

# Thomas E. Lovejoy (1941–2021)

Biodiversity advocate and Amazon expert

On Christmas Day 2021, the world lost one of its most eminent biologists when Thomas E. Lovejoy died aged 80, following illness with pancreatic cancer. Lovejoy was a renowned expert on biodiversity, tropical forests and climate change who devoted much of his singular career to working in the Amazon, the world's largest rainforest. Our world and its natural denizens will be poorer for his loss.

Lovejoy was born in New York City in 1941, the only child in a prominent and politically connected family (his grandfather and father were both chief executive officers of Manhattan Life Insurance Company). Lovejoy's parents forbade television at home and so he instead became an avid reader and outdoorsman. He attended Millbrook School, a private boarding school in upstate New York, largely because it had a zoo whose animals piqued his growing interest in nature. Later, he enrolled at Yale University, earning his bachelor's degree in biology in 1964 while working as a research assistant at Yale's Peabody Museum of Natural History. He then spent a gap year exploring the Nile River region in Nubia (comprising parts of southern Egypt and northern Sudan) before commencing a PhD at Yale on the ecology of Amazon forest birds, which he completed in 1969.

After Yale, Lovejoy moved to the Washington DC area where he quickly emerged as a rare example of a new breed of scientist — one who was just as comfortable rubbing shoulders with leading politicians, celebrities and billionaires as he was at being a muddy-kneed field biologist. Over the next half a century, Lovejoy held high-level positions with WWF-US, the Smithsonian Institution, the United Nations Foundation, the H. John Heinz Foundation and George Mason University. He also served as an environmental advisor to US Presidents Reagan, Bush Sr and Clinton, and as chief biodiversity advisor to the World Bank, where he helped to improve environmental safeguards for bank-funded projects.

In every sense an international scientific leader, Lovejoy has almost too many landmarks to list individually. He made key contributions to President Carter's *Global 2000 Report*, which in 1980 raised urgent concerns about biodiversity loss, overpopulation and other environmental threats. In 1984 he proposed the first



debt-for-nature swap (where a cash-strapped country exchanges part of its foreign debt for its commitment to undertake environmental protection). Beginning with Bolivia in 1987, this innovative financial mechanism has so far leveraged more than US \$1 billion for nature conservation in about three dozen nations. Depending on who one asks, Lovejoy either coined or popularized the iconic modern term 'biodiversity'. Perhaps most remarkably, over the course of his career Lovejoy served on scores of boards and advisory panels for scientific, academic, environmental and philanthropic organizations. This gave him unmatched

influence and personal connections to a long string of global movers and shakers.

Of all of Lovejoy's accomplishments, I believe the closest to his heart was the Biological Dynamics of Forest Fragments Project (BDFFP) in central Amazonia. Teaming up with Brazilian colleagues, Lovejoy founded the BDFFP in 1979 to study how habitat fragmentation affects Amazonian birds, bats, trees, vines, insects and other elements of rainforest biodiversity. Today it is one of the world's largest and longest-running ecological experiments, spanning about 1,000 km<sup>2</sup> in area while entering its 43rd year of continuous existence. Along the way the project has been a scientific and educational boon, producing nearly 800 technical publications, 180 student theses and advanced training for more than 700 environmental professionals from across Latin America. The expansive study area of the BDFFP also has a key role in limiting deforestation associated with rapidly proliferating roads in central Amazonia.

Lovejoy and I got to know each other quite well in 1996 when I was hired as a lead researcher at the BDFFP. At that time, a portion of the project's annual funding came from the Smithsonian Tropical Research Institute in Panama, and Lovejoy occasionally collided with certain former directors of the institute who wanted him to share access to the many wealthy donors and philanthropists who had funded his work over the years. Fearing a loss of control, Lovejoy refused to turn over these benefactors, and the resulting clashes could be memorable. These were the only times I ever saw the normally buttoned-down Lovejoy lose his temper.

As a colleague, Lovejoy was charming and politically astute and a truly exceptional thinker. He was also a modish dresser (after his passing, Lovejoy's daughters discovered that he owned 362 bow ties). Among many personal honours, Lovejoy received the Tyler Prize for Environmental Achievement in 2001, the BBVA Frontiers in Ecology and Conservation Biology Award (which he and I shared equally) in 2009, and the Blue Planet Prize in 2012. In 2021 he was elected to the US National Academy of Sciences in recognition of his seminal contributions to the study of tropical ecosystems and his vital work with Brazilian researcher Carlos Nobre on Amazon tipping points.

Of all of Lovejoy's milestones, I believe the BDFFP will be the most enduring and valuable. Over the past four decades, Lovejoy used the project as a living laboratory to introduce innumerable politicians, entertainers and wealthy patrons to the Amazon rainforest. Prominent visitors such as Al Gore, Tom Cruise and Olivia Newton-John ended their tour of the study area with a stay at Camp 41, the project's best-known field camp, where they enjoyed an evening with a caipirinha (potent Brazilian cocktail) in one hand and a plate of tambaqui (delectable Amazonian fish) in the other. It was a transformative experience

for many visitors, who slept in hammocks under a glimmering night sky free from the polluting glare of any city. On waking, some were lucky enough to discover softball-sized footprints where a curious jaguar had recently stalked through the camp.

Will Lovejoy's trailblazing research project survive without him? In 2018 he helped to establish the Amazon Biodiversity Center, a nongovernmental group in the USA devoted to funding the BDFFP. ForestGEO, a Smithsonian Institution initiative that coordinates long-term research on forest-plot networks, will also provide some continuing support. The

amount and reliability of such monies are uncertain, however, without Lovejoy to lead the fundraising. In my view, the most important way we could honour Tom Lovejoy is to ensure the long-term survival of his remarkable legacy in the Amazon. □

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