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Anticipate, Innovate, Transform



**The Role of the
Enterprise in a Nature
Positive World, Part I**

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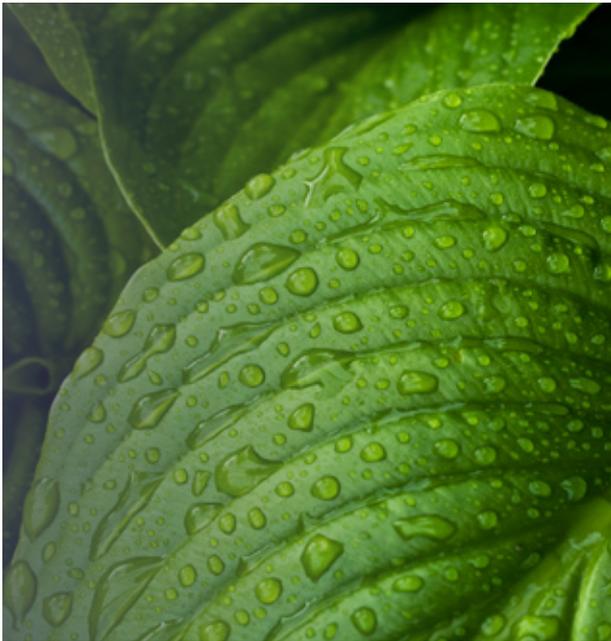
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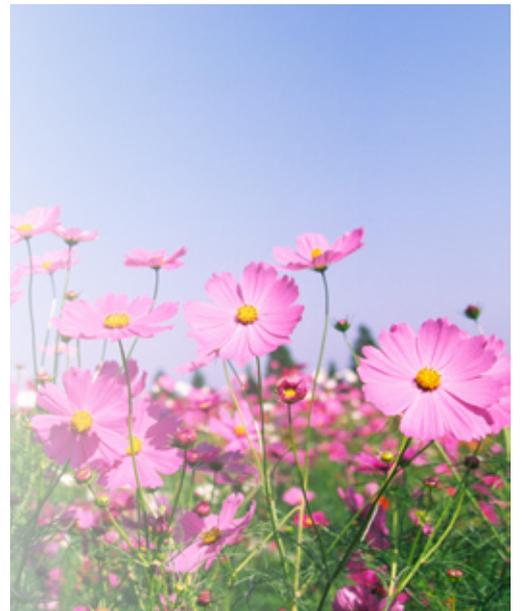
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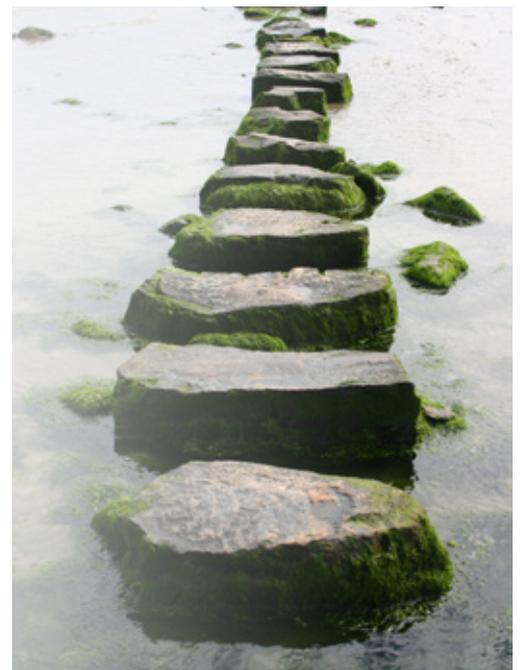
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THE ROLE OF THE ENTERPRISE IN A NATURE POSITIVE WORLD, PART I

BY MARGARET O’GORMAN, GUEST EDITOR

On 7 December 2022, 10,000 people from 196 countries will arrive at Montreal’s Palais des Congrès to negotiate a new Global Framework for Biodiversity (GBF), seeking to reverse the trend of nature loss that some call the sixth mass extinction.¹ This meeting is an important milestone for the United Nation’s (UN) Convention on Biological Diversity (CBD), one of three conventions resulting from the historic *Rio Earth Summit* in 1992. In the 30 years since the *Rio Summit*, CBD set a series of goals for nature and failed to meet most of them. The new GBF replaces the Strategic Plan for Biodiversity 2011–2020 that was agreed to in 2010 at the CBD’s *10th Conference of the Parties (COP 10)* in Nagoya, Aichi Prefecture, Japan. The plan included 20 Aichi Biodiversity Targets, none of which were met in full by the 2020 deadline.²

This year’s *COP 15* is being hailed as the most important meeting of CBD since the origins of the convention. Leaders across the world, including CBD Executive Secretary Elizabeth Maruma Mrema, are looking for a “Paris moment” for nature when 196 countries will sign off on a new framework with a vision of living in harmony with nature by 2050. *COP 15* is being called a once-in-a-generation opportunity to secure a healthy future for nature on our planet. Indeed, the private sector will be expected to contribute to this vision through disclosures, decisions, and actions for nature.

Target 15 in the first draft of the GBF states that:

All businesses (public and private, large, medium and small) assess and report on their dependencies and impacts on biodiversity, from local to global, progressively reduce negative impacts, by at least half and increase positive impacts, reducing biodiversity-related risks to businesses and moving towards the full sustainability of extraction and production practices, sourcing and supply chains, and use and disposal.³

In past iterations, business did not have a role in delivering for nature, so Target 15 sets the stage for robust expectations. Past iterations have also been vague about specific goals and metrics, but emerging frameworks like the Science Based Targets Network (SBTN), the Taskforce on Nature-related Financial Disclosure (TNFD), and the EU Taxonomy should provide clear guidance on assessments and actions while the “Make it Mandatory” campaign from Business for Nature seeks to remove the excuse often used by businesses: that biodiversity is not a materiality.

Nature positivity is an emerging frame for this effort. This two-part series of *Amplify* explores the nature positive frame, defining what is meant by nature positive and examining the role of enterprise in creating a nature positive world.

IN THIS ISSUE

The five articles in this issue, written by thought leaders in their respective arenas, explore the concept of nature positivity and offer a suite of approaches for meaningful business engagement. They attempt to pivot business leaders from “carbon tunnel vision” to a broader view of planetary issues that represent significant risk to business and the world economy. Carbon tunnel vision was identified by Dr. Jan Konietzko to reflect the private sector’s narrow focus on carbon, excluding a plethora of other sustainability-related challenges.⁴

Our first two articles set out the business case for action on nature. Eva Zabey and Erin Billman begin the issue by reminding us how nature underpins our collective survival and then highlight the risk to the world’s GDP from continued nature loss. In our second article, Margot Greenen and Tom Butterworth examine how the nature agenda is trending in global conversations and emerging as an issue equal to climate.

Both articles introduce the concept of nature positive, with Zabey and Billman providing an explanation of the difference between nature and biodiversity and presenting the high-level definition of nature positive, as defined by Business for Nature, as “a global goal to halt and reverse nature loss by 2030, and achieve full recovery by 2050.”⁵ But the details of nature positive can be hard to pin down, so Greenen and Butterworth offer examples of different definitions focused on targets, processes, or concepts.

Zabey and Billman describe the High-Level Business Action for Nature framework, which lays out key actions that companies can take to contribute to a nature positive world. For companies starting on the journey, the suggested steps of assess, commit, transform, and disclose are straightforward and mirror existing frameworks for climate and other issues that the private sector already engages with. Zabey and Billman go further by encouraging specificity in all steps to secure legitimacy and credibility. Looking into the future, the authors see that regional and national government policies will soon drive action in this arena. Alignment and standardization are much needed to support the efforts, and the authors see emerging frameworks like SBTN and sectoral collaboration as key to aligned guidance in support of implementation.

Greenen and Butterworth base their article on a survey of business members of the UK Business & Biodiversity Forum (UKBBF) that found all but two of the members surveyed have made a carbon commitment, but only slightly more than half have nature-related commitments and targets.

One of the challenges of nature-related commitments and targets is how SMART (specific, measurable, achievable, realistic, and time-bound) they are. Greenen and Butterworth find that area-based metrics are popular and that a limited number of indicators are used. The authors conclude that there is real appetite for nature positive action in the private sector, but barriers remain to translating this appetite into action. They offer a six-element framework to support business engagement and introduce the UKBBF’s Nature Positive Business Pledge with core principles like additionality and longevity, a requirement for SMART targets, evidence-based approaches, and transparency in reporting and disclosures.



Moving toward action, our next pair of articles discusses the importance of partnerships to deliver progress on nature positive. There are many reasons for partnerships as well as many approaches to building successful collaborations, but the authors of both articles highlight the tensions intrinsic to teams combining the private sector with local nongovernmental organization (NGO) groups.

In the first of the two, Colleen Corrigan talks about the ways in which businesses can act for nature. They can make pledges like the one outlined by Greenen and Butterworth. They can track policies like those under development at COP 15. They can hire biodiversity experts. They can act in a place-based way to effect change. Corrigan lays out the enabling environment for effective public-private partnerships where trust, reputation, and stakeholder engagement are foundational. She explores various approaches used by global groups and highlights the importance of local and indigenous knowledge to any partnership.

Next, Jessica L Deichmann et al. look at the tension across knowledge areas and highlight items companies should know when engaging with ecologists and biodiversity experts. This article, based on decades of working with private sector companies on some of the most complex nature-based issues, highlights the interdisciplinary nature of ecosystem restoration and species recovery. It offers nine principles to foster positive collaborations, including an acknowledgment that small actions can make big differences and that people are a critical element of any successful conservation collaboration. The authors know that business can and should be leaders in helping achieve the global goals for nature and seek to share their model for best practices. (Note that the corporate version of these nine principles are laid out in my book, *Strategic Corporate Conservation Planning*,⁶ which helps NGOs and others understand the realities of collaborating for conservation.)

In a brief detour to climate, our final article explores how nature can contribute solutions to the climate crisis by supporting community-resilience efforts that not only address climate but also support a plethora of interrelated issues like ecological, cultural, and services values. Alison Shaw and Kacia Tolsma introduce nature-based solutions as actions to protect and restore ecosystems that simultaneously benefit people and nature.

With examples from across Canada, Shaw and Tolsma show how nature-based investments in forests, wetlands, and wastewater and storm-water management have saved significant amounts of money for towns from Nova Scotia

to the Pacific Coast. The authors' approach to placing nature on the balance sheet and within profit and loss accounting is backed up by a section outlining current and emerging financially focused frameworks, including TNFD. This article is persuasive in prioritizing nature-based investments that can meet a variety of challenges, and the examples from towns across Canada can easily be transferred to corporate lands.

All five articles drive home the same message. Zabey and Billman claim that today's nature emergency demands that companies act immediately. Greenen and Butterworth tell us that if we wait for the perfect answer, it will be too late and suggest that companies incorporate nature-based solutions into core business strategies. Deichmann et al. suggest that we must reassess our nature positive strategies and search for ways to collaborate. Corrigan says that companies should start building partnerships now to make collective decisions on shared outcomes. And, finally, Shaw and Tolsma call for an accelerated transition on local and global scales. The authors are united in advocating for the private sector to embrace nature positive approaches for positive outcomes.

The ideas in these articles are beautifully intertwined. The first is that business should avoid greenwashing when engaging on a nature positive journey. Greenwashing can undermine best efforts, so companies should avoid claims that are exaggerated, misleading, or false. The second point is linked to the first: companies should be clear and transparent in disclosing their impacts on nature and design actions aligned with those impacts. Finally, companies must include people in their nature positive journey. Employees, community members (indigenous and other), customers, and stakeholders can enhance a company's nature positive journey by contributing value, knowledge, and support. Ignoring people in the nature equation is shortsighted and a risk to nature-based investments.

