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The Global Threat To Biodiversity From  
Wildlife Trade – A Major 21<sup>st</sup> Century Challenge



# The Global Threat To Biodiversity From Wildlife Trade – A Major 21st Century Challenge

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The illegal and unsustainable wildlife trade is a major and growing threat to biodiversity, estimated to be worth [\\$8–10 billion](#) (excluding fish and timber), making it one of the highest valued illicit trade sectors in the world. This is recognised by many governments as a major **threat to biodiversity**. For example, [Tanzanian government statistics](#) show a 60% decline in elephant numbers between 2009 and 2014, attributed to poaching for ivory. The western black rhino was [officially declared extinct](#) due to poaching in 2011. China's pangolin population has declined by [an estimated 94%](#) since the 1960s due to trade for consumption, while international trade in its bile and paws has contributed to a [global decline of 49%](#) in Asiatic black bear populations. The UK government has taken a [global lead](#) in the international response to this threat, including hosting the **2014 London Declaration** on wildlife trade, signed by 46 countries.

Our programme will address this huge societal challenge by making a **step change in scientific understanding** of how to tackle this threat, and by providing an **international hub** for interdisciplinary research into the illegal and unsustainable wildlife trade, which makes real-world impact in reducing this threat to the survival of wildlife species. This research will support efforts to change people's relationships with wildlife onto a new path; subverting the predictable continuation of wildlife decline as a consequence of human progress, towards a new and more sustainable future.



# The Oxford Martin School's Programme on the Illegal Wildlife Trade

This new four year programme of research to tackle the demand for illegal and unsustainable wildlife products will tackle the overarching research question: *"How can consumer behaviour be changed, in order to reduce trade in illegal wildlife products?"*

## Our objectives are:

- To develop new frameworks, approaches and methods for understanding consumer preferences and motivations for using illegal wildlife products;
- To explore the dynamics of physical and online markets for selected illegal wildlife products, as scientific progress changes the landscape within which these markets operate;
- To test innovative interventions to change consumer behaviour for selected illegal wildlife products, and evaluate their impact on consumption of these products;
- To provide tools and guidance for those aiming to intervene effectively in illegal wildlife trade markets through changing consumer behaviour.

*Work packages:*

### **Work Package 1: understanding consumer and market characteristics:**

for selected wildlife products; consumer motivations and behaviours, market magnitudes and dynamics, and interactions between product types (legal and illegal, substitutes and complements).

**Work Package 2: influencing the system:** developing, implementing and evaluating specific interventions aiming to change consumer behaviour, including both modelling and field testing of selected interventions.

**Work Package 3: developing tools and guidance:** translating our research into impact. We will develop generally applicable and user-friendly tools and guidance, in collaboration with, and for ongoing use by, conservation practitioners. These include tools for surveillance and tracking of online wildlife sales, guidance manuals for collection of information on wildlife consumption, and for implementing an evaluation framework for wildlife trade interventions.



Frameworks:

**Framework 1: methods for characterising online trade** in wildlife products, producing tools that can track changes in this trade as traders and consumers respond to technological advances and increased online enforcement.

*Researchers: Dr Joss Wright, Dr Dave Roberts, Dr Julio-Hernandez-Castro*

*Collaborating organisations: Saiga Conservation Alliance*

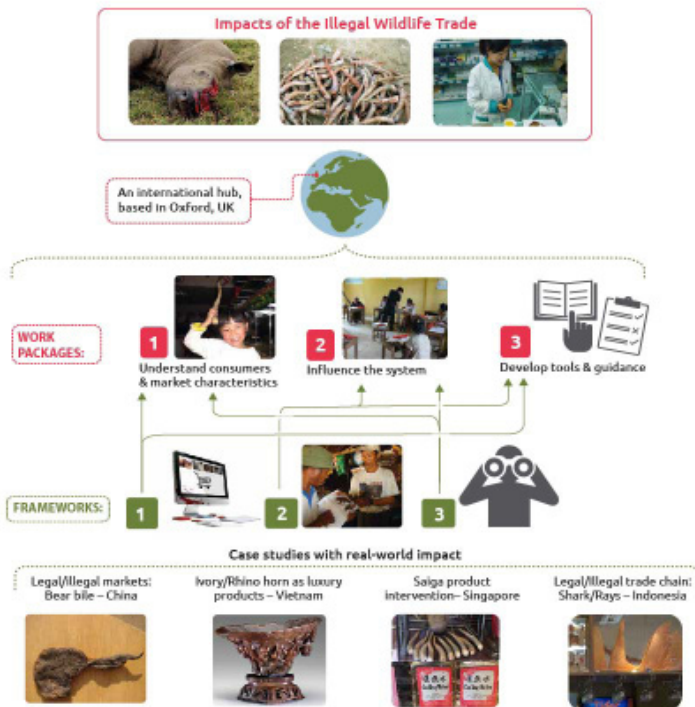
**Framework 2: methods for intervening effectively.** We use the Medical Research Council's revised framework for developing and evaluating complex public health interventions to guide approaches to intervention design, implementation and evaluation.

*Researcher: TBA (Centre for Evidence-based Intervention)*

**Framework 3: methods for gaining a predictive understanding,** using scenario analysis and participatory modelling to better understand the responses of consumers and markets to potential interventions, and hence plan effectively for future actions.

