



# Improving Federal Management of Wildlife Movement and Emerging Infectious Disease

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## Summary

The COVID-19 pandemic has exposed systematic vulnerabilities in the way that wildlife movement and emerging infectious diseases are managed at national and international scales. The next administration should take three key steps to address these vulnerabilities in the United States. First, the White House should create a “Task Force on the Control of Emerging Infectious Diseases”. This Task Force would convene agencies with oversight over animal imports, identify necessary policy actions, determine priority research areas, and coordinate a national response strategy. Second, the next president should work with Congress to pass a bill strengthening live-animal import regulations. Third, U.S. agencies should coordinate with international organizations to address global movement of infectious diseases of animals. Together, these actions would reduce the risk of emerging infectious diseases entering the United States, offer greater protection to citizens from zoonotic diseases, and protect American biodiversity from losses due to wildlife diseases.

## Challenge and Opportunity

More than 60% of emerging infectious diseases in humans first originate in animals. More than 70% of these come from wild animals. HIV, for instance, jumped to human hosts from primates in Africa. MERS spread to humans from camels in the Middle East. Of present salience, experts believe that the virus that causes COVID-19 originated from wild animals in China (probably bats).<sup>1</sup>

The risk of animal-to-human “spillover”—and the global spread of zoonotic diseases<sup>2</sup>—increases when wildlife are traded and imported around the world (e.g., for food, traditional medicines, display, pets, etc.). The global spread of COVID-19 has drawn attention to problems such as lack of disease surveillance in wild animal populations<sup>3</sup> and lack of disease testing in many live animals at international borders. International wildlife-trade laws do not account for public-health risks of wildlife trade. These laws also do not require collection of data on zoonotic diseases (i.e., diseases caused by germs that spread between animals and people): data that could help prevent the next pandemic.<sup>4</sup> These problems are exacerbated by accelerating rates of habitat conversion and biodiversity loss coupled with increased volume and speed of international commerce.<sup>5</sup>

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<sup>1</sup> Lattine, A.; et al. (2020). Origin and cross-species transmission of bat coronaviruses in China. *Nature Communications*, 11(4235).

<sup>2</sup> Zoonotic diseases are diseases caused by germs that spread between animals and humans.

<sup>3</sup> Beatty, A.; et al. (2008). Achieving Sustainable Global Capacity for Surveillance and Response to Emerging Diseases of Zoonotic Origin: Workshop Summary. Committee on Achieving Sustainable Global Capacity for Surveillance and Response to Emerging Diseases of Zoonotic Origin, National Research Council, Washington, D.C.

<sup>4</sup> Ashe, D. (2020). Testimony before the Committee on Environment and Public Works, U.S. Senate. *Stopping the Spread: Examining the Increased Risk of Zoonotic Disease from Illegal Wildlife Trafficking*. July 22, 2020.

<sup>5</sup> Fisher, M.C.; et al. (2020). Threats Posed by the Fungal Kingdom to Humans, Wildlife, and Agriculture. *mBio*, 11(3): e00449-20.

The United States is especially susceptible to emerging zoonotic diseases because it is the world's largest importer<sup>6</sup> of legally traded wild animals,<sup>7</sup> yet lacks domestic regulations requiring most imported live animals to be tested for diseases, pathogens, or parasites. Gaps in U.S. statutory and regulatory frameworks governing live-animal imports increase disease risks<sup>8</sup> for humans while also threatening our country's biodiversity and natural resources. In the United States, four agencies<sup>9</sup> oversee some aspect of live-animal imports—but this oversight is far from comprehensive. The Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) is responsible for assessing the risk of diseases in agricultural imports, but not wildlife species. The Center for Disease Control (CDC) oversees imports of only primates and some species of rodents, bats, or birds known to spread zoonotic diseases. The Fish and Wildlife Service (FWS) is responsible for regulating imports of all wildlife (and imposes stricter standards on species previously identified as injurious), but its mandate does not cover infectious diseases or parasites.<sup>10</sup> The upshot is that imports of most wildlife species to the United States are not assessed for disease risk by any agency. Most disease agents that infect wildlife (except for a small number of known zoonotic diseases) are not monitored by any agency either.

## Plan of Action

The next administration should take three key steps to address systematic vulnerabilities in the way that wildlife movement and emerging infectious diseases are managed in the United States and around the world. These are as follows.

**Action 1. Create a White House Task Force on the Control of Emerging Infectious Diseases.** This Task Force would convene agencies with oversight over animal imports (including the U.S. Department of Agriculture (USDA), the Department of the Interior (DOI), and CDC) and those supporting research (NSF, NIH) or international assistance (U.S. Department of State, USAID) to determine global research priorities on wildlife disease, and facilitate international cooperation on mechanisms to reduce demand as well as disease risk in the live animal trade. The taskforce would use the One Health concept that links human health with animal health and environmental health, and that applies a comprehensive approach to understanding the drivers of disease emergence, the spread of disease, and the impacts on human health.

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<sup>6</sup> Travis, D.A.; Watson, R.P.; Tauer, A. (2011). The spread of pathogens through trade in wildlife. *OIE Revue Scientifique et Technique* 30(1): 219–239.

<sup>7</sup> U.S. Government Accountability Office (GAO) (2010). *Live Animal Imports: Agencies Need Better Collaboration to Reduce the Risk of Animal-Related Diseases*. Washington, D.C.

