# [***HOW BIODIVERSITY LOSS HARMS HUMAN HEALTH***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:688G-1V61-JCBF-S1VN-00000-00&context=1516831)

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By MJ Altman on May 18, 2023

Without nature, we are nothing. Yet humans are destroying the environment and the living creatures that call our planet home at unprecedented rates at our own peril. From increasing the threat of disease to disrupting our global food chain, ***biodiversity*** ***loss*** across the globe is threatening the very foundation of our future and the well-being of everyone, everywhere.

The devastating effects of climate change on human health are already on display: famines triggered by once-in-a-century droughts, floods, and even locust swarms; death and suffering wrought by some of the strongest hurricanes and heat waves in modern history.

But what is less well known is how ***biodiversity*** ***loss*** is harming our health and threatening the basic ecological cycles that keep us alive.

"We are out of harmony with nature," UN Secretary-General Antnio Guterres told world leaders at last year's ***Biodiversity*** COP. "Humanity has become a weapon of mass extinction. ... And ultimately, we are committing suicide by proxy."

One reporter called ***biodiversity*** ***loss*** a "mounting under-the-radar crisis," and disturbing signs are appearing all over the globe, from beaches awash in sargassum seaweed to massive fish die-offs in polluted waterways. In fact, according to the United Nations Environment Programme, ***biodiversity*** is declining faster than at any other time in human history. Right now more than 1 million species are facing extinction.

In the Amazon, a Call for One Health

There are few places on the planet where the threat of ***biodiversity*** ***loss*** is more evident than the Amazon, which is being destroyed by record levels of deforestation despite being home to one-third of the planet's species the greatest concentration of ***biodiversity*** on Earth.

Because habitat destruction brings humans and wildlife into closer contact, it dramatically increases our risk of exposure to "zoonotic spillover," which occurs when pathogens bacteria or viruses that cause disease jump from animals to humans. In fact, more than 75% of emerging infectious diseases in humans leading to millions of deaths each year are caused by pathogens that originally circulated in animals. According to some estimates, as many as 1.6 million viruses are contained within mammals and birds across the globe, some of which could be deadly if or when they become transmissible to humans.

Dr. Alessandra Nava, a veterinary scientist based in the Brazilian city of Manaus, has made the rainforest her laboratory. She has dedicated her career to collecting samples from small mammals for the Fiocruz Amazonia Biobank, a research collection she helps oversee as part of a growing effort to track the spread of zoonotic pathogens, and perhaps ultimately help predict or even prevent another pandemic.

Her work exemplifies a holistic approach, fittingly dubbed "One Health," that recognizes the indivisible link between animal, human, and environmental well-being. The UN-led initiative brings together the public health, veterinary, and environmental sectors and promotes food and water safety, nutrition, the control of zoonotic diseases, pollution management, and more.

"Nobody talked about 'One Health' 25 years ago," Dr. Nava says. "When we keep the forest intact, it serves as a buffer zone."

Protecting Nature, Just as Nature Protects Us

A higher risk of infectious outbreaks is just one of the many repercussions of ***biodiversity*** ***loss*** on human health.

By disrupting the delicate ecological balance that regulates our planet's oxygen, water, and nutrient cycles, we risk unraveling the entire food chain by harming the many different species large, small, and microscopic alike that work together to pollinate, nourish, and ultimately sustain all of the plants and animals we consume. According to the UN Food and Agriculture Organization, for example, the alarming drop in the global bee population could upend agriculture as we know it.

Species extinction and habitat destruction also mean forfeiting the untapped potential of our natural world to yield new medicines for treating health problems. In fact, 70% of all cancer drugs today are natural or bio-inspired products. And scientists are still discovering new species each year, including a fungus that can eat plastic.

Nature also provides significant and often underestimated mental health benefits for people. Dr. Maria Neira, Director of the Department of Environment, Climate Change and Health for the World Health Organization, witnessed this firsthand while working in refugee camps in Central America. There, she helped launch a project to grow traditional medicinal herbs that helped displaced families cultivate a sense of purpose, community, and beauty in an otherwise desperate situation.

"You rely on nature if you want to survive: It gives you food, it gives you water, it gives you trees that will protect the quality of the air you breathe," Dr. Neira says. "It's common sense: You need to protect what is protecting you. If we don't, we are the losers, not the planet."

