BEFORE THE SECRETARY OF THE UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES & THE CENTERS FOR DISEASE CONTROL AND PREVENTION

PETITION TO BAN TRADE IN WILD MAMMALS AND BIRDS

CENTER FOR BIOLOGICAL DIVERSITY AND THE NATURAL RESOURCES DEFENSE COUNCIL

AUGUST 3, 2021

EXECUTIVE SUMMARY

Pursuant to Section 553(e) of the Administrative Procedure Act ("APA")[1] and the First Amendment of the U.S. Constitution, the Center for Biological Diversity and the Natural Resources Defense Council submit this petition to the Department of Health and Human Services and the Centers for Disease Control and Prevention (hereafter "CDC") to enact a proactive and precautionary approach to prevent the introduction and spread of zoonotic diseases into the United States, curtail the ongoing loss of biological diversity, and avoid potentially calamitous consequences for both people and wildlife.[2]

Pandemics caused by zoonoses—infectious diseases that jump from animals to people—are entirely preventable. However, the CDC will only succeed in protecting people from wildlife-caused disease if it develops a proactive approach to restricting wildlife trade. For example, in 2003 the CDC prohibited the importation of African rodents that may carry monkeypox, but only *after* an outbreak of monkeypox in the United States.[3] By the time CDC promulgated the regulation, monkeypox had spread to seventy-one individuals throughout Wisconsin, Indiana, Illinois, Iowa, Kansas, Missouri, and Ohio.[4] The current system only regulates known threats, restricting the import or transport of a species only after it has posed a risk, but by then it is often too late. It is time for a proactive approach that seeks to draw down risk to help prevent future outbreaks.

The CDC has a significant opportunity to decrease the likelihood of zoonotic disease introduction and transmission in the United States and prevent future public health emergences, but the agency must act boldly to address the wildlife trade, one of the root causes of zoonotic disease introduction and transmission. In addition, reducing trade in wildlife will reduce the exploitation of wildlife, which is the secondary driver of biodiversity loss, which also poses a significant threat to human health.[5] Therefore, we request that the CDC prohibit the import and export of all wild mammals and birds into and from the United States.

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[1] 5 U.S.C. § 553(e).
[2] The regulatory text for the proposed rule is provided below for consideration by the Department of Health and Human Services and the Centers for Disease Control and Prevention.
[3] *See* 42 C.F.R. § 71.56; *2003 United States Outbreak of Monkeypox*, Ctrs. for Disease Control & Prevention, https://www.cdc.gov/poxvirus/monkeypox/outbreak.html (last visited July 27, 2021).
[4] Bernard, S. M., & Anderson, S. A. (2006). Qualitative assessment of risk for monkeypox associated with domestic trade in certain animal species, United States. Emerging infectious diseases, 12(12), 1827 (citing CDC. *Update: Multistate Outbreak of Monkeypox—Illinois, Indiana, Kansas, Missouri, Ohio, and Wisconsin, 2003* (July 11, 2003), https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5227a5.htm).
[5] IPBES (2019) Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany.

The Requested Rulemaking

Pursuant to the Public Health Service Act,[6] the Secretary of Health and Human Services ("the Secretary") may adopt regulations or issue orders to address the threat zoonotic diseases pose to our country. The Secretary is directed to create rules that "are necessary to *prevent* the introduction, transmission, or spread of communicable diseases from foreign countries into the States."[7] The Secretary is further directed to adopt orders "to prohibit, in whole or in part, the introduction of persons and property from such countries or places as he shall designate in order to avert [serious danger of the introduction of any communicable disease], and for such period of time as he may deem necessary for such purpose."[8] The Secretary fulfills these responsibilities via the CDC.[9] Using these statutory authorities, we petition the Secretary, via the CDC, to permanently suspend the entry and exit of wild birds and mammals in to and out of the United States.

Summary of Support

The risk of future COVID-like pandemics is high. Experts convened by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services ("IPBES") have called this "the era of pandemics" in which "pandemics will emerge more often, spread more rapidly, kill more people, and affect the global economy with more devastating impact than ever before."[10] The World Health Organization and other experts agree that future pandemics will likely come from wildlife and be zoonotic in origin.[11] Indeed, over the last four decades, the worst pandemics were all zoonotic, including Human Immunodeficiency Virus ("HIV"), H5N1 Avian Influenza, H1N1 Swine Influenza, Severe Acute Respiratory Syndrome ("SARS"), and COVID-19.[12] Mammals and birds have played an oversized role in the emergence of these and other zoonoses.

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[6] 42 U.S.C. § 264.

[7] 42 U.S.C. § 264(a). Arguably, this authority also enables the Secretary to ban exports that risk disease introduction in other countries that could then be imported back in to the U.S. In this new era, where a disease can be transported halfway around the globe in under 24 hours these authorities must be read broadly.

[8] 42 U.S.C. § 265.

[9] See, e.g., *Final rule making on the control of communicable diseases*, 82 Fed. Reg. 6,890 (Jan. 19, 2017).

[10] IPBES (2020) Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services. Daszak, P., das Neves, C., Amuasi, J., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrelio, C., Buss, P., Dundarova, H., Feferholtz, Y., Foldvari, G., Igbinosa, E., Junglen, S., Liu, Q., Suzan, G., Uhart, M., Wannous, C., Woolaston, K., Mosig Reidl, P., O'Brien, K., Pascual, U., Stoett, P., Li, H., Ngo, H. T., IPBES secretariat, Bonn, Germany, DOI:10.5281/zenodo.4147318.

[11] Can, Ö. E., D'Cruze, N., & Macdonald, D. W. (2019). Dealing in deadly pathogens: Taking stock of the legal trade in live wildlife and potential risks to human health. Global Ecology and conservation, 17, e00515.

[12] Peters, A., Vetter, P., Guitart, C., Lotfinejad, N., & Pittet, D. (2020). Understanding the emerging coronavirus: what it means for health security and infection prevention. *Journal of Hospital Infection*, *104*(4), 440-448; Holmes, E. C., Goldstein, S. A., Rasmussen, A. L., Robertson, D. L., Crits-Christoph, A., Wertheim, J. O., ... & Rambaut, A. (2021). The Origins of SARS-CoV-2: A Critical Review.

This threat is significant because in our global society, a disease harbored in a person or animal can travel halfway around the globe in under twenty-four hours, or often less time than the onset of symptoms for many diseases including COVID-19.[13] Therefore, *where* a disease emerges is far less important than ensuring we limit the risk of emergence. With a COVID like event predicted to occur every decade,[14] we need a dramatic shift to a precautionary approach.

Prevention is paramount, and among the key drivers of infectious disease emergence is the wildlife trade.[15] Animals are captured in their wild habitats, forced into close quarters, placed near other species they may never come into contact with naturally in the wild, and subjected to stressful, unsanitary conditions that weaken immune systems and increase the likelihood that diseases will shed, spread, and mutate.[16] As wildlife moves through the supply chain, direct contact occurs with numerous people creating opportunities for zoonotic diseases to spillover. Likewise, wildlife bred or farmed for sale originate from similar cramped, often unsanitary, and unregulated conditions creating breeding grounds for disease.[17] Again, the contact with people at these facilities provides ideal opportunities for diseases to spillover to people.

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[13] Kruse, H., Kirkemo, A. M., & Handeland, K. (2004). Wildlife as source of zoonotic infections. Emerging infectious diseases, 10(12), 2067.

[14] Daszak, P., (2020), Chair of the IPBES workshop on biodiversity and pandemics ('Escaping the Era of Pandemics'), in a verbal presentation to the Convention on Biological Diversity Special Virtual Session on Biodiversity, One Health and the Response to Covid-19, 15-16 Dec 2020; G20 High Level Independent Panel (2021) A Global Deal for Our Pandemic Age: Report of the G20 High Level Independent Panel on Financing the Global Commons for Pandemic Preparedness and Response (available at: https://www.g20.org/wp-content/uploads/2021/07/G20-HLIP-Report.pdf (last visited August 1, 2021)).

[15] Wyler, L. S., & Sheikh, P. A. (2008, August). International illegal trade in wildlife: threats and US policy. Library of Congress Washington DC Congressional Research Service.

[16] Johnson, C.K., et al. (2020). Global shifts in mammalian population trends reveal key predictors of virus spillover risk. Proc. R. Soc. B 287: 20192736. http://dx.doi.org/10.1098/rspb.2019.2736; Bell, D., Roberton, S., & Hunter, P. R. (2004). Animal origins of SARS coronavirus: possible links with the international trade in small carnivores. Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences, 359(1447), 1107-1114; Huong, N. Q., et al. (2020). Coronavirus testing indicates transmission risk increases along wildlife supply chains for human consumption in Viet Nam, 2013-2014. bioRxiv; Lee, J., et al. (2020). No evidence of coronaviruses or other potentially zoonotic viruses in Sunda pangolins (Manis javanica) entering the wildlife trade via Malaysia. bioRxiv; Tu, C., et al. (2004). Antibodies to SARS coronavirus in civets. Emerging infectious diseases, 10(12), 2244; Karesh, W. B., et al. (2005). Wildlife trade and global disease emergence. Emerging infectious diseases, 11(7), 1000.