*Researchers: Michael 't Sas Rolfes, Nafeesa Esmail*

*Collaborating organisations: South African National Biodiversity Institute (SANBI), University of the Witwatersrand*



*Seed case studies: used for guiding programmatic frameworks and components, however there is scope for other collaborative studies to be included across different taxa and regions:*

**Case Study 1: Disentangling the interacting legal and illegal markets for bear bile in China.** This case study includes both an on-the-ground study of the consumers and market for bear bile within China and an exploration of the online trade in bear products. It uses of a range of methods to describe and understand the complex, interacting markets for illegal and legal wildlife products. It will address the following questions:

- What is the type and scale of the market for wild bile?
- What is the type and scale of the market for farmed bile?
- What are the interactions between these two markets?

The case study will involve a survey targeted at key demographic groups, direct observations and the collation and use of secondary information for context. It will provide evidence for a report to the World Conservation Congress in 2020, following on from a recommendation passed in 2012 requiring this research to be carried out.

*Researcher: Dr Amy Hinsley*

*Collaborators: Dr Brendan Moyle, Dr Dave Garshelis, Prof Vincent Nijman, Dr David Roberts, Dr Julio Hernandez Castro*

*Collaborating organisations: IUCN Bear Specialist Group, State Forestry Administration, China*

**Case Study 2: Consumer relationships with ivory and rhino horn as luxury products in Viet Nam.** While in the past the main markets for rhino horn and ivory were thought to be in China, it is now widely traded in Viet Nam, with rhino horn having luxury status as a health tonic for wealthy businessmen, while both are sold as artefacts such as bangles and carved pieces. Despite substantial investment of time and resources into tackling the demand for wildlife products in Viet Nam, there is still a lack of evidence of the effectiveness of different approaches, and limited understanding of the demographics and motivations of consumers. The case study will fill this gap, answering the following questions, using methods from marketing research to understand particularly the role of wildlife products as luxury brands:

- What is the prevalence of consumption of rhino horn and ivory within an urban affluent demographic group, and through online sales?
- What relationships do people have with rhino horn and ivory, compared to other luxury products?
- What specific interventions are best suited to changing consumer behaviour?

*Researcher: Vian Sharif*

*Collaborator: Dr Andreas Eisengerich*



**Case Study 3: Influencing sales of saiga products in Singapore.** The aim of this case study is to demonstrate the power of the Medical Research Council's intervention evaluation framework. The case study will enable us quantitatively to attribute impact to an intervention, by implementing an intervention based on a foundation of evidence, and then evaluating its impact. This gives the case study strong generalisability both within conservation and more broadly in the field of social policy. We will answer the following questions:

- How effective have wildlife demand reduction campaigns been in changing consumer behaviour?
- What is the profile and characteristics of saiga product consumers in Singapore, and how do they respond to different approaches to changing behaviour?
- Implementing an actual intervention, what measurable impact has this intervention had on consumer demand for saiga products?

*Researcher: Hunter Doughty*

*Collaborators: Dr Roopali Raghaven, Dr Janice Lee, Dr Roman Carrasco*

*Collaborating organisations: Wildlife Reserves Singapore, Nanyang Technological University, National University Singapore*

#### **Case Study 4: Understanding shark and ray trade chains in Indonesia.**

Indonesia is the world's largest shark and ray fishery, but the nature and magnitude of the domestic and international trade chains are poorly understood. This case study involves understanding different stages of Indonesia's shark and ray trade chain, from exploitation to consumption, and including both legal and illegal trade, to inform conservation interventions and assess impacts. Current research questions include:

- What is the magnitude of illegal shark and ray trade in Indonesia, and how has illegal trade changed as a result of law enforcement?
- Who are the key consumers of shark and ray products, in Indonesia and internationally?
- What are consumer characteristics and motivations, and how can we design behaviour change interventions to encourage responsible consumption?

Intelligence and law enforcement data will be collected and collated, and data will be collated and used to estimate the total size of the illegal trade network and volumes of trade. Pertinent consumer groups will be identified and profiled, with data collected on their characteristics and motivations. Lessons learned from other demand influencing campaigns will be used to inform conservation strategy development.

*Collaborators: Dwi Adhiasto, Hollie Booth, Sofia Mardiah, Yunita Setyorini, Nuruliawati Yuwono*

*Collaborating organisation: Wildlife Conservation Society Indonesia*



## Making A Difference Through Collaboration

Our programme is collaborative and interdisciplinary. It uses theory and methods from public health, computer science, economics, psychology, ecology and sociology to address the pressing 21st century issue of illegal and unsustainable consumption of wildlife products. In so doing, it will advance these disciplines as well as creating a new research foundation within conservation science. We also aim to have real-world impact, changing consumer behaviour on the ground in collaboration with wildlife conservation practitioners.

We will be supported and guided by an Internal Advisory Committee, an External Advisory committee and through developing strong links with collaborators around the world. Our active network will connect researchers and practitioners worldwide, supported by a website, policy briefs, workshops, symposia, visiting fellowships and e-newsletters. Our open and inclusive approach and our intensive engagement with a range of stakeholders (governments, NGOs, international conventions and businesses), will spin off new and exciting research collaborations within Oxford and with collaborators worldwide.

*For further information, please contact Research and Programme Coordinator, Nafeesa Esmail:*

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