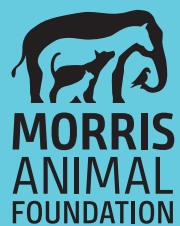


AnimalNEWS^{18.3}

**HEALTHY
HERDS,
BALANCED
ECOSYSTEMS**

Partnering to Save Animals
A Lasting Legacy
2018 Wildlife Studies



YOUR GIFTS IN ACTION

For 70 years, Morris Animal Foundation has been a global leader in funding studies to advance animal health. With the help of generous donors like you, we are improving the health and well-being of dogs, cats, horses and wildlife worldwide.



Newly Identified Cat Virus

Until now, researchers were unaware that companion animals were susceptible to hepadnaviral infections, a family of viruses that invades liver cells and is linked to hepatitis and cancer in other species. University of Sydney researchers identified a new hepadnavirus in a cat with a compromised immune system due to feline immunodeficiency virus and lymphoma, and in banked samples from pet cats. The next step is to learn how this virus impacts cat health and its role in cancer and other diseases in cats. (*Viruses*, May 2018)

Cast Size and Optimal Healing

Having a dog in a cast is challenging for both the dog and its owner. The cast needs to be long enough to promote healing but not so long that a pet's movement is unnecessarily impaired. Colorado State University researchers found that dogs fitted with longer casts for hind-leg injuries or ailments see fewer pressure sores and soft-tissue complications than dogs with shorter casts – new information that will help improve animal care. (*The American Journal of Veterinary Research*, March 2018)

Eye Cancer Screening Test

Squamous cell carcinoma (SCC) is the most common cancer affecting horses' eyes. Some breeds, such as Haflinger horses, have a higher risk for developing these ocular tumors. University of California, Davis, researchers identified a genetic mutation in Haflinger horses that partly explains the higher incidence of ocular SCC in this breed. A screening test for this mutation is now available through UC Davis for Haflinger horses. (*Animal Genetics*, July 2018)

Land Use, Tick Proliferation and Large Wildlife Loss

Two threats that contribute to the loss of African wildlife are land-use change associated with habitat loss, and ticks associated with disease. University of California, Santa Barbara, researchers found these two separate threats may be connected. More pasturelands result in megafauna declines, and loss of these larger animals is associated with an increase in tick density and parasitism in remaining species. This new knowledge can help guide land-use and disease-control measures to help protect African wild dogs and other endangered species in managed landscapes. (*Proceedings of the Royal Society B*, May 2018 & September 2017)

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OUR MISSION

Our mission is to bridge science and resources to advance the health of animals.

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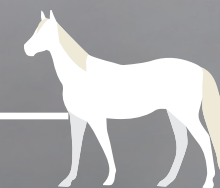
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WILD HORSE POPULATION MANAGEMENT



May Provide the Key to Reducing Resource Conflicts with Other Species

Free-range, wild horse populations can grow at a rapid pace, with many herd populations doubling every four years. Unfortunately, this may result in overgrazing on native plant communities and the reduction of forage for endemic wildlife and domestic livestock. Managing wild horse populations is critical to their long-term viability and the health of the ecosystems they share.

Morris Animal Foundation has funded several studies in wild horses over the years, including studies focused on controlling reproduction. While land management agencies have tried periodic roundups to manage the populations, controlling the fertility of free-range mares may be a more cost-effective and safe solution.

From 2010 to 2012, Morris Animal Foundation-funded researchers at Colorado State University evaluated a hormone contraceptive vaccine, GonaCon-Equine, in wild mares at North Dakota's Theodore Roosevelt National Park.

While it was determined to be safe, the vaccine was only moderately successful. Only about half of the treated mares remained infertile for two breeding seasons. Disappointed but not deterred, the team tried again. In 2013, with funding from the Bureau of Land Management, the team revaccinated the horses.

"As with most vaccines, whether in humans or any other species, with a booster you get a more effective and longer-lasting response," said Dr. Dan Baker, an affiliate faculty member with the university's Department of Biomedical Sciences.

