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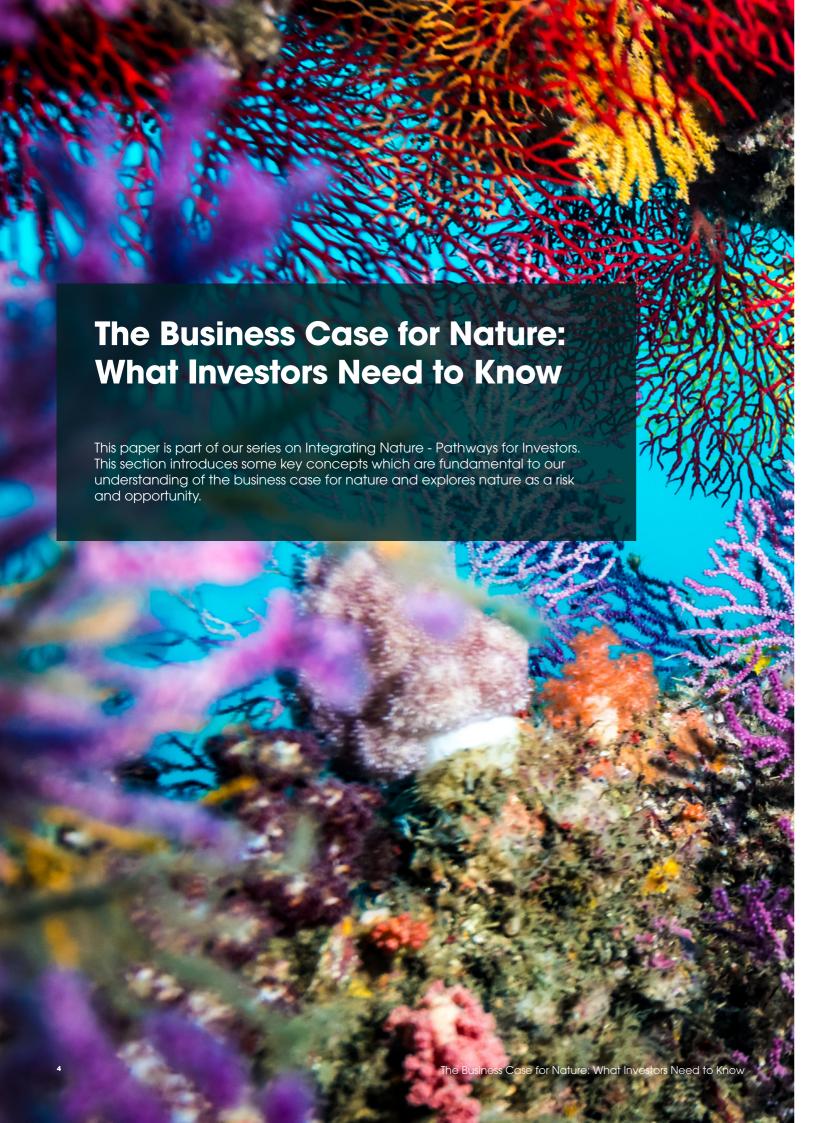
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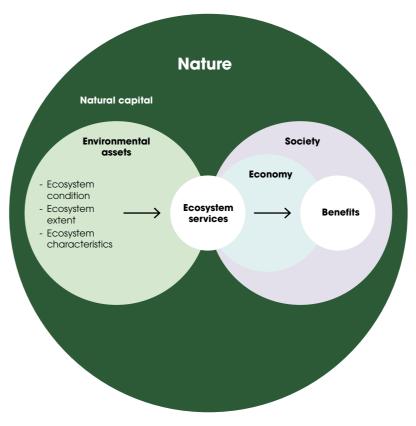
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#### Introduction

Healthy societies, resilient economies and thriving businesses all rely on nature and its biodiversity. It is estimated that US\$44 trillion of economic value generation – around half of the world's total Gross Domestic Product (GDP) is moderately or highly dependent on nature<sup>1</sup>. When nature is at risk, so are the returns investors hope to achieve. It is important to note that biodiversity and nature also has an intrinsic value, independent of human interests, needs or uses. However, in this paper, we will be focusing on the investment and economic considerations.

The natural environment plays a key role in our economy through the many ecosystem services it provides including water supply, pollination, and climate regulation, as well as within our wider society (see flow diagram below).



