NEWS FROM AFRICAN PROTECTED AREAS

NAPA 206

CONSERVING NATURE IN AFRICA

THIS MONTH IN THE NAPA

EDITO

What is One Health?

By Dan Salkeld, ecologist, researcher, and writer specializing in ecology, epidemiology, and wildlife diseases.

Monkeypox virus (MPXV) circulates in wildlife and causes a nasty disease called mpox. It occurs naturally in the tropical rainforests of central, east and west Africa, and has been growing in importance in Africa since the 1980s after the cessation of smallpox vaccination programmes (smallpox and mpox are related viruses).

Mpox was first seen outside of Africa in the US in 2003, when it caused an outbreak among people who owned prairie dogs as pets – the prairie dogs acted as the sources of the zoonotic disease (transmitted from animals to humans). Since 2022, a mpox pandemic among humans has been ongoing, with human-to-human transmission occurring by sexual transmission.

And the pathogen also affects wildlife populations – for example sooty mangabeys in Taï National Park in Côte d'Ivoire. The suspected reservoir hosts are rope squirrels and the spillover – the jump of a pathogen from one species to another – may occur when mangabeys eat infected squirrels. Though the ecology of the monkeypox virus is still poorly described.

This monkeypox system beautifully illustrates many phenomena: disease spread across the wildlife-human interface; the impacts of globalization on disease emergence; the dynamic and challenging nature of disease outbreaks; and that protected areas are not exempt from these issues.

These are the topics broached in the new MOOC on the **One Health approach** which addresses the mechanics of disease transmission and epidemiology fundamentals to examine case studies of disease impacts, from humans to wildlife to ecosystems and conservation initiatives. The MOOC will describe One Health – the interdisciplinary holistic approach to understanding and optimizing health issues as a culmination of interacting animal, human and environmental conditions. We will also discuss disease ecology and the global drivers of pathogen emergence (e.g. globalization, climate change, land-use change), and disease control (e.g. vaccination, culling). And we'll travel from rabies in Ethiopian wolves to mangy vicuna in Argentina to Ebola virus in west Africa.

Enjoy the course!

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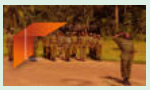
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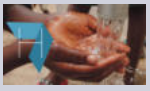
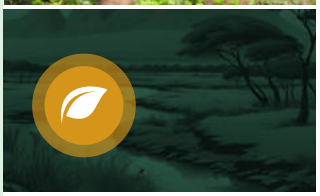

THE ONE HEALTH APPROACH

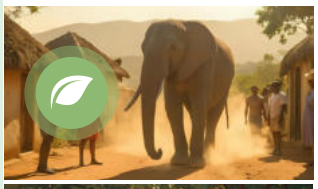
TUTORIALS
TECHNICAL TRAINING

NATURE CONSERVATION EDUCATION
For teachers, educators, parents, etc., to provide them with the tools and methods they need to teach the children in their care about nature conservation...



WORDS OF CONSERVATION
An interactive glossary with 100 essential words and expressions you need to know if you want to conserve nature and understand PA management...

MANAGEMENT PLANNING OF PROTECTED AREAS
A step-by-step guide to organising the preparation, implementation and evaluation of your protected area management plan...



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RESTORATING PROTECTED AREAS
A practical guide explaining the different steps to follow to prepare, restore and assess a damaged protected area...

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How to sustain your protected area and develop a powerful business plan...

MOOC CONSERVATION IS SUPPORTED BY THE **FONDS FRANÇAIS POUR L'ENVIRONNEMENT MONDIAL**

ON MOOC-CONSERVATION, THIS MONTH:
MOOC ONE HEALTH

NEW MOOC: THE ONE HEALTH APPROACH

This MOOC One Health provides a conceptual and theoretical foundation for understanding the interconnections between human, animal, and ecosystem health. Through illustrative case examples and multidisciplinary perspectives, learners explore how diseases emerge, spread, and influence biodiversity and societies. The course offers frameworks and analytical tools to better understand health risks at the human–animal–environment interface.

