POLICY BRIEF

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Social Values are Crucial for Monitoring Trends in Human-Wildlife Conflict

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Executive Summary

Target 4 of the Convention on Biological Diversity's First Draft of the Post-2020 Global Biodiversity Framework aims to manage human-wildlife interactions and reduce human-wildlife conflict. However, the Convention's proposed Indicator 4.0.1 for monitoring progress toward this goal lacks the capacity to capture the social, cultural, and political aspects of this complex issue. Building on the IUCN SSC Human-Wildlife Conflict and Coexistence Specialist Group's proposed revisions to the indicator, we recommend that the Convention adopt the Global Wildlife Values Survey (GWVS) assessment as a basis for monitoring trends in "human willingness to coexist with wildlife" to inform progress on Target 4 achievement in the next decade. GWVS findings show that people's values toward wildlife, a key component of biodiversity conservation, vary greatly across countries. Geographic patterns in wildlife values align with broader public concern about global wildlife issues, such as poaching and illegal wildlife trade, which will be critical for biodiversity conservation efforts. Additionally, findings have practical applications for conflict management, showing, for example, a high correlation between wildlife values and public perceptions of the acceptability of lethal control in response to various human-wildlife conflict scenarios. The GWVS provides a unique opportunity for the Convention to adopt robust social science methods for monitoring national, regional, and global trends in factors affecting the social and cultural context of biodiversity conservation.

Background

We welcome the ambitious mission in the Convention on Biological Diversity's (CBD) First Draft of the Post-2020 Global Biodiversity Framework to "take urgent action across society to conserve and sustainably use biodiversity and ensure the fair and equitable sharing of benefits from the use of genetic resources, to put biodiversity on a path to recovery by 2030 for the benefit of planet and people" (CBD 2021a). In particular, we welcome the proposed Target 4, which focuses on effective management and reduction of human-wildlife conflict, stating actions should be taken to "enable the recovery and conservation of species and the genetic diversity of wild and domesticated species, including through ex situ conservation, and effectively manage human-wildlife interactions to avoid or reduce human-wildlife conflict."

Under Target 4, the CBD has proposed the following headline indicator to monitor progress toward reducing

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human-wildlife conflict: "proportion of species populations that are affected by human wildlife conflict" (Indicator 4.0.1). However, the central focus on species presents a missed opportunity to capture the important social context that drives people's interactions with wildlife. The IUCN SSC Human-Wildlife Conflict and Coexistence Specialist Group (HWCCSG) argues that this indicator be revised to "trends in effective and sustainable management of human-wildlife conflict and coexistence," which would more suitably capture the social, cultural, and political facets of human-wildlife conflict and their evolution over time (IUCN SSC HWCCSG 2022). The HWCCSG further outlines how this indicator could be disaggregated into the following components: (1) incidences of negative impacts, (2) human willingness to coexist with wildlife, and (3) the quality of processes of engagement, policy, and capacity.

The first component of HWCCSG's proposed Indicator 4.0.1 is the most straightforward and is already being adopted and monitored by many parties. The second and third components, however, require social science information that, to date, has been underutilized by parties, largely due to limited knowledge and capacity to implement the necessary methods of data collection and analysis in this field. There is thus an urgent need for the CBD to adopt robust and appropriate social science methods for Indicator 4.0.1 that can monitor important trends in people's willingness to coexist with wildlife.

The Global Wildlife Values Survey

Values represent the fundamental goals and principles that guide human behavior (Schwartz 2012), including important environmental decisions that impact biodiversity conservation. The importance of biodiversity values across all actors is emphasized throughout the Post-2020 Global Biodiversity Framework, including its 2050 Vision (§9), Target 14 (§12.2), and Outreach, Awareness and Uptake strategies (§21a). Further, a recent report by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) declared that the path toward biodiversity recovery can be attained through a better understanding of social values, recognizing diverse values in policy-making and structuring strategies around leverage points that can explicitly target social values (IPBES 2022).

