

TOWARDS NATURE- POSITIVE BUSINESS

The case for biodiversity indicators



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The UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) is a global Centre of excellence on biodiversity. The Centre operates as a collaboration between the UN Environment Programme and the UK-registered charity WCMC. Together we are confronting the global crisis facing nature.

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Executive summary

On a global scale, biodiversity is in unprecedented decline and businesses need to know how much they are contributing to, or reversing, its loss. The world's ecosystems have declined in size and condition by 47% globally compared to estimated baselines. At the current rate of biodiversity loss, we face a high risk of harmful or even catastrophic environmental change. This requires urgent and measurable action from all players in society, including businesses, for whom biodiversity loss will pose operational, regulatory, and reputational risks.

Biodiversity indicators are commonly used to quantify impacts of businesses on biodiversity. Many are being developed to also measure dependencies, where hidden risks and opportunities often present themselves.

Businesses rely on and impact biodiversity through their operations and supply chains. The private sector is being called upon to demonstrate how they are managing their biodiversity impacts and are contributing toward efforts to 'bend the curve' of biodiversity decline.

Use of measurement approaches, including biodiversity indicators, can aid businesses in tracking their performance regarding biodiversity. This can help advise on the success of implementation of environmental management practices, which can be used to report progress on biodiversity management to relevant stakeholders.

Societal awareness of biodiversity loss is growing rapidly, with an increasing demand for more transparency in business performance regarding biodiversity. International policy is increasingly recognising the need for corporate reporting on biodiversity. Examples include calls in Decisions of the Conference of the Parties to the Convention on Biological Diversity, the European Commission's action plan on sustainable finance, the EU Green Deal, and national regulatory requirements, such as France's Biodiversity Plan, adopted in 2018. The growing pressure from other stakeholders (e.g. recommendations from the IUCN World Conservation Congress in 2016), combined with the above policy drivers, are already affecting current reporting mechanisms.

As a result of these trends, investors, financial institutions and international sustainability reporting organisations are updating their standards to include requirements for more stringent biodiversity-related reporting.

A broad landscape of credible biodiversity measurement approaches, indicators and frameworks is now available for both businesses and financial institutions, some of which are already being used to measure corporate performance. Businesses can use these to track performance against corporate commitments on biodiversity and global targets defined by the international sustainability policy agenda.

Despite these recent developments, current corporate reporting practices on biodiversity are limited and there is a real need to scale uptake. Several initiatives are aiming to increase clarity on how businesses should be measuring and reporting their performance. Through uptake of biodiversity indicators, businesses will gain an improved understanding of their impacts and dependencies on biodiversity, which can be reported to stakeholders. This will support improved management of biodiversity impacts and allow businesses to demonstrate their contributions to global efforts to halt the current biodiversity crisis.

What are biodiversity indicators and why are they important?

Introduction

On a global scale, biodiversity is declining at unprecedented rates. The rate of species extinction is already tens to hundreds of times higher than it has averaged over the past 10 million years, and is set to increase further. The majority of natural ecosystems are also deteriorating or have already been destroyed¹. Society is reaching the limits of Earth's resilience and at the current rate of biodiversity loss we face a high risk of harmful or even catastrophic environmental change². This will hinder the achievement of the Sustainable Development Goals (SDGs). Concerted efforts to halt or even reverse the current rate of biodiversity loss are required from all actors across society, including governments, civil society and businesses.

Businesses are dependent on biodiversity and the ecosystem services it supports in a multitude of ways. Biodiversity loss therefore leads to a variety of business risks^{3,4}, outlined in Table 1. While many businesses are increasingly playing a key role in biodiversity management, economic activities can also significantly impact biodiversity. This in turn generates risks including reduced productivity, disruption of operations and increased costs of legal compliance. Impacts can be negative or positive, resulting in both costs and benefits for society, and both risks and opportunities for business. These impacts and dependencies need to be understood to be effectively managed.

What are biodiversity indicators?

Biodiversity indicators are commonly used to quantify impacts, but many are being developed to also measure dependencies, where hidden risks and opportunities often present themselves. Therefore, credible measurement approaches, including biodiversity 'indicators' and assessment frameworks, can aid in guiding and tracking performance regarding biodiversity management. See Box 1 for definitions of key terms. In addition to the inherent business risks arising from

Box 1: Key terms

Biodiversity: means the variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems ([Convention on Biological Diversity 1992](#)).