Source: Taskforce on Nature-related Financial Disclosures, 2024<sup>2</sup>

Taskforce on Nature-related Financial Disclosures, 2024

<sup>&</sup>lt;sup>1</sup>UNEP FI, Beyond `Business as Usual': Biodiversity Targets and Finance – United Nations Environment – Finance Initiative

<sup>&</sup>lt;sup>2</sup>Why nature matters - TNFD

Yet, many of the systems that underpin these ecosystem services are currently in decline, with climate change, land use change and pollution all contributing.

A well-respected source when it comes to a regular and timely assessment of global knowledge on biodiversity and ecosystem services is the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)<sup>3</sup>. Its assessments look at the status and trends of the natural world, the social implications of these trends and the actions that can be taken to address them.

IPBES has also defined the five key drivers of biodiversity loss, which form an important underpinning for understanding the risk and opportunity landscape for businesses and investors.

These drivers are:

- **1. Land, water, and sea use change**, e.g. the clearing of rainforest for cattle ranching and soybean cultivation can destroy the forest habitat, leading to a loss of species.
- **2. Resource exploitation**, e.g. the overfishing of cod stocks in the North Atlantic driven by unsustainable fishing practices has led to the decline in fish populations and the degradation of marine ecosystems.
- **3. Climate change**, e.g. coral reefs worldwide are suffering from coral bleaching and die-offs due to rising ocean temperatures, destroying complex ocean ecosystems.
- **4. Pollution**, e.g. plastic pollution in the oceans breaks down into microplastics which can be ingested by marine organisms and can cause harm or death to wildlife.
- **5. Invasive alien species**, e.g. the introduction of new species to an island can lead to the extinction of native animals by outcompeting them for food.

Healthy societies, resilient economies and thriving businesses all rely on nature and its biodiversity.

<sup>&</sup>lt;sup>3</sup> IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany. 1148 pages. https://doi.org/10.5281/zenodo.3831673

## 2

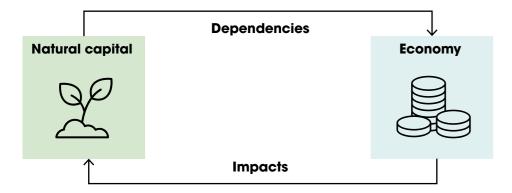
# Nature as an investment risk and opportunity

As investors, we have a key role to play in addressing nature loss as the companies we invest in both depend on and impact nature in a variety of ways through their operations, products and services, both positive and negative. This creates risks and opportunities for the companies we invest in and indirectly, for investors in these companies.

Companies' interactions with nature can be categorised through their dependencies on biodiversity and ecosystem services (i.e. how does nature directly and indirectly support and contribute to their operations, products and services, and profitability), as well as the impacts on nature they create through sourcing practices, supply chains, and operational activities (see diagram below).

Economic and financial value is inextricably linked with biodiversity and natural capital. As such, all investors should consider the risks and opportunities nature poses.

A pharmaceutical company explores the efficacy of nature compounds in its drug discovery process

