WCS Policy
Preventing Epidemics and Pandemics of Zoonotic Origin:
The role of Wild Meat Markets and Wildlife Trade.

Background:

In March 2020, WCS issued a policy statement on reducing the risk of future zoonotic pandemics, in response to the COVID-19 pandemic and the available information on its origin. The devastation of the COVID-19 global pandemic, impacting human health, well-being, economies, and global security, is well documented and highlights the interconnections of our world. The science is clear that pandemics of zoonotic origin such as COVID-19 are directly related to the increased human/wildlife interface caused by destruction of intact ecosystems, deforestation and forest degradation, and the role of urban markets in wild birds and mammals, and wildlife farms. In May 2020, WCS issued a detailed, researched report on the links between ecological integrity and human health, as well as a detailed report on COVID-19 and Indigenous Peoples. These reports and statements were based on available scientific information, as well as the research and expertise of our staff and programs in more than 60 countries, and have been supplemented by papers, articles, and webinars on the topic. Now, a year after the World Health Organization declared COVID-19 a pandemic, we are refreshing and refining our policy statement on combating the threat of zoonotic spillover posed by wild meat markets and associated trade. Our papers on Indigenous Peoples and intact ecosystems remain current.

To address the threat of future pandemics resulting from viral spillovers of zoonotic origin such as COVID-19, WCS recommends stopping the trade and sale of live or freshly killed wild birds and mammals for human consumption, in particular to urban venues, whether supplied from wildlife farms or wild-caught.

Contact with live wild animals and their fresh meat pose a disease hazard to people regardless of where they live. Wildlife is eaten in rural communities, by people in small but growing provincial towns located close to sources of wild animals, and by urban dwellers who live in urban and peri-urban areas (including towns, cities, and large metropolitan areas) far from wildlife. From source, where the animal is killed or captured, to market, where it is consumed, the wildlife supply chain involves conditions that present a high risk for the emergence, amplification, and transmission of zoonotic pathogens which can potentially cause outbreaks, epidemics, and pandemics, as evidenced by Ebola, SARS, SARS-CoV-2, and influenza A subtypes. Animals transported and marketed alive are highly stressed and much more prone to shed pathogens.

Why focus on mammals and birds? The sale of live and freshly killed mammals and birds is of particular concern, whether they are taken directly from the wild or originate in wildlife farms as they constitute the most important hosts for emerging viral zoonoses. The risk of pathogen spillover to humans, and the risk that such spillover would lead to a pandemic, is far lower for reptiles, amphibians, and fish.

Why focus on urban?
(1) The threat of a disease of zoonotic origin spreading is greatest in urban and peri-urban areas, where the largest number of people are potentially exposed, and animals are concentrated. The crowding together in urban markets of live wildlife and fresh meat from different species, close to people and other animals, provides the perfect conditions for recombination, sharing, and shedding of viruses and other pathogens and their transmission to humans.
(2) Stopping the trade and sale of wild animals in urban settings is more practical than seeking to do so in the multitude of smaller rural markets or along the transportation chain.
(3) The focus is more socially equitable because few urban consumers depend on wild meat for their dietary needs or food security, and are more likely to purchase or consume wild meat as a luxury. **Therefore, we**

recommend a focus on urban markets and the trade that supplies them. That does not preclude the need for significant attention to other markets as well.

Which venues? Markets trading and processing live animals or fresh meat from multiple bird and mammal species (and often mixed with live domesticated animals) represent a high-risk interface for viral pathogen emergence and spillover. The same is true for restaurants and eateries where wild meat is butchered and prepared.

What needs to be done:

Governmental authorities should stop the sale of wildlife for human consumption, especially birds and mammals, either presented as live animals or fresh meat, in cities, towns, and peri-urban settings, and their supply and trade, whether from wildlife farms or directly from the wild. This will require the following actions:

1) Rigorous enforcement of and compliance with existing laws and international treaties regarding wildlife trade

Many national laws and regulations govern the sale and supply of wildlife and wild meat into urban markets. These include laws and regulations that: prohibit the offtake of wild animals from protected or conserved areas; identify legally protected species and regulate their use; require hunting licenses; control hunting practices and technologies; regulate the sale of wild species; regulate international and domestic wildlife trade; and govern the commercial sale and consumption of wild meat in urban areas, to name only a few. Rigorous enforcement of and compliance with these laws and regulations, while not sufficient, is a first step to reducing the health risks associated with live wildlife and wild meat in urban markets.

