








## POLICY PERSPECTIVE

# Biodiversity means business: Reframing global biodiversity goals for the private sector

Thomas Smith<sup>1</sup>  | Lucy Beagley<sup>2</sup>  | Joseph Bull<sup>3</sup>  | E. J. Milner-Gulland<sup>4</sup>  |  
Matt Smith<sup>2</sup>  | Francis Vorhies<sup>5,6,7</sup>  | Prue F. E. Addison<sup>8</sup> 

<sup>1</sup>Sustainability Research Institute, School of Earth and Environment, University of Leeds, Leeds, LS2 9JT

<sup>2</sup>Biodiversity and Ecosystems Unit, Joint Nature Conservation Committee, Peterborough, UK

<sup>3</sup>Durrell Institute of Conservation and Ecology, School of Anthropology and Conservation, University of Kent, UK

<sup>4</sup>Department of Zoology, University of Oxford, Oxford, UK

<sup>5</sup>African Wildlife Economy Institute, Stellenbosch University, SA

<sup>6</sup>School of Wildlife Conservation, African Leadership University

<sup>7</sup>Earthmind, Switzerland/France

<sup>8</sup>Interdisciplinary Centre for Conservation Science, Department of Zoology, University of Oxford, Oxford, UK

## Correspondence

Thomas Smith, Sustainability Research Institute, School of Earth and Environment, University of Leeds, Leeds, LS2 9JT, UK.  
Email: twsmith@gmx.com

## Abstract

The Convention on Biological Diversity strategic goals direct the conservation and sustainable use of biodiversity from global to local scales. Yet business' role in meeting the strategic goals and being accountable for their impacts and dependencies on biodiversity are still not fully and coherently outlined. We demonstrate how business actions can contribute to the strategic goals using 10 publicly available case studies, covering businesses of various sizes, from multiple sectors, operating in different contexts. The case studies show some businesses already contribute to meeting biodiversity goals, often without realizing. We consider the drivers of business engagement with biodiversity; problems in interpreting the scale of impacts through corporate reporting; the implications for changing the way businesses engage with biodiversity goals; and how businesses could contribute more under the post-2020 framework for biodiversity. We call for increased business accountability for nature and that all in conservation—policymakers, practitioners, researchers, communities—do more to connect businesses with the strategic goals. Clearer business roles and responsibilities within international targets form a critical step toward the fundamental systems-level change required to reverse biodiversity loss.

## KEYWORDS

business case for biodiversity, conservation policy, Convention on Biological Diversity, corporate reporting, corporate sustainability, strategic development goals, strategic goals for biodiversity