The results supported the theory. In the July edition of the online, scientific journal, *PLoS ONE*, the team stated the vaccine was between 85 percent to 100 percent effective over three breeding seasons. Baker believes this is due to the anamnestic response, which means a cell creates substantially more antibodies after being stimulated by a foreign agent more than once.

The team will continue their research with the goal of ultimately studying the vaccine's effects on wild horse populations outside of a park.



Zoe , Hero #257

LIFE OF A DATA POINT

WHAT HAPPENS AFTER YOU PRESS ENTER

For participants in the Golden Retriever Lifetime Study, it's both a sense of accomplishment and relief when they complete their lengthy annual questionnaire, comprising more than 200 items covering everything from diet to household exposures to activity, and lots more.

Once the questionnaire is complete, data is housed and backed up with an off-site partner. Scientists at the Foundation receive data on a pre-set schedule and process it into a variety of forms.

Although some of the data is useable exactly as it arrives, many data points need to be processed before they can be analyzed. Two ways the study research team processes data are normalization and cleaning.

Normalization is the process of standardizing data. For example, the questionnaire asks people to measure how much food they give their dog each day. Some participants answer this question in cups and others in ounces. This

data needs to be converted to a standard unit of measurement so that a researcher can use it.

Examples of data cleaning are correcting misspellings or unexpected answers, such as a respondent inadvertently indicating that a male dog had a litter of puppies! These inconsistencies need to be resolved before the data is ready for analysis.

In addition to processing, the data needs to be packaged. Some data might be put into spreadsheets for monthly reports sent to the study's oversight committee. Some data is put into statistical programs for further analysis and publication.



What is the future of this data?

Ultimately, it will be available as a dynamic database for internal and external researchers to use as a tool that will help them better understand factors influencing the health of our dogs. This means getting results out faster to veterinarians and pet owners, fulfilling the mission of the study and the Foundation – bridging science and resources to advance the health of animals.



A Passion
for Helping
Animals

PETCO FOUNDATION

The Petco Foundation is a Morris Animal Foundation VIP – Very Important Partner. Susanne Kogut, President of the Petco Foundation, recently shared with us a few insights about the Petco Foundation and its mission.

Q – What was the driving force behind the creation of Petco Foundation in 1999?

Susanne – Helping animals has always been at the heart of Petco and everyone who works there. Brian Devine, former Petco Chair and CEO, would say that even before the Petco Foundation was created, individual stores were doing what they could to raise funds for local groups and help them adopt pets at Petco stores.

Q – The Petco Foundation is well known for its in-store adoption program, but also invests in animal health studies. What inspired Petco to embrace these missions?

Susanne – Petco and the Petco Foundation partner with thousands of local animal welfare organizations throughout the country to help bring pets together with loving people. So far, we've helped more than 5.5 million pets find their new loving families. But our work to save pets' lives doesn't end there. The Petco Foundation has also invested over \$225 million in local organizations to empower them to save the lives of animals in need, to support service and therapy animals, and to fund pet cancer research and treatment.

Q – Can you tell us about the Petco Foundation partnership with the Blue Buffalo Foundation?

Susanne –The Petco Foundation and the Blue Buffalo Foundation share a common desire to help fight pet cancer, and we have been partnering for many years to do just that. Next year will be the 10-year anniversary of our Pet Cancer campaign. By partnering, the Petco Foundation and the Blue Buffalo Foundation combine forces with Petco and Blue Buffalo to raise funds for critical research and spread the message to fight this disease. We are proud that we could invest a substantial portion of the funds raised in our Pet Cancer campaigns with Morris Animal Foundation.

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A Lasting Legacy

GIVING IN REMEMBRANCE AND LOVE

After an unsuccessful battle to save her daughter's Labrador retriever puppy from a fatal infection, Susan Lewis was extremely touched to receive a Morris Animal Foundation memorial card from her local veterinarian.

"It's so hard to lose a pet, especially one so young," said Susan. "Little Scout had all her shots, but she still contracted an aggressive infection that eventually took her life. I really appreciated this caring gesture from our veterinarian and was happy to learn there is an organization like Morris Animal Foundation."

Receiving a memorial card made a difficult time more bearable as Susan and her daughter grieved for Scout and worked through the shock of losing her so suddenly. It meant so much to Susan that, since then, she has sent countless cards over the years to her friends and family when they lose a beloved pet.