The last word here should go to Zabey and Billman who suggest we may learn that preserving and restoring nature is a more profitable investment for future generations, livelihoods, and economies than anything else.

In this first installment of this two-part series, we focused on policy when it comes to being nature positive. The next issue of *Amplify* will explore practice — because at the end of the day, it is the practice of place-based action that will deliver a nature positive future.

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About the guest editor

MARGARET O’GORMAN

Margaret O’Gorman operates at the intersection of business and nature. She is President of the Wildlife Habitat Council (WHC), an organization that assists multinational corporations in integrating conservation objectives into their sustainability efforts. Ms. O’Gorman helps companies drive long-term sustainability through WHC’s signature Conservation Certification recognition, which serves to define the standard for corporate conservation worldwide. She inspires companies to enhance their ecosystems, connect with communities, and engage their employees. Ms. O’Gorman has consulted with *Fortune* 500 companies like General Motors, Exelon, Chevron, BASF, and many others to develop strategies and frameworks toward biodiversity in business. These strategies have been deployed across more than 1,000 conservation programs in 28 countries and have connected simple and complex acts of conservation to larger corporate goals.

Ms. O’Gorman is a compelling writer and speaker on the need to act for nature. She is the author of *Strategic Corporate Conservation Planning*, which advances the idea that business value can be realized from conservation action. Ms. O’Gorman uses her platform and audience to promote private sector engagement in conservation action to restore ecosystems, recover species, connect people, and make a positive difference to people and planet. Prior to her work with WHC, she led the Conserve Wildlife Foundation of New Jersey and also led fundraising efforts for New Jersey Future and Pinelands Preservation Alliance. Ms. O’Gorman earned a master of science degree in micropaleontology from the University of Southampton, UK. She can be reached at mogorman@wildlifehc.org.

HOW BUSINESS & FINANCE CAN CONTRIBUTE TO A NATURE POSITIVE FUTURE NOW

Authors

Eva Zabey and Erin Billman

Nature underpins our collective survival and well-being by providing human development and equality, economic value and security, and increasing our resilience to climate change. Its critical role in decision making, value chain management, and consumer preferences has been increasingly recognized within the business and finance community.

The term “nature positive” is quickly gaining traction. However, without broad alignment of what it means for business and finance, there is a genuine risk of confusion. How the term is interpreted, valued, and used continues to be contested, creating a risk of undermining the ability to drive meaningful change.

WHY IS NATURE IMPORTANT TO BUSINESS & FINANCE?

Business won't function if nature continues to decline. Resources like water, soil, food, fiber, and minerals, and ecosystem services like crop pollination, water filtration, and climate regulation all contribute to business success and human livelihoods. Take these away, and companies will cease to function effectively.¹ Business operations will become unviable, supply chains unmanageable, and relationships with employees and customers untenable.

The opposite is also true. When harnessed responsibly, natural abundance and regenerative natural systems translate into productive growth, both for companies and the communities they serve. Business and finance, therefore, have a critical role to play in protecting and restoring nature.

More than half of the world's GDP is moderately or highly dependent on nature and the services it provides.² For example, three of the world's most nature-dependent sectors (construction, agriculture, and food and beverage) generate close to US \$8 trillion of gross value added and could be directly impacted by poorer soils, scarcer water, and fewer pollinators.³

In addition to operational costs and complications due to nature loss, there is a very real possibility of stranded assets,⁴ investor divestment,⁵ consumer boycotts,⁶ capital destruction, increased price volatility, disruptions to processes and supply chains, and the loss of talented employees to more responsible competitors.

Conversely, a nature positive world presents opportunities for businesses willing to take bold actions. Consumers are looking for products that respect nature, not destroy it.⁷ Similarly, investors want to finance firms with business models and technologies that contribute to a circular economy⁸ and restore, rather than degrade, nature.⁹

BUSINESS WON'T FUNCTION IF NATURE CONTINUES TO DECLINE

Recent research predicts business investments in nature could generate significant opportunities and create up to 395 million jobs by 2030.¹⁰ But realizing this potential won't be easy. Success relies on the transformation not just of individual companies, but entire sectors and value chains.

The long-term resilience of all businesses depends on bringing nature back into balance. The goal of a nature positive future and the existence of business are intimately interconnected.

WHAT IS NATURE POSITIVE?

There is agreement among experts that nature positive is “a global goal to halt and reverse nature loss by 2030, and achieve full recovery by 2050,”¹¹ where thriving ecosystems and nature-based solutions continue to support future generations and play a critical role in tackling climate change risks. The global goal represents an objective that should inform actions under all global multinational agreements, in particular the three Rio Conventions¹² and the United Nation’s (UN) Sustainable Development Goals (SDGs) guide the activities of government, civil society, and business.

The global goal is supported by the heads of state of the world’s seven largest economies, and more than 300 leading organizations.^{13,14} Many are now advocating that this global goal should be Mission 2030 in the Post-2020 Global Biodiversity Framework, to be adopted by governments at the UN’s *Conference of the Parties (COP 15)* in December 2022. Yet how businesses can

practically engage with the global goal remains the subject of debate and confusion.

BUSINESS & FINANCE MUST CONTRIBUTE TO NATURE POSITIVE GOAL

A nature positive goal places business and finance within a collective partnership that is necessary for nature recovery, moving business toward an appreciation of the interconnectedness of nature positive outcomes. Every business has a role to play, proportionate to their abilities (e.g., to pay, to innovate, and to change practices) and their responsibilities (based on historical contributions to harm).

Theoretically, if a business or financial institution contributes more to restoring, regenerating, and enhancing nature across its value chains and portfolios than to harming it, it could be nature positive. However, achieving this in practice is highly unlikely; it is not straightforward, and should be measured against strict spatially explicit criteria. It depends on the business model itself (e.g., companies focused on environmental improvements and restoration versus extractive industries) and where and when the impacts occur.

Businesses don’t operate in a silo. They operate in multiple systems and value chains that they can (and must) influence, despite the fact that their impacts cannot be fully attributed to them. Therefore, individual companies and financial institutions must adopt strategies across all their spheres of influence to contribute to the shared goal of a nature positive planet by 2030.

Such transformations will take different forms in various industrial sectors, but all intrinsically imply a decoupling of business activity from natural resource use, including through the circular economy. Achieving this decoupling will require an absolute reduction in material consumption and production.¹⁵

True contributions by businesses to a nature positive world by 2030 require considerable investments of time and major resources. Companies must understand their relationships with nature — the partnerships needed at sector, value chain, and landscape and seascape levels — and their levers for system change. Then they must act to avoid, reduce, regenerate, and restore nature.

THE DIFFERENCE BETWEEN NATURE & BIODIVERSITY^{1,2}

Nature is *living* organisms and their interactions among themselves and with their environment, including the geology, climate, and all other *nonliving* components. Nature can be understood through a construct of four realms on which all life on Earth depends: atmosphere, freshwater, land, and ocean.

Biodiversity is the diversity of all *living* things. More biodiversity is essential to a healthy, stable, resilient planet. Biodiversity is a subset of nature, so being nature positive means going far beyond being biodiversity positive.

¹ [“Biodiversity and Nature, Close But Not Quite the Same.”](#) United Nations (UN) Convention of Biological Diversity, accessed November 2022.

² Dias, Sandra, et al. [“The IPBES Conceptual Framework — Connecting Nature and People.”](#) *Current Opinion in Environmental Sustainability*, Vol. 14, June 2015.

Financial institutions should transform operations by engaging with their clients and reorienting investments to support the urgent need to halt and reverse nature loss by 2030.

HOW CAN BUSINESS & FINANCE CONTRIBUTE TO A NATURE POSITIVE FUTURE?

Business for Nature, along with the Science Based Targets Network (SBTN) and several other partners, provides a framework called High-Level Business Action on Nature (see Figure 1).¹⁶ The framework offers an overview of key actions companies can take to help reverse nature loss and contribute to a nature positive world under the headings of Assess, Commit, Transform, and Disclose. Any claims companies make regarding their nature positive contributions will, at a minimum, need to be verifiable, consistent with the best available science, logically coherent, and in accordance with policy at a local and national level. The framework's actions are described below.

ASSESS

- **Measure and prioritize actions** that will contribute most significantly to a nature positive world by identifying the most significant material impacts and dependencies. This will ensure credibility as well as management effectiveness, through integrating nature-related risks into decision making and disclosure.¹⁷ Companies can conduct these assessments by following the Natural Capital Protocol from the Capitals Coalition.¹⁸ Companies should also provide a clear plan for concrete actions to be taken across the value chain toward given outcomes (e.g., no deforestation or no activities in protected areas) to address nature impacts beyond their direct operations.¹⁹

COMMIT

- **Raise ambition levels and deliver a corporate strategy** that demonstrates commitments to halt and reverse nature loss by 2030. Nature positive actions must include the organization, from the factory floor to the C-suite. This can be facilitated by (1) setting science-based,

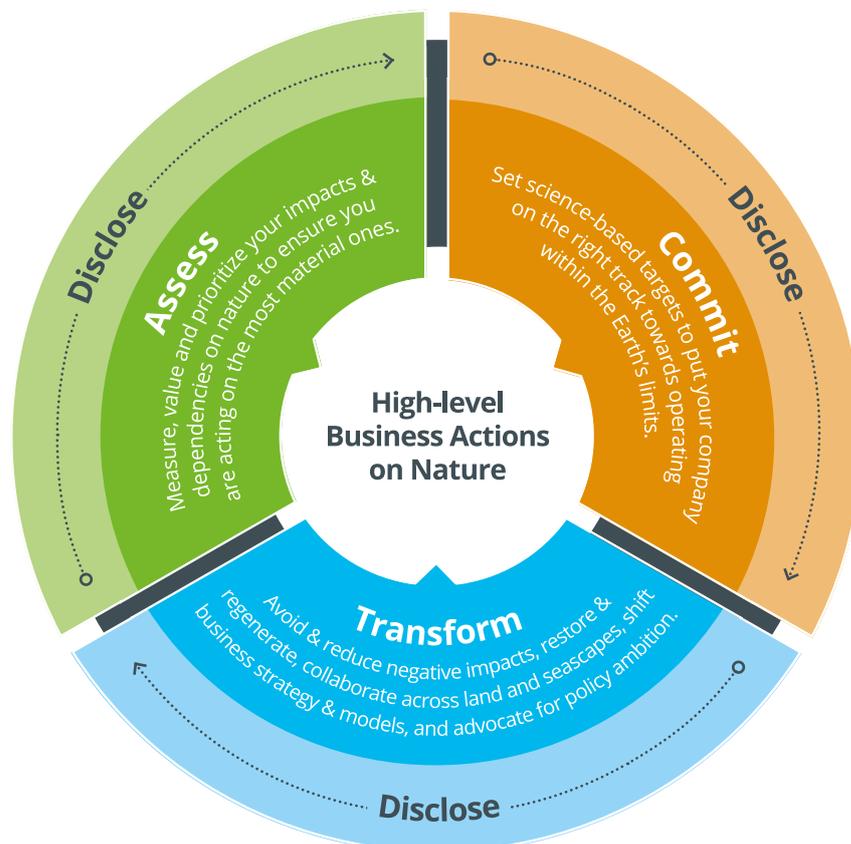


Figure 1. High-Level Business Action on Nature framework

nature-related targets for individual business units, teams, and key decision makers; and (2) making sure employees have the skills and knowledge required to identify and reduce nature risks, as well as to design restorative solutions like circular business models.²⁰

- **Make time-bound targets** using SBTN guidance. In line with the global goal, companies should focus on reducing, reversing, and restoring all negative impacts on nature by 2030 and then shift to restoring all damage to nature. The quantification of the impacts to be avoided and reduced, and the regeneration and restoration to be delivered, will be defined through spatially explicit thresholds validated by the scientific community. Companies should adapt their targets and actions depending on whether they have:
 - *New impacts.* Companies should aim for zero negative impact, starting with zero new conversion of natural habitats. Any unavoidable impacts should be reduced as far as reasonably practicable.
 - *Ongoing impacts.* These should be reduced in line with science-based thresholds and then refocused on net positive impact.
 - *Existing (or historical) impacts.* Companies should make a proportional positive contribution to nature recovery.

