

Study yields valuable insights on underreporting in international wildlife trade

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Researchers from the National University of Singapore (NUS) have established several key trends in wildlife trade following an in-depth study on international wildlife trade data. The findings shed light on the market forces driving the movement of wildlife products around the globe, and indicate our understanding of illegal and legal wildlife trade is biased towards certain species and regions of the globe. The findings also implied that wildlife trade networks may be more complicated than previously thought, undermining enforcement and conservation efforts. Regulatory authorities, such as The Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES), can leverage this information to improve existing conservation efforts and policies.

Mr William Symes, a Ph.D. student from the Department of Biological Sciences at the NUS Faculty of Science, who led the study, said, "Increasing our understanding of the drivers of international wildlife trade is critical as unsustainable harvesting of wildlife can lead to population decline and the extinction of species. While there is currently a database of legal trade in restricted species, it relies on the submission of annual reports which can be undermined by weak domestic legislation and governance hence we are not getting a complete picture of the industry."

Using a novel gravity-underreporting model, the researchers carried out a comprehensive analysis and comparison of over 370,000 records of [wildlife](#) trade between 2004 and 2013 across three groups – mammals, avian and reptiles. The key findings established from the analysis include:

- Illegal products entering the USA come predominantly from Canada, Mexico and China
- Illegal products entering the USA were less likely to be intercepted if they were coming from Africa, central Asia, Eastern Europe and Pacific Island states suggesting the

existence of complex trade networks and the potential for the laundering of illegal products through legal markets

- Different drivers and markets exist for mammalian, avian and reptilian trade, suggesting a nuanced approach to regulation and monitoring, which accounts for these differences, is required for effective [conservation](#).
- CITES success depends on products considered, and trade in less well studied groups such as orchids, timber or corals are likely to be less well regulated by CITES.

Using the insights generated as a guide, [regulatory authorities](#) can allot conservation resources more efficiently. "The trends we have established in this study highlight the need for regulatory bodies to look beyond the existing databases and take into account the uncertainty surrounding our current understanding of [wildlife trade](#) in their [conservation efforts](#). For example, capacity building to improve our ability to regulate and monitor trade in less well studied species and in countries with higher levels of corruption are essential if we want to prevent [trade](#) driven extinctions globally," explained Assistant Professor Roman Carrasco from the Department of Biological Sciences at the NUS Faculty of Science, and co-author of the study.

More information: William S. Symes et al. The gravity of wildlife trade, *Biological Conservation* (2017). [DOI: 10.1016/j.biocon.2017.11.007](https://doi.org/10.1016/j.biocon.2017.11.007)

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