"It is hard to acknowledge the intense grief that accompanies that loss," said

Susan. "Sending a tribute card with a donation to Morris Animal Foundation is the best way I have found to let people know I care."

Susan's memorial cards have another lasting impact – donations through the tribute card program help fund critical studies to improve the health and well-being of animals everywhere. At any given time, the Foundation is funding more than 200 active studies in cats, dogs, horses and wildlife. Giving in memory of a pet supports that work and creates a lasting legacy.

"Loss is never easy," said Susan, "but just knowing someone is thinking about you makes all the difference."

Learn more about Morris Animal Foundation's tribute card program and how to memorialize a loss or celebrate the life of a cherished pet at give.morrisanimalfoundation.org.



HELP ANIMALS AROUND THE WORLD BY SENDING A HOLIDAY CARD

Spread joy this season to your family and friends! Choose from a variety of seasonal cards. Each has a customizable holiday greeting and notes that a gift was made in the recipient's honor to help animals.

Visit our store to place your order by Dec. 3 for holiday delivery

give.morrisanimalfoundation.org

MAMMALS

BEAR-BILE FARMING

Investigate link between bile extraction practices and cardiovascular/kidney disease in rescued Asiatic black bears.

CANCER

Investigate a second contagious facial cancer in Tasmanian devils.

MICROBIOME

Learn how changes in gut and nasal microbiomes correlate with development, survival and disease susceptibility in young Cape buffalo calves.

PARASITES

Study gastrointestinal parasites in wild Grauer's gorillas as model for diseases threatening great apes worldwide.

REPRODUCTION

Identify genetic features limiting reproductive success in male black-footed ferrets to help save this species.

STRESS

Measure stress hormone levels to assess health of declining muskoxen and inform conservation strategies.

SUPPORTIVE CARE

Guide the use of drugs and supportive treatments to improve animal welfare during capture for health and wildlife management.

WHITE-NOSE SYNDROME

Investigate factors impacting the reproduction and recovery of little brown bats nearly wiped out by this fungal disease.

AMPHIBIANS & REPTILES

CHYTRID FUNGUS

Boost the immunity of endangered amphibians against a deadly fungal disease responsible for worldwide decline of amphibians.

DIAGNOSTIC TOOLS

Establish tissue culture lines to minimize animal use in wildlife disease investigations and conservation projects.

EMERGING SNAKE VIRUS

Study a new reptarenavirus linked to inclusion body disease, a serious and often fatal infection of boid snakes.

SPINDLY LEG SYNDROME

Understand causes of a developmental abnormality to improve survival rates in captive amphibians reared for conservation.

2018

WILDLIFE HEALTH STUDIES

WHAT WE ARE FUNDING



BIRDS

ANTIBIOTIC RESISTANCE

Trace sources of antibiotic-resistant genes in seabirds to evaluate human impact on wildlife health and protected habitats.

LEAD POISONING

Analyze the impact of lead poisoning on the long-term health and recovery of bald eagles.

RESPIRATORY FUNGAL INFECTION

Evaluate a technique for earlier diagnosis of aspergillosis, a common fungus that causes serious and sometimes fatal respiratory disease.

REPRODUCTIVE DISEASES

Suppress hormone production in birds with reproductive-related diseases, such as ovarian disease and cloacal prolapse.



AT MORRIS ANIMAL FOUNDATION,

WE WANT YOUR DOG TO HAVE MORE.

*More Snuggles
More Moments
More Memories*

We all want more years with our beloved pets. You can help make that possible by supporting animal health studies at Morris Animal Foundation with your donation today.



VISIT [MORRISANIMALFOUNDATION.ORG/ANIMALNEWS](https://morrisanimalfoundation.org/animalnews) to make your gift. And now, through the end of the year, your gift can be matched dollar for dollar, up to \$100,000, thanks to a group of dedicated donors.

PLEASE CALL YOUR VETERINARIAN TO ASK PET HEALTH QUESTIONS

Our staff is unable to provide veterinary medical advice. The opinions of study investigators may not necessarily be those of your companion animal's veterinarian.

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