



HUMAN- WILDLIFE CONFLICT IN THE CONTEXT OF THE CONVENTION ON BIOLOGICAL DIVERSITY'S GLOBAL BIODIVERSITY FRAMEWORK

Wildlife Practice, June 2021

Summary

Addressing human-wildlife conflict (HWC) within the Targets of the Global Biodiversity Framework (GBF) is essential if the Goals of the GBF are to be achieved. HWC has enormous impacts on both people and biodiversity, and is a serious global threat to sustainable development, food security and biodiversity conservation.

To avoid unintended consequences and ensure early measurability, we propose this formulation of text: *“by 2030 ... reduce human wildlife conflict including human deaths by 50% whilst maintaining viable wildlife populations”*

We also propose the use by Parties of an HWC Index that would enable the effective monitoring of progress towards the target.

What is human wildlife conflict?

Human-wildlife conflict (HWC) refers to struggles that arise when wildlife poses actual or perceived direct, recurring threats to human interests or needs, often leading to disagreements between groups of people and negative impacts on people and/or wildlife.¹ HWC includes consumption of crops by wild herbivores, killing of livestock by wild predators, damage to infrastructure and equipment (houses, water storage facilities) and can involve human injury and death. Wildlife is often killed in retaliation, in defense, or to prevent future losses, with body parts often entering illegal wildlife trade chains. It is a global issue of concern, but people in some parts of the world are more significantly affected than others, with some experiencing negative impacts on production and livelihoods, and a decreased quality of life. At the same time, as history has shown us, HWC can lead to the local or complete extinction of species, such as wolves in Europe, Balinese and Java tigers in Indonesia, and thylacine in Tasmania, Australia.

HWC is an ancient problem – the scarecrow has been used for over 2,500 years – but in an ever-more crowded world, as wildlife habitats are increasingly converted to human uses, and wildlife movement corridors narrowed or severed by infrastructure and other developments, wildlife are forced to retreat into shrinking and fragmented habitats, it is increasingly imperative to employ holistic and integrated approaches to effectively manage the human wildlife interface. Without such solutions, the expected trajectory most often seen is for HWC to increase to a peak, then plummet to zero as the wildlife are removed.

Human-wildlife coexistence describes a dynamic state in which the interests of both humans and wildlife are generally satisfied. Coexistence may still contain some level of impact to both and is characterised by a level of tolerance on the human side. It is possible to achieve coexistence even with large, physically or mentally intimidating species, for example in Pobitora Assam where

¹ IUCN HWC Task Force 2020

100 rhinos live within an area of 15 km², regularly moving into human occupied areas but with tolerance exhibited on both sides, resulting in very few conflict incidents.

As we enter ever further into the Anthropocene, where human activities dominate Earth's ecosystems, the challenge of our time will be moving from a global system that exacerbates HWC to one that fosters and supports human-wildlife coexistence.

Scale of the problem

Available statistics demonstrate the significant multi-dimensional impacts of HWC, even though global data are as of yet fragmented and incomplete.

Impacts on biodiversity:

- Conflict-related killing affects more than 75% of the world's felid species for example,
 - Although cheetahs seldom prey on livestock, 48% of cheetah mortality in Namibia has been attributed to retaliatory killing
 - Retaliatory killing by people makes up 50% of tiger mortality
 - Snow leopards increasingly come into conflict with herders due to livestock predation. Of all snow leopards killed worldwide, 55% resulted from HWC
- In several European countries, the wolf had been eradicated due to HWC. Wolf populations are now making a comeback, but because of deep-rooted intolerance, they are still illegally killed
- The Mediterranean monk seal, the only seal species in the region, is under threat, 20% of the species' mortality is attributed to deliberate killing by fishers who see them as competitors

Impacts on vulnerable and already marginalised communities:

- Farmers can lose up to 100% of their annual harvest of staple crops to elephants, leading to food insecurity.
- In 2019, 121 people and 405 wild elephants were killed in Sri Lanka and in Tanzania on average 60 people and 150 African lions² lose their lives annually in HWC.
- The food security of a wider region can be jeopardised when damage by wildlife adds to other uncontrollable devastation caused by drought, crop failure, or war. This was the case in north-east Nigeria in October 2020, when a herd of 250 elephants damaged the crops of 8,000 internally displaced people just before the harvest.