[17] Can, Ö. E., D'Cruze, N., & Macdonald, D. W. (2019). Dealing in deadly pathogens: Taking stock of the legal trade in live wildlife and potential risks to human health. Global Ecology and conservation, 17, e00515; Wolfe, N. D., Dunavan, C. P., & Diamond, J. (2007). Origins of major human infectious diseases. Nature, 447(7142), 279-283; Magouras, I., Brookes, V. J., Jori, F., Martin, A., Pfeiffer, D. U., & Dürr, S. (2020). Emerging Zoonotic Diseases: Should We Rethink the Animal–Human Interface?. Frontiers in Veterinary Science, 7, 748; Lin, B., Dietrich, M. L., Senior, R. A., & Wilcove, D. S. (2021). A better classification of wet markets is key to safeguarding human health and biodiversity. The Lancet Planetary Health, 5(6), e386-e394; IPBES (2020) Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services. Daszak, P., das Neves, C., Amuasi, J., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrelio, C., Buss, P., Dundarova, H., Feferholtz, Y., Foldvari, G., Igbinosa, E., Junglen, S., Liu, Q., Suzan, G., Uhart, M., Wannous, C., Woolaston, K., Mosig Reidl, P., O'Brien, K., Pascual, U., Stoett, P., Li, H., Ngo, H. T., IPBES secretariat, Bonn, Germany, DOI:10.5281/zenodo.4147318.

When farms and breeding facilities are on the periphery of the urban-wild interface, they spur interactions between wild and captive animals further increasing disease risk.

These practices threaten catastrophic consequences including to our economy. Globally, according to Di Marco et al. (2020) "the SARS outbreak in 2003, the H1N1 pandemic in 2009, and the West African Ebola outbreak in 2013–2016 each caused more than US $10 billion in economic damages."[18] The current COVID-19 pandemic was estimated to globally cause a GDP loss of $5.6 trillion USD in 2020 not accounting for loss of human life or any other costs.[19] These practices also threaten native wildlife and domestic animals as we trade in diseases such as white-nose syndrome or rabies and introduce invasive species.[20]

Diseases that emerge from trading, breeding, and farming of wildlife are a symptom of the biodiversity crisis and human exploitation of wildlife, which is driving species loss and nature's decline. By exploiting wildlife, not only are we threatening future pandemics but also the very fabric of life. According to recent studies, "[l]egal and illegal wildlife trade is estimated to affect 1 in 4 mammal and bird species globally"[21] and the legal wildlife trade averages $39.6 billion a year when seafood is excluded.[22] The magnitude of this trade makes it difficult to predict what species and combination of events are likely to cause a new zoonotic disease outbreak.[23] To truly prevent future infectious disease emergence and protect human and animal health, a wildlife trade moratorium is needed. At the very least, the CDC should halt trade in known disease reservoir and host species—mammals and birds—before their exploitation spreads disease.

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[18] Di Marco, M., Baker, M. L., Daszak, P., De Barro, P., Eskew, E. A., Godde, C. M., ... & Karesh, W. B. (2020). Opinion: Sustainable development must account for pandemic risk. Proceedings of the National Academy of Sciences, 117(8), 3888-3892.

[19] Dobson, A. P., Pimm, S. L., Hannah, L., Kaufman, L., Ahumada, J. A., Ando, A. W., ... & Vale, M. M. (2020). Ecology and economics for pandemic prevention. Science, 369(6502), 379-381. The authors relied upon IMF projections to reach the $5.6 trillion global GDP loss from the COVID-19 pandemic (Dobson et al. supplementary materials).

[20] Frick, W. F., Puechmaille, S. J., & Willis, C. K. (2016). White-nose syndrome in bats. In Bats in the Anthropocene: Conservation of bats in a changing world (pp. 245-262); Birhane, M. G., Cleaton, J. M., Monroe, B. P., Wadhwa, A., Orciari, L. A., Yager, P., ... & Wallace, R. M. (2017). Rabies surveillance in the United States during 2015. Journal of the American Veterinary Medical Association, 250(10), 1117-1130; Wyler, L. S., & Sheikh, P. A. (2008, August). International illegal trade in wildlife: threats and US policy. Library of Congress Washington DC Congressional Research Service.

[21] Peters, A., Vetter, P., Guitart, C., Lotfinejad, N., & Pittet, D. (2020). Understanding the emerging coronavirus: what it means for health security and infection prevention. Journal of Hospital Infection.

[22] Andersson, A. A., Tilley, H. B., Lau, W., Dudgeon, D., Bonebrake, T. C., & Dingle, C. (2021). CITES and beyond: Illuminating 20 years of global, legal wildlife trade. Global Ecology and Conservation, 26, e01455.

[23] Zoonoses are unpredictable, if not unknowable in nature. Zoonotic diseases can emerge anywhere in the world, adapt to wide ranges of animal hosts, and cause illnesses of different degrees of severity. National Research Council. (2010). Sustaining global surveillance and response to emerging zoonotic diseases.

PETITIONERS

Pursuant to the APA, "[e]ach [federal] agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule."[24] The Center for Biological Diversity ("Center"), the Natural Resources Defense Council ("NRDC"), and their members are "interested persons" within the meaning of the APA.

The Center is a non-profit, public interest environmental organization dedicated to the protection of species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists. The current pandemic and future pandemics like it are a symptom of the biodiversity crisis and result from humans' unhealthy relationship with wildlife and nature. At the Center we believe that the welfare of human beings is deeply linked to nature—to the existence in our world of a vast diversity of wild animals and plants. Because diversity has intrinsic value, and because its loss impoverishes society, we work to secure a future for all species, great and small, hovering on the brink of extinction.

NRDC is an international nonprofit environmental organization with more than 3 million members and online activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC and its members are "interested persons" within the meaning of the APA and are concerned with the conservation of species, protecting human health, and the effective implementation of laws meant to advance both.

The Center and NRDC petition the CDC to limit the trade of wildlife to prevent the spread of zoonotic diseases pursuant to the APA and in accordance with the agency's powers under the Public Health Service Act.[25]

FACTUAL BACKGROUND

1. Zoonoses and the Era of Pandemics

Zoonotic diseases, or zoonoses, are caused by viruses, bacteria, parasites, fungi, and prions that spread between animals and people.[26] Zoonoses comprise a majority of recurrent and emerging infectious disease threats and are considered to be one of the greatest challenges facing public health.[27] One quarter of human deaths are caused by infectious diseases.[28] More than 60% of emerging infectious disease events are zoonotic, meaning they are caused by a pathogen that was transmitted from an animal to a

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[24] 5 U.S.C. § 553(e).
[25] 16 U.S.C. § 1538(d); 42 U.S.C. §§ 264, 265.
[26] Center for Disease Control & Prevention, Zoonotic Diseases, https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html (last visited June 12, 2021).
[27] Johnson, C. K., Hitchens, P. L., Pandit, P. S., Rushmore, J., Evans, T. S., Young, C. C., & Doyle, M. M. (2020). Global shifts in mammalian population trends reveal key predictors of virus spillover risk. Proceedings of the Royal Society B, 287(1924), 20192736.
[28] Taylor, L. H., Latham, S. M., & Woolhouse, M. E. (2001). Risk factors for human disease emergence. Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences, 356(1411), 983-989.

person, and more than 70% of these emerging infectious disease events are from wild animals.[29] In the last forty years, the most devastating pandemics were all zoonotic or vector-borne in origin, including HIV, SARS, H5N1 Avian Influenza, H1N1 Swine Influenza, Ebola Virus Disease, Zika Virus, and COVID-19.[30] Experts predict that future pandemics will be caused by wildlife and will be zoonotic in nature.[31]

The scientific experts convened by IPBES in 2020 declared that we have entered the "era of pandemics."[32] Karesh et al. (2005) documented the emergence of 35 new infectious diseases over 25 years that can spread to people — the equivalent of a new disease emerging every eight months.[33] Daszak (2020) said that we can expect a COVID-like event every decade.[34] The IPBES pandemics workshop report estimated "five new diseases emerging in people every year" and that "1.7 million currently undiscovered viruses are thought to exist in mammal and avian hosts" of which "631,000-827,000 could have the ability to infect humans."[35] The report further noted that "less than 0.1% of the potential zoonotic viral risk has been discovered."[36] As one example, the SARS-

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[29] Jones, K.E., Patel N.G., Levy M.A., Storeygard A., Balk D., Gittleman J.L. et al. (2008). Global trends in emerging infectious diseases. Nature 451, 990-993 doi: 10.1038/nature06536.

[30] Peters, A., Vetter, P., Guitart, C., Lotfinejad, N., & Pittet, D. (2020). Understanding the emerging coronavirus: what it means for health security and infection prevention. Journal of Hospital Infection, 104(4), 440-448.

[31] Can, Ö. E., D'Cruze, N., & Macdonald, D. W. (2019). Dealing in deadly pathogens: Taking stock of the legal trade in live wildlife and potential risks to human health. Global Ecology and conservation, 17, e00515; Borzée, A., McNeely, J., Magellan, K., Miller, J. R., Porter, L., Dutta, T., ... & Zhang, L. (2020). COVID-19 highlights the need for more effective wildlife trade legislation. Trends in ecology & evolution.

[32] IPBES (2020) Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services. Daszak, P., das Neves, C., Amuasi, J., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrelio, C., Buss, P., Dundarova, H., Feferholtz, Y., Foldvari, G., Igbinosa, E., Junglen, S., Liu, Q., Suzan, G., Uhart, M., Wannous, C., Woolaston, K., Mosig Reidl, P., O'Brien, K., Pascual, U., Stoett, P., Li, H., Ngo, H. T., IPBES secretariat, Bonn, Germany, DOI:10.5281/zenodo.4147318

[33] Karesh, W. B., et al. (2005). Wildlife trade and global disease emergence. Emerging infectious diseases, 11(7), 1000.

