Testimony from Ashley Prout McAvey, MEM, Founder of VermontForWildlife prepared for the House Committee on Natural Resources, Fish, and Wildlife
June 9, 2020
In favor of H.99
Examining the link between the Wildlife Trade and Increases in Zoonotic Diseases

—The reason we are meeting on ZOOM right now is a zoonotic disease that came from an animal. This is a proven, scientific fact. From WHO: *All available evidence for COVID-19 suggests that SARS-CoV-2 has a zoonotic source. Many researchers have been able to look at the genomic features of SARS-CoV-2 and have found that evidence does not support that SARS-CoV-2 is a laboratory construct…SARS-CoV-2 was identified in early January and its genetic sequence shared publicly on 11-12 January. The full genetic sequence of SARS-CoV-2 from the early human cases and the sequences of many other virus isolated from human cases from China and all over the world since then show that SARS-CoV-2 has an ecological origin in bat populations. All available evidence to date suggests that the virus has a natural animal origin and is not a manipulated or constructed virus. If it were a constructed virus, its genomic sequence would show a mix of known elements. This is not the case.*

-The COVID-19 pandemic, caused by interaction with wildlife, has resulted in staggering loss of life, immeasurable emotional pain, trillions and trillions of dollars around the world, and myriad other horrific consequences.

-With H.99, Vermont has the chance to say that we see this, we see the connections and the links and we recognize the danger of unchecked wildlife trade on our own human species, and we took action. In addition, we can say we acted to stem the 6th mass extinction that we are in right now (which, unlike the previous five, is caused directly by human activity)—an extinction greater than the loss of dinosaurs 65 million years ago. We are losing 1,000 to 10,000 times the natural "background" rate of 1–5 species per year with loss of dozens each day. We have a chance right now to ACT.

-The greater wildlife trade (precisely what H.99 is confronting) is problematic as it encourages exploiting wildlife for our own uses, perpetuating the attitudes we see in the live wildlife trade. The sale of exotic and endangered animal parts contributes to the creation of a valuable market for some of the same species to be bred or hunted for the live animal trade. The same perceived medicinal benefits and social status signifiers that support the trade in dead animal parts also drive the sale of exotic wild animals. Both activities perpetuate an exploitive attitude towards threatened species that is destructive.

-On p. 2, line 16, Bill H.99 correctly includes parts of animals known scientifically to spread zoonotic disease:

4) "Covered animal part or product" means any item that contains, or is
17 wholly or partially made from, a covered animal, including the meat or flesh of
18 a covered animal sold as food.

-Regarding parts of dead animals such as ivory and giraffe bone, while they may be separate issues, with wild live animal markets contributing more directly to the spread of deadly viruses like COVID-19, they *both* contribute to the same broader problem of human activity that is damaging the ability of animals to thrive in the wild-- and simultaneously increasing human exposure to zoonotic diseases that have been laying dormant and are only awakened when we ruthlessly infiltrate wild spaces.
-You can think of live wildlife markets and the trafficking in dead animal parts as two oars on a boat. They may not cross paths directly, but they are both moving the boat in the same dire direction.
-The COVID-19 pandemic is a global wake-up call for humanity to reassess our relationship with animals. It has also resulted in a global uptick in heinous poaching which is, in addition to bringing these species ever closer to extinction with massive ramifications, bringing humans ever closer to wildlife with ever greater opportunity to be susceptible to zoonotic diseases. Please see this: https://www.theguardian.com/world/2020/jun/02/six-elephants-killed-in-one-day-by-poachers-in-ethiopia
And this quote from this story: *Across Africa, the Covid-19 pandemic has provided opportunities for poachers, with security forces diverted to other tasks. Combined with the absence of visitors, this has left many reserves vulnerable.* This cycle must come to an end. H.99 will show Vermont is doing its part.
-Time and again—as with avian influenza, swine flu, Ebola and SARS (directly linked in 2003 to wet market in Southern China)—we see human health emergencies that can be traced back to how humans use animals in commerce, whether for agricultural production, wildlife trade, animal testing, or the pet industry—highlighting the dire need for policy changes.
-The COVID-19 pandemic underscores the urgency of critical policy shifts and strong action at the intersection of animal protection and public health, within both domestic and international contexts. Like COVID-19, some 73% of emerging infectious diseases in humans are zoonotic, originating in animals. In addition, more than 58% of known infectious diseases affecting humans, like the rabies virus and Salmonella, are transmitted by animals.
-Together, zoonotic diseases account for billions of illnesses and millions of deaths across the globe. Their spread has direct connections to our use and misuse of animals, connections that should rise to the forefront of public policy discussions in the immediate future.
-When zoonotic diseases spill over to humans, human activity is frequently the cause, whether that activity takes the form of intensive confinement of farm animals, the destruction of natural habitats, poaching of wild animals, or the multibillion-dollar international wildlife trade—a reported source of COVID-19. The current crisis demands a deeper and more searching scrutiny of such areas of animal use as the trade and consumption of wildlife, intensive confinement agriculture, and the operation of commercial pet breeding enterprises.
-Wildlife markets have been the origin of multiple disease outbreaks. As detailed in a recent white paper issued by Humane Society International, wildlife markets, sometimes called wet markets, bring wild animals into stressful and cramped spaces where they are slaughtered and butchered on-site. These markets are typically unsanitary, with vendors and consumers exposed to blood, flesh and bodily fluids that allow viruses to easily migrate to humans. This includes diseases caused by coronaviruses—like COVID-19—transferred to humans through a

