute to our ability to address the threat of introduction of HPAI to the US and respond to it if it is introduced.

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## New Center Director

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Upon returning to the U.S., Sleeman worked as an instructor in zoological medicine at Colorado State University while continuing health studies of mountain gorillas and chimpanzees in central Africa. He was director of Veterinary

Services at the Wildlife Center of Virginia from 2001 to 2005.

Sleeman is widely published. His works include “Conservation Medicine Approach to Managing Wildlife Diseases,” “Wildlife Zoonoses with an Emphasis on Bioterrorism Agents,”

“Wildlife Rehabilitation Centers as Monitors of Ecosystem Health,” and “Great Ape Anesthesia.”



Dr. Jonathan Sleeman, is the new center director of the USGS National Wildlife Health Center.

## National Wildlife Health Center Submission Guidelines

Contact a member of the Field Investigation Team (FIT) to obtain shipping approval and discuss shipping arrangements.

Freezing/thawing impedes isolation of some pathogens and damages tissues. The NWHC prefers chilled specimens if they can be sent within 24-36 hours of collection or death. We will provide guidance on freezing samples on a case-by-case basis. As a general guideline, if you cannot call or ship within 24-36 hours, freeze the animal(s).

We request specimens be shipped by overnight service, Monday through Wednesday, to guarantee arrival at NWHC before the weekend.

If specimens are fresh and need to be shipped on Thursday or Friday, special arrangements can be made with a FIT member.

A specimen history form and tracking number are required before specimens arrive at the Center. These may be sent to a FIT member either electronically or by FAX. Packages will not be opened if a specimen history form does not arrive first.

Instructions for collection and shipment of avian and mammalian carcasses, as well the required specimen history form, can be found at our website.

[http://www.nwhc.usgs.gov/mortality\\_events/reporting.jsp](http://www.nwhc.usgs.gov/mortality_events/reporting.jsp)

Due to new restrictions, specimens should be sent to the National Wildlife Health Center, Necropsy Loading Dock. The new address can be found on the shipping instructions.

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**USGS National Wildlife Health Center**

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**We're on the Web!**  
*Visit us at:*  
<http://www.nwhc.usgs.gov/>

**To report a wildlife mortality event**



*If your agency is involved in an event that is not reported, please contact:*

Western U.S.:  
Dr. Krysten Schuler,  
608-270-2447,  
[kschuler@usgs.gov](mailto:kschuler@usgs.gov)

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Dr. Anne Ballmann,  
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Nationwide, single animal cases only:  
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**Disclaimer**

Information presented in this newsletter represents the most current data available to the USGS National Wildlife Health Center at the time of publication. For mortality event details, we encourage researchers to contact us to acquire data directly.

External request forms for mortality information can be obtained from Jennifer Bradsby at 608-270-2443 or by email: [jbradsby@usgs.gov](mailto:jbradsby@usgs.gov).

Information presented in this newsletter is not intended for citation as scientific literature.

For citable information or

general information regarding the Center, please contact Gail Moede Rogall, Information Specialist/Outreach Coordinator, at 608-270-2438 or by email: [gmrogall@usgs.gov](mailto:gmrogall@usgs.gov)

**Words for thought...**

“If all mankind were to disappear, the world would regenerate back to the rich state of equilibrium that existed ten thousand years ago. If insects were to vanish, the environment would collapse into chaos.” ~Edward O. Wilson