[34] Daszak, P., (2020), Chair of the IPBES workshop on biodiversity and pandemics ('Escaping the Era of Pandemics'), in a verbal presentation to the Convention on Biological Diversity Special Virtual Session on Biodiversity, One Health and the Response to Covid-19, 15-16 Dec 2020; G20 High Level Independent Panel (2021) A Global Deal for Our Pandemic Age: Report of the G20 High Level Independent Panel on Financing the Global Commons for Pandemic Preparedness and Response (available at: https://www.g20.org/wp-content/uploads/2021/07/G20-HLIP-Report.pdf (last visited August 1, 2021)).

[35] IPBES (2020) Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services. Daszak, P., das Neves, C., Amuasi, J., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrelio, C., Buss, P., Dundarova, H., Feferholtz, Y., Foldvari, G., Igbinosa, E., Junglen, S., Liu, Q., Suzan, G., Uhart, M., Wannous, C., Woolaston, K., Mosig Reidl, P., O'Brien, K., Pascual, U., Stoett, P., Li, H., Ngo, H. T., IPBES secretariat, Bonn, Germany, DOI:10.5281/zenodo.4147318

[36] IPBES (2020) Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services. Daszak, P., das Neves, C., Amuasi, J., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrelio, C., Buss, P., Dundarova, H., Feferholtz, Y., Foldvari, G., Igbinosa, E., Junglen, S., Liu, Q., Suzan, G., Uhart, M., Wannous, C., Woolaston, K., Mosig Reidl, P., O'Brien, K., Pascual, U., Stoett, P., Li, H., Ngo, H. T., IPBES secretariat, Bonn, Germany, DOI:10.5281/zenodo.4147318.

CoV-2 virus is only the seventh coronavirus to have spilled over to infect humans,[37] but given the large number of suspected other coronaviruses the consequences of the current pandemic are a potential marker for likely future pandemics.

2. The Disease Risks Posed by the Mammalia and Aves Classes

When considering where zoonotic risk resides, mammals and birds (the *mammalia* and *aves* taxonomic classes) pose the greatest risks.[38] Many scientists have concluded that human interactions with warm blooded mammals and birds pose the greatest risk of disease spillover.[39] Of the zoonoses, viruses pose a great risk of spillover to people, and birds and mammals are common hosts of viruses.[40] As hosts, birds and mammals pose the greatest risk "due to their genetic proximity to humans."[41] The more related a species is to humans, the more likely diseases from that species can also infect people.[42] For example, the IPBES pandemics workshop report estimated that mammals are host to 320,000 different types of viruses.[43]

Birds and mammals are also risky from a disease conveyance perspective given their prevalence in human exploitation. According to recent studies, "[l]egal and illegal wildlife trade is estimated to affect 1 in 4 mammal and bird species globally"[44] and the

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[37] Rabi, F. A., et al. (2020). SARS-CoV-2 and coronavirus disease 2019: what we know so far. Pathogens, 9(3), 231.

[38] Halabowski, D., & Rzymski, P. (2020). Taking a lesson from the COVID-19 pandemic: Preventing the future outbreaks of viral zoonoses through a multi-faceted approach. Science of The Total Environment, 143723; Walsh, M. G., Sawleshwarkar, S., Hossain, S., & Mor, S. M. (2020). Whence the next pandemic? The intersecting global geography of the animal-human interface, poor health systems and air transit centrality reveals conduits for high-impact spillover. One Health, 11, 100177.

[39] Explaining that of the animal-derived human pathogens "virtually all arose from pathogens of other warm-blooded vertebrates, primarily mammals" and birds. Wolfe, N. D., Dunavan, C. P., & Diamond, J. (2007). Origins of major human infectious diseases. Nature, 447(7142), 279-283.

Other scientists explain that "reservoirs of the new, zoonotic human pathogens are mainly mammals, although a small number are associated with birds." Woolhouse, M., & Gaunt, E. (2007). Ecological origins of novel human pathogens. Critical reviews in microbiology, 33(4), 231-242.

[40] Cupertino, M. C., Resende, M. B., Mayer, N. A., Carvalho, L. M., & Siqueira-Batista, R. (2020). Emerging and re-emerging human infectious diseases: A systematic review of the role of wild animals with a focus on public health impact. Asian Pacific Journal of Tropical Medicine, 13(3), 99.

[41] Cupertino, M. C., Resende, M. B., Mayer, N. A., Carvalho, L. M., & Siqueira-Batista, R. (2020). Emerging and re-emerging human infectious diseases: A systematic review of the role of wild animals with a focus on public health impact. Asian Pacific Journal of Tropical Medicine, 13(3), 99.

[42] Lin, B., Dietrich, M. L., Senior, R. A., & Wilcove, D. S. (2021). A better classification of wet markets is key to safeguarding human health and biodiversity. The Lancet Planetary Health, 5(6), e386-e394. The authors explain that "A species' phylogenetic relatedness to humans has an important role in determining its potential for zoonotic spillover. In general, the more phylogenetically related a species is to humans, the more likely that diseases affecting that species can adapt to human hosts."

[43] IPBES (2020) Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services. Daszak, P., das Neves, C., Amuasi, J., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrelio, C., Buss, P., Dundarova, H., Feferholtz, Y., Foldvari, G., Igbinosa, E., Junglen, S., Liu, Q., Suzan, G., Uhart, M., Wannous, C., Woolaston, K., Mosig Reidl, P., O'Brien, K., Pascual, U., Stoett, P., Li, H., Ngo, H. T., IPBES secretariat, Bonn, Germany, DOI:10.5281/zenodo.4147318

[44] Peters, A., Vetter, P., Guitart, C., Lotfinejad, N., & Pittet, D. (2020). Understanding the emerging coronavirus: what it means for health security and infection prevention. Journal of Hospital Infection.

legal wildlife trade averages $220 billion a year or $39.6 billion when seafood is excluded.[45] Another study analyzing International Union for Conservation of Nature ("IUCN") and CITES data on wildlife trade found that globally "18% of all extant terrestrial vertebrate species" are affected by wildlife trade with "a higher percentage of all birds" and mammals being traded when compared to reptiles and amphibians.[46] The accompanying graphic demonstrates this point:

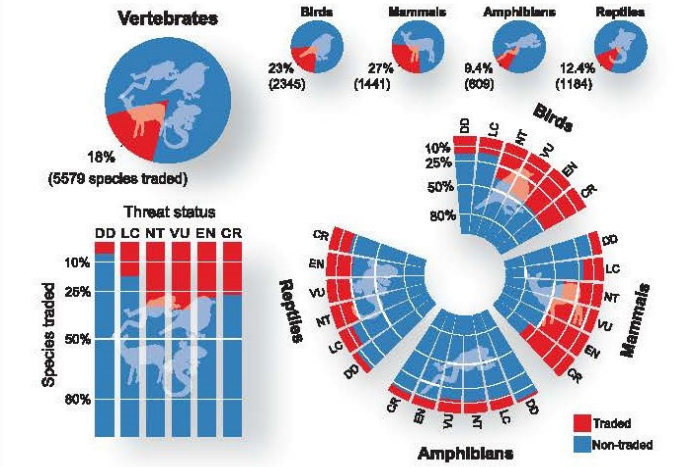

Fig. 1. Wildlife trade in terrestrial vertebrates (birds, mammals, amphibians, and reptiles) affects ~18% of species globally. Numbers in brackets are the total number of traded species. IUCN threat status codes: data deficient, DD; least concern, LC; near threatened, NT; vulnerable, VU; endangered, EN; and critically endangered, CR.

An analysis of disease reports over an eight year period from the OIE World Animal Health Information System-Wild database found that almost half the reports were on birds and almost half of the rest were on mammals.[47] Recent guidelines from the World Health Organization, the World Organisation for Animal Health, and the United Nations Environment Programme recommend that countries "[s]uspend the trade in live caught wild animals of mammalian species for food or breeding purposes."[48] Many countries survey poultry and to a lesser extent other birds and contain and eradicate birds when necessary to prevent avian flu outbreaks.[49] The dire need to curtail trade in

[45] Andersson, A. A., Tilley, H. B., Lau, W., Dudgeon, D., Bonebrake, T. C., & Dingle, C. (2021). CITES and beyond: Illuminating 20 years of global, legal wildlife trade. Global Ecology and Conservation, 26, e01455.
[46] Scheffers, B. R., Oliveira, B. F., Lamb, I., & Edwards, D. P. (2019). Global wildlife trade across the tree of life. Science, 366(6461), 71-76; Erratum for the Research Article: "Global wildlife trade across the tree of life," by B. R. Scheffers, B. F. Oliveira, I. Lamb, D. P. Edwards - July 24, 2020.
[47] Can, Ö. E., D'Cruze, N., & Macdonald, D. W. (2019). Dealing in deadly pathogens: Taking stock of the legal trade in live wildlife and potential risks to human health. Global Ecology and conservation, 17, e00515.
[48] World Health Organization. (2021). Reducing public health risks associated with the sale of live wild animals of mammalian species in traditional food markets: interim guidance, 12 April 2021 (No. WHO/2019-nCoV/Food_safety/traditional_markets/2021.1). World Health Organization.
[49] Forster, P. (2014). Ten years on: Generating innovative responses to avian influenza. EcoHealth, 11(1), 15-21.

birds and mammals is a global problem, and the CDC could set a global precedent by eliminating this threat.