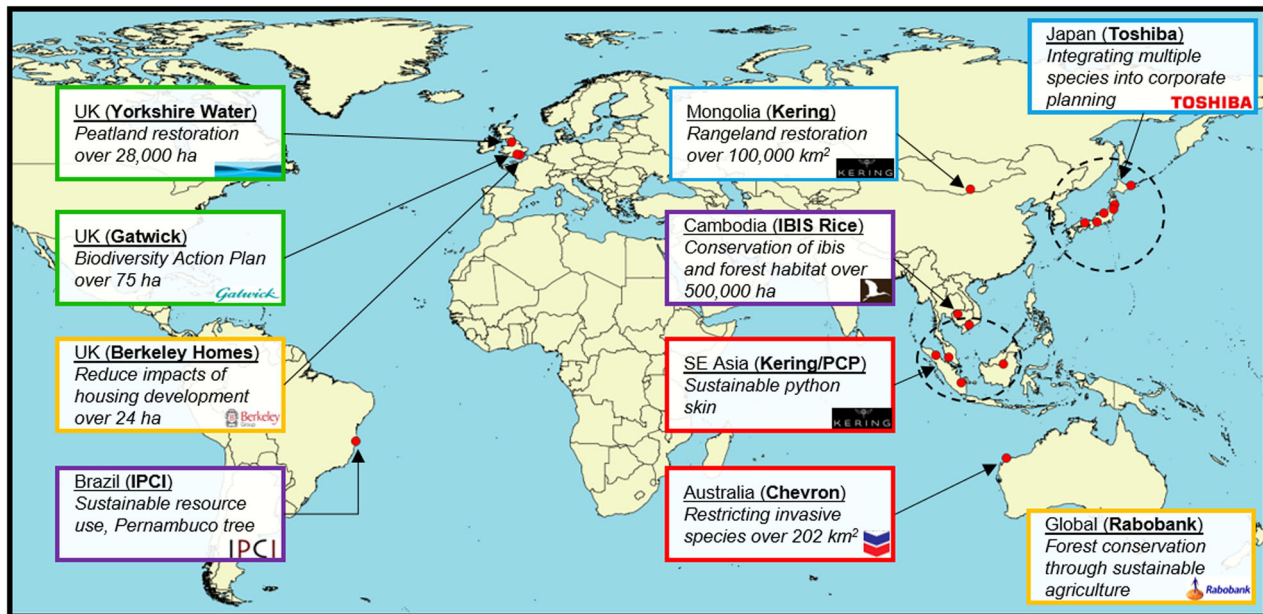
## 1 | INTRODUCTION

International biodiversity conservation policy is underpinned by five strategic goals, designed to direct the conservation and sustainable use of biodiversity (Figure 1; Convention on Biological Diversity [CBD], 2010). The strategic goals frame biodiversity loss (at genetic, species and ecosystem levels) as

an environmental issue and embed biodiversity's protection, restoration, and sustainable use within social and economic development (CBD, 2010, 2017a). They help shape regional, national, and local policy and action by all engaged in conservation: governments, NGOs, communities, researchers, practitioners, and businesses. Biodiversity-related Conventions, including the Conventions on Biological Diversity (CBD),

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2019 The Authors. *Conservation Letters* published by Wiley Periodicals, Inc.



**FIGURE 1** Case study locations and area of coverage

International Trade of Endangered Species of Fauna and Flora (CITES), Migratory Species of Wild Animals (CMS), and Wetlands of International Importance (Ramsar) (CBD, n.d.) outline the actions necessary to conserve biodiversity under these goals.

Yet business remains largely missing in recommended actions to meet the strategic goals (UNEP-WCMC, 2019). Spanning small enterprises to corporations operating across numerous sectors (e.g., agriculture, extractives, and finance), businesses have direct and indirect impacts and dependencies on biodiversity (Dempsey, 2013; WEF, 2019). The scale and scope of their activities means businesses significantly contribute and are vulnerable to biodiversity loss and ecosystem degradation, with the deterioration of ecosystem increasing business costs (IPBES, 2019; WEF, 2019). Indeed, since it was first identified as a business risk by the World Economic Forum (WEF) 14 years ago, biodiversity loss has moved from a potential concern to a critical issue (WEF, 2019).

The degree of exposure may vary by sector, but all businesses are affected by biodiversity loss and all can do more to tackle it (Addison, Bull, & Milner-Gulland, 2018). Some recognize the risks associated with biodiversity loss, investing money and resources to tackle their interdependencies with biodiversity (de Silva, Regan, Pollard, & Addison, 2019). Yet many remain disengaged, either being unaware or unconcerned, and are making limited contributions to addressing the global threat that biodiversity loss poses to us all (Dempsey, 2013). The CBD post-2020 biodiversity framework negotiations have increased attention on opportunities for increased businesses engagement with, and accountability for, their interdependencies. Global coalitions (e.g., “Busi-

ness for Nature,” 2019) are demanding governments and business leaders take responsibility for halting biodiversity loss. The post-2020 international biodiversity strategy is likely to explicitly seek business engagement (CBD, 2017b). But there is a problem. Despite setting targets detailing which aspects of biodiversity require immediate action to reverse global biodiversity loss, businesses appear not to relate to the strategic goals.

This disconnect was clear at a workshop regarding implementation of a post-2020 biodiversity framework, attended by 25 UK businesses. Feedback included that the wording of specific targets precludes the involvement of businesses and fails to articulate the need for the integration of targets into business planning and practice (CBD, 2018). Business representatives from this workshop said the strategic goals are typically perceived by business as having been written by governments for governments (CBD, 2018). These representatives also recommended that post-2020 targets be expressed in simple terms (e.g., the language of risk and opportunity) and, if not possible, then a guide aiding understanding and communication to consumers, civil society, and investors was considered a useful asset (CBD, 2018).

Conversely, the SDGs have captured businesses’ attention, with many business leaders perceiving them as highly relevant to their operations (GRI, UN Global Compact, & WBCSD, 2015). A 2015 survey of businesses showed 92% awareness of the SDGs, with 71% planning to develop a strategy accounting for them within the following 5 years (GRI et al., 2015). Initiatives by many businesses and sectors have already mapped out how to contribute to the SDGs (IPIECA, IFC, & UNDP, 2017; Sonesson, Davidson, & Sachs, 2016). Granted,

the SDGs cover multiple sustainability issues but the degree of business enthusiasm for them is striking. More explicit links between business, the SDGs and the five strategic goals could be made: not only to SDGs 14 and 15, addressing terrestrial and marine life respectively, but also where biodiversity conservation and sustainable use support other sustainability goals (CBD, 2017a).