TRANSFORM

- **Follow best practices** across value chains with a strong focus on avoidance. Using the SBTN mitigation hierarchy, companies should avoid, reduce, restore, and regenerate biodiversity through location-specific efforts.²¹ They should focus on avoidance, especially no new conversion of natural habitats, and restrict the use of offsets to a very limited set of circumstances.²²
- Although businesses need to set up governance and board oversight on nature issues and develop robust measurement and accounting protocols, global nature loss is rooted in perverse policy incentives and political decision making. Companies must **advocate for ambitious public policy** that will change the rules in favor of nature. Companies should also contribute to investor, supplier, consumer, and employee engagement and work with peers to transform the economic sectors in which they operate. Platforms like We Value Nature provide helpful educational materials in this area.

DISCLOSE

- Companies should **monitor and report progress regularly** on a suite of indicators to capture their impacts and dependencies on nature. Frameworks such as the Taskforce on Nature-related Financial Disclosure (TNFD) recommend that companies communicate information around corporate governance, strategy, risk management, and metrics and targets for measuring progress.²³ The final TNFD framework will be released in September 2023, but companies should not wait until then to publicly report their progress. Financial institutions can play a critical role by requiring companies to disclose information on the systemic risk of nature loss across their operations (and therefore across the economy as a whole).
- Companies and financial institutions must **be clear on what to avoid**, starting with greenwashing. Nothing undermines the credibility of a business's pro-nature credentials more than making claims that are exaggerated, misleading, or false. Companies should carefully consider what they can **legitimately claim** in relation to being nature positive. This means sharing specifics on how the company is contributing to a nature positive world, rather than simply claiming to be nature positive. For example, reduced water use or biodiversity protection/restoration of high-priority sites. Ideally, this information should be audited or authenticated by an independent third party.

Overall, businesses should avoid letting the perfect be the enemy of the good. Credible tools and approaches are out there, tested and ready for use. Today's nature emergency demands that companies act immediately. Uncertainty and complexity mean mistakes almost certainly lie ahead, but companies can learn and adjust their approach along the way. What companies cannot do is hold back until the route ahead is clearly marked. By then, it will be too late.

THE FUTURE OF NATURE POSITIVE

The nature positive goal is gaining momentum, but a nature positive world cannot be built on aspiration. Success will require practical, on-the-ground action from governments, businesses, finance, and civil society. So what can companies and financial institutions anticipate?

NATURE-FOCUSED REGIONAL & NATIONAL POLICES WILL DIRECTLY IMPACT HOW COMPANIES OPERATE

The UN's Convention on Biological Diversity is expected to agree to a new post-2020 Global Biodiversity Framework, which many believe should include the nature positive global goal as its Mission 2030. The draft text includes making it mandatory for business and finance to reduce their negative impacts on nature by at least half and to assess and disclose their impacts and dependencies on nature (Target 15).²⁴ It also includes proposals for regulations around subsidy reform to address how we should transition away from environmentally harmful subsidies (Target 18).²⁵ Once adopted, these global policies will trickle down to national regulations through National Biodiversity Strategies and Action Plans. Businesses and financial institutions will play a significant role in ensuring these targets are achieved.

METHODOLOGIES & FRAMEWORKS WILL PROVIDE MORE STANDARDIZED GUIDANCE

Tools and methodologies designed to help businesses act on nature (e.g., the Natural Capital Protocol decision-making framework, SBTN guidance, and the TNFD risk management and disclosure framework) will continue to develop and aim to complement existing efforts to standardize corporate reporting through the European Financial Reporting Advisory Group (EFRAG), the International Sustainability Standards Board (ISSB), and the US Securities and Exchange Commission (SEC). This increased standardization will not only make it easier for businesses to progress on their nature positive journey, it will also increase transparency within and across sectors.

SECTOR COLLABORATION & ALIGNED GUIDANCE WILL BE KEY TO IMPLEMENTATION

Numerous efforts are under way that will provide further guidance to companies. The World Economic Forum has identified three socio-economic systems that have significant opportunity and responsibility to reverse nature loss: (1) food, land, and ocean use; (2) infrastructure and the built environment; and (3) energy and extractives.

These systems represent a third of the global economy and drive threats that endanger almost 80% of the total threatened species. Building on this work, the World Business Council for Sustainable Development (WBCSD) is developing nature positive sector roadmaps that will provide practical guidance for setting targets and disclosing nature-related financial risks.²⁶

TNFD is also developing sectoral guidance on disclosures, building on the work of Business for Nature, WBCSD, and the World Benchmarking Alliance. In 2023, the World Economic Forum will publish a report with insights on sector-specific actions to deliver nature positive outcomes in priority industries (including the financial sector) and accelerate the transition toward a nature positive economy.²⁷

Successful collaboration examples already exist. The Textile Exchange's corporate benchmarking program tracks and reports the progress of more than 300 companies in the apparel and textile sector.²⁸ The Fauna & Flora International CALM Framework provides guidance for collaboration across landscapes to mitigate impacts of developments.²⁹ The Systems Change Lab is developing an open source data platform to support greater understanding of the systems changes we need to make this decade.³⁰

CORPORATE PERFORMANCE ON NATURE WILL BE INCREASINGLY REWARDED

Businesses look for competitive advantage in the marketplace. As their role in halting and reversing nature loss becomes clearer, we can expect lines to start being drawn between leaders, followers, and laggards. The methodologies being developed by SBTN and TNFD will ensure that evaluations of companies' support for nature (relative to one another as well as to the global goal for nature) are driven by comparable data and verifiable evidence and "supports a shift in global financial flows away from nature-negative outcomes and toward nature positive outcomes."³¹

Learning from Climate Action 100+, proposals for Nature Action 100+ have been put forward by the World Bank to accelerate investor action toward greening investor and corporate behavior to protect ecosystems and biodiversity.³²

INNOVATION WILL ACCELERATE ACTION ON NATURE

Both technological and business innovation are crucial in the transition to a nature positive world. Examples of what we need include:

- Publicly accessible spatial data for biodiversity and other nature-related issues areas (e.g., land-use change) to track nature positive contributions everywhere in real time and at low cost.
- Financial products for net-positive impacts, including investment funds for private and listed markets.
- Mechanisms to value and integrate biodiversity into carbon markets.
- Novel partnerships between businesses, finance, local communities, civil society, and government.
- Technical innovation for the implementation of SBTN target-setting methodologies and the TNFD framework.

OUR MOST PROFITABLE INVESTMENT

Halting and reversing nature loss by 2030 requires an all-hands-on-deck approach, and businesses must take responsibility for their actions and influence. But they are not on this journey alone. Leading organizations are creating methodologies, tools, frameworks, and guidance, and governments are gearing up to deliver policy frameworks that help businesses aim for more ambitious goals.

The journey toward a nature positive future will not be easy, but nothing worthwhile ever is. Think of all the agricultural, renewable energy, and IT revolutions and overcoming the COVID-19 pandemic. Actions that lead us to a nature positive future may turn out to be far less disruptive and much more rewarding than these previous events. Indeed, we may learn that preserving and restoring nature is a more profitable investment for our future generations, livelihoods, and economy than anything else.

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THE PATH TOWARD A NATURE POSITIVE BUSINESS



Authors

Margot Greenen and Tom Butterworth

Not only is it in businesses' interest to reverse nature loss, they have a key role to play in nature's recovery. Nature is being degraded faster than at any other time in human history.¹ With more than half of global GDP directly dependent on nature and its services, its loss poses a significant risk to business.² In contrast, contributing to its recovery could unlock US \$10 trillion and create 395 million jobs by 2030.³

Nature is becoming more prominent on the global agenda. High-profile reports on the biodiversity crisis are increasingly making their way into mainstream news.⁴ The Post-2020 Global Biodiversity Framework, to be agreed on in Montreal, Canada, in December 2022, will galvanize action not only for governments but for businesses, with Target 15 specifically relating to business assessment, reporting, and reduction of dependencies and impacts on nature.⁵ In response, the Science Based Targets Network (SBTN)⁶ and the Taskforce on Nature-related Financial Disclosures (TNFD)⁷ are being developed to support business action for nature.

Most of us are familiar with the "net zero" concept; we now have "nature positive" added to the mix. What net zero has done for the climate crisis, nature positive aims to do with our nature and biodiversity emergency. Initiatives including the "Global Goal for Nature,"⁸ "Get Nature Positive,"⁹ and "Nature Positive 2030"¹⁰ have adopted this term to demonstrate their ambition to improve the current state of nature; consultancies are providing nature positive services to their clients;¹¹ and news outlets are using the term in articles.¹² Amidst all this, organizations are grappling with developing a consistent, rigorous definition of nature positive.¹³ This article will describe what becoming nature positive can mean for businesses by exploring how it can be defined, assessed, and delivered.

DEFINING NATURE POSITIVE

EVOLUTION OF THE TERM

At its core, nature positive stems from the idea of "no net loss," which was introduced in public pollution and wetland environmental trading in the US in the 1970s.¹⁴ It established the concept of compensating for environmental goods and services that were previously removed from the environment and paved the way for "net positive impact": not just compensating but adding value to the environment that was lost.

Over the years, these concepts have been refined by international organizations into a suite of well-respected methods. These include International Finance Corporation's Performance Standard 6,¹⁵ World Bank's Environmental and Social (ES) Standard 6,¹⁶ and Business and Biodiversity Offsets Programme's (BBOP)¹⁷ guidance, which set out standards, principles, and/or approaches for delivering no net loss or net gain in biodiversity. In the UK, this idea entered into national legislation through Environment Act 2021 requiring all new developments to achieve biodiversity net gain, which it describes as an approach to development that leaves biodiversity in a measurable better state than before.¹⁸

As articulated by Professor E.J. Milner-Gulland, the key to these concepts is the idea of “net”: that the overall impacts of an activity, after summing up all individual impacts since the baseline was established, reach a predefined balance (i.e., no loss or gain).¹⁹ Implicitly, however, it acknowledges that negative anthropogenic impacts on nature cannot cease in their entirety and that that portion will need to be compensated for.

This has shaped the business narrative around nature in fundamental ways. First, it encourages quantifiable measuring of impacts that can be summarized and analyzed the way other business-related risks and opportunities are framed. Second, if the BBOP’s good practice principles are not followed, it sets up the idea of inevitable loss, potentially leading to a lack of ambition and business-as-usual-with-offsetting scenario.