3. The Role of the Wildlife Trade in Disease Risk

The global spread of zoonotic diseases is increasingly attributed to wildlife trade.[50] A majority of this trade is legally sanctioned, i.e., not illegal.[51] The exploitation and consumption of wildlife and wildlife products are not a foreign phenomena but occur globally, constituting a multi-billion-dollar industry.[52]

The United States is one of the top importers of wildlife, occupying about twenty percent of the global wildlife market.[53] On average between 2000-2012, the United States imported 225 million live animals and 883 million wildlife specimens with much of the live trade going to the pet and aquarium industry.[54] Trends reveal that the quantity of wildlife entering the United States is increasing.[55]

The wildlife trade, and people's role in exploiting wildlife, are one root cause of disease emergence.[56] By stressing animals, putting species together that do not typically interact in nature, and maintaining close proximity to humans, the wildlife trade creates the perfect conditions for new diseases to emerge and infect people.[57]

Trade includes "the capture, transport, and containment of wild animals" all of which "induce stress, injury, sickness, and compromise immune systems" and in turn

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[50] Johnson, C. K., et al. (2015). Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, 14830; Wyler, L. S., & Sheikh, P. A. (2008, August). International illegal trade in wildlife: threats and US policy. Library of Congress Washington DC Congressional Research Service.

[51] Wyler, L. S., & Sheikh, P. A. (2008, August). International illegal trade in wildlife: threats and US policy. Library of Congress Washington DC Congressional Research Service.

[52] Smith, K. M., et al. (2017). Summarizing US wildlife trade with an eye toward assessing the risk of infectious disease introduction. EcoHealth, 14(1), 29-39; Lenzen, M., et al. (2012). International trade drives biodiversity threats in developing nations. Nature, 486(7401), 109-112.

[53] Smith, K. M., et al. (2017). Summarizing US wildlife trade with an eye toward assessing the risk of infectious disease introduction. EcoHealth, 14(1), 29-39; National Research Council. (2010). Sustaining global surveillance and response to emerging zoonotic diseases (G.T. Keusch et al. eds., 2009). The United States was the largest importer of live mammals and live amphibians between 2012-2016.

[54] Smith, K. M., Zambrana-Torrelio, C., White, A., Asmussen, M., Machalaba, C., Kennedy, S., ... & Karesh, W. B. (2017). Summarizing US wildlife trade with an eye toward assessing the risk of infectious disease introduction. EcoHealth, 14(1), 29-39 (available at: https://link.springer.com/article/10.1007/s10393-017-1211-7).

[55] Between 2000-2013, the number of declared wildlife shipments into the United States doubled. Smith, K. M., Zambrana-Torrelio, C., White, A., Asmussen, M., Machalaba, C., Kennedy, S., ... & Karesh, W. B. (2017). Summarizing US wildlife trade with an eye toward assessing the risk of infectious disease introduction. EcoHealth, 14(1), 29-39.

[56] Johnson, C. K., et al. (2015). Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, 14830.

[57] Huong, N. Q., et al. (2020). Coronavirus testing indicates transmission risk increases along wildlife supply chains for human consumption in Viet Nam, 2013-2014. bioRxiv; Lee, J., et al. (2020). No evidence of coronaviruses or other potentially zoonotic viruses in Sunda pangolins (Manis javanica) entering the wildlife trade via Malaysia. bioRxiv; Tu, C., et al. (2004). Antibodies to SARS coronavirus in civets. Emerging infectious diseases, 10(12), 2244.

"inhibit animal immune responses and allow for enhanced shedding of pathogens."[58] Scientific research has documented that animals become more stressed the longer they are in the supply chain (e.g., from their point of capture to processing).[59] This stress increases the risk animals will both shed and contract diseases, and trade makes it more likely wildlife will come into contact with other captured species and people, increasing the chance for diseases to evolve and mutate, including in ways that may enable them to infect people.[60] Research shows that animals that are exploited share more zoonotic diseases with humans than non-exploited animals.[61]

As human populations expand so does human exploitation of wildlife. Thousands of additional species are predicted to enter the wildlife trade, further facilitating introduction of zoonoses.[62] As Dobson et al. (2020) explained regarding this threat, "[l]aws to ban the national and international trade of high risk disease reservoir species, and the will to sustain their enforcement, are necessary and precautionary steps to prevent zoonotic disease."[63]

4. Wildlife Parts and Products Also Pose Disease Risk Especially in the Country of Origin

Generally live animals pose the greatest risk of disease conveyance, but trade in products, parts, and other dead specimens also poses a disease risk. Specimens of dead animals have themselves conveyed diseases. For example, anthrax from a goat hide used

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[58] Walzer, C. (2020). COVID-19 and the Curse of Piecemeal Perspectives. Frontiers in Veterinary Science, 7, 720; Hing, S., Narayan, E. J., Thompson, R. A., & Godfrey, S. S. (2016). The relationship between physiological stress and wildlife disease: consequences for health and conservation. Wildlife Research, 43(1), 51-60; Lin, B., Dietrich, M. L., Senior, R. A., & Wilcove, D. S. (2021). A better classification of wet markets is key to safeguarding human health and biodiversity. The Lancet Planetary Health, 5(6), e386-e394.

[59] Johnson, C. K., et al. (2015). Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, 14830; Huong, N. Q., et al. (2020). Coronavirus testing indicates transmission risk increases along wildlife supply chains for human consumption in Viet Nam, 2013-2014. bioRxiv; Lee, J., Hughes, T., Lee, M. H., Field, H., Rovie-Ryan, J. J., Sitam, F. T., ... & Daszak, P. (2020). No evidence of coronaviruses or other potentially zoonotic viruses in Sunda pangolins (Manis javanica) entering the wildlife trade via Malaysia. Ecohealth, 17(3), 406-418; Tu, C., et al. (2004). Antibodies to SARS coronavirus in civets. Emerging infectious diseases, 10(12), 2244; Walzer, C. (2020). COVID-19 and the Curse of Piecemeal Perspectives. Frontiers in Veterinary Science, 7, 720.

[60] Johnson, C. K., et al. (2015). Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, 14830; Huong, N. Q., et al. (2020). Coronavirus testing indicates transmission risk increases along wildlife supply chains for human consumption in Viet Nam, 2013-2014. bioRxiv; Lee, J., et al. (2020). No evidence of coronaviruses or other potentially zoonotic viruses in Sunda pangolins (Manis javanica) entering the wildlife trade via Malaysia. bioRxiv; Tu, C., et al. (2004). Antibodies to SARS coronavirus in civets. Emerging infectious diseases, 10(12), 2244.

[61] Johnson, C. K., Hitchens, P. L., Pandit, P. S., Rushmore, J., Evans, T. S., Young, C. C., & Doyle, M. M. (2020). Global shifts in mammalian population trends reveal key predictors of virus spillover risk. Proceedings of the Royal Society B, 287(1924), 20192736.

[62] Scheffers, B. R., Oliveira, B. F., Lamb, I., & Edwards, D. P. (2019). Global wildlife trade across the tree of life. Science, 366(6461), 71-76.

[63] Dobson, A. P., Pimm, S. L., Hannah, L., Kaufman, L., Ahumada, J. A., Ando, A. W., ... & Vale, M. M. (2020). Ecology and economics for pandemic prevention. Science, 369(6502), 379-381.

for a drum[64] or the potential for products derived from rodents infected with the smallpox virus including "hair, quills, bones, and skins" can convey the virus if not properly processed.[65] Researchers are currently investigating whether the SARS-CoV-2 virus can be transmitted through frozen meat or other cold-chain processes.[66]

While dead animals and animal parts present a lesser risk of direct disease transmission, the process of capturing and killing wildlife to create wildlife parts and products maintains the overall risk associated with live animal trade. As Lin et al. (2021) explained "the presence of dead wild animals presents additional health risks through the inclusion of more high disease-risk taxa, which increases the likelihood of novel pathogens and interspecific spillover, including to humans, along the supply chain."[67] Thus, as a major consumer of dead wild animals and wild animal parts, the United States shifts the risk of disease emergence to other countries where wildlife is collected, transported, slaughtered, and processed into goods before export. In other words, demand in the United States for products sourced from wild mammals and birds still poses a disease risk but that risk is borne primarily in the source country. While disease risk has been shown to increase along the supply chain,[68] whether an animal is collected, transported, and sourced to a wildlife market, to a restaurant, for export, or to a factory or artisan to be made into a product, the disease risk up to that point in the supply chain is the same.

Disease risk must be averted, even if that risk is initially incurred outside the United States where the animal is captured and processed. A disease harbored in a person or animal can travel half-way around the world in under 24 hours or less time than it takes many infectious diseases to incubate.[69] COVID-19—and its emerging more transmissible variants—demonstrates that where a disease emerges in our global society is not nearly as important as how that disease arose and spread. In sum, "physical distance from the origin of outbreaks no longer provides protection."[70]

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[64] Pavlin, B. I., Schloegel, L. M., & Daszak, P. (2009). Risk of importing zoonotic diseases through wildlife trade, United States. Emerging infectious diseases, 15(11), 1721.
[65] *Control of Communicable Diseases; Restrictions on African Rodents, Prairie Dogs, and Certain Other Animals*. 68 Fed. Reg. 62,353, 62,358 (Nov. 4, 2003).
[66] Fisher, D., Reilly, A., Zheng, A. K. E., Cook, A. R., & Anderson, D. (2020). Seeding of outbreaks of COVID-19 by contaminated fresh and frozen food. BioRxiv.
[67] Lin, B., Dietrich, M. L., Senior, R. A., & Wilcove, D. S. (2021). A better classification of wet markets is key to safeguarding human health and biodiversity. The Lancet Planetary Health, 5(6), e386-e394.
[68] Lin, B., Dietrich, M. L., Senior, R. A., & Wilcove, D. S. (2021). A better classification of wet markets is key to safeguarding human health and biodiversity. The Lancet Planetary Health, 5(6), e386-e394; Huong, N. Q., et al. (2020). Coronavirus testing indicates transmission risk increases along wildlife supply chains for human consumption in Viet Nam, 2013-2014. bioRxiv.
[69] Kruse, H., Kirkemo, A. M., & Handeland, K. (2004). Wildlife as source of zoonotic infections. Emerging infectious diseases, 10(12), 2067.
[70] National Academies of Sciences, Engineering, and Medicine. (2020). A strategic vision for biological threat reduction: The US Department of Defense and Beyond.

