

Testimony

Of

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On

The Importation of Exotic Species & the Impact on Public Health and Safety

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Thank you Mr. Chairman, for the opportunity to testify concerning the critical issues surrounding the importation of exotic species and the impact this has on public health and safety. Before I begin, I would like to request that this written testimony be entered in the hearing record.

My name is Dr. Bob Cook, VMD, MPA, I am the Chief Veterinarian and Vice President of Wildlife Health Sciences of the Wildlife Conservation Society, an Adjunct Professor of Environmental Affairs at Columbia University and the Chair of the American Zoo and Aquarium Association Animal Health Committee. I have been specifically asked to speak on the health threats posed by the global movement of exotic animals and their products, including the bush meat trade in three specific areas:

- Exotic animals that are carriers of disease
- The types of diseases
- The risks to human health

Unfortunately, while these are the areas of greatest concern they are also the areas that we know the least about. If we hope to generate good answers to these questions we must start to think about the health of people, domestic animals and wildlife in a more holistic way. A way that explains the interrelationships of the environment, climate, animal movement and health as one. ONE HEALTH for people, domestic animals and wildlife. As we better understand the complexity of these interrelationships we can devise solutions that are proactive and not reactive.

A wide range of domestic and non-domestic animals carry diseases that can threaten the health of people. A pet dog can contract rabies if not vaccinated. They can also become infected and spread zoonotic diseases such as tularemia, leptospirosis, visceral larva migrans, trichonosis, plague, scabies and salmonellosis. But if our pet dogs and cats are properly cared for with sound veterinary treatment they are safe and wonderful additions to our families. Each year shelters across the country house millions of dogs and cats in need of good homes. I wish that the interest in acquiring exotic pets from the wild could be refocused into providing a loving household for dogs and cats in need.

While what we know about emerging diseases is instructive- it is what we don't know that threatens us. For example, rodents carry a plethora of diseases that move between people and animals. Leptospirosis, Listeriosis, Plague, Streptobacillosis, Lymphocytic choriomeningitis, Hanta viruses, Ringworm, Tapeworm, Lassa fever, and Pneumocystis carinii to name but a few. These are the major diseases we look for but even though it was known that Monkey Pox could be spread by rodents, until a few weeks ago no one was looking. It is only once the threat has realized itself by causing disease close to home that we institute control measures. We need to act sooner and more effectively. But even at that, diseases like Monkey Pox or West Nile Virus have been described elsewhere in the world before entering our landscape, what about the mutating diseases. These are pathogens that make the jump to infect new species. The coronavirus which causes SARS most recently moved from animals in the wildlife markets to people...and the prion disease, Bovine Spongiform Encephalopathy or "Mad Cow" made the jump from cattle to people. Both have had

a devastating impact on people animals and the economy of nations (give statistics here). Don't have any here for you—sorry!

We must not limit ourselves to strictly those zoonotic diseases that can spread between animals and people, we must also look at emerging diseases that threaten domestic livestock and wildlife as well- for here too humanity is threatened, either through agricultural losses (Foot and Mouth Disease in Great Britain, Enzootic Newcastles Disease in the western US) or through destabilization of ecosystems through the loss of biodiversity.

And we must consider the exotic pet trade. According to most estimates, the illegal global trade in exotic pets is believed to be worth over \$25 billion dollars a year. Ranked the third most profitable illegal trade after drugs and weapons. The destination for a majority of these animals is the United States. More must be done to halt this movement not only for the sake of the wildlife but also for the health of people, domestic animals and native wildlife- all threatened by the introduction of novel pathogens. But more must be done with the legal trade as well. Regulations to restrict the movement of wild caught animals into the united states as exotic pets would not only bolster efforts to maintain in-tact landscapes but also would lessen the threat these animals pose to health. Millions of reptiles and amphibians are transported around the globe as both pets and bushmeat. Few controls exist to stem this flow. We know that these animals can carry diseases such as salmonella, campylobacteriosis, Clostridium ssp., mycobacteriosis, Q fever and Pentastomiasis.

Lastly we must also consider the broader scope of injurious invasive species, flora and fauna that have and will enter our air, land and waterways by chance or by purpose. . I believe that this Committee is already making progress in this arena and I strongly encourage further legislative action.