All of us in conservation—policymakers, practitioners, researchers, communities—must do more to connect businesses with the strategic biodiversity goals we helped create. By highlighting pathways between business actions and the strategic goals, businesses can better identify and address their own interdependencies with biodiversity. Moreover, if publicity is a motivating factor for business, as with the SDGs (GRI et al., 2015), then connecting actions with the strategic goals will help increase business disclosure about how they are accounting for their interdependencies.

In an earlier piece of work, we set about tackling the disconnect between business actions and the strategic goals through the first systematic analysis defining the actions businesses can take to manage their interdependencies and matching them with contributions to the strategic goals. In a report targeted at businesses, we reframed the strategic goals as “business biodiversity goals,” providing a comprehensive list of actions to illustrate how businesses of all forms can contribute to international efforts to halt the loss of biodiversity (see Table 1 for a list of example actions. Smith, Addison, Smith, & Beagley, 2018). See Supporting Information for a full list of business actions, further details on the actions in each case, partner organizations, and source information.

This Policy Perspective outlines what researchers and practitioners can do to support business in embedding biodiversity considerations in their operations, that is, mainstreaming biodiversity. We begin by outlining how we linked actions with goals. We discuss the underlying business case and benefits for biodiversity, business, and society derived from action. We contemplate shortfalls in current measurement and reporting demonstrated by the case studies, and consider tools and policy reforms that could be deployed to increase meaningful business action.

## 2 | DEFINING BUSINESS ACTION ON BIODIVERSITY UNDER THE STRATEGIC GOALS

Using official guidance regarding how conservation targets fall under the strategic goals, and how the CBD Aichi Targets align to the SDGs, we mapped the Aichi, CITES, CMS and Ramsar targets to the SDGs (see CBD, 2017a and Supporting Information for a list of guidance documents used). We translated the strategic goals into “corporate biodiversity

goals” (henceforth “business biodiversity goals”), based on more readily used business terminology, but without changing their underlying intentions. Through iterative coding we categorized specific business actions under each business biodiversity goal, aligning them with specific targets, the strategic goals, and SDGs (see Supporting Information for full details of the coding process). We generated a matrix connecting the SDGs, strategic goals, business biodiversity goals, and actions that can be undertaken by businesses for the benefit of biodiversity and society (Table S1, supplementary materials). To illustrate the business biodiversity goals and relevant actions, we compiled over 70 publicly available business case studies, demonstrating a range of possible business actions and how these can be translated across business sectors, scales, locations, and forms of biodiversity (Smith et al., 2018).

Here, we share 10 business case studies from Smith et al. (2018), identifying the business biodiversity goal and strategic goals they principally contributed to (see Supporting Information). The case studies cover companies from various sectors (e.g., agriculture, banking, utilities), locations (e.g., Cambodia, Mongolia, UK) and time periods (2000 onward) (Figure 1), working with various partners (e.g., local stakeholders and NGOs), and different aspects of biodiversity (e.g., from conserving locally important or threatened species to restoring peatland, rangelands, or forest ecosystems; Table 1).

In the next section, we consider what the case studies tell us about business motivations to tackle biodiversity loss and the positive social and ecological outcomes that are achievable through these actions. We examine shortfalls in practice, particularly measurement and reporting by business, and the reforms that may be necessary to achieve more substantive action by more businesses across multiple sectors.

## 3 | THE BUSINESS CASE FOR ACTION

Businesses may undertake action for biodiversity for multiple reasons (Boiral & Heras-Saizarbitoria, 2017). Compliance with environmental regulation frequently motivates and subsequently shapes actions (e.g., Cases 3, 4, 7, 9; Dempsey, 2013). Regulations are a common driver, with some businesses realizing additional benefits from acting. For example, strict requirements on controlling for invasive species required Chevron to implement a quarantine management system (QMS) on Barrow Island in Australia to manage potential impacts of their operations (Case 4). Besides increased environmental awareness amongst Chevron’s employees, training activities associated with the QMS enhanced their