The term “nature positive” began appearing in common discourse in 2020.²⁰ A recent paper suggested the term’s popularity stems from: (1) a growing recognition of the economic and financial risks of biodiversity loss and (2) the pervasiveness of biodiversity impact across the value chain.²¹

Its popularity can also be explained by its increased inclusivity. Nature encompasses all elements of the natural environment, recognizing the interdependence of abiotic (e.g., water, air, minerals, temperature) and biotic (e.g., biodiversity

of all living things, including terrestrial, fresh-water, marine, and soil biodiversity) elements. The word “positive” is a symbolic, resonant term that engages the general public and avoids technical jargon. We must remember that the way nature positive is defined will have significant influence on how businesses address their nature-related activities.

A COHERENT DEFINITION

With the rising popularity of the term “nature positive,” it’s important to set a singular, clear definition. Such high-level terms can become vulnerable to deviations in and loss of meaning.²²

Current definitions can be broadly categorized into three types: target-based, process-based, and conceptual (see Table 1). Each type covers an important aspect of achieving nature positive, but there is a need to ensure rigor. This can be done by mentioning measurability, a baseline, a time frame, and a quantifiable target that will allow for clear action, reporting, monitoring, and disclosure of progress.²³ The “Global Goal for Nature” initiative provides such a definition:

We need to **halt and reverse nature loss** measured from a baseline of 2020, through increasing the health, abundance, diversity, and resilience of species, populations, and ecosystems so that **by 2030** nature is visibly and measurably on the path of recovery.²⁴

TYPE	TARGET-BASED	PROCESS-BASED	CONCEPTUAL
Description	Specific, aiming for quantifiable outcomes	Operational steps required to achieve nature positive	Aspirational, often referring to slower mindset change
Examples	Halting and reversing the loss of living and nonliving nature, so that nature is measurably on the path to recovery by 2050	A new way for businesses to operate, based on a better understanding of their exposure to risks and dependencies, involving conservation, avoidance, regeneration, and recovery of nature	A business model and mindset that puts nature and our future at the forefront of our everyday actions and decisions

Sources: zu Ermgassen, Sophus O.S.E., et al. “Are Corporate Biodiversity Commitments Consistent with Delivering ‘Nature Positive’ Outcomes? A Review of ‘Nature-Positive’ Definitions, Company Progress, and Challenges.” *Journal of Cleaner Production*, Vol. 379, Part 2, 15 December 2022; and “Nature Positive Business Pledge.” UK Business and Biodiversity Forum (UKBBF), 2022.

Table 1. Three types of nature positive definitions

This definition sets out clear parameters for the delivery of nature positive and implicitly carries the concepts around a net balance and inclusivity. However, there are some issues to point out. A 2020 baseline is not appropriate for organizations that were set up after 2020 or with ongoing land-holding or range-of-work changes that occur after 2020. In addition, these targets do not mention people and society. Although nature positive's aim is to improve the state of nature, it must be carried out in a way that does not negatively impact people and society and, where possible, synergistically benefits both. If this concept cannot be embedded in the definition of nature positive itself, it must be included in a wider set of principles that supports it.

ASSESSING NATURE POSITIVE

To ascertain the current state of nature-related commitments and ambitions in the business sector, we conducted a small-scale survey that was shared among members of the UK Business & Biodiversity Forum (UKBBF),²⁵ where ambition and action tend to be higher than average. Understanding what is happening at the forefront of the business-nature nexus is important, as this will shape the coming decades of business action for nature. The survey received 38 responses from stakeholders representing a wide range of sectors and business sizes.

THE COMMITMENT LANDSCAPE

All but two surveyed businesses have made a carbon commitment. Despite the longer history of efforts to address the climate crisis, commitments were defined and implemented relatively recently; 75% of those having made a commitment set it in 2020 or 2021. This recent uptake is not surprising (the net-zero agenda is the first global movement of its type), but we believe it paved the way for faster, more efficient progress to be made with nature positive.

More than half of surveyed businesses have signed up to a nature-related pledge; the majority signed up to Get Nature Positive and/or the Business for Nature Call to Action.²⁶ This focus on business-oriented nature positive initiatives (compared to the broader United Nations (UN) Convention on Biological Diversity Action Agenda or the specific New York Deforestation

Declaration) demonstrates businesses' particular engagement with the nature positive movement.

More than half of surveyed businesses have nature-related commitments and targets, and another 20% have plans to do so. As expected, there are diverse degrees of enterprise in this sphere, with some businesses spearheading the work and others letting other businesses and initiatives pave the way. Slightly fewer than 60% of respondent businesses have established corresponding targets. This matches the number of commitments quite closely, suggesting that commitments are likely developed alongside targets, a good indicator of businesses' intent to deliver on their goals.

Around 80% of respondents perceive their targets as being SMART (specific, measurable, achievable, realistic, and time-bound). Out of these five characteristics, measurable and achievable were selected the least, reflecting the challenge of the higher complexity of biodiversity measures and goals compared to those for climate. Furthermore, the targets tend to focus on direct impacts, which are the easiest to track and measure. Our experience suggests that most businesses are choosing low-hanging fruit rather than targeting the areas of greatest impact.

Most of the surveyed businesses use biodiversity net gain (BNG) and area-based measurement approaches. Businesses prefer measurement approaches that are simple, well-established, easy to understand, and easy to measure. Standard approaches like BNG and its associated biodiversity metrics developed in England will likely be crucial for the nature positive movement going forward, as they favor widespread adoption.²⁷ The limited range of indicators used, despite the growing number that exist (e.g., STAR,²⁸ IBAT,²⁹ and natural capital assessment tools), shows a knowledge gap in the business sector.

To give us some perspective, the state of Global *Fortune* 100 companies were analyzed in 2016 and in 2021.³⁰ In 2016, around half mentioned biodiversity or biodiversity-related issues, with an additional 15% only mentioning forestry or fishing. Around two-thirds of those companies made commitments, and five had SMART targets. Since then, there has been an increase in commitment making, and improvements have been more common than regressions, demonstrating growing engagement.

However, there is still a clear lack of SMART targets, especially around addressing the entire value chain and integrating with climate and social goals. It is crucial for companies to start spear-heading goal-setting, measuring, and reporting techniques and for nature-related guidance and tools to gain more traction.

AWARENESS & VALUE OF CURRENT GUIDANCE

A majority of surveyed business are aware of guidance that supports the development and application of nature-related commitments and targets (see Figure 1). More than 80% of respondents were aware of SBTN, TNFD, the Natural Capital Protocol³¹ and BNG Good Practice Principles,³² which have arguably been the most successfully advertised.

Respondents were least aware of IMEC (Impact Mitigation and Ecological Compensation),³³ the EU Business & Biodiversity Platform,³⁴ BBOP, and the International Union for Conservation of Nature’s (IUCN) guidelines for planning and monitoring corporate biodiversity performance,³⁵ demonstrating various knowledge gaps around recently released and/or more secondary guidance.

Respondents said they often find guidance documents helpful, but there is room for improvement.

Around 70% would like guidance to be more sector-specific and consolidated into fewer and shorter documents. Sixty percent said they would benefit from the provision of more training and better outreach. Forty percent would like the guidance more accessible and advertised. Other improvements mentioned included clarity of intention and possibilities for certification.

OPINIONS ON NATURE POSITIVE PRINCIPLES

In the absence of a standard definition, principles can play a key role in guiding impactful work. They do so by translating nature positive into concepts that businesses already understand and addressing the elements and pitfalls of past nature-related terminology with which businesses are already familiar (e.g., the importance of measurement and issues with the term “net” mentioned above).

A set of nature positive principles were provided to survey participants. These covered core ideas such as ensuring long-term benefits, additionality, the precautionary approach, and the mitigation hierarchy; setting the direction through SMART targets, collaboration, and integration; and delivery through sustainable use and shared benefits of resources, acting at all stages of the value chain, and transparent and traceable reporting.

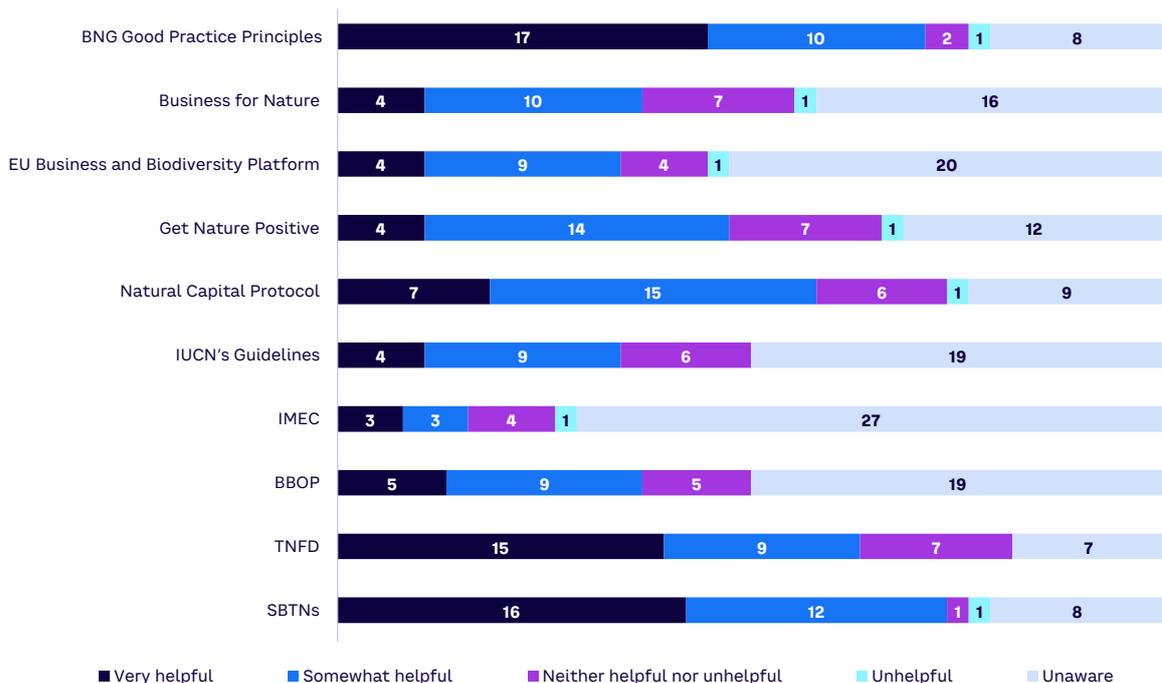


Figure 1. Respondent awareness of nature-related guidance documents and appraisal of their utility

Overall, businesses largely agreed with this set of principles (see Figure 2). Deemed particularly meaningful (i.e., more than 50% of respondents answered “extremely important”) were the principles of ensuring long-term outcomes for biodiversity and ecosystem function, applying the mitigation hierarchy, acting at all stages of the value chain, ensuring sustainable use and shared benefits of natural resources, and requiring transparent and traceable reporting. Most importantly, three quarters of surveyed business would be ready to commit to a nature positive pledge that follows these principles. This demonstrates an overarching understanding of what nature positive aims to achieve and a desire for unified, collaborative, urgent action to take place.

DELIVERING NATURE POSITIVE

The appetite for concrete nature positive action in the business sector is illustrated by the number of nature positive initiatives. Despite this, there are barriers to translating business engagement into concrete action.

The UKBBF’s Nature Positive Business Pledge was developed by business for business, with the aim of overcoming this struggle.³⁶ It provides a set of principles (see sidebar at end of article) and a clear, ratcheted process for businesses to robustly achieve real benefits for nature at an achievable pace while contributing to societal and environmental goals.

Crucially, the pledge recognizes that the nature positive journey will not be the same for each business and encourages businesses to contribute to the Global Goal for Nature, align themselves with governmental national strategies, set evidence-based targets based on those released by SBTN, and apply the TNFD approach.

