



Hear from the scientists!

Forests are more than their trees

A reminder of the essential contributions of wildlife and biodiversity to human well-being and healthy forests

Key messages

Wildlife from forests is important for the food security, nutrition, and livelihoods of many communities in tropical regions of low- and middle-income countries. Sustainable wildlife management is essential to maintain and enhance these outcomes.

‘Empty forests’ — those without wildlife — will result in a loss of ecosystem functioning and services, including pollination, seed dispersal, nutrient cycling and others.

Deforestation and forest degradation can increase the number of human-wildlife interactions, contributing to zoonotic disease outbreaks. Research on pathogen tracing and safe handling guidelines for wildlife can reduce the risk of disease transmission.

150 million+

people in low- and middle-income countries have been estimated to depend on wild meat as their primary source of meat

80%

of the planet's terrestrial species are housed in forests

70-90%

of woody species depend on vertebrate animals for seed dispersal¹

A growing research community

Studying the interactions between wildlife, people and forests is a growing field of research. Keep an eye out for some exciting **new research and innovations in 2024** and beyond including:

- Global Report on the Contribution of Forests to Food Security and Nutrition;
- Research on tracking illegal hunting with social media data;
- A novel approach to studying zoonotic diseases using a portable nanopore sequencing device;

- AI-assisted analysis of biodiversity data, combining environmental DNA (eDNA), soundscapes, and camera-trap photos to get better estimates of wildlife distribution and habits around the world;
- A set of wildlife indicators to better inform national policies, monitoring and reporting on biodiversity;
- An analysis of changes in wildmeat hunting and use by rural communities during the COVID-19 pandemic.

¹ Jordano P. 2014 Fruits and frugivory. In Seeds. Ecology and regeneration of plant communities (ed Gallagher RS), pp. 18-61. Wallingford, UK: CABI Publishing.

Several inter-related engagement areas fall under the canopy of CIFOR-ICRAF's wildlife and biodiversity work



Biodiversity indicators

CIFOR-ICRAF researchers and their partners are working to develop **biodiversity indicators and methods** that can help countries and projects more accurately and cost-effectively measure and monitor wildlife to achieve sustainable use. Parties to the CBD² may use these indicators to report on Target 5 of the GBF,³ which aims to ensure sustainable, safe and legal harvesting and trade of wild species.



Nutrition

Wildlife from forests is an important source of nutrition and food security, especially for rural and Indigenous communities in tropical regions. Despite mounting evidence of these contributions, there have been few efforts to include nutrition objectives in forest conservation and restoration programs. CIFOR-ICRAF is working to fill these gaps through, among others, the **Nutri-scapes Transformative Partnership Platform**,⁸ which explores how wild and agroforestry-based food systems can be leveraged to improve nutrition security.



Wild meat

Millions of people in tropical regions of low- and middle-income countries rely on wild meat for food security, nutrition, livelihoods, and cultural connections. However, their access to wild meat is threatened by overhunting, often driven by an increasing demand for wild meat from urban centers, where wild meat is often consumed as a luxury. Since 2011, the Bushmeat Research Initiative (BRI) has conducted policy-focused research into wild meat use in Africa, Asia, and Latin America, publishing over 300 peer-reviewed papers, and has provided recommendations to Parties of MEAs⁴ such as the CBD and the CMS.⁵ CIFOR-ICRAF is also a leading partner on the **WILDMEAT project**,⁶ which is an open-access resource providing key standardized data on wild meat use globally.



One Health

CIFOR-ICRAF has adopted a 'One Health' approach to researching zoonotic diseases, viewing human health as inseparable from wildlife and planetary health. Our scientists have researched how human activities have influenced the spread of Ebola, discovering a link between deforestation and new Ebola outbreaks in the Congo Basin through increased human-bat interactions.¹¹ CIFOR-ICRAF researchers published a systematic mapping review to understand **links** between wildlife handling and **zoonotic disease transmission**.¹² They are also working on the ground with hunters and food preparers in Cameroon on behavior strategies to reduce disease risks from handling wild meat, as well as on projects to understand wildmeat value chains in Ecuador, Peru and Columbia and beyond, seeking ways to supply sustainable wild meat while minimizing health risks.



Sustainable wildlife management

Sustainable wildlife management is necessary for the continued existence of many species, which is important in its own right, but also necessary for the future of wildlife-related livelihoods and the food security and nutrition of communities who depend on them. CIFOR-ICRAF is a key partner in the FAO-led **Sustainable Wildlife Management (SWM) programme**⁷ which works in over 15 countries to improve hunting regulations, increase the supply of sustainable meat and fish, strengthen local management capacity, and reduce the demand for wild meat in urban areas.



Livelihoods

Wildlife-related activities such as ecotourism, hunting and the sale of wild meat are important sources of livelihoods for many. In the Congo Basin, the Yangambi Engagement Landscape⁹ is working to create forest and tree-based bioeconomies that benefit nature and people, partially through partnerships with grassroots organizations like **Solutions for Wildlife Management (SoWild)**¹⁰ which aim to empower local and Indigenous communities by developing sustainable income-generating activities.

2 Convention on Biological Diversity
 3 Global Biodiversity Framework
 4 Multilateral Environmental Agreements
 5 Convention on the Conservation of Migratory Species of Wild Animals
 6 <https://www.wildmeat.org/>
 7 <https://www.swm-programme.info/>
 8 <https://www.cifor-icraf.org/nutri-scapes/>
 9 <https://www.yangambi.org/en/>
 10 <https://www.solutionsforwildlife.org/about/>

11 Olivero J, Fa JE, Farfán MÁ, Márquez AL, Real R, Juste FJ, Leendertz SA, and Nasi R. 2019. Human activities link fruit bat presence to Ebola virus disease outbreaks. *Mammal Review*, 50(1), 1–10. <https://doi.org/10.1111/mam.12173>
 12 Tumelty L, Fa JE, Coad L, Friant S, Mbane J, Cedric TK, Caleb YT, and Ickowitz A. 2023. A systematic mapping review of links between handling wild meat and zoonotic diseases. *One Health*, 17, 100637–100637. <https://doi.org/10.1016/j.onehlt.2023.100637>