Without deceleration of wildlife trade, the United States will continue to suffer from zoonotic disease outbreaks that emerge due to such trade.[71] The United States cannot continue to ignore the disease risk posed by our demand for wildlife.

5. Disease Risk Also Arises from the Farming and Breeding of Wildlife

Farming and captive breeding to support legal wildlife trade involve large numbers of animals in poor welfare conditions, which is another likely source of zoonotic disease transmission.[72] In more temperate regions and areas where people interact more frequently with domesticated or farmed wildlife than wild animals, zoonotic disease risks are still prevalent.[73] As Magouras et al. (2020) concluded regarding wildlife farming "health-monitoring programs in wildlife farms are seldom implemented, despite intensive farming conditions and low genetic diversity" and wildlife are stressed and often immunosuppressed.[74] The general lack of standards for wildlife farms plus the risks from human contact with wildlife pose a risk of spillover. Additionally, the need to source more stock from the wild increases disease risk and can threaten biodiversity.[75]

The report from the IPBES pandemics workshop highlighted that wildlife farms act as amplifiers and enable the transmission of viruses from animals to humans and vice versa. Specifically, the report referenced civet and raccoon dog farms in China where animals became infected with the virus causing SARS and potentially played an amplification role by enabling the virus to spill over to infect people.[76] Mink farms in the EU, the United States, and beyond have a played a similar role during the COVID-19 pandemic, enabling the virus to transfer from humans to mink, mutate, and transfer back posing the risk of new variants spreading.[77] In response to the current pandemic,

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[71] Smith, K. M., Zambrana-Torrelio, C., White, A., Asmussen, M., Machalaba, C., Kennedy, S., ... & Karesh, W. B. (2017). Summarizing US wildlife trade with an eye toward assessing the risk of infectious disease introduction. EcoHealth, 14(1), 29-39 (available at: https://link.springer.com/article/10.1007/s10393-017-1211-7).

[72] Can, Ö. E., D'Cruze, N., & Macdonald, D. W. (2019). Dealing in deadly pathogens: Taking stock of the legal trade in live wildlife and potential risks to human health. Global Ecology and conservation, 17, e00515.

[73] Wolfe, N. D., Dunavan, C. P., & Diamond, J. (2007). Origins of major human infectious diseases. Nature, 447(7142), 279-283.

[74] Magouras, I., Brookes, V. J., Jori, F., Martin, A., Pfeiffer, D. U., & Dürr, S. (2020). Emerging Zoonotic Diseases: Should We Rethink the Animal–Human Interface?. Frontiers in Veterinary Science, 7, 748.

[75] Lin, B., Dietrich, M. L., Senior, R. A., & Wilcove, D. S. (2021). A better classification of wet markets is key to safeguarding human health and biodiversity. The Lancet Planetary Health, 5(6), e386-e394.

[76] IPBES (2020) Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services. Daszak, P., das Neves, C., Amuasi, J., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrelio, C., Buss, P., Dundarova, H., Feferholtz, Y., Foldvari, G., Igbinosa, E., Junglen, S., Liu, Q., Suzan, G., Uhart, M., Wannous, C., Woolaston, K., Mosig Reidl, P., O'Brien, K., Pascual, U., Stoett, P., Li, H., Ngo, H. T., IPBES secretariat, Bonn, Germany, DOI:10.5281/zenodo.4147318.

[77] Sharun, K., Tiwari, R., Natesan, S., & Dhama, K. (2020). SARS-CoV-2 infection in farmed minks, associated zoonotic concerns, and importance of the One Health approach during the ongoing COVID-19 pandemic. *Veterinary Quarterly*, 1-14, DOI:

China transitioned wildlife farmers keeping wildlife for human consumption by providing compensation given the risk wildlife farms pose for disease emergence.[78] As these examples demonstrate, to truly address the risk wild mammals and birds pose, farming and breeding of these wild animals must also be addressed. By drawing down demand for wild mammal and birds and products thereof, a ban would aid in reducing the need for wildlife farms to breed more wildlife.

6. Costs from Disease Outbreaks Are Significant and Include Loss of Life as Well As Economic Consequences

The uncontrolled spread of a zoonotic disease can lead to public health emergencies and create devastating economic and societal impacts around the world. Zoonoses can cause many different types of illnesses in people, ranging in severity and scope.[79] Certain zoonoses may only cause mild illness in discrete populations, while other zoonoses, like COVID-19, can cause severe illness and death with impacts to the global population.

Each year, zoonotic diseases cause approximately one billion cases of human illness and millions of deaths globally.[80] These large-scale impacts on human health directly impact the global economy. However, zoonoses can also jeopardize diplomatic relations between countries, undermine global biodiversity conservation efforts, and imperil food security and production.[81] Governments worldwide must alter their national health budgets to tackle zoonotic disease outbreaks.[82] In the past twenty years (before COVID-19), global economic damage caused by emerging zoonoses is estimated around hundreds of billions of dollars.[83]

Estimates of the total cost of the current COVID-19 pandemic are in the trillions of dollars.[84] Yet, experts convened by IPBES warn that "[f]uture pandemics will emerge

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10.1080/01652176.2020.1867776.

[78] Xiao, L., Lu, Z., Li, X., Zhao, X., & Li, B. V. (2021). Why do we need a wildlife consumption ban in China?. Current Biology, 31(4), R168-R172.

[79] CDC, *Zoonotic Diseases,* available at: https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html (last visited June 12, 2021).

[80] Can, Ö. E., D'Cruze, N., & Macdonald, D. W. (2019). Dealing in deadly pathogens: Taking stock of the legal trade in live wildlife and potential risks to human health. Global Ecology and conservation, 17, e00515.

[81] Can, Ö. E., D'Cruze, N., & Macdonald, D. W. (2019). Dealing in deadly pathogens: Taking stock of the legal trade in live wildlife and potential risks to human health. Global Ecology and conservation, 17, e00515; Smith, K. M., Zambrana-Torrelio, C., White, A., Asmussen, M., Machalaba, C., Kennedy, S., ... & Karesh, W. B. (2017). Summarizing US wildlife trade with an eye toward assessing the risk of infectious disease introduction. *EcoHealth*, *14*(1), 29-39.

[82] Can, Ö. E., D'Cruze, N., & Macdonald, D. W. (2019). Dealing in deadly pathogens: Taking stock of the legal trade in live wildlife and potential risks to human health. Global Ecology and conservation, 17, e00515.

[83] This figure does not account for the major economic damage caused by COVID-19. Can, Ö. E., D'Cruze, N., & Macdonald, D. W. (2019). Dealing in deadly pathogens: Taking stock of the legal trade in live wildlife and potential risks to human health. Global Ecology and conservation, 17, e00515.

[84] Dobson, A. P., Pimm, S. L., Hannah, L., Kaufman, L., Ahumada, J. A., Ando, A. W., ... & Vale, M. M. (2020). Ecology and economics for pandemic prevention. Science, 369(6502), 379-381. The authors relied

more often, spread more rapidly, do more damage to the world economy and kill more people than COVID-19."[85] These costs must be considered alongside the costs of preventative measures—as the economic cost of maintaining the current reactive approach to disease emergence far exceeds the costs of measures to prevent or reduce disease emergence.[86] Preventive measures have ancillary benefits in terms of addressing the biodiversity and climate crises as well.[87]

7. Trade in Wild Mammals and Birds Also Threatens Native Wildlife and Domesticated Animals Due to the Introduction of Disease and Invasive Species

Even when zoonotic diseases fail to jump to humans, zoonoses can have catastrophic effects on wildlife. Novel zoonoses brought to ecosystems through the introduction of non-native species can affect the health of plants and wildlife and cause environmental damage.[88] For example, the decline of large groups of wildlife in the United States, including bats, amphibians, and snakes, has been caused by the accidental importation of zoonotic diseases.[89]

Not all diseases that affect wildlife are fatal but some such as foot and mouth disease, bovine tuberculosis, rinderpest, and others have been incredibly costly.[90] Additionally, zoonoses can be transmitted between wild and domesticated animals, such

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upon IMF projections to reach the $5.6 trillion global GDP loss from the COVID-19 pandemic (Dobson et al. supplementary materials).

[85] IPBES (2020) Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services. Daszak, P., das Neves, C., Amuasi, J., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrelio, C., Buss, P., Dundarova, H., Feferholtz, Y., Foldvari, G., Igbinosa, E., Junglen, S., Liu, Q., Suzan, G., Uhart, M., Wannous, C., Woolaston, K., Mosig Reidl, P., O'Brien, K., Pascual, U., Stoett, P., Li, H., Ngo, H. T., IPBES secretariat, Bonn, Germany, DOI:10.5281/zenodo.4147318.

[86] Dobson, A. P., Pimm, S. L., Hannah, L., Kaufman, L., Ahumada, J. A., Ando, A. W., ... & Vale, M. M. (2020). Ecology and economics for pandemic prevention. Science, 369(6502), 379-381.

[87] Dobson, A. P., Pimm, S. L., Hannah, L., Kaufman, L., Ahumada, J. A., Ando, A. W., ... & Vale, M. M. (2020). Ecology and economics for pandemic prevention. Science, 369(6502), 379-381.

[88] Wyler, L. S., & Sheikh, P. A. (2008, August). International illegal trade in wildlife: threats and US policy. Library of Congress Washington DC Congressional Research Service.