THE COURSE IS OPEN, FREE, AND CAN BE TAKEN AT YOUR OWN PACE: CLICK HERE.

ABOUT THE AUTHOR OF THE MOOC ONE HEALTH

Dan Salkeld is an ecologist and epidemiologist at Colorado State University specializing in the **One Health approach**. His work explores how diseases emerge and spread at the interface between humans, animals, and the environment, with a focus on preventing zoonotic outbreaks. Through research, teaching, and field experience, he brings a practical and interdisciplinary perspective to understanding and managing global health risks.

ONLINE CERTIFICATE IN PA CONSERVATION

Since June 2025, graduates of the Online Certificate in Conservation of PAs from West and Central Africa and Haiti can apply for a field internship to put into practice the knowledge acquired in the MOOCs.

>> How to obtain the Online certificate? Click here. <<

2026 MOOC CONSERVATION CALENDAR

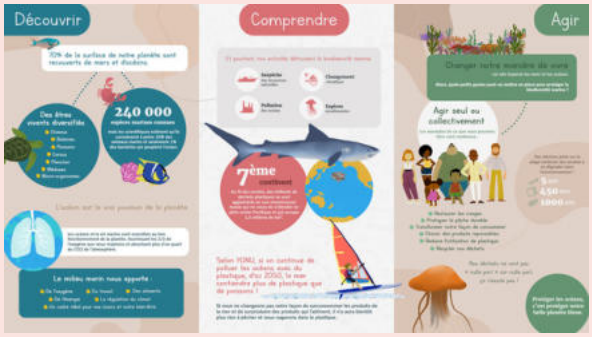
16 June: Online certificate exam for English speakers

YOUTH CONSERVATION

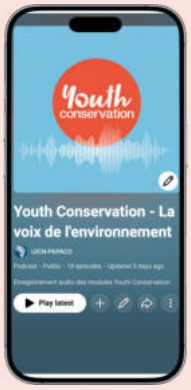
DEDICATED RESOURCES FOR CHILDREN AND YOUNG PEOPLE TO RAISE AWARENESS AND INSPIRE THEM TO TAKE ACTION!

On the Youth Conservation environmental education platform, you will find dedicated resources tailored to children and young people, available in a variety of formats to suit different needs. Everything is 100% free and open access, and the content is offered in several languages, including national and regional languages. Please feel free to share widely to help educate, raise awareness, and inspire younger generations to take action!

Tailored video learning pathways



Clear, illustrated posters



Audio content available on Spotify and YouTube

YOUTH CONSERVATION - VOICES FROM THE FIELD

MOBILIZING YOUTH TO PROTECT NATURE: THE WORK OF YVES AMANY AND THE NGO ESADEVCI IN IVORY COAST, BY OUR BENEVOLENT MENTOR

In a context marked by intensifying ecological crises—climate change, pollution, deforestation, and species loss—**environmental education is more essential than ever as a lever to prepare societies for the challenges of sustainable development.**

In Côte d'Ivoire, many civil society actors are mobilizing to raise awareness among younger generations. Among them is Yves Amany, a volunteer Youth Conservation mentor and member of the NGO Esadevci, an Ivorian organization founded in 2015 and committed to promoting environmental education.

Convinced that **schools are a key place to shape the citizens of tomorrow**, the team regularly conducts awareness-raising activities in several schools across the Abidjan district. Recently, **conferences and educational activities** were organized at the Lycée d'Enseignement Artistique and Groupe Cestia 2 EP.

These sessions are based on **an interactive approach** that encourages student participation. To make environmental issues more tangible, facilitators use a variety of teaching materials—including **posters and educational videos** from the Youth Conservation program—to illustrate the threats currently facing biodiversity, such as climate change, pollution, and species loss.