Halting the '***Biodiversity*** Apocalypse'

Here's the good news: Solutions already exist to restore and preserve the ecological well-being of the planet. Experts and advocates have long championed several critical ways to protect both ***biodiversity*** and human health.

Here's what that looks like.

Protecting and restoring natural habitats

Conservation is key. Today, according to the UN, one-third of the planet's land is degraded, making it harder to feed a global population that recently surpassed 8 billion. Restoring ***biodiversity*** could also slow down climate change by storing carbon dioxide from the Earth's atmosphere. Land and ocean ecosystems currently absorb 60% of human-caused emissions.

"Coastal and marine ecosystems like mangroves, sea grasses, and wetlands store far more carbon than terrestrial forests, sometimes up to 10 times as much," says Susan Ruffo, the UN Foundation's Senior Advisor for Ocean and Climate. During hurricanes, mangroves and other natural habitats can also shield coastlines from storm surges and flooding, averting ***loss*** of life and health impacts including respiratory illnesses, post-traumatic stress disorder, and infectious outbreaks that emerge after extreme weather events.

Prioritizing island nations

Islands play an outsized role in the planet's ***biodiversity***, hosting 20% of the Earth's species despite taking up less than 4% of its surface area, according to Dr. Shobha Maharaj, a climate scientist and lead author for the latest report of the Intergovernmental Panel on Climate Change. The Caribbean, for instance, is home to 10% of the world's coral reefs and approximately 1,500 species of fish and marine mammals. These "island-endemic" species are especially vulnerable to habitat destruction, pollution, and environmental changes. In fact, Dr. Maharaj says 80% of known species extinctions have occurred on islands. Yet there is a troubling absence of data from these crucial places, Dr. Maharaj says, often as a result of inadequate investment and resources. A citizen of Trinidad and Tobago in the Caribbean, she says more people from island nations, particularly small island developing states, should be included in international decision-making to ensure that their unique insights, as well as the unique health threats they face, can inform global policy.

Supporting sustainable agriculture, fishing, shipping, and land use

Humanity's continued reliance on industrial practices such as oil drilling, fracking, mining, and factory farming that raze the landscape is destroying ecosystems while displacing, contaminating, and killing a vast number of species. A recent study found that croplands are expanding 58 times as fast today as they were 20 years ago.

Promoting sustainable use of the ocean and addressing the international shipping industry will also be crucial. Overfishing, ocean acidification, and plastic pollution are harming marine ***biodiversity*** and, in turn, reducing global fishing stocks, which 1 billion people worldwide rely on as a primary protein source.

Respecting Indigenous knowledge and rights

Indigenous people have long served as the planet's most effective environmental stewards. In fact, research confirms that when Indigenous communities control the land, ***biodiversity*** flourishes. Yet only a few countries recognize Indigenous land rights. At the same time, given their close relationship and reliance on nature, Indigenous communities are often among the first to face the consequences of ***biodiversity*** ***loss***. That's why safeguarding their land rights, traditional knowledge, and political representation will be crucial to protecting the health of the land, air, water, soil, and wildlife and, in turn, human health overall.

This includes incorporating Indigenous wisdom about the environment into policymaking decisions. In Indonesia, for example, an Indigenous community-based coastal resource management system called sasi uses a traditional calendar to determine when specific species of fish can be harvested. In doing so, fishers avoid inadvertently depleting fish stocks during essential breeding seasons and, thus, maintain local food security.

Now or Never for Nature

Protecting global ***biodiversity*** is too complex to be tackled by one country alone. Recent diplomatic breakthroughs such as the "3030" initiative to protect 30% of the Earth's land and water by 2030 could signal a turning point for global cooperation on ecological health.

But one thing is clear: Time is running out to take meaningful action on ***biodiversity*** ***loss***. In the Amazon, for example, scientists warn that cutting down too many trees could result in the entire ecosystem degrading into grasslands an irreversible tipping point that would drastically alter how the planet circulates water and oxygen, putting human health at risk.

"Without nature, we have nothing. Without nature, we are nothing," UN Secretary-General Antnio Guterres said at last year's ***Biodiversity*** COP, where he urged world leaders to rally around a plan that "beats back the ***biodiversity*** apocalypse" by tackling its root causes: unsustainable consumption and production that views ecosystems as playthings of profit.

"It's time," he declared, "to forge a peace pact with nature."

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