The Global Wildlife Values Survey (GWVS) is a collaborative effort among more than 40 international scientists and practitioners to create the first global representation of social values that drive human behaviors—including individual and collective actions, policies, and institutions—and people's relationships

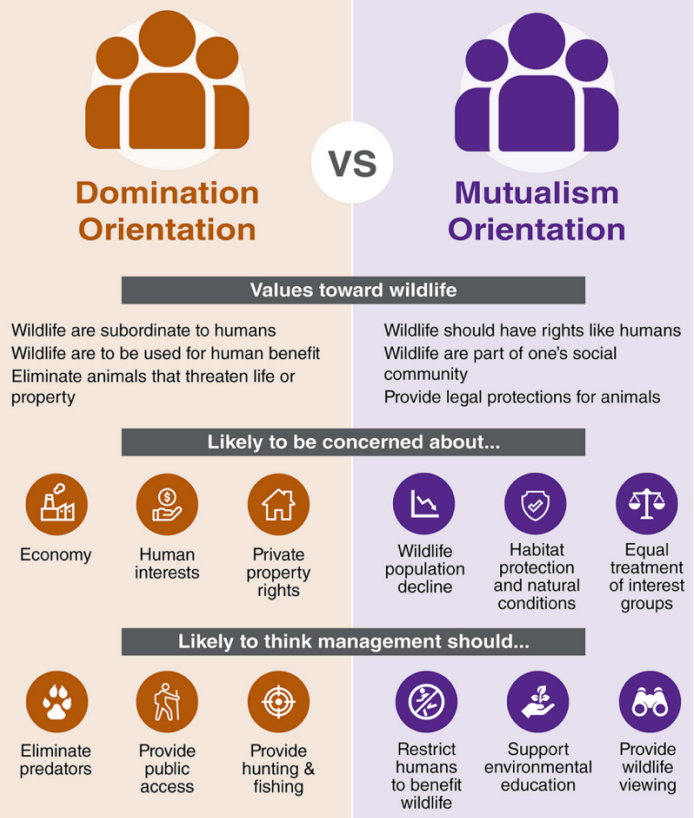

FIGURE 1. Overview of wildlife value dimensions.
Source: Manfredo et al. (2021a)

with wildlife and nature. Introduced in 2021, the GWVS currently has data for over 20,000 residents from 31 countries across Europe and the Americas, as well as Australia, China, and South Africa. The survey measures two primary value dimensions—*mutualism* (seeing wildlife as part of one's social community) and *domination* (seeing wildlife as a resource for human use)—through a series of 19 items scored on a scale of 1 (strongly disagree) to 7 (strongly agree) with high internal consistency and reliability across cultures (Manfredo et al. 2009, 2020). These two dimensions of wildlife values have been shown to reflect different concerns regarding wildlife-related issues and priorities for wildlife management (see **Fig. 1** for details).

Findings from the GWVS reveal significant differences in wildlife values across the world, including a high level of variation between regions (e.g., North America and Latin America) and within regions (e.g., Nordic European countries and other European countries) (**Fig. 2**). There is a strong relationship between mutualism values and how people perceive important global wildlife issues, such as illegal hunting, illegal wildlife trade, and the loss of habitats and species. Countries with a greater representation of people with domination values—like those in North America and Nordic Europe—have a smaller representation of people who believe these wildlife issues are serious or extreme concerns (**Fig. 3a**).

Conversely, we find higher levels of concern for these issues in countries and regions with a higher prevalence of mutualism values. Additionally, we find that these country-level trends in mutualism values correlate strongly with the CBD's National Biodiversity Index (Secretariat of the CBD 2001), except for the United States, China, and Australia. These three countries have high biodiversity scores but also high levels of domination values and lower levels of concern for global wildlife issues. This suggests vulnerability for biodiversity within those countries, as well as globally, given the powerful influence of those nations worldwide.