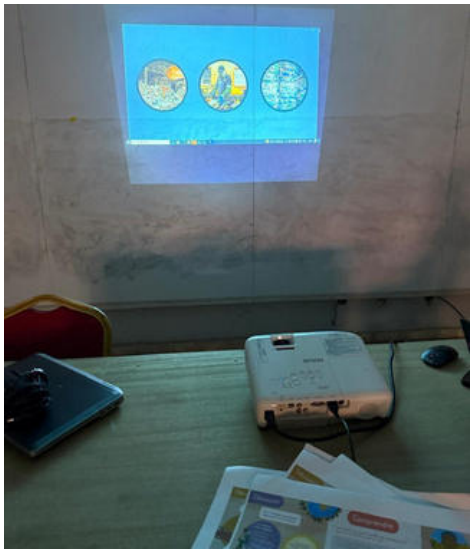
Beyond knowledge, the activities also tap into students' **creativity**. Art workshops were organized with students from the H1 stream, who created **drawings depicting endangered animals**. Through these creations, young people discover the richness of living ecosystems while becoming aware of their fragility.

Art thus becomes a powerful educational tool: **it helps spark emotion, capture attention, and embed messages about nature conservation more deeply.**

Waste management is also addressed during these activities. In several workshops, students were invited to transform used materials—plastic bottles, cardboard, and packaging—into decorative objects. This provides a concrete way to show that waste can be repurposed, while promoting simple actions such as **reducing waste and recycling.**

Through these initiatives, students who have been sensitized often become true ambassadors for the environment, sharing these messages within their families and communities.

In a world facing increasingly pressing ecological challenges, these actions are a reminder that education is one of the most powerful tools for building a sustainable future. **By planting the seeds of environmental awareness among young people, initiatives like those led by Yves Amany help foster a generation that is more attentive to protecting nature.**



ONE HEALTH

OUR NEW MOOC ON WWW.MOOC-CONSERVATION.ORG

This NAPA presents a summary of our brand-new MOOC about the concept of One Health. It is available on:

www.mooc-conservation.org

This MOOC exposes how the health of humans, animals and the environment are deeply connected.

The course opens with a striking case study from Australia, where a woman was found to have a python parasite in her brain. This unprecedented infection illustrates the essence of One Health: zoonotic transmission from animals to humans, the role of human behaviours such as foraging and food preparation, and the way parasites behave differently in real life compared to laboratory studies. Above all, it shows how human health is inseparable from the health of animals and ecosystems. This sets the stage for this course, which explores zoonoses, disease ecology, wildlife impacts, and integrated approaches to health across species and environments.

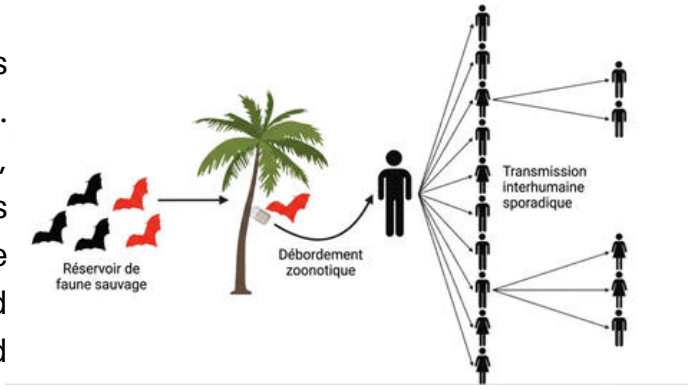
The **first module** introduces the One Health approach as an interdisciplinary framework. It emphasizes that diseases arise from the combined conditions of humans, animals, and the environment, and that solving complex health problems requires collaboration across epidemiology, ecology, veterinary medicine, public health, and social sciences.
It then reviews the main groups of pathogens: bacteria, viruses, protozoa, parasites, fungi, prions, and even transmissible cancers. The module explains how pathogens spill over into new species, sometimes as dead-end infections, sometimes with limited "stuttering" transmission, and sometimes establishing sustainable transmission, as with HIV or COVID-19. The "disease triangle" is introduced, showing how hosts, pathogens, and environmental conditions interact. The example of lions in Tanzania illustrates how co-infection with parasites, drought, and land-use practices combined to make canine distemper unusually lethal. Finally, the module defines One Health formally, as an integrated approach that balances and optimizes the health of people, animals, and ecosystems, requiring collaboration across disciplines and communities.

