**Virtual Knowledge Dialogue/**
**High-Level Political Forum 2022 Official Side Event**

**"Knowing Nature: new conservation technologies and knowledge systems to support the SDGs and post-2020 Global Biodiversity Framework"**

**Thursday, 7 July 2022, 8:00 – 9:30 a.m. EDT/NY Time**
**To register, please click here:**
**https://us02web.zoom.us/webinar/register/WN_oObFkCxdS9S9uUEzlJvHCA**

Since the launch of the 2030 Agenda for Sustainable Development, the Permanent Mission of France to the United Nations, International Union for Conservation of Nature (IUCN), and Wildlife Conservation Society (WCS) have been convening Knowledge Dialogues at the United Nations, to inform and engage diplomats and policy makers on the latest and best science and practice relating to nature conservation and sustainable use, demonstrating nature's fundamental importance to the attainment of the Sustainable Development Goals (SDGs).

The High-Level Political Forum will review, inter alia, SDGs 14 and 15 at its July 2022 session. Progress towards achieving both has been uneven and, in many aspects, less than encouraging. Yet, living in harmony with nature is a central objective of the 2030 Agenda for Sustainable Development. This Knowledge Dialogue/HLPF Side Event will explore a set of promising scientific and technological innovations that are contributing to assessing and conserving nature, and can potentially contribute towards enhanced success in achieving SDGs 14 and 15 and the goals and targets to be adopted as part of the post-2020 Global Biodiversity Framework under the Convention on Biological Diversity (CBD)**. The event will bring together leading scientists, technology innovators and users to illustrate how these technologies are already and have the potential to further advance global conservation goals and targets.**

Specifically, the event will examine the following promising technologies, their conservation applications to date[1], and their future potential:

- **Artificial intelligence (AI) and machine learning**, which is being used in the field to analyze information collected by wildlife conservationists, from camera trap, drone and satellite images to audio recordings. AI can learn how to identify which photos out of thousands contain rare species; or pinpoint an animal call out of hours of field

[1] T. Speaker et al. (2021), article in *Conservation Biology*, https://conbio.onlinelibrary.wiley.com/doi/epdf/10.1111/cobi.13871

recordings - hugely reducing the manual labor required to collect vital conservation data.

- N**etworked sensors**, which allow camera traps, acoustic recorders, tracking devices and other conservation hardware to connect online, forming a comprehensive picture of animal movements and behavior, becoming the 'eyes and ears' of conservationists and local communities, enabling monitoring, tracking and instant alerts about imminent threats.
- **Environmental DNA (eDNA)**, which is being used by conservationists to collect a wealth of biodiversity data quickly and easily, simply by scanning samples of water or soil. Traces of animal DNA can reveal the presence of previously unobserved species in a local area. A few small samples can contain the DNA of dozens of species and give a detailed snapshot of an ecosystem quickly and efficiently, data that can be used to make the case for greater protections for an area.
- **Drones**, including thermal drones, which have multiple conservation applications, including mapping of remote ecosystems like wetlands, identification and mapping of extremely rare species, large-scale and precision planting of trees[2], and ecosystem restoration.[3]
- **Lasers and lidar (light-detection and ranging)**, which can yield highly detailed three-dimensional visuals that conservationists can use to study landforms, vegetation, seafloors, and riverbeds. By combining that 3D data with traditional satellite and aerial imagery and field data, scientists can unlock a wealth of ecological information about a habitat, from what species it holds to how much carbon it stores.

It will also consider traditional and indigenous knowledge as a scientifically and socially grounded knowledge system well adapted to nature conservation.

The event will bring together leading innovators and skilled users to illustrate how these technologies and systems are already advancing conservation goals and how future refinements can further enhance their contributions.

## AGENDA

**Welcome Remarks** by Sonia Peña Moreno, Director, International Policy Centre, International Union for Conservation of Nature (IUCN) (confirmed)

**Introductory Remarks** by Mr. Denis Duclos, Director of International Relations of the National Museum of Natural History (MNHN), France (confirmed)

[2] https://flyingforests.co/

[3] https://wingtra.com/case_studies/ecosystem-restoration-company-uses-drones-to-bring-land-back-to-life-on-a-large-scale/#:~:text=In%20fact%2C%20drones%20provide%20a,the%20health%20of%20an%20ecosystem.

**Overview** by Talia Speaker, Research Lead, WildLabs.Net of the World Wildlife Fund (WWF) [confirmed]

**Panel**, moderated by Neville Ash, Director, UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) (confirmed)

- Artificial intelligence, machine learning and networked sensors: Dr. Emily Darling, Director of Coral Reefs, Wildlife Conservation Society (WCS), on MERMAID (Marine Ecological Research Management Aid) (confirmed)
- Environmental DNA: Dr. Hal Holmes, Conservation X Labs [confirmed]
- Ecosystem-restoration drones: Jon Miller, Chief Technology Officer, Dendra Systems [confirmed]
- TEK (Traditional Ecological Knowledge) combined with morphometrics and AI: Dr. Zoe Jewell, Co-Founder and President, Wildtrack.org [confirmed]
- Lasers and lidar: Zsófia Koma, Institute for Biodiversity and Ecosystem Dynamics (IBED), University of Amsterdam [invited]
- Tech4Nature: Deviah Aiama, Community Manager, IUCN Green List of Protected and Conserved Areas (confirmed)

**Interactive discussion:** Questions and Answers

**Wrap up** by Moderator