**TABLE 1** Case studies by business biodiversity goal and contributions to the strategic goals

Business A biodiversity goal	Case study	Biodiversity focus	Business action categories	Contribution to strategic goals for biodiversity	
				Primary contribution	Secondary contributions
<b>A: Embed biodiversity into decision-making</b>	1: Kering & Oyu Tolgoi: Rangeland restoration and monitoring of supply chain impacts	Rangeland	<ul style="list-style-type: none"> <li>Monitoring to assess impacts on biodiversity and outcomes of business actions</li> <li>Adopt measures to ensure sustainable use of natural resources</li> <li>Engage in multistakeholder dialogue to manage impacts on biodiversity</li> <li>Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain</li> </ul>	A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society	B, E
	2: Toshiba: Integrating biodiversity into a corporate environmental plan	Multiple species and ecosystems	<ul style="list-style-type: none"> <li>Biodiversity embedded in corporate strategy</li> <li>Monitoring to assess impacts on biodiversity and the outcomes of conservation measures</li> <li>Raise awareness about biodiversity internally, e.g., amongst employees</li> </ul>		N/A
<b>B: Reduce impacts and promote sustainable use in operations and/or supply chain</b>	3: Kering/ Python Conservation Partnership: Sustainable python skin trade	Reticulated python	<ul style="list-style-type: none"> <li>Adopt measures to ensure sustainable use of natural resources</li> <li>Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain</li> <li>Engage in multistakeholder dialogue to manage impacts on biodiversity</li> <li>Incorporate best available scientific knowledge and expertise into biodiversity conservation measures</li> </ul>	B: Reduce the direct pressures on biodiversity and promote sustainable use	E
	4: Chevron: Implementing a Quarantine Management System	Multiple invasive and endemic species	<ul style="list-style-type: none"> <li>Prevent the introduction or spread of invasive species</li> <li>Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain</li> <li>Monitoring to assess impacts on biodiversity and the outcomes of business actions</li> </ul>		A

(Continued)

TABLE 1 (Continued)

Business A biodiversity goal	Case study	Biodiversity focus	Business action categories	Contribution to strategic goals for biodiversity	
				Primary contribution	Secondary contributions
C: Improve the status of biodiversity	5: Gatwick Airport: Implementing a Biodiversity Action Plan for an airport	Multiple species and ecosystems	<ul style="list-style-type: none"> <li>• Implement ecosystem restoration actions</li> <li>• Monitoring to assess impacts on biodiversity and the outcomes of business actions</li> <li>• Raise awareness about biodiversity amongst external stakeholders, e.g., local communities</li> <li>• Engage in multistakeholder dialogue to manage impacts on biodiversity</li> </ul>	C: Improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity	A, E
	6: Yorkshire Water: Restoring peatland to deliver clean water	Peatland	<ul style="list-style-type: none"> <li>• Implement ecosystem restoration actions</li> <li>• Invest in solutions that work with nature, such as natural infrastructure</li> <li>• Biodiversity embedded in corporate strategy</li> <li>• Engage in multistakeholder dialogue to manage impact</li> </ul>		A, E
D: Enhance the benefits society draws from biodiversity	7: EIL A: Securing natural resources by supporting sustainable livelihoods (International Association of Violin and Bow Makers)	Pernambuco tree	<ul style="list-style-type: none"> <li>• Account for the needs of indigenous groups, women, the poor, marginalized, and vulnerable groups, and individuals in business actions</li> <li>• Ensure access to, and benefit sharing from, natural resources while operating within sustainable limits</li> <li>• Implement ecosystem restoration actions</li> <li>• Adhere to or incorporate international, regional and/ or national rules relating to biodiversity</li> <li>• Engage in multistakeholder dialogue to manage impacts on biodiversity</li> </ul>	D: Enhance the benefits to all from biodiversity and ecosystem services	A, E

(Continued)

TABLE 1 (Continued)

Business A biodiversity goal	Case study	Biodiversity focus	Business action categories	Contribution to strategic goals for biodiversity	
				Primary contribution	Secondary contributions
<b>E: Stakeholder engagement, support, and knowledge sharing</b>	8: IBIS Rice: Ensuring farmer livelihoods while conserving habitats	Giant Ibis, deciduous forest	<ul style="list-style-type: none"> <li>Account for the needs of indigenous groups, women, the poor, marginalized and vulnerable groups, and individuals in business actions</li> <li>Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain</li> <li>Ensure access to, and benefit sharing from, natural resources while operating within sustainable limits</li> <li>Engage in multistakeholder dialogue to manage impacts on biodiversity</li> </ul>		E
	9: Berkeley Homes: Collaborating to reduce impacts of a housing development	Multiple species and ecosystems	<ul style="list-style-type: none"> <li>Engage in multistakeholder dialogue to manage impacts on biodiversity</li> <li>Incorporate best available scientific knowledge and expertise into measures regarding biodiversity</li> <li>Adhere to/ incorporate international/ regional/ national rules relating to biodiversity</li> <li>Implement habitat/ ecosystem restoration</li> </ul>	E: Enhance the benefits to all from biodiversity and ecosystem services	A, D
	10. Rabobank/UN Environment: Financing sustainable agriculture	Multiple forest types	<ul style="list-style-type: none"> <li>Engage in multistakeholder dialogue to manage impacts on biodiversity</li> <li>Support third-party conservation initiatives</li> <li>Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain</li> <li>Adopt measures to ensure sustainable use of natural resources</li> <li>Account for the needs of indigenous groups, women, the poor, marginalized and vulnerable groups, and individuals in business actions</li> </ul>		B, D