[89] Frick, W. F., Puechmaille, S. J., & Willis, C. K. (2016). White-nose syndrome in bats. In Bats in the Anthropocene: Conservation of bats in a changing world (pp. 245-262). Springer, Cham; Lips, K. R., Brem, F., Brenes, R., Reeve, J. D., Alford, R. A., Voyles, J., ... & Collins, J. P. (2006). Emerging infectious disease and the loss of biodiversity in a Neotropical amphibian community. Proceedings of the National Academy of Sciences, 103(9), 3165-3170; Lorch, J. M., Knowles, S., Lankton, J. S., Michell, K., Edwards, J. L., Kapfer, J. M., ... & Blehert, D. S. (2016). Snake fungal disease: an emerging threat to wild snakes. Philosophical Transactions of the Royal Society B: Biological Sciences, 371(1709), 20150457.

[90] Weaver, G. V., Domenech, J., Thiermann, A. R., & Karesh, W. B. (2013). Foot and mouth disease: a look from the wild side. Journal of Wildlife Diseases, 49(4), 759-785; Carstensen, M., & DonCarlos, M. W. (2011). Preventing the establishment of a wildlife disease reservoir: a case study of bovine tuberculosis in wild deer in Minnesota, USA. Veterinary medicine international, 2011; Roeder, P., Mariner, J., & Kock, R. (2013). Rinderpest: the veterinary perspective on eradication. Philosophical Transactions of the Royal Society B: Biological Sciences, 368(1623), 20120139.

as pets and livestock.[91] The ongoing efforts to control the spread of rabies is a good example.[92]

The SARS-CoV-2 virus has infected and been demonstrated to be able to infect a wide array of wildlife and domesticated animals. From cats and dogs in people's homes, to great apes and large carnivores in zoos, the virus poses consequences for wildlife that are not fully understood.[93] A key example is the mink. Found in the wild in the United States and also farmed for its fur, mink have not only contracted the SARS-CoV-2 virus but the virus has mutated in mink (in the United States and European countries), creating new variants.[94] This species' susceptibility to COVID-19 also poses the risk of the virus spreading among wild mink and potentially re-emerging as variants in the future.[95] This could have consequences for the efficacy of vaccines or efforts to eradicate the virus.[96]

8. The Era of Pandemics Is a Symptom of the Biodiversity Crisis

Exploitation of wildlife, animals, and nature by people is the root cause of disease emergence.[97] But this exploitation is also driving the loss of biodiversity and the extinction of species.[98] The 2019 Global Assessment Report by IPBES concluded that we stand to lose a million species, many within decades, absent "transformative change."[99] Exploitation of wildlife, including wildlife trade, is the secondary driver of the loss of

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[91] Johnson, C. K., Hitchens, P. L., Pandit, P. S., Rushmore, J., Evans, T. S., Young, C. C., & Doyle, M. M. (2020). Global shifts in mammalian population trends reveal key predictors of virus spillover risk. Proceedings of the Royal Society B, 287(1924), 20192736.

[92] Birhane, M. G., Cleaton, J. M., Monroe, B. P., Wadhwa, A., Orciari, L. A., Yager, P., ... & Wallace, R. M. (2017). Rabies surveillance in the United States during 2015. Journal of the American Veterinary Medical Association, 250(10), 1117-1130.

[93] Sharun, K., Tiwari, R., Natesan, S., & Dhama, K. (2020). SARS-CoV-2 infection in farmed minks, associated zoonotic concerns, and importance of the One Health approach during the ongoing COVID-19 pandemic. *Veterinary Quarterly*, 1-14, DOI: 10.1080/01652176.2020.1867776; McAloose, D., Laverack, M., Wang, L., Killian, M. L., Caserta, L. C., Yuan, F., ... & Diel, D. G. (2020). From people to Panthera: Natural SARS-CoV-2 infection in tigers and lions at the Bronx Zoo. MBio, 11(5), e02220-20.

[94] Sharun, K., Tiwari, R., Natesan, S., & Dhama, K. (2020). SARS-CoV-2 infection in farmed minks, associated zoonotic concerns, and importance of the One Health approach during the ongoing COVID-19 pandemic. *Veterinary Quarterly*, 1-14, DOI: 10.1080/01652176.2020.1867776.

[95] Shriner, S. A., Ellis, J. W., Root, J. J., Roug, A., Stopak, S. R., Wiscomb, G. W., ... & DeLiberto, T. J. (2021). SARS-CoV-2 exposure in escaped mink, Utah, USA. Emerging infectious diseases, 27(3), 988.

[96] Delahay, R. J., de la Fuente, J., Smith, G. C., Sharun, K., Snary, E. L., Girón, L. F., ... & Gortazar, C. (2021). Assessing the risks of SARS-CoV-2 in wildlife. One Health Outlook, 3(1), 1-14.

[97] Dobson, A. P., Pimm, S. L., Hannah, L., Kaufman, L., Ahumada, J. A., Ando, A. W., ... & Vale, M. M. (2020). Ecology and economics for pandemic prevention. Science, 369(6502), 379-381.

[98] Symes, W. S., McGrath, F. L., Rao, M., & Carrasco, L. R. (2018). The gravity of wildlife trade. Biological Conservation, 218, 268-276. The authors find that "Wildlife trade is now one of the most pressing threats to species survival globally."

[99] IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany.

terrestrial species.[100] Exploitation of wildlife, including wildlife trade, is the secondary driver of the loss of terrestrial species.[101]

Scientists estimate that current extinction rates are "at least 100–1,000 times background extinction rates and future extinction rates (over the next 50 years) are estimated to be 10 to 100 times present extinction rates."[102] Additionally, as Ceballos et al. (2017) explained, "beyond global species extinctions, Earth is experiencing a huge episode of population declines and extirpations, which will have negative cascading consequences."[103] Trade and exploitation of "wild-caught individuals of threatened or declining species presents a clear threat to biodiversity, as it directly contributes to species' extinction risk."[104] Thus, curtailing the trade in mammals and birds not only helps prevent future pandemics but will also help preserve the fabric of life upon which all people depend.

9. Surveillance Efforts Are Insufficient and Bans Are Needed for Pandemic and Extinction Prevention

Current efforts to address the risks of wildlife trade, both globally and within the United States, are insufficient to detect and prevent future zoonotic disease outbreaks.[105] Even where surveillance is ongoing, the lack of adequate integrated disease surveillance creates a substantial gap in global detection efforts.[106] Further, the majority of global scientific and surveillance resources to counter disease emergence are found in Europe, North America, Australia, and some parts of Asia, while infectious diseases are more likely to originate from the global south.[107] Experts conclude that spillover of zoonoses between wildlife and humans are most likely vastly underreported because of the poor allocation of global disease detection efforts and inequalities in healthcare

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[100] IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany.
[101] IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany.
[102] Keesing, F., Belden, L. K., Daszak, P., Dobson, A., Harvell, C. D., Holt, R. D., ... & Ostfeld, R. S. (2010). Impacts of biodiversity on the emergence and transmission of infectious diseases. Nature, 468(7324), 647-652.
[103] Ceballos, G., Ehrlich, P. R., & Dirzo, R. (2017). Biological annihilation via the ongoing sixth mass extinction signaled by vertebrate population losses and declines. Proceedings of the national academy of sciences, 114(30), E6089-E6096.
[104] Lin, B., Dietrich, M. L., Senior, R. A., & Wilcove, D. S. (2021). A better classification of wet markets is key to safeguarding human health and biodiversity. The Lancet Planetary Health, 5(6), e386-e394.
[105] Han, B. A., Kramer, A. M., & Drake, J. M. (2016). Global patterns of zoonotic disease in mammals. Trends in parasitology, 32(7), 565-577.
[106] Can, Ö. E., D'Cruze, N., & Macdonald, D. W. (2019). Dealing in deadly pathogens: Taking stock of the legal trade in live wildlife and potential risks to human health. Global Ecology and conservation, 17, e00515; Johnson, C.K., et al. (2020). Global shifts in mammalian population trends reveal key predictors of virus spillover risk. Proc. R. Soc. B 287: 20192736. http://dx.doi.org/10.1098/rspb.2019.2736.
[107] Jones, K. E., Patel, N. G., Levy, M. A., Storeygard, A., Balk, D., Gittleman, J. L., & Daszak, P. (2008). Global trends in emerging infectious diseases. Nature, 451(7181), 990-993.

access.[108] Thus, by the time an outbreak is reported, the zoonotic disease may have already crossed international boundaries.

The lack of adequate surveillance is not just an international problem. The United States also lacks the capacity to detect zoonotic diseases carried by imported wildlife. There is no comprehensive system for screening imported wildlife for zoonotic diseases when it enters the United States—and such a system is likely impossible due to the unpredictable nature of zoonoses.[109] Additionally, the United States Government Accountability Office concludes that gaps in the current statutory and regulatory framework across multiple federal agencies increase the risk that live animals imported into the United States will carry zoonotic diseases.[110] Further, there have traditionally been significant delays in the detection and identification of wildlife carrying zoonoses, and as a result, disease or disease-carrying wildlife can become well-established in the United States well before import bans are adopted.[111]

To be clear, surveillance will never succeed on its own given the inherent uncertainties surrounding the emergence of infectious diseases of zoonotic origin. Zoonoses are unpredictable, and perhaps unknowable, in nature and can find hosts in an infinite number of animals throughout the world. Moreover, the number of unknown viruses globally is estimated at a staggering 1.7 million, with scientists approximating that between 631,000 to 827,000 unknown viruses might be able to infect people.[112] Without knowing what to look for, even the best surveillance system will miss emerging diseases. Thus, halting the transmission of zoonoses and emerging infectious diseases is key. An important first step toward decreasing the risk of future outbreaks is to ban trade in wildlife and especially those species known to serve as hosts to diseases that might spill over to people—namely mammals and birds. Unless we fundamentally change our relationship with nature and alter human behavior, pandemics like COVID-

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[108] Johnson, C.K., et al. (2020). Global shifts in mammalian population trends reveal key predictors of virus spillover risk. Proc. R. Soc. B 287: 20192736. http://dx.doi.org/10.1098/rspb.2019.2736; Jones, K. E., Patel, N. G., Levy, M. A., Storeygard, A., Balk, D., Gittleman, J. L., & Daszak, P. (2008). Global trends in emerging infectious diseases. Nature, 451(7181), 990-993.