<sup>8</sup> *Ibid.*

<sup>9</sup> U.S. Customs and Border Patrol oversees enforcement and assists the other agencies who have statutory or regulatory authority.

<sup>10</sup> U.S. GAO (2010).

**Action 2. Work with Congress to pass a bill strengthening live-animal import regulations.** This bill would build on past legislation (e.g., H.R. 6362/S. 3210;<sup>11</sup> H.R. 3771/S. 1903;<sup>12</sup> and S. 3759<sup>13</sup>) related to wildlife disease. The bill should:

- Reduce risk of zoonotic disease introduction to the United States by increasing surveillance of live-animal imports at U.S. borders. Specifically, Congress should give APHIS the authority to use pre-import screening, such as a process that assesses disease risk by species and country and determines allowable imports on the basis of that assessment.<sup>14</sup> Congress should also expand the mission of APHIS to address not only disease issues that affect agricultural animals but also disease issues associated with zoonotic and wildlife diseases.<sup>15</sup>
- Amend the Lacey Act to strengthen the FWS's ability to identify, designate, and stop injurious species (including dangerous pathogens) from entering the United States, and from moving via interstate commerce if and when they do enter. Specifically, the Lacey Act should be amended to grant the FWS authority over emergency listing (i.e. one that is accelerated and bypasses the notice and public comment process);<sup>16</sup> authority to list human and wildlife pathogens as injurious species; and authority to regulate interstate commerce in listed injurious species.<sup>17</sup>
- Expand efforts to control illegal wildlife trade. President Obama's July 2013 Executive Order on Combating Wildlife Trafficking resulted in the development of a holistic national strategy for tackling the entire trade chain of wildlife trafficking. The next administration should strive to implement elements of this strategy that have not yet been implemented, and to build on elements that have. This could include increasing the FWS's enforcement capacity, strengthening measures to prevent and deter wildlife trafficking, increasing the severity of penalties for wildlife crime, and taking steps to reduce demand (media campaigns, behavior change) for imported wildlife.<sup>18</sup>

**Action 3. Coordinate internationally to address diverse aspects of wildlife movement and emerging infectious diseases.** The next administration should direct USDA (primarily APHIS) and the FWS to lead the following efforts:

- Amend the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)<sup>19</sup> treaty and accompanying resolutions<sup>20</sup> to (i) consider disease risk as a factor

<sup>11</sup> Available at <https://www.congress.gov/bill/115th-congress/senate-bill/3210>.

<sup>12</sup> Available at <https://www.congress.gov/bill/116th-congress/senate-bill/1903?q=%7B%22search%22%3A%5B%22S.+1903%22%5D%7D&s=1&r=1>.

<sup>13</sup> Available at <https://www.congress.gov/bill/116th-congress/senate-bill/3759?q=%7B%22search%22%3A%5B%22s.+3759%22%5D%7D&s=2&r=1>.

<sup>14</sup> U.S. GAO (2010).

<sup>15</sup> U.S. Department of Agriculture. (2010). Strategic plan for implementing one health activities within USDA APHIS VS. *Veterinary Services Strategic Plan, FY06-FY11 (VS2015)*. Washington, D. C.

<sup>16</sup> 5 U.S.C. § 553(b)(3)(B).

<sup>17</sup> Ashe, D. (2020).

<sup>18</sup> Ashe, D. (2020).

<sup>19</sup> Watsa, M.; Wildlife Disease Surveillance Focus Group. (2020). Rigorous wildlife disease surveillance. *Science*, 369(6500): 145–147.

<sup>20</sup> Available at <https://www.cites.org/eng/res/intro.php>.

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in regulating wildlife imports and exports, and (ii) broaden the scope of CITES in tackling domestic markets.<sup>21</sup>

- Strengthen efforts by the UN Food and Agriculture Organization (FAO) and the World Organization for Animal Health (OIE) to develop a systematic approach for early detection of (and rapid responses to) emerging infectious diseases of human, wildlife, and domesticated animals.<sup>22</sup>
- Expand OIE's ambit from simply assessing disease risk in livestock trade to one in which OIE works with CITES and country-based labs to expand disease surveillance in all live-animal trade, including by conducting tests.<sup>23</sup> OIE should establish a publicly accessible, centralized, and curated system for monitoring the global incidence and spread of wildlife pathogens in order to facilitate early detection of disease emergence and to document disease spread. Such a system could be modeled on GISAID or EpiFlu.<sup>24</sup>

## Conclusion

Regulatory gaps put Americans at risk of exposure to emerging infectious disease from unregulated and underregulated imports of wildlife. The next administration should address these gaps by creating a White House task force, strengthening live-animal import regulations, and coordinating with international institutions to reduce the global movement of emerging infectious diseases. The result would be a nation that is healthier and safer—for humans and animals alike.

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<sup>21</sup> Ashe, D.; Scanlon, J.O. (2020). A Crucial Step Toward Preventing Wildlife-Related Pandemics. *Scientific American*, June 15.

<sup>22</sup> Reaser, J.; et al. (2020). The early detection of and rapid response (EDRR) to invasive species: a conceptual framework and federal capacities assessment. *Biological Invasions*, 22: 1–19.

<sup>23</sup> Watsa et al. (2020).

<sup>24</sup> *Ibid.*

## About the Authors



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## About the Day One Project

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