reputation, reflected in invitations to share best practice and winning numerous awards worldwide.

Operational incentives, where businesses seek to improve operational efficiency and simultaneously benefit biodiversity, motivate action (e.g., Cases 1, 4, 6): Yorkshire Water's peatland restoration (Case 6) uses natural infrastructure to provide clean water, while also aiding habitat restoration in a much-degraded landscape. Actions can deliver reputational incentives (e.g., Cases 3, 4, 5, 10): Kering and the Python Conservation Partnership (Case 3) met consumer and civil society demands for more sustainable practices, enhancing their brand by demonstrating a commitment to sustainable products. Financial incentives are clear, with businesses seeking to de-risk supply chains by protecting the biodiversity their operations depend upon. Kering and Oyu Tolgoi (Case 1) are working in partnership in the Gobi Desert to restore 800,000 hectares of degraded rangeland, reducing negative pressures on the grassland habitat through improved pasture management. The project ensures higher-quality and more reliable and sustainable source of cashmere for Kering and, in forming part of an offset scheme to mitigate environmental impacts stemming from mining, contributes to Oyu Tolgoi's commitment to delivering a "Net Positive Impact" for biodiversity.

Several cases demonstrate how business actions can integrate social and ecological dimensions (e.g., Cases 1, 2, 3, 7, 9). Toshiba (Case 2) use nature conservation in employee engagement, helping personnel connect with landscapes surrounding their workplaces. Ibis Rice (Case 8) helps farmers secure land rights and pays a premium for their rice in return for commitments to protect over 500,000 hectares of land. Alongside benefiting wildlife, Berkeley Homes (Case 9) considered how landscaping a new park neighboring their development could provide recreational benefits for new and existing residents, subsequently using it to market their new homes. Rabobank's finance model (Case 10) demonstrates dual commitments to socially responsible investment and sustainable land use by considering the needs of both farmers and nature, while remaining profitable.

Many of the selected cases illustrate that businesses can do more to address interdependencies than discrete or short-term activities. Many represent ongoing commitments, with business action increasing in scale and scope over time and often being integrated into formalized strategies to protect reputations and operations in the long term (e.g., Cases 2, 3, 6; Table 1).

#### 4 | ACCOUNTING FOR THE IMPACTS OF BUSINESS ON BIODIVERSITY

The cases profiled here demonstrate several weaknesses by business' accounting for interdependencies with biodiver-

sity. Publicly available information from business is highly variable. We found details on precise activities, quantitative indicators, baseline calculations, longitudinal data or indeed any quantifiable biodiversity outcome information were generally lacking. Consequently, it was impossible to assess whether biodiversity gains generated from business actions outweighed impacts on biodiversity. These issues must be overcome for businesses to make their contributions to international biodiversity commitments clear.

For a business to establish whether their actions are contributing to the strategic goals, they must (a) make a clear commitment to balance or outweigh any negative impacts on biodiversity through mitigation activities (e.g., no net loss or net gain for biodiversity), (b) quantify their impacts on biodiversity, and the biodiversity benefits that are derived from their actions, and (c) determine the net outcome of their biodiversity performance at site, supply chain or organizational level. Quantification of business contribution(s) to the strategic goals would represent a significant advancement in business accountability.

For step a) higher quality, more transparent biodiversity reporting, preferably within existing frameworks, is vital (Addison et al., 2018; Jones & Solomon, 2013; Smith, Paavola, & Holmes, 2019). Interpreting business action is problematic across environmental, social and governance (ESG) reporting, but particularly so for biodiversity when compared to other sustainability issues such as carbon or water (Boiral & Heras-Saizarbitoria, 2017; Jones & Solomon, 2013; Vörösmarty et al., 2018). Encouragingly, it is increasingly the view of those working on impact mitigation that it is insufficient for businesses to "do no harm"; as reflected in more businesses seeking to achieve net gain or net positive impact on biodiversity at the organizational level (BBOP, 2019; de Silva et al., 2019). The cases presented here could be linked to measurable biodiversity outcomes (e.g., reducing pressures on biodiversity, and/or changed status of biodiversity due to business operations) and reporting using existing guidance and performance standards (e.g., the Global Reporting Initiative [GRI], IFC Performance Standard 6).