The GWVS also provides data on the public's acceptance of lethal control for different wildlife species involved in various human-wildlife conflict scenarios. Again, we find that wildlife values are a strong predictor of people's acceptance of lethal control across conflict scenarios. Countries with a greater representation of people with domination values are generally more supportive of lethal control as a response to human-wildlife conflict (**Fig. 3b**). In contrast, countries with higher proportions of people with mutualism values have greater opposition to lethal control measures. Although support for lethal control varies depending on the type of conflict and the species involved, there is a consistent relationship between values and perceptions of human-wildlife conflict management approaches.

Benefits of Measuring Wildlife Values

The GWVS offers an existing, refined, and peer-reviewed monitoring framework, consisting of a theoretically-sound instrument with high internal and cross-cultural validity, a cost-efficient sampling strategy, and analytical guidance for additional data collection. Thus, it would facilitate mainstream monitoring approaches and deliver relevant data that can be aggregated and disaggregated across national, regional, and global levels (as illustrated in **Fig. 2** and **3**). By replicating our study and creating globally comparable data over time, we can monitor trends, see how trends differ geographically, and examine how such trends impact policies and practices that affect biodiversity.

Most importantly, measuring wildlife values under the GWVS approach offers different types of knowledge that can contribute to achievement of the Post-2020 Global Biodiversity Framework. It offers a context-specific indicator for Target 4 that is in line with the HWCCSG's call to measure "the root of the problem," which includes the human, social, and intangible dimensions of human-wildlife conflict (IUCN SSC HWCTF 2022).

Additionally, wildlife values have a strong predictive power on individuals' acceptance of specific management actions—such as lethal control and (non)consumptive use—and can thereby offer a tool to assess the social sustainability of proposed national and collective actions for biodiversity conservation. Wildlife values also link to

