

New study shows how AI can help us better understand global threats to wildlife

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A [new study published](#) in *Conservation Biology* by the University of Sussex shows how researchers are using AI technology and social media to help identify global threats to wildlife.

Researchers at Sussex have used AI to access online records from Facebook, X/Twitter, Google, and Bing, to map the global extent of threats to [bats](#) from hunting and trade.

The new study demonstrates how [social media](#) and online content generated by news outlets and the public, can help to increase our understanding of threats to wildlife across the world—and refocus conservation efforts.

The Sussex team identified 22 countries involved in bat exploitation, covering both hunting and trade, that had not previously been identified by traditional academic research, including Bahrain, Spain, Sri Lanka, New Zealand and Singapore, which had the highest number of new records.

The team developed an automated system which allowed them to conduct large scale searches across multiple platforms. Using AI, they filtered tens of thousands of results to find [relevant data](#). Any observations or anecdotes of bat exploitation were used to develop a global database of "bat exploitation records."

To better understand threats to bats, the team compared online records with academic records, knowing that data and information shared online is influenced by factors including global events and where people have access to the internet.

Lead author, Bronwen Hunter at the University of Sussex says, "Using

data sources like this provides a low-cost way to help us understand threats to wildlife globally. AI allowed us to access the data at scale and complete a global analysis, which isn't something we would have been able to achieve using traditional field studies. Another benefit of using online data combined with automated data filtering is that more information can be obtained in real-time, ensuring that we can keep up to date with current threats."

Bats make up about a fifth of all mammal species globally, and have a vital role in ecosystems. They are pollinators, disperse seeds and help with pest control.

Over half of bat species are considered as either "Threatened with Extinction" or "Data Deficient" by the International Union for Nature Conservation (IUCN). Much less is known about the impact of hunting and trade of bats compared with other mammals. However, their very low reproductive rate and longevity—usually 10–30 years—makes them likely to be vulnerable on a scale more commonly associated with much larger mammals such as chimpanzees, bears or lions.

Being able to expand knowledge of bat exploitation using crowd-sourced digital records can help identify bat populations most in need of conservation action, or feed into global assessments, such as the IUCN Red List.

Prof. Fiona Mathews at the University of Sussex, who leads the research group says, "The hunting and sale of bats for meat was highlighted during the COVID pandemic. But there is also a worrying trade of bats as curios or medicines. It is vital that we understand where bat exploitation is happening, and this has been very difficult historically because it often happens in remote places, and illicit trade can be hidden. This research shows that posts on the internet and social media can provide vital evidence, that can now be followed up on the ground."

This research highlights the value of contributions from social media and online platforms and argues that they could be used for future conservation decision making. Using online data combined with current research studies provides a more complete picture of the global extent of bat exploitation.

Kit Stoner, CEO at The Bat Conservation Trust says, "Unsustainable wildlife trade can pose a threat to bat species being hunted or harvested. Often, species are sold much further afield from where they are found. This trade can undermine bat conservation directly and pose a wider threat in terms of increasing the risk of zoonosis. We welcome the results of this research in providing a possible new low-cost way of detecting trade in bats which could offer a way of monitoring how this wildlife [trade](#) operates and examining ways of disrupting it."

More information: Sara Bronwen Hunter et al, Exploring the potential for online data sources to enhance species threat mapping through the case study of global bat exploitation, *Conservation Biology* (2024). [DOI: 10.1111/cobi.14242](https://doi.org/10.1111/cobi.14242)

Provided by University of Sussex

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