[109]Wyler, L. S., & Sheikh, P. A. (2008, August). International illegal trade in wildlife: threats and US policy. Library of Congress Washington DC Congressional Research Service; Smith, K. M., Zambrana-Torrelio, C., White, A., Asmussen, M., Machalaba, C., Kennedy, S., ... & Karesh, W. B. (2017). Summarizing US wildlife trade with an eye toward assessing the risk of infectious disease introduction. EcoHealth, 14(1), 29-39.

[110] U.S. Gov't Accountability Office, LIVE ANIMAL IMPORTS: Agencies Need Better Collaboration to Reduce the Risk of Animal-Related Diseases (2010).

[111]Alexander, K. (2013). Injurious Species Listings Under the Lacey Act: A Legal Briefing. Congressional Research Service.

[112] IPBES (2020) Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services. Daszak, P., das Neves, C., Amuasi, J., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrelio, C., Buss, P., Dundarova, H., Feferholtz, Y., Foldvari, G., Igbinosa, E., Junglen, S., Liu, Q., Suzan, G., Uhart, M., Wannous, C., Woolaston, K., Mosig Reidl, P., O'Brien, K., Pascual, U., Stoett, P., Li, H., Ngo, H. T., IPBES secretariat, Bonn, Germany, DOI:10.5281/zenodo.4147318.

19 will continue to occur and bring calamitous consequences. We either pay the costs for transformative change or pay the even greater costs of business as usual.[113]

Limited forms of mammal and bird trade should be permitted to continue subject to scrutiny and regulation. While a majority of United States mammal imports, for example, are for commercial purposes (including food, pets, medicine, etc.), a small number of imports are for conservation or scientific (non-biomedical) research,[114] it is important that conservation, research, education, and law enforcement activities continue. Thus, the petitioned regulatory provisions include a limited exemption for bona fide conservation, scientific or educational purposes or for exhibition from a ban on trade in the *mammalia* and *aves* taxa.

LEGAL BACKGROUND

Pursuant to the Public Health Service Act, the Secretary of Health and Human Services has two grants of authority to address the threat zoonotic diseases pose to our country. [115] First, the Secretary is broadly authorized to promulgate regulations to control communicable diseases.[116] Second, the Secretary can adopt orders.[117]

Using its regulatory authority, the CDC can create rules that "are necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the States."[118] The CDC has used this authority to regulate species and the circumstances under which those species may or may not be imported into the United States. For example, the CDC bans the importation of dogs and cats coming from areas with high rates of rabies[119] and highly regulates the importation of turtles, regardless of their country of origin, to prevent human cases of salmonella and Arizona bacterial infections.[120] Additionally, the CDC imposes strict, comprehensive

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[113] Dobson, A. P., Pimm, S. L., Hannah, L., Kaufman, L., Ahumada, J. A., Ando, A. W., ... & Vale, M. M. (2020). Ecology and economics for pandemic prevention. Science, 369(6502), 379-381.
[114] Pavlin, B. I., Schloegel, L. M., & Daszak, P. (2009). Risk of importing zoonotic diseases through wildlife trade, United States. Emerging infectious diseases, 15(11), 1721.
[115] 42 U.S.C. § 264, 265.
[116] 42 U.S.C. § 264(a). Under section 264(a), the Secretary "is authorized to make and enforce such regulations as in his judgment are necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the States or possessions, or from one State or possession into any other State or possession."
[117] 42 U.S.C. § 265. Under section 265, when "by reason of the existence of any communicable disease in a foreign country there is serious danger of the introduction of such disease into the United States, and that this danger is so increased by the introduction of persons or property from such country that a suspension of the right to introduce such persons and property is required in the interest of the public health, the [CDC], in accordance with regulations approved by the President, shall have the power to prohibit, in whole or in part, the introduction of persons and property from such countries or places as he shall designate in order to avert such danger, and for such period of time as he may deem necessary for such purpose."
[118] 42 U.S.C. § 264(a). Arguably, this authority also enables the CDC to ban exports that risk disease introduction in other countries that could then be imported back into the U.S. In this new era, where a disease can be transported halfway around the globe in under 24 hours these authorities must be read broadly.
[119] 42 C.F.R. § 71.51(e).
[120] 42 C.F.R. § 71.52.

requirements for the importation of non-human primates to prevent the transmission of zoonotic diseases from those animals to humans.[121] Given its broad authority to "prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the States or possessions, or . . . from one State or possession into any other State or possession,"[122] the CDC also has the authority to halt interstate trade and by extension exports from the United States in risk-prone wildlife.

Separately, the Secretary can issue orders "to prohibit, in whole or in part, the introduction of . . . property from such countries or places as he shall designate in order to avert [serious danger of the introduction of any communicable disease], and for such period of time as he may deem necessary for such purpose."[123] In 2004, in response to the SARS outbreak and to prevent the spread of SARS in the United States the CDC issued an order banning the import of all civets whether alive or dead unless properly processed to render them noninfectious.[124] That same year the CDC issued an order banning bird imports from eight countries and Hong Kong SAR that were "affected by the outbreak of avian influenza."[125]

Whether the CDC uses regulatory or order authority, a wildlife trade ban is an appropriate response measure. As the CDC has previously recognized:

> control measures cannot prevent new or emerging pathogens or infections for which no laboratory tests or no empiric treatments exist, when practical experiences regarding a species' susceptibility are lacking, when incubation periods are unknown, or when the infections are subclinical. In these instances, import restrictions of a wider range of species than currently regulated could be the only effective means of preventing the introduction of exotic infections into this country.[126]

Indeed, the agency has previously implemented protective bans and kept them in place indefinitely until the threat is better understood and more nuanced measures can be adopted. During the current pandemic, this authority was wisely used to prohibit

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[121] 42 C.F.R. § 71.53.
[122] 42 U.S.C. § 264(a).
[123] 42 U.S.C. § 265. Under section 265, "Whenever the [Secretary] determines that by reason of the existence of any communicable disease in a foreign country there is serious danger of the introduction of such disease into the United States, and that this danger is so increased by the introduction of persons or property from such country that a suspension of the right to introduce such persons and property is required in the interest of the public health, the [Secretary], in accordance with regulations approved by the President, shall have the power to prohibit, in whole or in part, the introduction of persons and property from such countries or places as he shall designate in order to avert such danger, and for such period of time as he may deem necessary for such purpose."
[124] *Notice of Embargo of Civets (Family: Viverridae)*, 69 Fed. Reg. 3,364 (Jan. 23, 2004).
[125] *Notice of embargo of birds (Class: Aves) from specified Southeast Asian countries*, 69 Fed. Reg. 7,165 (Feb. 13, 2004).
[126] *Foreign Quarantine Regulations, Proposed Revision of HHS/CDC Animal Importation Regulations*, 72 Fed Reg. 41,676, 41,677 (July 31, 2007). The CDC also explained that regulations or orders "limited to specific species and regions" "might not be sufficient to fully prevent the introduction of zoonotic diseases into the United States" due to their limitations. *Id.*

evictions in order to draw down the resulting threats that homelessness and moves would pose to the United States' response to COVID-19.[127]

Using these authorities, the CDC regulates not only live animals but also products.[128] For example, in establishing regulations "regarding the importation of infectious biological agents, infectious substances, and vectors," the CDC included in the definition of "vector" any "animal product (e.g., a mount, rug, or other display item composed of the hide, hair, skull, teeth, bones, or claws of an animal)" subject to specific exceptions.[129]

Petition to the Centers for Disease Control and Prevention

The Center and NRDC hereby petition the CDC to prohibit, by regulation, the importation and exportation of all wild-sourced mammals and birds and specimens and products thereof into and from the United States. Wild mammals and birds pose an oversized disease introduction risk compared to animals of different taxa. This risk is posed whether the demand in the United States is for live animals or specimens or products made from wild mammals or birds. While U.S. trade in live wild mammals and birds poses the greatest risk, trade in the products from these animals also risks diseases emerging from capture and production of the animals in the foreign countries that supply U.S. demand. As COVID-19 demonstrates, where a zoonotic disease emerges is nearly irrelevant in our current global economy because once diseases emerge, they can easily spread to the United States.

We petition the CDC to use its authority to issue new regulations to implement a ban on the importation and exportation of wild-sourced mammals and birds and specimens and products thereof, regardless of country of origin. Alternatively, we ask that CDC issue an order banning the import of all wild-sourced mammals and birds and specimens and products thereof until preventive measures have been enacted to reduce disease risk. A precautionary approach is necessary because zoonoses are unpredictable, can find infinite animal hosts, and most are unknown to people. A preemptive ban is the best solution to prevent zoonotic diseases from spreading and infecting humans and animals.

The proposed regulation is necessary to fill gaps in the current regulatory scheme which facilitates, instead of prevents, the introduction of zoonotic diseases from foreign countries into the United States. Currently, the Department of Health and Human

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[127] *Temporary Halt in Residential Evictions to Prevent the Further Spread of COVID-19*, 85 Fed. Reg. 55,292 (Sept. 4, 2020).

[128] The CDC has defined "Animal product" or "Product" to mean "the hide, hair, skull, teeth, bones, claws, blood, tissue, or other biological samples from an animal, including trophies, mounts, rugs, or other display items." 42 C.F.R. § 71.50.