So what can be done now. We must be proactive and not reactive. To be proactive we must be looking for those things we know little about not only within our own borders but in range countries around the world. We must do it in a way that respects the role that animals and people play in the perpetuation of a healthy ecosystem and not simply with an eye to eliminate one or another species that is believed to carry a particular disease. Such piecemeal approaches will trap us in a never-ending cycle of reaction. To be proactive we must:

- Maintain high-quality quarantine protocols
 - Quarantine programs such as the ones used by the 212 accredited members of the American Zoo and Aquarium Association ensure that any animal entering their collections are examined and maintained in secure facilities to ensure that disease threats are controlled. Protocols are in place to quarantine all new arrivals under veterinary care, whether they come from across town or across the world and these protocols include veterinary exams, diagnostic testing as well as pathology examinations for any animals that die.
- Expand range-country and homeland surveillance systems
 - Right now Ebola virus is ravaging the gorilla and human populations of central Africa. Field Veterinarians of the Wildlife Conservation Society are on the ground collecting samples from

wild animals to not only determine the vectors of disease but to work towards understanding how to contain the disease within the forest. It was through this work and the collaborations of scientists around the world that it was discovered that gorillas too die of the disease and it is through the samples collected by trained field staff that eventually the vector will be identified- an important missing link which will allow us to formulate control measures.

- The West Nile Virus entered the US in the late summer of 1999. The first connections made between this deadly disease to birds and the illnesses in people came from the Wildlife Conservation Society's Pathology Department. The then head pathologist, Dr. Tracey McNamara was performing standard surveillance protocols looking at wild crows that had died and whose disease could affect the health of the animals in the zoos collections. While today we know that the isolate is identical to that found in a goose during the 1998 outbreak in the Middle East, we may never know how it breached our shores- was it from a mosquito stashed away on a ship or plane, an infected wild bird or a person entering the country. The results are clear and ominous- 4,156 cases and 284 deaths in humans in 2002. Over 10,000 domestic horse deaths and an estimated \$300-\$500 million per year for the United States direct in-patient medical costs and vector control.
- Surveillance means funding the infrastructure of the wildlife experts as well as those in the domestic animal industries to develop substantial capacity and infrastructure both at home and abroad. To define what threats are out there and to best protect our borders.
- Restrict the trade (legal and illegal) in exotic wildlife that are removed from the wild as pets or as products such as bush meat.
 - In today's global marketplace, wildlife is just another commodity. Wildlife for food markets and the pet trade are often transported over enormous distances. For example, animals found in markets in Guangzhou, Guangdong Province, China include soft-shelled turtles captured in Sumatra, pangolins from Vietnam and Thailand, pythons from the Myanmar and red-eared sliders from Florida. The result is a dangerous concatenation of circumstances, with animals and consumers from different ecosystems coming into contact. The lack of resistance to new pathogens makes humans and animals fertile, uncontrolled laboratories for pathogens to adapt and rapidly mutate. The staggering numbers of animals and people in contact change one-in-a-million odds of disease spillover into almost a daily possibility. Even under the most hygienic conditions, this pool of viruses, bacteria, and other pathogens creates optimal conditions for diseases to multiply rapidly and jump between species to exploit new potential hosts.

What we know right now is that many different species of animals have the ability to carry infectious agents that threaten human and animal health. These vectors of disease tell us not only what threatens us today but is especially instructive in that it shows us that when you mess with the balance of nature you will surely lose. The Nipah Virus emerged in Malaysia in 1999. It caused greater than 100 human deaths (an approximately 40% fatality rate) one theory is that fruit bats were carrying the pathogen which infected the domestic pigs that then became the “amplifier” hosts that caused human disease. Over 1 million pigs were destroyed with an estimated \$350-\$400 million dollar cost from losses and control costs to the Malaysian pork industry. Even though the bats were never confirmed to be the link with pig infections it created a “fear factor” amongst people- their concern that wildlife is unhealthy proposals were considered to annihilate the species- a major pollinator of the forests in that region. If we isolate one threat and chose to attempt to destroy its host, we will only hurt ourselves and ultimately we will miss the big picture- that long term surveillance, effective quarantine protocols and limits on the global movement of exotic animals as pets and not simply reactions to outbreaks will win the day. Mr. Chariman, as you formulate legislation to address the issue of infectious diseases, I strongly encourage you and your staff to call upon the informational resources and expertise of the Wildlife Conservation Society and the American Zoo and Aquarium Association. These resources can assist the Committee in developing effective, common-sense measures that can help protect wildlife and human resources both here and abroad. I would be happy to answer any questions that you may have.