Impacts on economies:

- In Sabah, Malaysia, Bornean elephants cause large-scale damage to oil palm plantations, reducing productivity and risking worker safety. The company Sabah Softwoods Berhad reported annual losses of US\$145,000 (US\$426/km²) due to elephant damage.
- Aquaculture producers of shellfish and finfish estimate losses of up to 10% caused by marine mammals. Artisanal fishers suffer significant losses to marine predators, for example, in Peru and Uruguay, where southern sea lions forage in the shallow waters of coastal fishery grounds, in more than half of all coastal fishing activities, researchers observed predation of catches by sea lions that resulted in losses of up to 46% and made artisanal fishing unprofitable
- In Europe, the average annual compensation for all livestock damage by carnivores between 2005 and 2012 was estimated at US\$41.38 million

These impacts of HWC on wildlife, people and economies greatly impact the acceptance and thus success of biodiversity conservation programmes. In some geographies conflicts are highly politicised with even very limited conflict events leading to major retaliation, and in some cases near eradication of conflict causing wildlife.

² Includes ritual and retaliatory killing

Climate change is expected to further exacerbate HWC in many regions, creating greater competition between humans and wildlife for ever scarcer resources, including water.

Last but not least, as natural habitats continue to be lost and further fragmented, the human–wildlife interface is continually expanding, and this interface represents the front line of potential for the spillover of zoonotic diseases from wildlife to humans and vice versa. Ensuring effective coexistence within these human-wildlife interface areas will be crucial to limit risks of the next epidemic or pandemic, with potentially catastrophic impacts on people, economies and biodiversity, as so vividly demonstrated by COVID-19.

What is needed?

HWC must be recognized as a global threat to sustainable development, food security and biodiversity conservation, and holistic and integrated responses should be developed at scale to minimize and manage HWC and enable coexistence between people and wildlife. Achieving this will require collective and collaborative action across communities, governments, civil society organizations, donor agencies and the corporate world to co-create and implement solutions supported by systematically collected and credible evidence.

Why is this relevant to the GBF?

The inclusion of an appropriately phrased target on HWC in the CBD GBF will commit Parties to implement integrated and holistic approaches to manage HWC.

Without such approaches on HWC, it will not be possible to achieve either the Vision of “*living in harmony with nature*,” nor Goal A of the GBF: “... *healthy and resilient populations of all species while reducing the number of species that are threatened by [X%] and maintaining genetic diversity*” nor Goal B of the GBF, that “*nature’s contributions to people have been valued, maintained or enhanced*”. In fact, without holistic measures to address HWC, we could see the opposite of Goal B unfolding across the planet.

Thus the inclusion of HWC in the Targets of the GBF is essential to the overall achievement of its Vision and Goals.

Suggested text

Currently HWC is included in the GBF in Target 3 as follows: “*By 2030 .. reduce human-wildlife conflict by [X%]*”.

Reflecting on potential unintended consequences of such language, it’s important to recollect that one of the perceived ‘easiest’ ways to reduce HWC is to simply kill or remove wildlife. This is an approach regularly employed today. Therefore we would strongly encourage that this language is strengthened by clarifying that conflict should only be reduced ‘whilst maintaining viable wildlife populations’.

We would recommend 50% as the amount that HWC should be reduced by 2030. Whilst its clear that in many countries baselines still need to be established, once those baselines are available, given the acute impacts of HWC on humans and wildlife, and the crucial importance of human wildlife coexistence to achieve both Goal A and B of the GBF, we would suggest a 50% reduction is the minimum bar to aim for by 2030.

Last but not least, we propose that the target include specific reference to the reduction of human deaths by 50%. Human deaths are a particularly acute and tragic aspect of conflict which deserves a dedicated focus, and whilst many Parties have yet to establish holistic monitoring systems for measuring HWC, human deaths due to conflict are routinely monitored, thus this particular aspect of conflict should be already measurable by Parties.

Thus our suggested text for HWC language in the GBF would be “***by 2030 ... reduce human wildlife conflict including human deaths by 50% whilst mainining viable wildlife populations.***”

How can HWC be measured?

Whilst there is currently no global database on HWC, there are many national and some regional databases, and HWC monitoring is becoming more sophisticated and automated, for example through the use of tools like SMART, the [Spatial Monitoring and Reporting Tool](#).

Building on this, there is potential for use by Parties of a composite HWC Index which could ultimately be tracked at global level. Initial steps to define such an Index have been taken by WWF experts and refined through testing with both simulated and real landscape examples³. The suggested index of HWC can serve as a mechanism to aggregate national HWC accounts and compare across disparate global HWC contexts. The aims of the mechanism are to enable understanding of the state of HWC in different jurisdictions, to be applicable and comparable over different geographic scales, to be easy to communicate, and to retain key detail while simplifying a complex situation. At the base level, the index could consist of a range of indicators representing the frequency, severity, and magnitude of HWC incidents in a landscape. These indicators are split among three different dimensions of the problem:

- i. the human dimension – the direct effects of HWC on humans such as injuries and deaths;
- ii. the economic dimension – the economic effects of HWC such as damage to crops, killing of livestock, or damage to equipment; and
- iii. the wildlife dimension – the level of threat the conflict poses to the wildlife species / species groups involved

In addition, the context in which HWC occurs will be covered, including the presence / absence / effectiveness of compensation systems, the attitudes of the local community to wildlife, and a range of other indicators specific to the local landscape context.