There are a few points to highlight:

- The pledge purposefully does not define nature positive and acknowledges the variety of ways in which it can be defined. It provides a set of rigorous principles that translate nature positive into concepts business can readily act on. This avoids the risk of delayed action while the global community tries to agree on a definition.

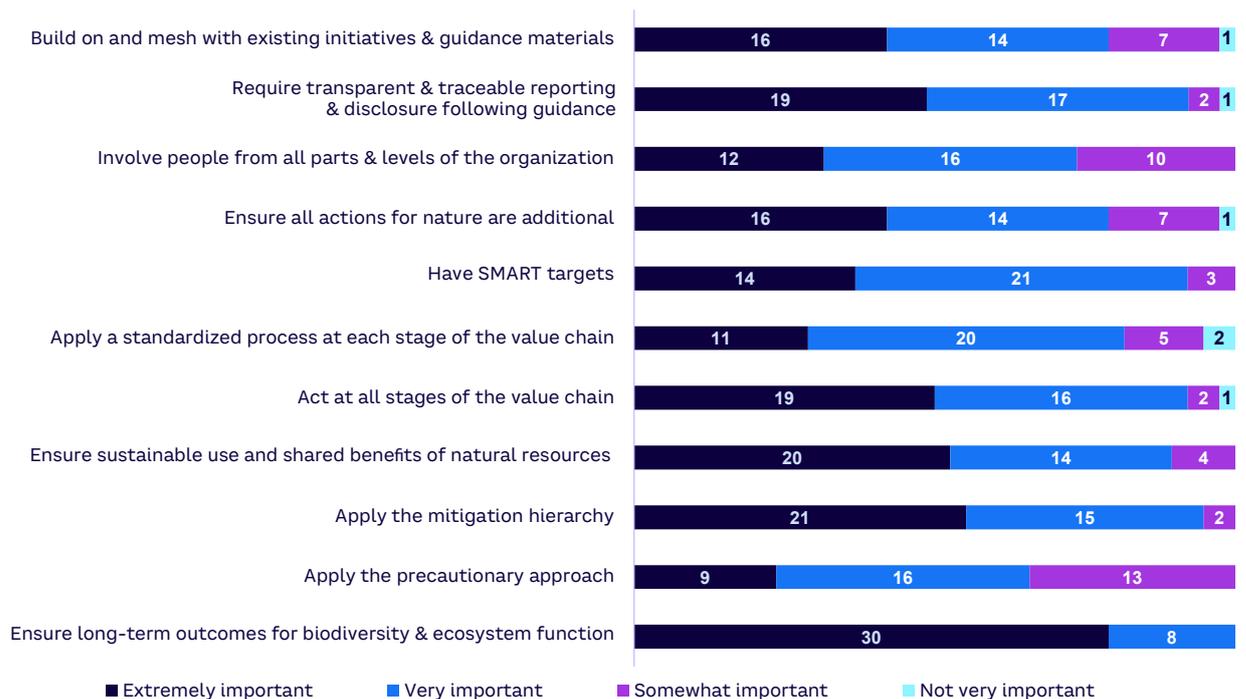


Figure 2. Respondent opinion of the importance of nature positive principles

- Unlike initiatives that mostly view nature positive through a single lens (target-based like Global Goal for Nature, process-based like Business for Nature, or conceptual like Get Nature Positive), the pledge combines the approaches. It encourages goal setting, a rigorous approach to delivery, and actioning both fast and slow change.
- The pledge relies on a range of existing initiatives, tools, and guidance around nature positive, bringing them into a coherent framework that allows for action to begin immediately.
- The ratcheting process helps companies commit to something simple at first, increasing the ambition and extent of their commitments over time. This adds a layer of flexibility by enabling companies to adapt to innovation and policy changes around nature positive.

CONCLUSION

Six elements are required to achieve nature positive: (1) vision, (2) concrete commitment,

(3) framework for action, (4) accountability and transparent reporting, (5) adaptive management, and (6) coherence.³⁷ The international community is in the process of developing a rigorous definition of nature positive along with standard frameworks and measurement approaches. We cannot wait for these elements to start acting — and it is often by spearheading work that we establish the most effective way forward.

By understanding the origin, evolution, and diversity of the term “nature positive” and the commitment aspirations of the business sector, we can establish rigorous frameworks despite the existing gaps. These will help organizations adaptively manage to suit the fast-evolving landscape, including how the Post-2020 Global Biodiversity Framework will provide further certainty about the direction of travel.

We must not let the perfect be the enemy of the good. We must take action now — if we wait for the perfect answer, it will be too late.



NATURE POSITIVE BUSINESS PLEDGE PRINCIPLES

The pledge is for all businesses of all sizes and sectors that want to reduce their negative impacts on nature and make nature positive decisions.¹ To accomplish these ambitious objectives, the pledge follows these overarching principles.

CORE PRINCIPLES

The mitigation hierarchy: Apply the mitigation hierarchy to all facets of the business. That is, avoid and then minimize negative impacts on nature, then restore, and finally compensate and offset residual impacts.

Long-term benefits: Generate long-term benefits for nature and the services it provides.

Additionality: All nature positive actions should be additional to what would have happened without these actions, seeking to achieve net-gain or net-positive impact.

The precautionary approach: Where there is a lack of evidence or information the precautionary approach will be applied, meaning that where there may be impacts on nature, realistic worst-case impacts should be assumed.

SETTING THE DIRECTION

Identify and set SMART targets for delivering nature positive outcomes (outcomes that have a measurable benefit for nature).

Collaborate across the business and between organizations by involving people from all parts and levels of the business and, when possible, promote cross-sector collaboration with government, communities, NGOs, stakeholders, and other businesses to share ideas, ambitions, lessons learned, and experiences.

Integrate by building on and meshing with existing commitments (e.g., net-zero targets, ESG goals, and CSR goals), initiatives (e.g., Taskforce on Nature-related Financial Disclosures, Science Based Targets for Nature) and guidance materials (e.g., BNG Good Practice Principles, IUCN guidelines for planning and monitoring corporate biodiversity performance).

DELIVERING NATURE POSITIVE

Follow a structured, comprehensive, evidence-based approach: All businesses should follow a stepwise approach to deliver nature positive outcomes:

- *Assess and prioritize* all of their possible impacts on nature.
- *Set goals and targets* that address these prioritized impacts.
- *Identify, select, and roll out actions* that are budgeted and sequenced and that describe how they will contribute to achieving targets.
- *Measure and monitor* all subsequent negative and positive impacts on nature and compare them to an established measured baseline to quantitatively and qualitatively record progress toward targets.
- *Report on delivery and update* goals, targets, and actions to reflect and respond to new data and evidence.

Address all stages of the value chain by taking action to halt nature loss and contribute to its recovery at each stage of the value chain, including supply chain, direct impacts, indirect impacts, and services.

Incorporate nature-based solutions at the core of the business strategy. As per IUCN, nature-based solutions are “actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.”^{2,3}

Deliver sustainable use and shared benefits of natural resources, respecting indigenous and local people’s rights.

Be transparent in the regular reporting and disclosure of all nature positive activities, including the baseline, impacts, actions, and outcomes.

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PARTNERSHIPS ARE KEY TO ACHIEVING A NATURE POSITIVE FUTURE



Author

Colleen Corrigan

The dependence of all businesses on nature is increasingly documented in terms of economic impact and global GDP reliance on functional ecosystems.¹ The risks of inaction to the rapid loss of species have many repercussions, from lowered organizational reputation to intensified competition for resources in the supply chain and exacerbated ecological crises.² Urgent action is needed, as global biodiversity loss has already exceeded the safe levels of planetary boundaries.³ These shifts in our common ecological heritage affect the corporate world's bottom line alongside humanity's well-being. Reaching a nature positive future that restores nature to a healthy state requires action by all.

Despite the value of nature for businesses, there is an estimated annual gap of US \$800 billion to fund its protection.⁴ The good news is an increasing number of companies are investing to some degree in biodiversity improvements, although this funding is usually on projects within their direct operations, leaving parts of the value chain underfunded and underprotected.⁵

To reach their nature goals, companies must expand their awareness and engagement with critical areas of environmental concern both upstream and downstream, beyond their direct operations. This broader geographic awareness is important to the private sector when making decisions about investing in conservation. Companies need to know more about the biodiversity and nature they rely on and impact both at the source of their materials and services as well as at the end-of-life phase.

HOW BUSINESS IS RESPONDING TO BIODIVERSITY LOSS

As awareness of the risks to and reliance on nature become more evident to companies, some of them are shifting from accounting for and reducing negative impacts to ensuring the restoration and preservation of nature.⁶ Business actions in response to biodiversity loss take shape in a variety of ways. For example, more than 1,100 businesses have signed on to a campaign led by Business for Nature to advocate for reversing the

loss of nature.⁷ The program includes inspiring others to make commitments that guarantee the future of nature and, thus, business.

TO REACH THEIR NATURE GOALS, COMPANIES MUST EXPAND THEIR AWARENESS AND ENGAGEMENT WITH CRITICAL AREAS OF ENVIRONMENTAL CONCERN BOTH UPSTREAM AND DOWNSTREAM

Another approach involves investing in nature protection that will ideally protect, repair, or restore biodiversity. As more businesses commit to reversing nature loss, they are investing in new ways, including offering community grants through organizational foundations or philanthropic arms, supporting capacity development in suppliers, and funding restoration of habitats larger than the size they rely on. These place-based actions

provide greater ROI when they consider ecosystem integrity, which ensures the functioning of natural processes that are critical for people and businesses, such as the provision of freshwater and the productivity of soil.



A third response to biodiversity loss is tracking global and national policy developments that affect suppliers, sourcing regions, and operations. For example, some businesses are tracking policy and legislative developments related to the Post-2022 Global Biodiversity Framework, an emerging framework from the United Nations (UN) to identify 20+ critical targets for humanity that address the greatest challenges for nature.⁸ The aim is for a future where all of nature, including species and ecosystems, will be restored and thrive. In the UN Convention on Biological Diversity's 30th year, businesses are more engaged than ever in the process.⁹ The resulting implementation is expected to have wide-ranging opportunities and influence for the corporate sector, including issues related to indicators, risks, and reporting.

Finally, many businesses are hiring in-house staff or working with coalitions to broaden their expertise in biodiversity. For example, many corporations are expanding their capacity to engage with nature topics by adding staff with experience in biodiversity.¹⁰ Regardless of the approach being taken, experts and leaders must be on the ground to have a true impact. No one organization can do this alone: it is a space for partnerships.

WHY PARTNERSHIPS ARE ESSENTIAL

Biodiversity is tied to place, so businesses need local knowledge of the environment where their suppliers are located and materials are sourced. Having partners with this knowledge, or access to those who have it, is essential for working with local geographies. Reaching nature positive outcomes requires skills in making place-based decisions. Thus, there is a need to work with advocates on the ground who know the local ecologies, communities, and requirements for success. They are critical partners for companies that want to meet their nature commitments.

Partners can also help determine which natural areas are the priority for protection or restoration. Biodiversity is not equally distributed across the planet, so ensuring the right places are protected and restored requires partners that can help discern that information.¹¹ Some areas of the Earth, like the Amazon rainforest, the Pantanal wetlands,¹² and the Southern Ocean, are much higher in biodiversity than other areas, and some habitats are capable of storing more carbon than others.¹³ Protecting nature requires intimate knowledge of the habitats, species, and environmental conditions that thrive in the more than 1,000 diverse ecoregions found on land¹⁴ and in the sea¹⁵ across the planet.