For steps (b) and (c), sound science-based approaches to setting quantifiable targets, developing metrics, and undertaking adaptive management can help guide business action and evaluate progress (Addison et al., 2018; Bull, Gordon, Law, Suttle, & Milner-Gulland, 2014; de Silva et al., 2019). Businesses need consistent ways to measure their progress in meeting targets, and work is underway within various sectors (e.g., finance, extractives, and fashion) to develop standardized metrics to support businesses in biodiversity measurement (Addison et al., 2018; Addison, Carbone, & McCormick, 2018). Some sectors will need to measure, report, and mitigate more than others but all businesses should be held accountable.

Site-level assessments of operations in some sectors (e.g., extractives) commonly adopt a systematic approach, for instance through application of the mitigation hierarchy (BBOP, 2019; de Silva et al., 2019). These approaches must be translated to the organizational level to help businesses assess their contributions to the strategic goals. The BBOP Roadmap for Business (BBOP, 2019) and the Conservation Hierarchy (Bull et al., 2019) are possibilities, each providing simple, practical frameworks for businesses to trace actions from the site-level to the global scale. While still under development, the Conservation Hierarchy is particularly relevant as it aims to translate actions by any organization, in any sector at any scale, to global conservation outcomes which could be accounted for under a post-2020 biodiversity framework (Bull et al., 2019).

## 5 | THE ROAD TO 2020 AND INCREASED BUSINESS ACTION

Our collection of case studies, plus those of the CBD, The Capitals Coalition, World Business Council for Sustainable Development (WBCSD) and global industry associations (e.g., IPIECA), amongst others, demonstrate multiple business sectors are tackling biodiversity loss (see Smith et al., 2018 for a list). But with global efforts failing to reach the 2010–2020 goals, the scale of business action remains insufficient to help “bend the curve” on the rate of biodiversity loss (IPBES, 2019; Mace et al., 2018). As this policy perspective demonstrates, explicit links to the strategic goals, and how businesses are accounting for their interdependencies—and thus contributing to biodiversity conservation efforts—are rare. Moreover, most businesses profiled in this study were apparently either unaware of their contributions or did not feel that they merited reporting against the strategic goals. This accords with anecdotal evidence from our conversations with businesses. Businesses of all sectors and sizes must be brought into dialogue on their role in tackling biodiversity loss across scales. The post-2020 biodiversity framework must show what international expectations are ensure all businesses are responsible and accountable for tackling biodiversity loss (Mace et al., 2018; UNEP-WCMC, 2019).

Re-framing the strategic goals for biodiversity into business language offers a new way to communicate what is expected of them, and should be a useful resource in the lead-up to the various deliberations to shape the post-2020 biodiversity framework. Smith et al. (2018) defined simple steps for businesses to link actions to the strategic goals. This policy perspective signals to those engaged in conservation reforms, such as governments and NGOs, the links that could increase

businesses contributions to tackling biodiversity loss by making business’ role and responsibilities more explicit in targets; demonstrating the relevance of accounting for interdependencies across multiple sectors; and illustrating the tangible motivations and drivers for, and benefits derived from, business action.

We acknowledge unease by some researchers and practitioners that increased involvement in initiatives tackling biodiversity loss will merely see businesses seeking to minimize obligations to reform operations, or even redefining goals to suit their own ends (e.g., Adams, 2017; Robinson, 2012). Even assuming “what is measured gets managed,” businesses setting their own goals risks actions achieving marginal improvements for biodiversity, rather than contributing to substantive changes required to reverse biodiversity loss (Mace et al., 2018). Transformational change, for biodiversity and business itself, requires ambitious business action. Goals must recognize businesses’ multiple interdependencies with biodiversity, individually, collectively, and through their entire supply chain. Beyond improved measurement and reporting, businesses should be left in no doubt about the standards they must meet for their actions to be considered meaningful. New coalitions and initiatives (“Business for Nature,” 2019; “Science Based Targets Network,” 2019) are supporting efforts to clarify the expectations of business in supporting global efforts tackling biodiversity loss.