In addition, international commitments, such as the Sustainable Development Goals (SDGs) which include a target on the illegal wildlife trade, and international treaties, such as CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), which are designed to prevent listed species from being threatened by the international wildlife trade, also address some of the trade that supplies live wildlife and wild meat for human consumption into urban markets around the world. Rigorous enforcement of and compliance with such agreements and treaties, and treating wildlife crime as a serious crime, would contribute to a reduction in the supply into urban settings. But it also is insufficient to prevent future pathogen spillover or disease outbreaks.

2) Amend relevant policies and legislation to prohibit the sale of wild birds and mammals for human consumption

However, even rigorous enforcement of existing laws, regulations, and international treaties that deal with wildlife trade, will by themselves not address the prevalent conditions that promote pathogen emergence, spillover and spread of new diseases of zoonotic origin. Much of the wildlife sold in urban markets is legally sourced, or not demonstrably illegal, and policies focused on protected species, illegal activities, and wildlife trafficking by themselves will certainly fail to prevent future zoonotic pandemics. Governments should consider new legislation, or amending existing health laws, to include ending the sale of live and freshly killed wild birds and mammals for human consumption as a means to prevent future pandemics.

3) Adopt and implement a "One Health" Approach

These recommendations align with the 2019 Berlin Principles, which "…call for a united effort to stop diseases threatening all life on earth" and outlines steps needed to establish a global "One Health" approach to tackle zoonotic spillovers and other communicable and non-communicable health concerns. One Health is a collaborative, dynamic, and transdisciplinary approach—working across sectors at the local, regional, national, and global levels. The approach recognizes and integrates the interconnections between the health of people, animals, plants, and the foundational dependence on intact and functioning environments to achieve optimal health and well-being outcomes for all. One Health necessarily incorporates socio-economic,

socio-political, evolutionary, environmental drivers in and across all policies while considering individual attributes and behaviors enabling robust, holistic health outcomes.

4) Adopt a new pandemic prevention treaty or protocol

Multilateral discussions responding to the One Health approach already focus on pandemic preparedness, but we believe they must also address pandemic prevention. Currently no unified multilateral instrument exists that will help implement a One Health approach. It is critical to create a pathway to a new multilateral agreement whereby governments commit to all necessary actions to prevent future pathogen spillover from wildlife to humans and the emergence of future pandemics of zoonotic origin. Some have proposed amending existing treaties or giving new authorities to existing organizations. WCS believes that a new agreement needs to be established that will deal with pandemic preparedness and prevention in an integrated, trans-sectoral manner. That would entail government-led negotiations involving cooperation with the World Health Organization, World Organisation for Animal Health (OIE), UN Environment Programme, and Food and Agriculture Organization of the UN.

Additional considerations:

We have articulated our global position above, which is exclusively focused on reducing the risk of another pandemic of zoonotic origin. Within the global context, we acknowledge the following critical issues, caveats, and considerations, many of which are regionally specific:

- The sale of smoked or dried meat, skins, horns, teeth, claws, etc. does not represent the same pathogen spillover threat as the sale of live animals and fresh meat in urban markets. From a conservation perspective, the trade of these items is of concern, but at the point of sale they pose a far lower human health threat.
- The hunting, consumption, and local sharing of wildlife parts by Indigenous Peoples and other rural residents, particularly from the Arctic and boreal biomes, currently represents a low risk for zoonotic spillover, with a relative lack of high-risk factors.
- Without reducing consumer demand for live or fresh wild meat, attempts to stop the trade and sale will be difficult, and efforts to change the behavior of urban consumers of wildlife using targeted social marketing is therefore essential. Supporting the sustainable and sanitary production of poultry and farmed fish in peri-urban areas close to urban consumers will provide both acceptable and affordable alternatives to urban consumers where wildlife remains more than a very rare luxury or treat, and new job opportunities for those once engaged in the unsustainable and risky trade in wildlife for food.
- Reducing urban consumer demand and markets for wildlife as food will have a net positive impact on most Indigenous Peoples and Local Communities (IPLCs) because lower demand will reduce economic incentives to those supplying the trade, leaving more wildlife for rural families who rely on wildlife as a primary source of food and cultural identity.
- The sale of live wildlife, particularly birds and mammals, being sold as pets (whether from the wild or from wildlife farms) creates almost all the same conditions in terms of disease spillover as animals traded and marketed for human consumption.
- Fresh wild meat sourced from natural areas that are intensively managed for recreational hunting or game production, or from highly regulated wildlife ranches, is commercially available in many countries. When highly regulated and subject to strict and strictly enforced sanitary controls, and when not sold live to consumers, these pose a lower human health threat.
- The devastating human health and economic impacts of viral spillover and the subsequent COVID-19 pandemic are evident. Stopping the sale of live and fresh wild meat and their supply into urban markets, is orders of magnitude cheaper than responding to the next pandemic.