Environmental nonprofit organizations, government agencies, and many private groups play a key role in environmental governance at the local level. Larger nongovernmental organizations (NGOs) often work as intermediaries, supporting and building relationships with smaller NGOs and communities over the years while working on biodiversity protection projects. These entities know where to enact restoration activities, what to protect, what to plant, and how to restore populations of species.

Partnerships are also integral to both ecological and social effectiveness. Indigenous peoples and local communities are stewards of a third of the planet,¹⁶ including some of the most ecologically significant and intact landscapes.¹⁷ Many have worked diligently for years, in some cases thousands of years, to both guard and sustainably use some of the most threatened regions of the world. Reaching nature commitments as well as social justice issues of diversity, equity, and inclusion rely on working well with those who live within and near areas where biodiversity is threatened or in need of restoration.

Partnerships can also increase efficiency in reaching nature commitments. Given the physical and organizational limitations of any one company, working with partners allows scaling of resources, solutions, and geographies to reach the landscape and seascape levels that are critical for the functionality of the environment and flow of nutrients, genetic material, highly migratory species (e.g., whales, birds, caribou), freshwater, and so forth.

For companies committing to large-scale conservation goals, working with partners allows for data sharing, collaborating across political boundaries, and addressing ecological challenges at the landscape and seascape scales. Partnerships also take advantage of the added strengths of each partner to the relationship.¹⁸

HOW TO APPROACH PRIVATE-PUBLIC PARTNERSHIPS FOR NATURE

Despite the scientific and social rationale for engaging in conservation partnerships, many companies lack knowledge about how to engage, a challenge that keeps them from acting.¹⁹ Clarifying the relevance and benefits of engaging in conservation partnerships can influence some companies to act; examples are outlined below.

Since most businesses will be working with partners who come from the nonprofit, government, or civil society sectors, it is important to respect the long history and world perspectives of each. Finding common values at the start of a partnership can offer entry points, and strategies can be built on these. Both the nonprofit community and the business community share commonalities in their values and aspirations.

For example, private sector and conservation NGOs both value trust and organizational reputation as well as transparency, accountability, knowledge sharing, and integrity. Other values include adherence to established processes, involvement of stakeholders and shareholders, and the desire to have a future where nature thrives and continues to provide the services that any sector relies on (e.g., green space, clean water, and wood products).

DESPITE THE SCIENTIFIC AND SOCIAL RATIONALE FOR ENGAGING IN CONSERVATION PARTNERSHIPS, MANY COMPANIES LACK KNOWLEDGE ABOUT HOW TO ENGAGE

Businesses and nonprofits often have criteria in place for working with partners. Reviewing these before identifying partners (or solidifying partnerships) can help ensure alignment of purpose. For example, the International Union for the Conservation of Nature (IUCN) (the world's largest network of environmental experts and the foremost authority on the state of nature) has developed principles and guidelines for engaging with the private sector.²⁰ IUCN also has programmatic staff and due diligence processes that guide its decision making in partnerships. Being aware of the motivations and limitations of nonprofit partners can go a long way toward developing lasting relationships in nature projects.

Likewise, some businesses have generated criteria for nature-related projects that can inspire others. For example, Walmart's intake form for place-based nature projects includes criteria such as key performance indicators, SMART targets, good metrics, and an implementation strategy.²¹ Thinking through expectations and qualities of partners, including shared values, can set a foundation for successful partnerships.

THINGS TO KEEP IN MIND ABOUT PARTNERSHIPS

In recent decades, the organizations most dedicated to protecting nature have engaged directly and intensely with the private sector. Most of the larger global environmental NGOs, such as WWF and Conservation International, have created positions or programs that work with businesses, corporations, and private investors.^{22,23} These relationships have been valuable to business because of connections that have been made with on-the-ground projects and opportunities to implement actions aimed at reaching corporate nature goals.

However, continued societal challenges make this a difficult adjustment for some nonprofits, especially smaller organizations with limited resources, staff, and/or experience with the private sector. Many remain cautious about engagement.

The numbers of indigenous peoples and local community leaders who have been killed while protecting critical areas of nature are staggering: more than 1,700 environmental defenders have been killed in the past decade (many consider

that number to be an underestimate).²⁴ Although violent encounters are an extreme, the range of social impacts is widespread and not tied to any particular sector. Being aware of social issues in the supply chain and end-of-life product or service stages can help prepare businesses for tough questions that might arise while developing trusted partnerships.

Greenwashing is another reason some nonprofits are guarded when it comes to direct engagement. There have been numerous examples over the years, including false claims of reduced automotive emissions, that have led to these perceptions.²⁵ Coca-Cola's sponsorship of the *27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27)* in November 2022 received criticism due to the company's increase in plastic production despite evidence of its pollution levels.²⁶ Research shows more money is being spent on perverse subsidies than on actions to reverse the loss of nature.²⁷ Findings like these generate caution among potential partners; being aware of the issues and finding ways to be transparent and address them can help ease tensions.



LEARNING FROM OTHER BUSINESSES

There's much to be learned from businesses already making nature commitments. In the precompetitive space, companies are engaging in partnerships and coalitions to address the need for tools and processes to help all businesses protect nature by increasing awareness and assessing dependencies and impacts.

For example, Walmart is building a reporting tool called the Project Gigaton calculator²⁸ for suppliers to help track progress of its goal to protect more than 50 million acres of land and 1 million square miles of ocean.²⁹

Fashion company Kering has developed a biodiversity strategy that aims to restore habitats on 1 million hectares of land.³⁰ Nestle is taking deforestation efforts to a new level by moving beyond a tree-removal reduction to planting gains on native forest coverage, something it calls "forest positive."³¹ All these actions require partners.

Businesses already involved in setting climate targets that aim to reach net zero in the coming years will have familiarity with the complementary processes being developed within the nature-protection community. For example, the Science Based Targets initiative (SBTi), established to limit global warming through actions taken by governments and industry, has been the model for the Science Based Targets Network (SBTN), which provides a framework and process for setting nature targets. More than 90 businesses are Corporate Engagement Partners with SBTN to help test and implement the guidance.³² Many NGOs are also involved since they are the conduit for projects on the ground.

Lastly, nonprofit business collectives provide a rich space for learning and exchange. The Coalition for Private Investment in Conservation, for instance, is a partnership offering resources and opportunities for corporate and finance members to learn from each other while funding activities in the conservation of nature.

CONCLUSION

As businesses continue to set goals and targets related to nature, they can begin exploring the partnerships that will be essential for achieving those targets and protecting the biodiversity and integrity of the landscapes on which they depend. It's not too early to build relationships, identify criteria, and establish processes that can help with developing partnerships and making collective decisions among the partners who will be involved.

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9 CONSERVATION PRINCIPLES:

FOSTERING COLLABORATION FOR
NATURE POSITIVE OUTCOMES



Authors

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Developing, maintaining, and operating infrastructure to support the growing demands of a globalized human population threatens the survival of many species and the ecosystems on which nature and people depend. These pressures, compounded by a lack of sufficient social and ecological standards and poor enforcement of regulations, can have significant implications for biodiversity and climate change.

It is increasingly apparent that businesses must rethink their models — reevaluating and revaluing nature and its role in the global economy. Over the past decade, collaborations between academic institutions or nongovernmental conservation organizations (hereafter “conservation organizations”) and for-profit businesses have become more common.^{1,2} Through conservation-business collaborations (CBCs), it is possible for these organizations and other stakeholders to work together, using sound science to inform strategies and develop novel and profitable ways to supply resources for human use while sustaining ecosystems that support biodiversity.³

When a corporation enters into a CBC, the main concerns of the company are usually risk aversion, economic sustainability, and profit.^{4,5} Even so, when a company chooses to collaborate with a conservation organization, it’s often because key individuals believe the deterioration of biodiversity and ecosystem services can affect the business’s bottom line. In some cases, there may also be standards for corporate social responsibility (CSR) within the company that aim to mitigate environmental impacts and have a net zero or positive effect on biodiversity.^{6,7}

Conservation biologists aim to ensure that species, landscapes, and ecosystems endure. Many conservation biologists view CBCs as an opportunity (most would say a responsibility) to develop science-based strategies that minimize environmental impacts while meeting company goals.⁸ Many conservation biologists who form CBCs believe that doing so is not only a strategic step to documenting biodiversity and ecosystem services to reach conservation goals, but also an opportunity to complement and improve a business’s ability to implement best practices, reduce environmental risk and uncertainty, and engage in science-based decision making.⁹

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Interest in forming CBCs has grown on both sides, but many challenges involving cross-sector collaborations remain, not least of which are differences in goals, approaches, culture, and language between partnering organizations.^{10,11}

Furthermore, distrust and tension can undermine the development of CBCs and prevent shared goals from being achieved.¹² Cross-sector partnerships are most successful when there is trust, understanding, and appreciation for the work partners are undertaking,¹³ and when goals and strategies are codeveloped. To ensure attainment of a CBC's goals, organizations must seek to acknowledge differences while fostering the strengths of each partner.



Several guidelines on how to structure a CBC are available,¹⁴ but one of the more challenging aspects of forming a successful CBC is establishing a common language between partners with vastly different experiences and knowledge bases. To this end, we created a list of nine concepts and principles related to biodiversity conservation that are key to understanding the conservation perspective and improving collaborations between conservation organizations and businesses.

1. THERE IS A DIFFERENCE BETWEEN CONSERVATION BIOLOGY & CONSERVATION PRACTICE

Conservation biology is an interdisciplinary science focused on the study of species, communities, and ecosystems that are impacted by human actions. The main goal of conservation biology is to provide fundamental principles and mechanisms to preserve biological diversity and ensure its long-term viability.¹⁵ Conservation practice consists of actions to reduce threats like climate change and to maintain or improve the status of biodiversity targets.

Conservation biology produces knowledge based on scientific research, whereas conservation practice translates that knowledge into actions and involves multiple stakeholders.¹⁶ In CBCs, conservation scientists generate scientific knowledge, and businesses use this knowledge in conservation practice by implementing effective actions for conserving biodiversity (i.e., best practices).

Therefore, we can all be “conservationists,” balancing science, implementation, and advocacy so that the scientific results improve standard operating procedures, best practices, and policy making in an economically feasible way that minimizes business risks and impacts to biodiversity.

2. BIODIVERSITY IS COMPLEX & THERE IS MUCH WE DON'T KNOW

Biodiversity consists of all the living organisms within a given system. Much of the world's diversity is still unknown to science, and there is debate as to how many species exist on Earth.¹⁷ Living organisms exhibit a great range of lifestyles. Therefore, studying their evolution, behavior, and interactions with other organisms and their environment is quite complicated, requiring replication and adaptation of methods under a variety of conditions.

Furthermore, biodiversity can be measured at multiple interconnected scales: from genetic diversity within a population to species diversity within a community to ecosystem diversity within the biosphere.

Business activities can impact one or many levels of diversity and one or more aspects of organisms' lifestyles. Biodiversity assessments are ideally done at the beginning of any project to capture baselines. These assessments should consider the level(s) of diversity and aspect of lifestyles likely to be impacted to provide an appropriate baseline of the "normal" state.