This policy perspective represents a vision for business accountability for nature. Making business’ role and responsibilities more explicit within the strategic goals is a first step toward the fundamental systems-level change required to reverse biodiversity loss (IPBES 2019). Governments, civil society groups, and consumers must engage with business leaders, to encourage and push for increased business action to tackle biodiversity loss. Government regulation and financial standards will be critical to enforce businesses accountability for the public good of nature. Leading businesses must take a stronger stand within the wider business community, being more explicit about their contributions to date, and vision for the future, for biodiversity. True systems-level change and mainstreaming biodiversity for business will only occur once we have mutual reinforcement between strengthened regulatory regimes and voluntary business action going beyond the examples here.

## ACKNOWLEDGMENTS

This paper draws from earlier work conducted for the UK Joint Nature Conservation Committee (JNCC), funded through a Valuing Nature Placement. We thank the Valuing Nature Placement scheme (Placement Round 3—2017/2018),



the JNCC, and the Natural Environment Research Council (NE/N005457/1) for supporting this research. We also thank all those who submitted cases for consideration. Special thanks to Anna Gray, James Brocklehurst, and Dr Mark Johnston, Group Ecologist & Technical Advisor, BP for feedback on the cases; Katie Beckett and Helen Crowley who helped in our call for cases; Dr David Stroud, Dr James Williams and Dr Vin Fleming for advice on the international biodiversity conventions; Paul Rose for advice on the UK policy context regarding the business and biodiversity space. We would also like to thank the CBD Business and Biodiversity platform for feedback on earlier versions of this analysis. We are most grateful to Alexandra Brown and Catherine Smith for their work in developing and refining an infographic to illustrate our work.