Ecosystem services: means the flows of benefits to people from ecosystems, commonly divided into the following categories: provisioning, regulating, cultural, and supporting ([Millennium Ecosystem Assessment 2005](#)).

Indicator (environmental): an environmental indicator is a parameter, or a value derived from parameters, that points to, provides information about and/or describes the state of the environment, and has a significance extending beyond that directly associated with any given parametric value. The term may encompass indicators of environmental pressures, conditions and responses ([OECD 2001](#)).

Indicator (biodiversity): "a measure or metric based on verifiable data that conveys information about more than itself". This can be a simple measure or more complex composite indices ([Biodiversity Indicators Partnership 2011](#)).

¹ <https://ipbes.net/global-assessment>

² <https://www.stockholmresilience.org/research/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html>

³ World Economic Forum. 2020. The Global Risks Report 2020. 15th Edition. Geneva, Switzerland: World Economic Forum. Available at: <https://www.weforum.org/reports/the-global-risks-report-2020>.

⁴ McCraine et al. 2019. *The Nature of Risk: A framework for understanding nature-related risk to business*. WWF. Available at: https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_nature_of_risk_final2.pdf.

biodiversity loss (see Table 1), several potential risks may be present for businesses that are not measuring and reporting on biodiversity-related measurement approaches. Businesses should also consider how these risks might have disproportionate effects on their employees and key stakeholders such as vulnerable or marginalised groups in society. For example, biodiversity loss has disproportionately high negative impacts on women as they often rely heavily on natural resources for food, water and fuel, and make crucial contributions worldwide to their management. This in turn has implications for economic growth and market development opportunities⁵.

Table 1. Business risks arising from biodiversity loss

Risk category	Example
Operational	Loss of biodiversity can affect continuity of supply, such as change in cost or availability of raw materials, leading to a risk of disruption to operations and supply chains. For example, losing access to resources due to inability to demonstrate good performance.
Legal and regulatory	Detailed scrutiny of operations in areas with rapid biodiversity declines and increased costs associated with extended permitting processes. For example, incurring delays or disruptions to operations due to inability to demonstrate compliance within increasingly stringent environmental standards.
Financing	Increased costs of, and access to, finance if biodiversity impacts and dependencies are not managed. For example, losing access to financing from financial institutions and/or investors due to new environmental standards such as the need to demonstrate contributions towards achieving the SDGs.
Reputational and marketing	Increased pressures from consumers and negative press coverage associated with possible impacts on biodiversity. For example, incurring damage to company brand or becoming unable to attract workforce due to negative perceptions by civil society, consumers, media, investors, and other stakeholders.
Societal	Development can reduce populations of species that are typically harvested by local communities for food and rituals. For example, economic activities expanding into natural or semi-natural habitats on which local communities depend for their livelihoods and wellbeing.

Importance to business

The need to address the global loss of biodiversity has gained much importance and is increasingly a high priority for all actors across society. The forthcoming [Post-2020 Global Biodiversity Framework](#), set to be launched at the next Conference of the Parties to the Convention on Biological Diversity (CBD), will aim to address this issue. Building on the global Aichi targets for biodiversity, it will set out a course of action for how the new set of global targets can be achieved to reverse biodiversity loss, including highlighting the crucial role of the private sector. This new framework is

⁵ World Economic Forum & PwC 2020. Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy. Available at: <https://www.weforum.org/reports/nature-risk-rising-why-the-crisis-engulfing-nature-matters-for-business-and-the-economy>.

intended to be relevant to all actors across society, covering the circumstances of people from across all nationalities, genders, social groups, ethnicities, and religious faiths and beliefs.

Businesses are being called upon to demonstrate how they are managing their biodiversity impacts and are contributing toward efforts to 'bend the curve' of biodiversity decline. The Post-2020 Global Biodiversity Framework presents an opportunity for business to demonstrate their positive actions. The key sectors with high potential to impact species and habitats directly (as well as indirectly through climate change), and therefore contribute most to achieving the global biodiversity targets include agriculture (including food and beverage), energy, forestry, infrastructure, and mining⁶.