Efforts by CBCs to restore or offset losses of biodiversity must reflect the appropriate scale(s) impacted. For example, successfully restoring plants and insects in an area disturbed by company operations may require maximizing genetic diversity, species survival, and the diversity of habitats used by plant populations.¹⁸

3. CONSERVATION OF BIODIVERSITY TAKES TIME & REQUIRES ADAPTIVE MANAGEMENT

Conservation goals directly relate to a species, habitat, or an ecosystem target. Each species has a particular reproductive cycle, development time, and life span that influence its persistence in a habitat and interactions with other species. Like other scientific disciplines, conservation biologists use the scientific method to answer research questions about these targets, frequently focusing on the long timescales of ecological and evolutionary processes. These timescales are often at odds with the pace at which business decisions and activities take place.

Furthermore, the scientific method is an adaptive process that can be used to test hypotheses about best practices, evaluate their validity, and adjust the hypotheses based on new data. This approach informs adaptive management, which is a method of continual monitoring to address uncertainty, evaluating the relationship between activities and outcomes and shifting management practices in light of the information from monitoring and evaluation. However, non-scientists may become frustrated when recommendations change based on new scientific evidence. Dialogues between conservation scientists and industry should seek to raise awareness of these different realities, recognize the value in taking the long view as an investment in the future, and develop short- and long-term goals for CBCs.

4. ENVIRONMENTAL IMPACT ASSESSMENTS ARE JUST THE FIRST STEP

An environmental impact assessment (EIA) is a formal process required by many governments and funding agencies to predict the degree of impact an activity will have on the environment and make recommendations to mitigate those impacts. Although an EIA can contribute to documenting baseline biodiversity at a given site, the methods used to collect the data typically do not meet minimum standards to document all biodiversity of the site, and results are often not actively disseminated outside government and corporate channels. EIAs are an important first step that can complement conservation plans and/or biodiversity action plans, but they cannot replace them.

Beyond EIAs, CBCs can amplify nature positive contributions by prioritizing rigorous and repeatable scientific design for baseline, monitoring, and evaluation studies of biodiversity that can serve as a reference point to quantify anthropogenic impacts, develop and test effective mitigation measures, and recommend best practices based on sound evidence and reasoning.

5. BIODIVERSITY OFFSETS ARE A LAST RESORT

The mitigation hierarchy states that steps should be taken to avoid, minimize, restore, and offset impacts from operations.¹⁹ The first and best options are to avoid or minimize, because restoration efforts require large investments of time and money and often fall short in rebuilding ecological communities and systems to their original condition.²⁰ It is even harder to replace ecological communities through offsets,²¹ and, thus far, evidence to support the efficacy of offsets to achieve no net loss (much less net gain) is lacking.²²

Using offsets should be the last resort.²³ Then, CBCs can help define and measure potential impacts on biodiversity and ecosystem services, assess feasibility, and account for time lags and uncertainties in a loss-gain calculation.²⁴ Although much uncertainty remains regarding the viability of offsets,²⁵ CBCs can ensure that the selection of an offset is based on the best available scientific data.

6. BEST PRACTICES ARE NOT UNIVERSAL

Science-based best practices, particularly on a large scale, have the potential to substantially reduce environmental impacts of a business's activities.²⁶ However, best practices are industry-specific and often site-specific.

For example, long pipelines (>100 km) may cross through a number of ecosystems or habitats. Best practices along such infrastructure must consider factors like the different species and different climatic conditions between the habitats crossed.²⁷ Moreover, the distribution and abundance of species and habitats are influenced by political and economic trends and local human inhabitants (e.g., history of human presence, human-human conflict, preexisting human-wildlife conflict, illegal activities).²⁸

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Therefore, it is critical to compare the ecological, sociopolitical, and historical context in which a best practice was developed to the context in which it will be used. A CBC can identify ways to adjust best practices for local application. Most importantly, the efficacy of best practices should be reevaluated over time, with adjustments made intermittently to adapt as contexts change. To share lessons learned and improve global adaptive management practices, businesses should encourage conservation partners to disseminate all outcomes of collaborations in peer-reviewed publications and make data publicly accessible.

7. IT'S ABOUT PEOPLE & IT'S ABOUT NATURE

People living close to or within rich biodiversity areas are likely to have a deep understanding of natural resources and be dependent on them and other ecosystem services for their well-being.²⁹ CBCs must fully evaluate and integrate the role of local and indigenous peoples because they have the knowledge, interest, and right to become effective partners in CBCs;³⁰ social impact and prior informed consent form a core tenet of most CSR strategies.

CBC projects that consult, engage, and empower local and indigenous peoples have a greater potential to achieve positive conservation and development outcomes.³¹ CBCs should also include an interdisciplinary team of experts and incorporate essential contributions from social scientists.³² This will enhance a CBC's ability to build capacities and strengthen the roles of local and indigenous peoples as active decision makers in every activity that impacts their land, territories, and resources.

8. SMALL ACTIONS CAN MAKE BIG DIFFERENCES

Biotic communities are interconnected, so an impact on one component may affect other parts (in positive and/or negative ways). Likewise, some impacts accumulate over time and may not be immediately apparent. For example, non-native diseases or an invasive species may be inadvertently introduced into an area during a business's activities and become apparent only after several years.

CBC impact assessments and monitoring plans must consider potential effects in multiple dimensions of size, space, and time. Ideally, a CBC will maintain updated, comprehensive baseline surveys to help identify impacts of actions (positive and negative, intentional and unintentional) and will maintain constant dialogue regarding potential adaptive operational adjustments over the course of a business's activities.

Small actions and considerations for conservation can also have positive impacts on biodiversity and societies. Early identification of positive actions may lead to more cost-effective and environmentally friendly strategies. For example, giving talks in work camps about the importance of biodiversity for everyone, and placing signs to remind workers that hunting, fishing, and collecting are not allowed in areas of operations, can raise awareness among decision makers on the ground.

Something as simple as adjusting the color and spectrum of outdoor lighting can moderate the number of arthropods attracted to a facility and reduce mortality.^{33,34} On a larger scale, leaving intact trees that connect to form natural canopy bridges above a pipeline, which adds minimal additional costs if implementation is planned in advance, provides movement corridors for arboreal mammals and may reduce the effects of forest fragmentation.³⁵

9. THE TRIPLE BOTTOM LINE ACCOUNTS FOR SUSTAINABILITY

The “triple bottom line” is a type of full-cost accounting that allows for a more accurate analysis of profits and losses by including social and environmental costs and returns incurred by business practices.³⁶ Resilience, the capacity of

a system to absorb shock, resist damage, and recover quickly, is a desired component of social, environmental, and financial systems.

Many proactive businesses have adopted the triple bottom line, or a similar CSR policy, because it can lead to more sustainable and resilient business practices. However, these newly adopted accounting and policy statements have not always led to large benefits for biodiversity and ecosystem services.³⁷

Conservation social scientists have the expertise not only to help measure profits and losses in the social and environmental dimensions, but also to make suggestions that are more likely to lead to positive outcomes.^{38,39} Conservation biologists can evaluate the resilience of ecosystems, identify thresholds indicating when systems are no longer resilient, and use this knowledge to develop management practices. Through these parallel activities, CBCs can make strides toward developing more accurate accounting metrics to calculate the triple bottom line, safeguard biodiversity, and promote sustainable development.

FINAL REMARKS

Faced with the dual climate and biodiversity crises of the Anthropocene, we all must reassess our nature positive strategies and search for ways to collaborate if we are to develop viable solutions.⁴⁰



Business can be a leader in helping to achieve global goals for nature and sustainability through CBCs, which can serve as models that promote best practices and good actors while contributing to nature positive economies.

Although not all-inclusive, the principles presented here are key to building a common language that can be used to improve dialogue between conservation organizations and corporations seeking to enter into a conservation partnership. We hope this list of conservation principles sheds light on the decision-making process of conservationists and helps to prevent misinterpretations and improve the long-term productivity and success of CBCs.

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**PROTECTING & PROMOTING
NATURAL SYSTEMS:**

**A CRUCIAL STEP
FORWARD FOR
BUSINESS &
COMMUNITY**

Authors

Alison Shaw and Kacia Tolsma

“The living fabric of the world ... is slipping through our fingers without our showing much sign of caring.”

— Pontifical Academy of Sciences, 2017

According to the World Economic Forum, nature positive approaches are a US \$10 trillion opportunity.¹ Currently, approximately \$44 trillion of economic value generation — more than half of the world’s total GDP — is moderately or highly dependent on nature. Businesses worldwide are starting to value nature positive approaches, recognizing their need to work with nature rather than against it. Business service companies are also taking note of the combined impacts and risks of development, encroachment, and climate change on nature and natural processes. For example, partnering with WWF, Deloitte has created Climate and Sustainability Centers in all service regions to explore the criteria and functions associated with nature positive business.²

Nature positive is a term used to describe:

A world where nature — species and ecosystems — is being restored and is regenerating rather than declining. A nature positive economy is one in which businesses, governments and others take action at scale to minimize and remove the drivers and pressures fuelling the degradation of nature, to actively improve the state of nature itself and to boost nature’s contribution to society.³

Nature positive approaches are rapidly being recognized as cost-effective strategies that promote the ecological processes and services on which we all depend.

CLIMATE CHANGE: THE BIGGEST RISK TO BUSINESS

Climate change is the greatest risk to business, according to Mark Carney, former governor of the Bank of England and UN Special Envoy on Climate Action.⁴ As climate impacts ramp up (and hazards like floods, drought, heat, and extreme weather

become more frequent and severe), service and supply chain disruptions, costly damages from disasters near and far, and resulting political unrest are expected to jeopardize economic stability.⁵

**BUSINESSES
WORLDWIDE ARE
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In Canada, the average costs of weather-related disasters and catastrophic losses are rising each year.⁶ In 2021, insured losses from climate disasters totaled CDN \$2.1 billion (US \$1.5 billion).⁷ When accounting for indirect losses, estimates were closer to CDN \$9.2 billion (US \$7 billion). These numbers are projected to rise by CDN \$5 billion (US \$3.75 billion) per year by 2030 and will continue to accelerate if immediate adaptation (risk reduction) and mitigation (emissions reduction) actions are not taken.⁸

The cost of not responding or adapting is projected to become 10 to 15 times higher over time; acting now would help avoid costs associated with loss, disaster, and recovery.⁹ This reality is forcing communities and businesses to anticipate and

respond to the projected risks of climate change. Investments in nature-based solutions are increasingly viewed as an adaptive, low-cost way to build climate resilience at scale.

Investing in nature is not new; conservation and restoration programs have long been viewed as goodwill opportunities by public and private sectors to protect biodiversity, but with ad hoc impact. Global carbon offset markets have proven a popular tool for businesses to counter their carbon footprints, while investing in the carbon sequestration and storage potential of forests, soil, and other natural assets.

Realizing the offset potential is a challenge that will require an estimated increased investment of \$10–\$100 billion by 2030.¹⁰ The generally accepted social cost of carbon is \$100 per ton of carbon dioxide in the atmosphere, yet voluntary carbon prices are around \$10 per ton.¹¹

Narrowly defining the value of nature as either a biodiversity or carbon strategy misses the more comprehensive value of these ecosystems and their services.

PROMOTING RESILIENCE: WORKING WITH NATURE

Nature-based solutions are defined as:

Actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously benefiting people and nature.¹²

They range in scale from the protection and expansion of natural assets, such as urban forests, streams, and foreshores, to site-specific green infrastructure solutions, such as tree planting, rain gardens, de-paving, and green roofs.

Figure 1 illustrates how supporting and enhancing local ecological processes and services leads to additional benefits (or co-benefits), such as clean water and air, biodiversity, health and well-being, and supports more livable and resilient communities. Natural assets and green infrastructure are increasingly important as ways to buffer communities and businesses against climate risks, such as frequent and severe heat, droughts, and floods. The goal of nature-based solutions is to identify “soft” solutions that work with nature rather than against it.