## ORCID

Thomas Smith  <https://orcid.org/0000-0002-7110-3221>

Lucy Beagley  <https://orcid.org/0000-0002-0434-851X>

Joseph Bull  <https://orcid.org/0000-0001-7337-8977>

E. J. Milner-Gulland 

<https://orcid.org/0000-0003-0324-2710>

Matt Smith  <https://orcid.org/0000-0002-8898-1119>

Francis Vorhies  <https://orcid.org/0000-0002-9150-7274>

Prue F. E. Addison 

<https://orcid.org/0000-0002-4195-9723>

## REFERENCES

- Adams, W. (2017). Sleeping with the enemy? Biodiversity conservation, corporations and the green economy. *Journal of Political Ecology*, 24, 243–257. <https://doi.org/10.2458/v24i1.20804>
- Addison, P. F. E., Bull, J. W., & Milner-Gulland, E. J. (2018). Using conservation science to advance corporate biodiversity accountability. *Conservation Biology*, <https://doi.org/10.1111/cobi.13190>
- Addison, P. F. E., Carbone, G., & McCormick, N. (2018). *The development and use of biodiversity indicators in business*. Retrieved from <https://portals.iucn.org/library/node/47919>
- Boiral, O., & Heras-Saizarbitoria, I. (2017). Corporate commitment to biodiversity in mining and forestry: Identifying drivers from GRI reports. *Journal of Cleaner Production*, 162, 153–161. <https://doi.org/10.1016/j.jclepro.2017.06.037>
- Bull, J. W., Gordon, A., Law, E. A., Suttle, K. B., & Milner-Gulland, E. J. (2014). Importance of baseline specification in evaluating conservation interventions and achieving no net loss of biodiversity. *Conservation Biology*, 28(3), 799–809. <https://doi.org/10.1111/cobi.12243>
- Bull, J. W., Milner-Gulland, E. J., Addison, P. F. E., Arlidge, W. N. S., Baker, J., Brooks, T. M., ... Watson, J. E. M. (2019). Net positive outcomes for nature. *Nature Ecology & Evolution*. <https://doi.org/10.1038/s41559-019-1022-z>
- Business and Biodiversity Offsets Programme [BBOP]. (2019). *Working for biodiversity net gain: An Overview of the Business and Biodiversity Offsets Programme (BBOP)*. Washington, D.C.
- Business for Nature. (2019). Retrieved from <https://businessfor-nature.org/>
- Convention on Biological Diversity [CBD]. (n.d.). Biodiversity-related conventions. Retrieved from <https://www.cbd.int/brc/>
- Convention on Biological Diversity [CBD]. (2010). Strategic plan for biodiversity 2011–2020. Retrieved from <https://www.cbd.int/sp/>
- Convention on Biological Diversity [CBD]. (2017a). *Biodiversity and the 2030 agenda for sustainable development—Technical Note*. Montreal, Quebec, Canada.
- Convention on Biological Diversity [CBD]. (2017b). Approaches for the preparation of the post-2020 global biodiversity framework. Information Note, 15 June 2017. Retrieved from <https://www.cbd.int/post2020/>
- Convention on Biological Diversity [CBD]. (2018). *COP/14/INF/31 Engaging business in the development of a post-2020 global biodiversity framework. Prepared for the Conference of the Parties to the Convention on Biological Diversity. Fourteenth meeting. Sharm El-Sheikh, Egypt, 17–29 November 2018. Items 13 and 22 of the provisional agenda*. Retrieved from <https://www.cbd.int/doc/c/9b08/d19e/1fbee1724642fe73810e71f/cop-14-inf-31-en.pdf>
- de Silva, G. C., Regan, E. C., Pollard, E., & Addison, P. F. E. (2019). The evolution of corporate no net loss and net positive impact biodiversity commitments: Understanding appetite and addressing challenges. *Business Strategy and the Environment*, 28(7), 1481–1495. <https://doi.org/10.1002/bse.2379>
- Dempsey, J. (2013). Biodiversity loss as material risk: Tracking the changing meanings and materialities of biodiversity conservation. *Geoforum*, 45, 41–51.
- GRI, UN Global Compact, & WBCSD. (2015). The SDG Compass: The guide for business action on the SDGs. Retrieved from <https://sdgcompass.org/>
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services [IPBES]. (2019). *Summary for policy-makers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. Bonn: IPBES Secretariat.
- IIPECA, International Finance Corporation [IFC], & United Nations Development Programme [UNDP]. (2017). *Mapping the oil and gas industry to the sustainable development goals: An Atlas*. Retrieved from <http://www.iipeca.org/resources/awareness-briefing/mapping-the-oil-and-gas-industry-to-the-sustainable-development-goals-an-atlas/>
- Jones, M., & Solomon, J. F. (2013). Problematising accounting for biodiversity. *Accounting, Auditing & Accountability Journal*, 26(5), 668–687. <https://doi.org/10.1108/AAAJ-03-2013-1255>
- Mace, G. M., Barrett, M., Burgess, N. D., Cornell, S. E., Freeman, R., Grooten, M., & Purvis, A. (2018). Aiming higher to bend the curve of biodiversity loss. *Nature Sustainability*, 1(9), 448–451. <https://doi.org/10.1038/s41893-018-0130-0>
- Robinson, J. G. (2012). Common and conflicting interests in the engagements between conservation organizations and corporations. *Conservation Biology*, 26(6), 967–977. <https://doi.org/10.1111/j.1523-1739.2012.01914.x>
- Science Based Targets Network. (2019). Retrieved from <http://www.sciencebasedtargetsnetwork.org/>
- Smith, T., Addison, P., Smith, M., & Beagley, L. (2018). *Mainstreaming international biodiversity goals for the private sector: Main Report & Case Studies, JNCC Report No. 613, JNCC, Peterborough*.

- ISSN 0963–8091. (No. 613). Retrieved from <http://jncc.defra.gov.uk/page-7678>
- Smith, T., Paavola, J., & Holmes, G. (2019). Corporate reporting and conservation realities: Understanding differences in what businesses say and do regarding biodiversity. *Environmental Policy and Governance*, 29(1), 3–13. <https://doi.org/https://doi.org/10.1002/eet.1839>
- Sonesson, C., Davidson, G., & Sachs, L. (2016). *Mapping mining to the sustainable development goals: An Atlas. A white paper*. World Economic Forum, United Nations Development Programme, United Nations member states, Columbia Center on Sustainable Investment, and the Sustainable Development Solutions Network.
- UNEP-WCMC. (2019). If conservationists want business to be part of the solution, we also have to change. Retrieved from <https://medium.com/@unepwcmc/if-conservationists-want-business-to-be-part-of-the-solution-we-also-have-to-change-1d7039574ad2>
- Vörösmarty, C. J., Osuna, V. R., Koehler, D. A., Klop, P., Spengler, J. D., Buonocore, J. J., ... Sánchez, R. (2018). Scientifically assess impacts of sustainable investments. *Science*, 359(6375), 523. <https://doi.org/10.1126/science.aao3895>
- World Economic Forum [WEF]. (2019). *The Global Risks Report 2019* (14th Edition). Geneva, Switzerland.

## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

**How to cite this article:** Smith, T, Beagley L, Bull, J, et al. Biodiversity means business: Reframing global biodiversity goals for the private sector. *Conservation Letters*. 2019;e12690. <https://doi.org/10.1111/conl.12690>