In recent years, business have adopted approaches to avoid negative impacts on biodiversity. For example, applying the mitigation hierarchy to achieve no net loss or net gain of biodiversity⁷. To date however, there has been no uniform way for business to measure against these, and other similar, goals. This requires the development and use of biodiversity indicators that can provide information on performance in a clear and timely manner.

Businesses in the extractives sector specifically have identified a need in their industry for a simple and standardised approach to monitor the effectiveness of biodiversity risk management actions at both corporate and site levels⁸. These biodiversity indicators have the potential to help businesses track their performance, but also enable results to be shared with stakeholders, including financiers. They are therefore an integral component of continuous improvement.

What are the drivers and developments in external reporting on biodiversity?

Demand for changes in corporate reporting

The traditional perspective of financial performance (Gross Domestic Product for countries or financial reports for businesses) is being replaced by a more multidimensional view covering performance based on natural, social, and human capital. There is a growing interest in non-financial reporting. One aspect of this is increasing demand for credible reporting and disclosure approaches for biodiversity, driven by investors, policy makers and businesses.

International policy drivers

International policy recognises the importance of corporate reporting on biodiversity. Examples include:

- [Decision XIII/3](#) from the 13th Conference of the Parties to the Convention on Biological Diversity in 2016 called upon policy makers and businesses to “**enhance transparency and reporting on their actions relating to biodiversity**”.
- Decision [XIV/3](#) at the 14th Conference of the Parties then established a long term strategic approach to mainstreaming (LTAM), supported by an informal advisory group. This

⁶ See <https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-03-en.pdf> and <https://encore.naturalcapital.finance/en>.

⁷ Cross Sector Biodiversity Initiative, 2015. A cross-sector guide for implementing the Mitigation Hierarchy. Available at: <http://www.csbi.org.uk/wp-content/uploads/2017/10/CSBI-Mitigation-Hierarchy-Guide.pdf>.

⁸ UNEP-WCMC, 2017. Biodiversity Indicators for Extractive Companies: An Assessment of Needs, Current Practices and Potential Indicator Models. Available at: https://www.unep-wcmc.org/system/dataset_file_fields/files/000/000/487/original/Biodiversity_Indicators_for_Extractive_Companies_FINAL.pdf?1516357616.

approach aims to enhance the uptake of biodiversity and ecosystem service considerations in cross-sector decision making, and to ensure biodiversity mainstreaming, including within the private sector, is integrated in the development of the Post-2020 Global Biodiversity Framework.

- More recently, policy drivers for reporting include the European Commission's action plan on sustainable finance, the EU Green Deal, and national regulatory requirements, for example, France's Biodiversity Plan adopted in 2018⁹.

Pressure from other stakeholders

In addition to the above, one of the IUCN World Conservation Congress 2016 [recommendations](#) called for businesses large and small to **“strengthen measurement, valuation and reporting on impacts on biodiversity”**.

These drivers have led to businesses calling for better ways to identify risks and manage compliance with biodiversity policies and standards, as they are increasingly setting more ambitious public targets in response to growing awareness of biodiversity loss. For example, [ASN Bank](#) in the Netherlands is leading the way by becoming the first bank to commit to achieving a net positive impact on biodiversity by 2030.

Resulting changes to corporate reporting

As a result of these developments, investors, financial institutions and international sustainability reporting organisations are working towards updating their standards to include more stringent biodiversity-related reporting. Examples of standards/requirements by investors, financial institutions and sustainability reporting organisations related to biodiversity include:

- The **Global Reporting Initiative (GRI)**, which has a topic-specific standard (GRI 304: Biodiversity), which sets out its reporting requirements relating to biodiversity. Currently, this focuses on **proximity to protected areas, significant impacts on biodiversity, habitats protected or restored, and IUCN Red List and national conservation list species**. More information [here](#).
- The **International Finance Corporation (IFC)** Guidance Note 6 to Performance Standard 6, which states: “the client is expected to develop a practical set of **indicators (metrics)** for the biodiversity values requiring mitigation and management.” More information [here](#).
- **CDP**, which recognises the importance of biodiversity and in 2019 launched a new **biodiversity-focused questionnaire** for the mining sector. More information [here](#).
- The **Sustainability Accounting Standards Board (SASB)**, which requires businesses to report on biodiversity loss and related topics such as habitat destruction and deforestation under the **‘Ecological Impacts’ sub-category** of their ‘Environment’ reporting dimension. More information [here](#).