[129] *Foreign Quarantine; Import Regulations for Infectious Biological Agents, Infectious Substances, and Vectors*, 78 Fed. Reg. 7674 (Feb. 4, 2013). The exemptions are for "a product that is cleared, approved, licensed, or is otherwise authorized under the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq), Section 351 of the Public Health Service Act pertaining to biological products (42 U.S.C. 262), or the Virus-Serum-Toxin Act (21 U.S.C. 151-159)." 76 Fed. Reg. 63,893.

Services regulations require a disease to manifest in a foreign country to a point so progressed that imports from that country would pose a danger to the public health of the United States.[130] This limited, reactive approach to disease prevention does not comport with the regulations' stated purpose of *preventing* the "introduction, transmission, and spread of communicable human disease resulting from importations of various animal hosts" in light of the global prevalence of zoonotic diseases.[131]

Zoonoses can emerge anywhere in the world, adapt to wide ranges of animal hosts, and cause illnesses of different degrees of severity.[132] The unpredictable nature of zoonoses warrants a precautionary approach by taking broad action to prevent the importation and exportation of any wildlife that has the potential to cause zoonotic disease outbreaks in human and animal populations. Although most zoonotic disease outbreaks fail to reach pandemic status, tens of thousands of American citizens unnecessarily face infection, and possibly death, from zoonotic diseases every year.[133] Failing to ban the importation and exportation of wild mammals and wild birds unnecessarily exacerbates the risk of a future zoonotic disease outbreak.

We request that the CDC determine that a ban on trade in wild-sourced mammals and birds is necessary to protect the public health from communicable, zoonotic diseases and find that the introduction, transmission, or spread of zoonotic diseases from these animals would threaten the public health of the United States and that the entry of imports from any foreign nation and the export of wild mammals and birds from the United States increases the risk that communicable disease may be introduced, transmitted, or spread in the United States.

1. Text of Proposed Rule

Pursuant to Section 553(e) of the Administrative Procedure Act, petitioners request that the Secretary of the Department of Health and Human Services adopt the following amendments to the CDC regulations on importations at 42 C.F.R. §§ 71.50—71.57, (amendments shown in <u>underlined text</u> for additions and ~~stricken text~~ for subtractions):

Subpart F—Importations

§ 71.50 Scope and definitions.

(a) The purpose of this subpart is to prevent the introduction, transmission, and spread of communicable human disease resulting from importations of various animal hosts or vectors or other etiological agents from foreign countries into the United States.

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[130] 42 C.F.R. § 71.63.
[131] 42 C.F.R. § 71.50(b).
[132] National Research Council. (2010). Sustaining global surveillance and response to emerging zoonotic diseases.
[133] CDC 8 Zoonotic Diseases Shared Between Animals and People of Most Concern in the U.S. (May 6, 2019), https://www.cdc.gov/media/releases/2019/s0506-zoonotic-diseases-shared.html.

(b) In addition to terms in § 71.1, the terms below, as used in this subpart, shall have the following meanings:

Animal product or Product means the hide, hair, skull, teeth, bones, claws, blood, tissue, or other biological samples from an animal, including trophies, mounts, rugs, or other display items.

Bird means any member of the Class Aves and bird products (e.g., a mount, rug, or other display item composed of the hide, feathers, skull, beak, bones, or claws), other than domesticated species and captive-bred specimens.

Captive-bred means an animal that was bred in captivity from second generation or more parental stock.

Educational purpose means use in the teaching of a defined educational program at the university level or equivalent.

Exhibition purpose means use as part of a display in a facility comparable to a zoological park or in a trained animal act. The animal display must be open to the general public at routinely scheduled hours on 5 or more days of each week. The trained animal act must be routinely schedule for multiple performances each week and open to the general public except for reasonable vacation and retraining periods.

In transit means animals that are located within the United States, whether their presence is anticipated, scheduled, or not, as part of the movement of those animals between a foreign country of departure and foreign country of final destination without clearing customs and officially entering the United States.

Isolation when applied to animals means the separation of an ill animal or ill group of animals from individuals, or other animals, or vectors of disease in such a manner as to prevent the spread of infection.

Licensed veterinarian means an individual who has obtained both an advanced degree and valid license to practice animal medicine.

Mammal means any member of the Class Mammalia including mammal products (e.g., a mount, rug, or other display item composed of the hide, hair, skull, teeth, bones, or claws), other than domesticated species and captive-bred specimens including captive-bred non-human primates.

Person means any individual or partnership, firm, company, corporation, association, organization, or similar legal entity, including those that are not-for-profit.

Quarantine when applied to animals means the practice of separating live animals that are reasonably believed to have been exposed to a communicable disease, but are not yet ill, in a setting where the animal can be observed for

evidence of disease, and where measures are in place to prevent transmission of infection to humans or animals.

Render noninfectious means treating an animal product (e.g., by boiling, irradiating, soaking, formalin fixation, or salting) in such a manner that renders the product incapable of transferring an infectious biological agent to a human.

Scientific purpose means use for scientific research following a defined protocol and other standards for research projects as normally conducted at the university level. The term also includes the use for safety testing, potency testing, and other activities related to the production of medical products.

You or your means an importer, owner, or an applicant.

§ 71.51 Dogs and cats.

[retain]

§ 71.52 Turtles, tortoises, and terrapins.

[retain]

§ 71.53 Requirements for importers of nonhuman primates.

[amend to pertain to captive-bred nonhuman primates]

(a) Purpose. The purpose of this section is to prevent the transmission of communicable disease from captive-bred nonhuman primates (NHPs) imported into the United States, or their offspring, to humans. The regulations in this section are in addition to other regulations promulgated by the Secretary to prevent the introduction, transmission, and spread of communicable diseases under 42 CFR part 71, subpart A and 42 CFR part 70.

. . .

Nonhuman primate or NHP means all captive-bred nonhuman members of the Order Primates.

NHP product or Product means skulls, skins, bodies, blood, tissues, or other biological samples from a captive-bred nonhuman primate, including trophies, mounts, rugs, or other display items.

. . .

Old World Nonhuman Primate means all captive-bred nonhuman primates endemic to Asia or Africa.

. . .

Zoonotic disease means any infectious agent or communicable disease that is capable of being transmitted from animals (both wild and domestic) to humans.

(d) General prohibition on importing captive-bred nonhuman primates.

. . .

(t) Captive-bred non-human primate products. (1) NHP products may be imported without obtaining a permit under this section if accompanied by documentation demonstrating that the products have been rendered noninfectious using one of the following methods:

§ 71.54 Import regulations for infectious biological agents, infectious substances, and vectors.

[retain]

§ 71.55 Dead bodies.

[retain]

~~§ 71.56 African rodents and other animals that may carry the monkeypox virus.~~

[repeal in full to be replaced by proposed language in § 71.57]

§ 71.57 Suspension of entry and exit of birds and mammals and products thereof in to and out of the U.S.

(a) Prohibitions. A person may not:

(1) import, or attempt to import, into the United States any mammal or bird, whether dead or alive, from any foreign country or import, or attempt to import, any products derived from a bird or mammal from any foreign country; or

(2) export, or attempt to export, any mammal or bird, whether dead or alive, or any products derived from a bird or mammal from one State or possession to any other State or possession or any foreign country.

(b) Exceptions. The prohibitions in paragraph (a) of this section do not apply to imports or exports when accompanied by a permit issued by the Director for bona fide scientific or educational purposes or for exhibition.

2. Alternative Text of Proposed Order

We alternatively petition the CDC to take immediate action to prevent future pandemics and issue the following order:

Pursuant to 42 CFR 71.63 and in accordance with this order, no person may import or attempt to import any member of the Class Mammalia, other than domesticated or captive-bred species (including captive-bred non-human primates), or any member of the Class Aves, other than domesticated or captive-bred species, whether dead or alive, or any products derived from such

members. Such products include, but are not limited to, a mount, rug, or other display. This prohibition does not apply to any person who receives permission from the CDC to import such members or unprocessed products from such members for educational, exhibition, or scientific purposes as those terms are defined in 42 CFR 71.1.

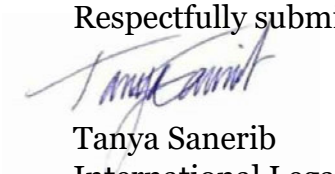
This order shall apply to wild-sourced mammals and birds from any country of origin. Such an order should remain in place until: 1) the United States has developed and implemented a cross-border surveillance system to test for communicable diseases and a tracing system to track all wildlife, parts and products throughout the supply chain; and 2) entered into one or more international agreements that include measures to curtail the trade and exploitation of wild mammals and birds and destruction of nature such that the risk posed by existing wildlife trade and exploitation and unhealthy relationship with nature is greatly reduced or nullified.

CONCLUSION

Zoonoses pose a genuine, severe threat to human health, economic security, and diplomatic relations as well as the United States' biodiversity and species health. Future pandemics will very likely be caused by wildlife and be zoonotic in nature. The United States must recognize its role in driving the exploitation and trade in wild mammals and birds and take precautionary measures to draw down this risk as we figure out how to adapt to this new era of pandemics. Allowing wild birds and mammals and specimens and products thereof to enter and leave the United States under the existing system of limited regulation poses an unacceptable risk of zoonotic disease introduction and transmission. The Secretary of Health and Human Services can reduce this risk by acting pursuant to the Public Health Service Act. Action is needed now to prevent zoonoses from emerging due to the current exploitation and trade in wild mammals and birds.

For further information or to discuss this petition, please contact the organizational representatives listed below.

Respectfully submitted,



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