It will be key to ensure data collection methods are consistent to make full use of the index and have a clearer comparative understanding of HWC.

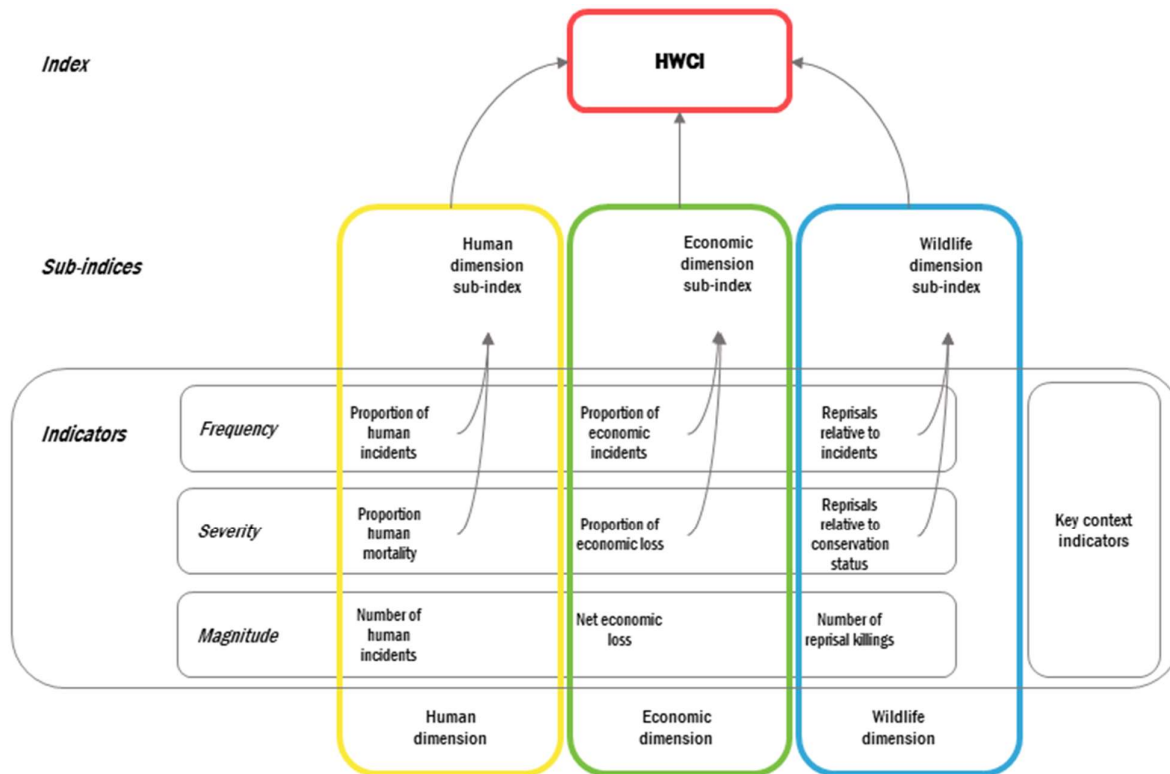


Figure 1: Schematic diagram of a potential index of human wildlife conflict. The foundation of the index is the indicators (large grey box). Indicators relate to three dimensions: human, economic and wildlife (yellow, green, and blue loops). Within each dimension, indicators represent the three axes of HWC: severity, frequency, and magnitude. Frequency and severity indicators are combined to produce sub-indices, which in turn are combined into the index of human-wildlife conflict.

³ Ryan and Brooks (in prep): Developing a Human Wildlife Conflict Index. Contact abrooks@wwf-tigers.org

Use of an Index such as this by Parties would enable the consistent compilation of data that would allow for the establishment of a baseline, and for progress on this Target to be measured over time across multiple levels – from an individual landscape, aggregated to national, regional and global levels.

Indicator and milestones towards the achievement of the target

As outlined above, we propose that a headline indicator for the HWC target would be: Human Wildlife Conflict Index (*in prep*)

WWF would also propose the below steps or milestones that Parties could take to aid implementation of the target:

- By 2022, a global human wildlife conflict index is fully developed and adopted for use
- By 2023, a global baseline of the HWC index has been established
- By 2025 parties have adopted a whole-of government approach to increase integration, coordination and capacity for a system-wide shift in HWC management toward national co-existence, including appointing government-wide Chief Co-existence Officers
- By 2025, global standards for HWC planning and management are adopted by governments, the corporate sector and civil society.