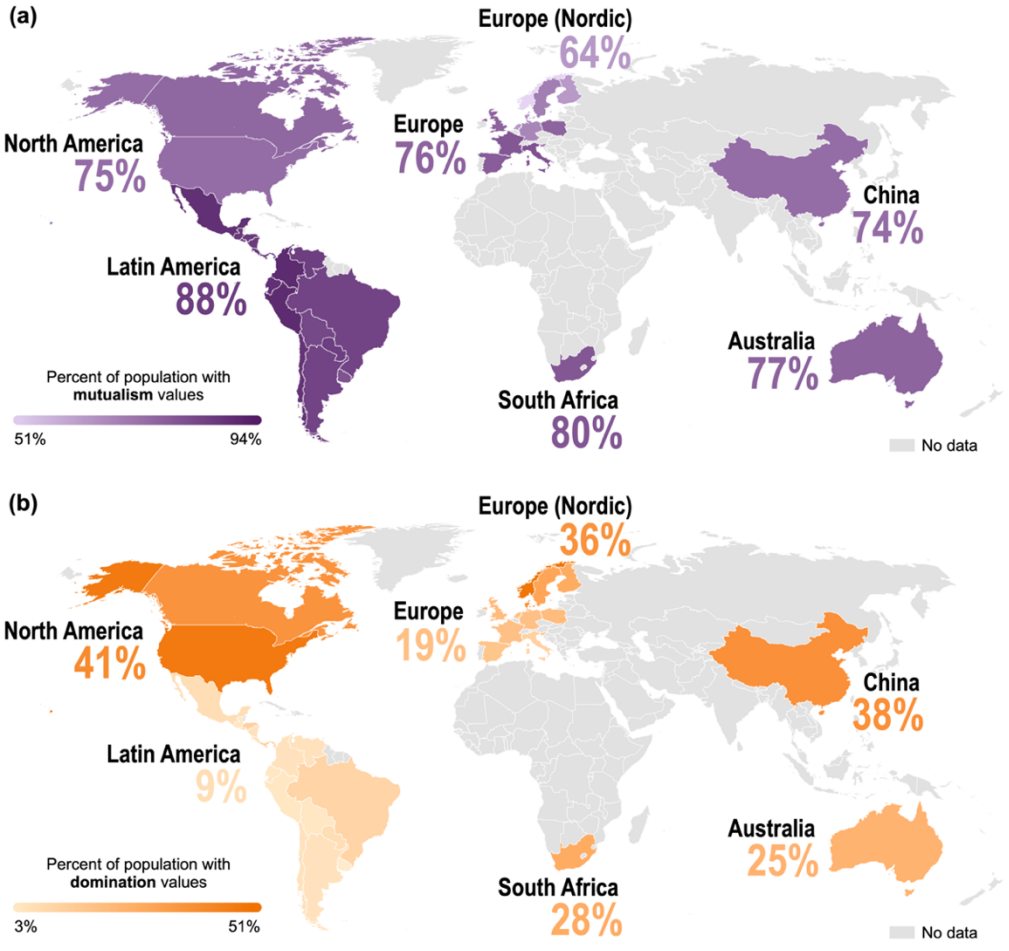

FIGURE 2. Percent of residents exhibiting **(a)** mutualism and **(b)** domination wildlife values across the 34 countries included in the Global Wildlife Values Survey (GWVS).
Wildlife value dimensions are not mutually exclusive.