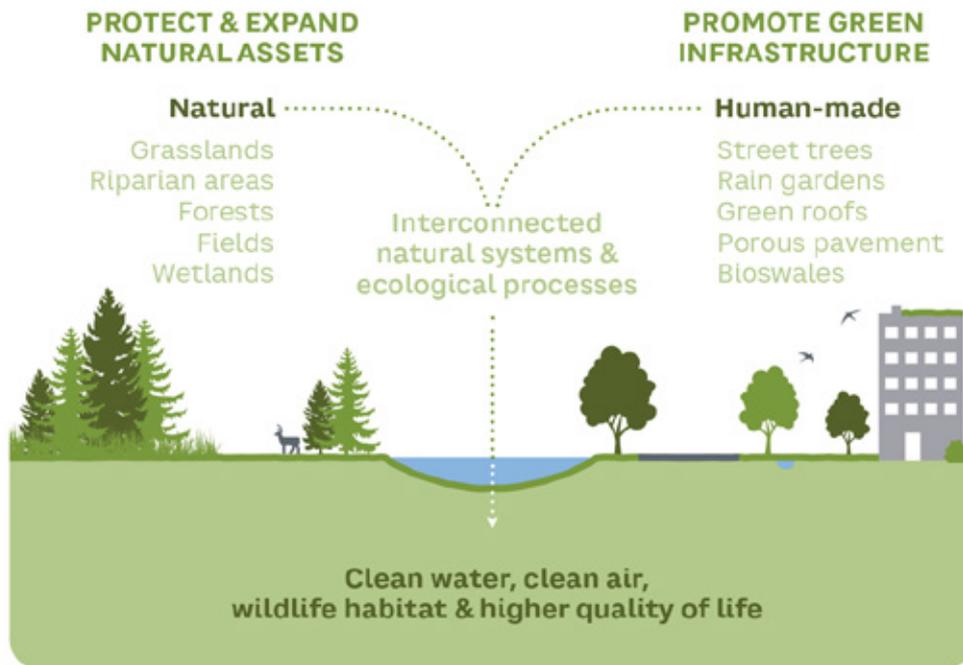


Figure 1. Nature-based solutions support and enhance the ecosystem processes and services that benefit everyone at the landscape scale, ranging from protecting, restoring, and expanding natural assets to promoting green infrastructure (adapted from: Metro Vancouver)

The destruction of natural areas and assets continues to result in irreparable and costly losses.¹³ Typically, natural assets like forests have only been valued for their raw extraction potential; the services provided by intact ecosystems have held no value in governmental or business accounting.

Research is now painting a different picture. One study found that fully protecting old-growth forest around Port Renfrew, British Columbia, Canada, would contribute an additional CDN \$40 million (US \$31 million) of value in ecosystem services and net economic benefits, compared to extractive business as usual.¹⁴ That figure doesn't include economic benefits related to tourism and carbon sequestration.

Similarly, the Canadian Province of Nova Scotia recently estimated that the loss of wetlands to development equals about CDN \$2 billion (US \$1.5 billion) annually in lost services like water purification, groundwater recharge, and erosion protection.¹⁵ Emerging trends to account for these services are shifting the value of nature and natural systems from zero to significant.¹⁶

Natural assets like forests, riparian areas, and wetlands are fundamental for ecological processes that sustain ecosystem function, such as water cycles and biodiversity, while providing community-related services like water retention, aquifer replenishment, stormwater protection, and temperature moderation.

Gibsons, a small town on Canada's Pacific Coast, protected and expanded naturalized stormwater ponds and wetlands instead of paying CDN \$4 million (US \$3 million) of taxpayer money in expanded stormwater infrastructure. Working with private landowners to build incentives, the town paid CDN \$815,000 (US \$613,000) to restore the ponds, saving construction, operations, and maintenance costs while gaining flood protection and an expanded park system that benefits the community.¹⁷

Understanding the scale and extent of natural assets, their conditions, and the services they provide helps researchers and communities understand how to enhance and advance the ecological processes in both urban and rural areas, under

changing conditions over time. In Singapore, rain gardens, green roofs, and permeable pavements are used to create a "sponge city" that captures and absorbs rainfall, decreasing the burden on aging stormwater infrastructure (especially in light of more frequent precipitation events) and minimizing flood-related events.¹⁸

NATURAL ASSETS SUCH AS FORESTS, RIPARIAN AREAS, AND WETLANDS ARE FUNDAMENTAL FOR ECOLOGICAL PROCESSES THAT SUSTAIN ECOSYSTEM FUNCTION

Similarly, Vancouver's Rain City Strategy uses nature-based solutions to capture (infiltrate, evapotranspire, and/or reuse) and clean a minimum of 90% of Vancouver's average annual rainfall volume and to manage urban rainwater runoff from 40% of impervious areas in the city by 2050.¹⁹ Nature-based solutions like planting 150,000 trees between 2010 and 2020, increasing the urban forest canopy to 22% by 2050, restoring or enhancing 25 hectares (ha) of natural areas by 2020, and protecting biodiversity hot spots have the potential to boost Vancouver's resilience to more severe precipitation and heat events.

Shared financing for resilience in services like wastewater and rainwater management is critical for building business and community resilience over time. Planning processes and financial instruments are elevating the role of businesses and property owners in investing in these types of solutions.

Below are some examples of high-level indicators being used in Canadian municipalities and businesses to target and track the uptake of nature-based solutions, with more coherent progress indicators forthcoming:

- Proportion of permeable surfaces per ha
- Percentage of urban tree canopy/land cover per ha
- Percentage of greenspace/shade area per ha
- Number of supported stream protection/restoration projects



- Volume of stormwater diverted by natural assets and/or green stormwater infrastructure
- Number of climate-adaptive trees planted
- Proportion of budget allocated to and total investment in nature-based solutions across all corporate operations
- Amount of funds budgeted for nature-based maintenance efforts
- Number of site plans and subdivisions that incorporate nature-based solutions in their design

- Number of changes in property maintenance criteria that promote nature-based solutions
- Ranking of watershed health (through report card or monitoring)
- Number of external partnerships and public-private financing relationships

3 FORWARD-LOOKING APPROACHES

Financiers have estimated that a \$4.1 trillion financing gap exists and needs to be closed by 2050 if we are to protect and restore remaining ecosystems and buffer our communities against the impacts of climate change.²⁰

An all-hands-on-deck approach is needed to coordinate actions and investments that support ecosystems and sustainable service delivery to benefit all. As beneficiaries of the services provided by nature, both public and private sectors must invest heavily in the nature positive transformation.

Businesses play a pivotal role in the transition to nature positive solutions by changing norms and practices in accounting and investing. We recommend three forward-looking approaches for decision making and investment planning to help leaders apply nature as a strategy for building direct and indirect business resilience over time.

1. PRIORITIZE STRATEGIES THAT MINIMIZE CLIMATE HAZARDS

Applying regional climate projections and identifying and prioritizing anticipated impacts (e.g., temperature and precipitation changes), hazards (e.g., heat, drought, flooding, extreme weather), and risks (e.g., likelihood and consequence scenarios) helps build and support an empirically driven understanding of the future. This information helps communities and businesses anticipate key vulnerabilities and climate risks for infrastructure, people, and ecosystems. Including this information in decisions will help leaders better anticipate projected disruptions, losses, and potential disasters and proactively respond to minimize existing vulnerabilities and future risks.

This type of future-oriented decision making builds the case for protecting and promoting healthy ecosystems, ecological processes and services, and preventing irreplaceable loss.

2. PRIORITIZE LOW-CARBON, RESILIENT STRATEGIES

Every business, industry, and sector must be responsible for internalizing best-available climate data into all planning and investment decisions. Minimizing future climate impacts requires buffering against projected impacts (as noted above) and reducing greenhouse gas emissions. The goal is to manage the avoidable risks of climate change and avoid the unmanageable risks of runaway climate change.

Contradictions can occur when adaptation and mitigation planning is done in silos. Adaptation strategies can exacerbate emissions (e.g., higher dikes, more pumping stations, increased use of air conditioning), and emissions-reduction strategies may not adequately account for changing conditions and projected climate impacts over time (e.g., heat thresholds of materials, building efficient infrastructure and buildings in flood- or erosion-prone areas), which may shorten the lifespan of both the project and the investment.

Planning for adaptation and mitigation is critical to prevent contradiction. Done well, it can encourage many social, economic, environmental, and cultural benefits (e.g., cost savings, equity, biodiversity), leading to greater sustainable development. Nature-based solutions can and should be used to address risk reduction, carbon storage, biodiversity, sustainable service delivery, and other goals simultaneously.

3. VALUE & INVEST IN NATURE-BASED SOLUTIONS

Shifting the calculus of nature from zero value to a suite of significant ecological, cultural, and service values is critical. The business case for protecting and expanding natural assets and promoting green infrastructure is typically amplified once the value of water, stormwater, flood, drought, heat, and erosion management services are tabulated, and more so once hazard-avoidance benefits are calculated based on projected climate changes over time.

Adding in the values of carbon storage/sequestration and the avoided losses for biodiversity, air and water quality, along with other metrics, including reduced heating and cooling loads and improved health and well-being, we begin to see how this rapidly increases the value of nature.²¹

Working with nature rather than against it — and valuing benefits in a holistic, coherent manner — not only enhances the business case for protection and ecosystem enhancement through nature-based solutions; it also multiplies the advantages for businesses and regions and the communities that rely on them.²²

MINIMIZING FUTURE CLIMATE IMPACTS REQUIRES BUFFERING AGAINST PROJECTED IMPACTS AND REDUCING GREENHOUSE GAS EMISSIONS

SYSTEMIC & PROACTIVE NATURE POSITIVE ACCOUNTING

Financial markets are waking up to the need for sustainable investing. According to a 2019 HSBC report, sustainable investment assets stood at \$30.7 trillion in 2018 (a 34% increase over two years) and represented some 35% of all professionally managed assets, with projections of rapid increase.²³ The report also shows that more than 90% of insurers and investors see the trend toward sustainability as either very important or important, with two-thirds stating they plan to increase their allocations. Frameworks and metrics that aim to bring greater empirical coherence to nature positive endeavors are rapidly emerging.

There is a lot of activity in this area. For instance, in March 2021, the European Commission set up Aligning Accounting Approaches for Nature, which aims to develop standardized natural-asset accounting practices for businesses, including a standardized approach to biodiversity measurement.²⁴ In addition, the Taskforce on Nature-related Financial Disclosures (TNFD) is set to launch a framework in 2023 that will set out best-practice guidance in valuation and reporting.²⁵

The Natural Solutions Initiative (NSI) launched by ACT (Action on Climate Team) at Simon Fraser University in Vancouver aims to advance a more coherent solutions framework that synthesizes the multiple values and metrics provided by nature-based solutions across multiple objectives.²⁶ The NSI framework will be tested, evaluated, and refined with key stakeholders: parcel, campus/neighborhood, community, and bioregion. The goal is to contribute empirical and practical understandings of the multiple values and tradeoffs that nature positive approaches provide to both human and nonhuman communities.

These frameworks are just the beginning of rapidly emerging research and practice areas. As communities and businesses take stock of what they have around them, and strategize about how to shield against projected climate hazards and risks, key priorities will become clear: bolster the natural systems and services on which we all depend.

Governance and partnership, policy, and financing innovations are needed to advance these resilience-building solutions and accelerate a much-needed sustainability transition on local and global scales.

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