range of intermediate host species (in the case of COVID-19, some sources have pointed to pangolin as the intermediate host species-- and pangolin (the most highly trafficked mammal in the world) is one of the imperiled species listed in H.99). Large-scale urban wildlife markets in China are a recent phenomenon (places that sell wildlife or animals like pangolins, civets, bats, and snakes); similar markets are widespread in other eastern Asian countries, and the sale of wild meat, with similar associated risks of disease, occurs in many other parts of the world, including the United States. Scientists have long acknowledged that these wildlife markets pose an unjustifiable risk for unleashing zoonotic disease outbreaks, and have called for an end to selling wild animals for human consumption.
-The wildlife trade as a whole needs to be confronted in order to protect the future of human health and safety in addition to myriad other reasons including ecological, financial, moral, and social, among many others.
-In summary, exploiting wildlife puts humans at risk because, among many other reasons, it increases human encounters with wildlife thereby increasing the likelihood of a rise in zoonotic diseases.
-Vermont has the chance to stand up to this. We have been asking for change for years now. It is time. Please pass H.99 for the good of this world, our future, and humanity.

-Last, quoted material from two recent research articles on the linkage:

Abstract Source: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2857234/
Risk of Importing Zoonotic Diseases through Wildlife Trade, United States
Author affiliations: World Health Organization, Palikir, Federated States of Micronesia (B.I. Pavlin); and Wildlife Trust, New York, New York, USA (L.M. Schloegel, P. Daszak)
The United States is the world's largest wildlife importer, and imported wild animals represent a potential source of zoonotic pathogens. Using data on mammals imported during 2000–2005, we assessed their potential to host 27 selected risk zoonoses and created a risk assessment that could inform policy making for wildlife importation and zoonotic disease surveillance. A total of 246,772 mammals in 190 genera (68 families) were imported…**These findings demonstrate the myriad opportunities for zoonotic pathogens to be imported and suggest that, to ensure public safety, immediate proactive changes are needed at multiple levels.**

Most emerging infectious diseases are caused by zoonotic pathogens (1,2). **The number and proportion of these diseases that originate in wild animals in particular has increased substantially in the past few decades, even after accounting for increased reports of new emerging infectious diseases (1). This trend and recent pandemics of wildlife-origin infectious diseases (e.g., HIV, severe acute respiratory syndrome) suggest that targeted surveillance efforts should focus on activities that bring humans and wildlife in close contact** (1,3).
The United States is among the world's largest importers of live wild animals (4) and imported >1 billion individual animals during 2000–2004 (5). Little disease surveillance is conducted for imported animals; quarantine is required for only wild birds, primates, and some ungulates

arriving in the United States, and mandatory testing exists for only a few diseases (psittacosis, foot and mouth disease, Newcastle disease, avian influenza)….Thus, imported wildlife remain a major public health threat, as exemplified by the importation of Ebola virus in primates from the Philippines (7), monkey- pox from imported African rodents (8), and possibly HIV from chimpanzees in central Africa (9). Wildlife importation also poses a great threat to domestic wildlife and the US agriculture industry (5).
Furthermore, we included only live animals in this analysis; recent outbreaks associated with animal products (e.g., cutaneous anthrax from an imported goat hide used for making drums) attest to the risks associated even with dead animals (13)
Perhaps one of the simplest practical interventions for minimizing zoonotic disease risk is reduction of opportunities for transmission from wildlife to humans.

And this study:

Wildlife, Exotic Pets, and Emerging Zoonoses1
Bruno B. Chomel,* Albino Belotto,† and François-Xavier Meslin‡
Most emerging infectious diseases are zoonotic; wildlife constitutes a large and often unknown reservoir. Wildlife can also be a source for reemergence of previously controlled zoonoses. Although the discovery of such zoonoses is often related to better diagnostic tools, the leading causes of their emergence are human behavior and modifications to natural habitats (expansion of human populations and their encroachment on wildlife habitat), changes in agricultural practices, and globalization of trade. However, other factors include wildlife trade and translocation, live animal and bushmeat markets, consumption of exotic foods, development of ecotourism, access to petting zoos, and ownership of exotic pets. To reduce risk for emerging zoonoses, the public should be educated about the risks associated with wildlife, bushmeat, and exotic pet trades; and proper surveillance systems should be implemented.
Traditional and local food markets in many parts of the world can be associated with emergence of new zoonotic diseases. **Live animal markets, also known as wet markets, have always been the principal mode of commercialization of poultry and many other animal species. Such markets, quite uncommon in the United States and, until recently, in California, are emerging as a new mode of commercialization within specific ethnic groups for whom this type of trade assures freshness of the product but raises major public health concerns.** The avian influenza epidemic, which began in Southeast Asia in 2003 and recently spread to other parts of the world, is directly related to infected birds sold live in traditional markets. Live bird markets facilitate the spread of this avian H5N1 virus by wild birds (27). Similarly, the newly discovered severe acute respiratory syndrome–associated coronavirus was linked to trade of live, wild carnivores, especially civets, in the People's Republic of China (2). However, recent data suggest that civets may be only amplifiers of a natural cycle involving trade and consumption of bats (28). Trichinellosis has long been associated with consumption of undercooked meat from wild animals, such as bears, and now consumption of uncooked meat from deer and wild boar has recently been associated with emergence of severe cases of hepatitis E in hunters in Japan (29). Industrialized nations' new taste for exotic food has also been linked with various zoonotic

pathogens or parasites, such as protozoa (Toxoplasma), trematodes (Fasciola sp., Paragonimus spp.), cestodes (Taenia spp., Diphyllobothrium sp.), and nematodes (Trichinella spp., Anisakis sp., Parastrongylus spp.).