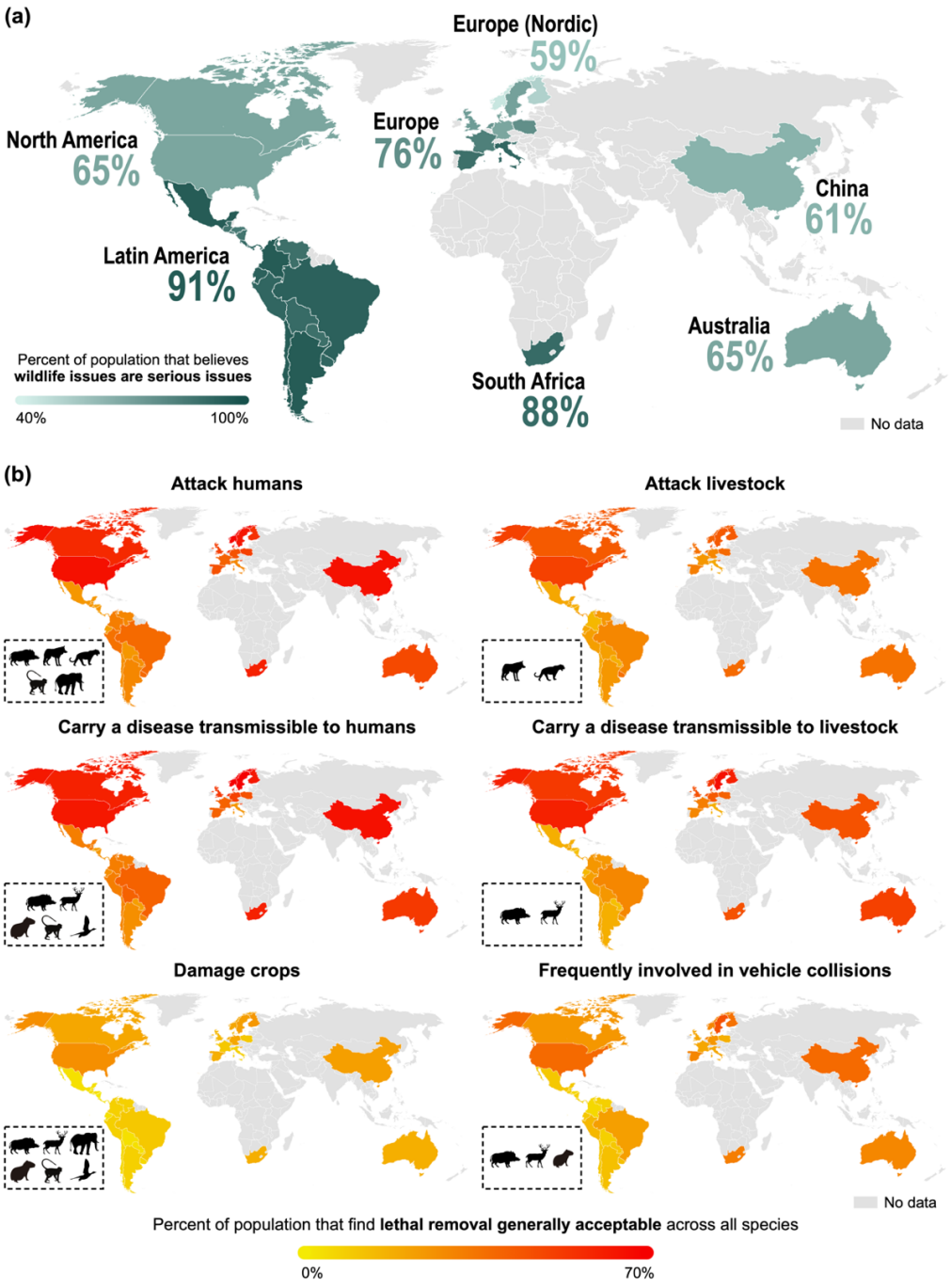

FIGURE 3. Prevalence of **(a)** public concern about global wildlife issues and **(b)** public support for lethal control across different human-wildlife conflict scenarios obtained from the GWVS.

Species included in the conflict scenarios are wild boars, wolves, leopards, monkeys, elephants, deer, capybaras, and geese.

broader conservation aspects, such as people's likelihood to support habitat protection, their willingness to restrict human access to benefit nature, and the importance of equal treatment of different interests (**Fig. 1**). Monitoring of mutualism and domination values at a global scale can thus serve as a reliable indicator of societies' tendency to support additional targets of the Post-2020 Global Biodiversity Framework (e.g., Target 3, also known as the "30 by 30" target), as well as other international conservation initiatives, like those of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on Migratory Species (CMS).

Finally, previous longitudinal studies of wildlife values in the United States (Manfredo et al. 2021b) have shown a societal shift from domination to mutualism values, suggesting favorable outcomes for biodiversity conservation (Fischer 2021). However, the prevailing institutions and paradigms of conservation on a global scale are largely borne from the domination ideology that persists in North America and parts of Western Europe. This inconsistency has important implications for the CBD's efforts, as the success of conservation strategies ultimately hinge on the extent to which those strategies match the social and cultural context in which they are implemented. Studying wildlife values can, therefore, be a crucial component in supporting transformative change in the governance of human-wildlife relationships. In line with the CBD's underlying theory of change, meeting human needs and designing suitable means of implementation will ultimately depend on an understanding of basic values and human preferences in regard to human-wildlife relationships.

Policy Recommendations

We urge the parties to the CBD to adopt the HWCCSG's revision to Indicator 4.0.1 and its proposed disaggregation into three key components. Further, we recommend that the GWVS serves as the basis for attending to one of those components—monitoring

trends in human willingness to coexist with wildlife. Existing GWVS data, and expansion of this effort to other countries, can serve as a basis for informing decision-makers on societal values that have a direct bearing on human-wildlife conflict management and wider-reaching implications for societies' willingness to engage in biodiversity conservation. The GWVS should be adopted globally as a best practice for monitoring progress toward achievement of Target 4, and important knowledge gaps in Africa, Asia, and the Middle East should be prioritized for data collection to establish an immediate baseline.

Successful implementation of strategies and adaptive management related to Target 4 will depend, in part, on regular monitoring through data collection over time at relevant national, regional, and global scales that can identify trends in societal change. Going forward, it will be crucial to develop a rotation of regular monitoring of social values that define the sociocultural context and are the foundation of human response to wildlife and biodiversity more broadly. With a greater understanding of diverse value systems across countries, we can help develop a more inclusive conservation paradigm that benefits the diversity of species and human cultures alike.

Learn More

We are planning to expand the GWVS effort into other countries and world regions in the future. If your country is interested in investing in these types of data, or if you would like more information about this effort, please contact **Dr. Tara Teel** at tara.teel@colostate.edu.

Citation

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