The **second module** explains the different ways pathogens move between hosts. Direct transmission occurs through close contact, as in rabies. Airborne transmission depends on particle size and environmental conditions, with measles and Q fever as examples. Indirect transmission involves contaminated surfaces or environments, such as common cold viruses on doorknobs or hookworms in soil.

Vehicle-borne transmission happens through food, water, or needles, illustrated by a case of tapeworm infection from raw salmon sushi. Vector-borne transmission is facilitated by arthropods like mosquitoes, ticks, fleas, and sandflies.
The module also reviews the portals of entry: skin, ingestion, inhalation, mucosal membranes, and vertical transmission to the foetus. The severity of disease often depends on the entry route, as shown by the different forms of anthrax.

In **module 3**, the focus shifts to where diseases come from. Environmental reservoirs are abiotic habitats such as soil, water, or faeces where pathogens can persist outside hosts. Anthrax spores, for example, can survive for decades in soil and re-emerge when conditions change, as seen in Siberia when thawing permafrost triggered a reindeer outbreak.
Animal reservoirs are populations that sustain pathogens long enough to infect others. Some pathogens rely on single species, such as armadillos carrying leprosy, while others persist in multi-host communities, such as rabies in domestic dogs and wildlife. Genomic epidemiology is presented as a powerful tool to identify reservoirs, trace transmission chains, and understand pathogen evolution, as demonstrated during Ebola and COVID-19.

The **fourth module** examines how pathogens affect wildlife populations and ecosystems. Diseases can reduce survival and reproduction, sometimes pushing small or stressed populations toward extinction. Domestic dogs are highlighted as reservoirs of rabies and distemper, threatening Ethiopian wolves and African wild dogs.



Amphibians have suffered catastrophic declines due to chytrid fungus, which disrupts their skin function and has caused dozens of extinctions worldwide. Disease impacts can also ripple through ecosystems: for example, plant growth influences rodent populations, which in turn affect hantavirus prevalence and human risk.
The module shows that diseases are not only a matter of individual health but can reshape communities and ecosystems, reinforcing the need for integrated One Health approaches.

In **module 5**, we explore how pathogens can reshape ecosystems beyond their immediate hosts. A striking example comes from Panama, where chytrid fungus devastated frog populations. The disappearance of frogs had cascading effects: snakes that depended on frogs as prey declined sharply, showing how a pathogen targeting one group can indirectly affect others.

The module emphasizes that diseases can alter food webs, predator–prey dynamics, and ecosystem balance. Sometimes these changes are subtle, but they can accumulate into large-scale ecological shifts. By looking at indirect impacts, One Health highlights that pathogens are not isolated problems but drivers of broader environmental change.

In **module 6**, the focus turns to people and societies. Human behaviours, livelihoods, and cultural practices strongly influence disease risks. For example, hunting, farming, and keeping domestic animals all create opportunities for zoonotic spillovers. Poverty, limited healthcare access, and economic pressures can exacerbate vulnerability.
The module also shows how conservation and health intersect. Protecting ecosystems can reduce disease risks, while degraded environments often increase them. Climate change, deforestation, and urbanization all alter disease dynamics. One Health therefore requires not only scientific collaboration but also social engagement, policy action, and community participation.
The human dimension reminds us that solutions must be adapted to local contexts. What works for rabies control in Africa, where domestic dogs are reservoirs, may not apply in North America, where wildlife plays a larger role. Inclusivity, equity, and access to healthcare are central to effective One Health strategies.