⁹ https://www.ecologique-solidaire.gouv.fr/sites/default/files/18xxx_Plan-biodiversite-04072018_28pages_FromPdf_date_web_PaP.pdf

How can businesses measure and report on biodiversity?

Many businesses are seeking measurement approaches and indicators for biodiversity performance which can be used across a variety of business applications¹⁰. These applications are summarised in Table 2 below. Where relevant, businesses should consider how best to adopt gender-responsive indicators¹¹ to promote gender equality as well as good biodiversity performance.

Table 2. Business applications of biodiversity indicators, based on the Aligning Biodiversity Measures for Business collaboration¹²

Business application	Example
Assessment of current biodiversity performance	Tracking compliance with corporate policy, and progress towards internal objectives.
Assessment of future biodiversity performance	Positive impact actions like habitat restoration.
Tracking progress towards targets	Measuring progress towards corporate commitments on no net loss or net gain of biodiversity.
Comparing options	Which site has least harm on biodiversity, as determined through implementation of the mitigation hierarchy.
Assessment/rating of biodiversity performance by third parties	Rating agencies assessing performance across a sector. For example, Forest500 methodology uses indicators to assess company commitments on deforestation.
Certification by third parties	Auditing of a clearly established methodological approach, e.g. The Biological Diversity Protocol .
Screening and assessment of biodiversity risks and opportunities	Due diligence assessments in mergers and acquisitions, or assessment of investment options. Methods are often company specific, or developed for sector-wide use.
Biodiversity accounting	An environmental profit and loss account for internal reporting or external disclosure.

Increased demand for credible biodiversity measurement approaches has led to significant progress being made in developing indicators and frameworks in recent years, with a broad landscape of indicators now available for both businesses and financial institutions, some of which are already being used to measure corporate performance. There is a diversity of corporate biodiversity measurement approaches and Table 3 below describes results provided by these methodologies and their different business applications. Further information is available in a recent 2019 report by the EU Business @ Biodiversity Platform⁷.

¹⁰ Lammerant et al. 2019. *Assessment of biodiversity accounting approaches for businesses. Update 2 Report*. Ghent, Belgium: Arcadis. Available at: https://ec.europa.eu/environment/biodiversity/business/assets/pdf/European_B@B_platform_report_biodiversity_assessment_2019_FINAL.pdf

¹¹ See: UNEP and IUCN 2018. *Gender and environment statistics: Unlocking information for action and measuring the SDGs*. UN Environment, Nairobi, Kenya. Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/27615/Gender_Environment_Statistics.pdf?sequence=1&isAllowed=y

Table 3. Existing methodologies to measure corporate biodiversity performance¹².

Name	Business application	Results provided
<u>Agrobiodiversity Index</u>	Assessment of current performance, tracking target progress, comparing options and risk & opportunity assessment at product, site, supply chain, corporate and regional level.	Assess risks in food and agriculture related to low agrobiodiversity.
<u>Biological Diversity Protocol</u>	Assessment of current performance, tracking target progress, third party certification and biodiversity accounting at site, supply chain and corporate level.	Guidance on how to measure change(s) in biodiversity affected by businesses.
<u>Biodiversity Footprint for Financial Institutions</u>	Assessment of current and future performance, tracking target progress, comparing options and third party certification at portfolio level.	Biodiversity footprint of the economic activities a financial institution invests in.
<u>Biodiversity Impact Metric</u>	Assessment of current performance and comparing options at supply chain and corporate level.	Impacts from raw material sourcing.
<u>Biodiversity Indicators for Site-based Impacts</u>	Assessment of current performance, tracking target progress, comparing options and risk & opportunity assessment at site and corporate level.	Scores at site level up to corporate level to provide insight into biodiversity performance on the ground.
<u>Biodiversity Monitoring System for the Food Sector</u>	Assessment of current performance and third party certification at the site, supply chain and corporate level.	Biodiversity monitoring of certified farms.
<u>Biodiversity Performance Tool for Food Sector</u>	Assessment of current and future performance, risk & opportunity assessment at the site level.	Measure for integration of functional biodiversity at the farm level.
<u>Environmental Profit & Loss Account (EP&L)</u>	Assessment of current performance, comparing options and risk & opportunity assessment at supply chain and corporate level.	Monetary values quantifying the use of natural resources.
<u>Global Biodiversity Score</u>	Assessment of current and future performance, tracking target process, comparing options, and third party assessments at portfolio and corporate level.	Biodiversity footprint of economic activities.
<u>LIFE Key</u>	Assessment of current and future performance, tracking target progress, third party assessment and certification and comparing options at the site, supply chain, corporate, portfolio and country level.	Biodiversity impact of an organisation and within a supply chain.
<u>Product Biodiversity Footprint</u>	Assessment of current and future performance, tracking target progress and comparing options at product and supply chain level.	Biodiversity impact along a product's life cycle.
<u>Species Threat Abatement and Recovery (STAR) Metric</u>	Assessment of current and future performance, tracking target process and comparing options at site, supply chain, portfolio, country and corporate level.	Measure for contributions of investments to global targets.

¹² Further information is available in a recent 2019 report by the European Business & Biodiversity Platform: Lammerant et al. 2019. *Assessment of biodiversity accounting approaches for businesses. Update 2 Report*. Ghent, Belgium: Arcadis. Available at: https://ec.europa.eu/environment/biodiversity/business/assets/pdf/European_B@B_platform_report_biodiversity_assessment_2019_FINAL.pdf

Future status and outlook

Despite the multiple biodiversity measurement methodologies that have been developed, current reporting practices on biodiversity are limited and corporate biodiversity commitments tend to be qualitative rather than quantitative in nature. This is evident in a study¹³ on the 2016 Fortune 100 global businesses, which found that only five businesses had biodiversity commitments that are specific, measurable and time-bound. Similarly, the Sustainable Development Goals most closely related to biodiversity (Life below Water 14 and Life on Land 15) are those most poorly reported against, largely due to a lack of clarity on how businesses should be measuring and reporting their performance.

Many initiatives are aiming to increase clarity on how businesses should be measuring and reporting their performance, including efforts to find common ground within different measurement approaches, such as that of [CDC Biodiversité's](#). The ongoing [Aligning Biodiversity Measures for Business](#) collaboration led by UNEP-WCMC, and partners from business, governments and the conservation community, also explores alignment between the emerging approaches. Specifically, the collaboration seeks clarity and consensus on the topics outlined in Table 4 below.

Table 4. Topics covered by the Aligning Biodiversity Measures for Business collaboration.

Topics covered	Questions addressed
Existing approaches	<ul style="list-style-type: none"> What is already available to measure biodiversity performance? What aspects of biodiversity do they cover?
Business applications	<ul style="list-style-type: none"> Which applications does each measurement approach address?
Vocabulary	<ul style="list-style-type: none"> What do the plethora of terms mean in each context, for example metrics, indicators and targets?
Common principles	<ul style="list-style-type: none"> What (if any) is the common ground shared by measurement approaches?
Data	<ul style="list-style-type: none"> What data do businesses need to measure their performance and apply these different approaches?
Disclosure	<ul style="list-style-type: none"> How does each approach fit with existing disclosure requirements?

Over the coming years, as the new framework for people and nature is implemented, the following are examples of how businesses can contribute:

- Continue engaging and/or directly contribute to the development, piloting, and uptake of these different measurement and reporting approaches, and standards for biodiversity.
- Engage in the [Science Based Targets Network](#), an initiative with over 40 partner institutions from civil society and the private sector to develop a target setting framework for nature.
- Engage in coalitions such as [Business for Nature](#), which aims to convene a united business voice to influence key political decisions on nature in 2020 and beyond, and directly with the CBD at key events and in the long term strategic approach to mainstreaming.

Through the development and uptake of biodiversity indicators, and subsequent reporting, businesses will gain an improved understanding of their impacts and dependencies on biodiversity and increase the transparency of these to stakeholders. This will support improved management of biodiversity impacts and allow businesses to demonstrate their contributions to global efforts to abate the current biodiversity crisis.

¹³Addison et al. (2018) Using conservation science to advance corporate biodiversity accountability. Available at: <https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/cobi.13190>

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