The **final module** (**7**) focuses on turning theory into practice. One Health is not just a research framework but an operational approach. Implementation requires coordination across sectors - health, agriculture, environment - and across scales, from local communities to global organizations.
Examples include vaccination campaigns for domestic dogs to control rabies, wildlife vaccination to protect endangered species, and genomic surveillance to track pathogens in real time. Success depends on collaboration, communication, and capacity building.
The module stresses that One Health contributes to sustainable development by addressing shared needs for food, water, energy, and clean air, while also tackling climate change. It is a unifying approach that mobilizes diverse actors to safeguard health across species and ecosystems.

*In a nutshell, our MOOC demonstrates that **human health, animal health, and ecosystem health are inseparable**. Pathogens move across species and environments, reservoirs sustain infections, and diseases can destabilize entire ecosystems. The One Health approach provides **a unifying framework to understand and act on these connections**, emphasizing collaboration, local adaptation, and sustainable solutions.*

Join our MOOC on

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QUOTE OF THE MONTH

"The health of humans, animals, and ecosystems is deeply interconnected: no single sector can address on its own the challenges that arise at their interface."

_William B. Karesh, a trained veterinarian specializing in wildlife health, Executive Vice President for Health and Policy at the scientific NGO EcoHealth Alliance.

READING OF THE MONTH - THE ONE HEALTH APPROACH

PRINCIPLES OF ONE HEALTH FOR A BETTER PLANET

BY BARBARA HÄSLER, ASTA TVARIJONAVICIUTE & SARA SAVIĆ (ROYAL VETERINARY COLLEGE)

The climate crisis, inequality, poverty, disease, hunger, food waste, and loss of biodiversity are all part of an extensive list of global challenges impacting us at a local level that could be addressed better by using the One Health approach. In a world where people, animals and the environment are recognized as being interconnected and interdependent, we need to work together to improve the health of people, plants, animals and ecosystems simultaneously.

One Health provides the thinking, concepts, tools, and practical approaches needed to tackle health problems in a collective and collaborative way. But what is One Health, and how can we implement it in our everyday life? This textbook provides an easy to understand, straightforward description of One Health concepts, principles and methods, structured around core competencies so that everyone can contribute to addressing today's most profound global problems more efficiently and effectively. As an entry-level learning resource for anybody with an interest in better understanding and implementing One Health, it is a comprehensive yet accessible introduction for undergraduate and postgraduate students, practitioners, decision-makers and researchers across a wide range of subject specialisms.

5 CONSERVATION HIGHLIGHTS

Rangers killed in a protected area in the DRC

An armed attack in Upemba National Park claimed the lives of several park staff members. The tragedy highlights the risks faced by rangers working in protected areas in certain parts of the world.

Biodiversity funding under pressure

Recent analyses warn of a slowdown in international conservation funding, particularly in Africa—a worrying trend as global biodiversity targets require increasing investment.

Debate over shark nets in South Africa

A proposed installation of shark nets near a tourist complex is sparking controversy, with scientists raising concerns about impacts on sharks, turtles, and rays. The debate reflects tensions between tourism, safety, and marine wildlife protection.

Wildlife revival in a Zambian park

In Sioma Ngwezi National Park, a translocation program involving antelopes, wildebeest, and zebras is gradually restoring wildlife populations in a park once heavily impacted by conflict and climate change, with young animals already observed among the new herds.

Over 315,000 protected areas and OECMs worldwide

According to the global database of protected areas published by the UNEP World Conservation Monitoring Centre, the number of protected areas and Other Effective area-based Conservation Measures continues to grow—reflecting international efforts to meet biodiversity protection targets.

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To contribute to a NAPA (article or publication on protected areas, cover photo, job offer, etc.), contact us at moocs@papaco.org.