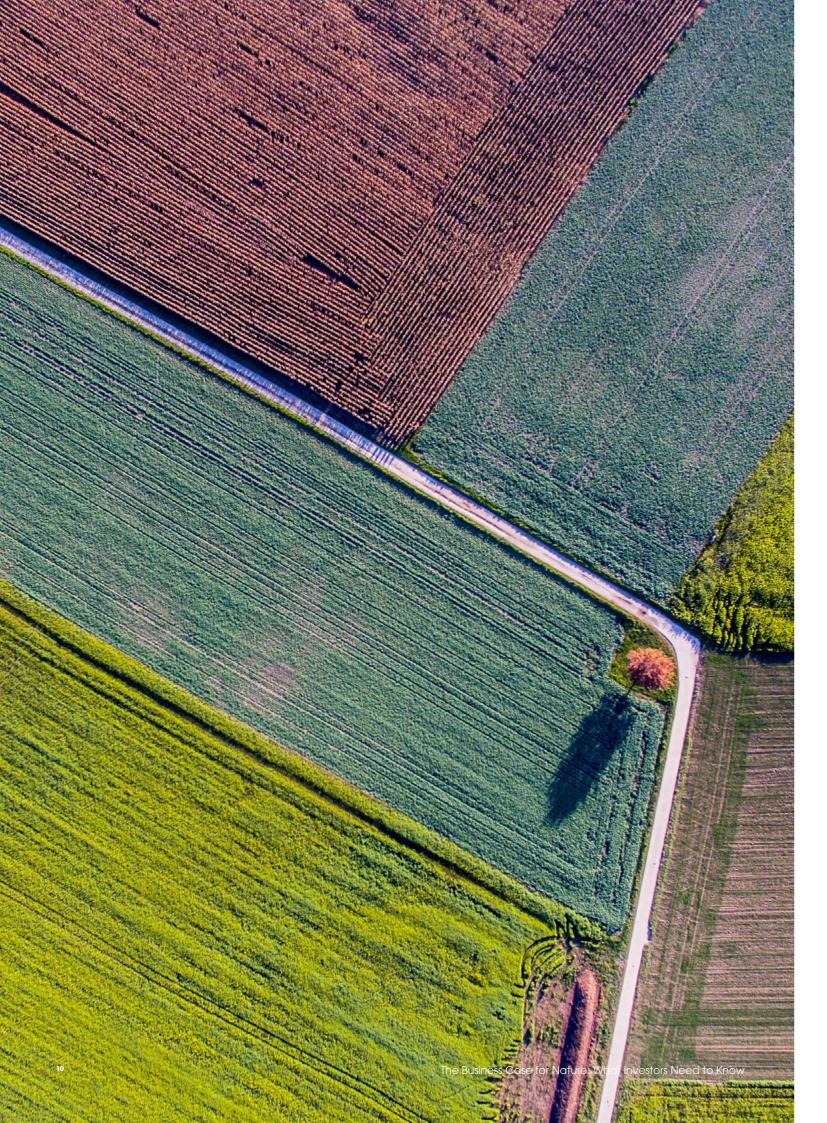


The pharmaceutical company emits GHGs through its direct operations and supply chain and contributes to water pollution

Adapted from Source: We Value Nature<sup>4</sup>

<sup>4</sup> Home | We Value Nature by Natural Capital Finance Alliance and UN Environment World Conservation Monitorina Centre





#### **Risks**

Biodiversity loss and the degradation of nature presents risks that can affect the financial performance of companies across the short, medium, and long term.

The risks can be divided into the following three broad categories:

- 1. Physical risks arise from activities with strong direct or indirect dependency on ecosystem services that could be disrupted due to biodiversity loss or ecosystem degradation. For example, heightened flooding risk due to degradation of mangrove forests or coastal marshlands, or agricultural supply chain instability due to reduced pollinator populations. Physical risks are further exacerbated by climate change.
- 2. Transition risks relate to the level of potential disruption and cost involved in moving from current, unsustainable practices to business models and economic systems that protect and enhance natural capital. For example, if companies fail to adapt to evolving regulations, technologies, and market expectations they may face financial and operational challenges. Governments globally are increasingly implementing biodiversity-focused regulations, with momentum building following the Kunming Montreal Global Biodiversity Framework which was agreed in 2022<sup>5</sup>. For example, the EU is implementing deforestation-free product requirements that impose compliance costs and potential litigation risks on companies who fail to adapto.
- 3. Systemic risks arise from the breakdown of ecosystems and economic systems due to the combined effects of physical and transition risks. The Green Finance Institute estimates that damage to the natural environment is slowing the UK economy and could lead to an estimated 6% reduction in GDP by the 2030s<sup>7</sup>. This is greater than if not equal to the impact on GDP experienced in the Global Financial Crisis, in which UK GDP fell by around 4-6%. Environmental degradation also increases the chance an impact of an acute climate or health shock takes place, leading to a wider combined effect. In 2022, the Network for Greening the Financial System, a network of over 125 central banks and financial supervisors concluded that nature-related risks could have significant macroeconomic implications8.

Given the importance of nature for the long-term viability and financial performance of companies, it is therefore well within an investor's core fiduciary duty to address the nature-related risks stemming from biodiversity and nature loss in its portfolios.

<sup>&</sup>lt;sup>5</sup> The Kunming Montreal Global Biodiversity Framework is a non-legally binding agreement adopted in December 2022 by 196 countries under the UN Convention on Biological Diversity. Its vision is to halt and reverse biodiversity loss by 2030, putting nature on a path to recovery by 2050. See 15/4. Kunming-Montreal Global Biodiversity Framework

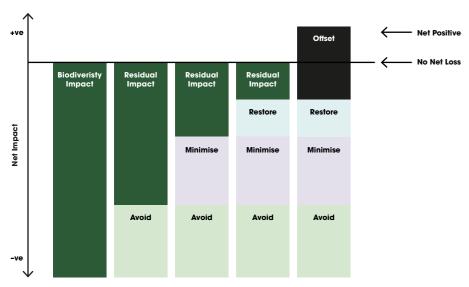
Regulation on Deforestation-free products - European Commission
Assessing the Materiality of Nature-Related Financial Risks for the UK, Green Finance Institute, 2024
Statement on Nature-Related Financial Risks, 2022, Network for Greening the Financial System

#### **Opportunities**

The Taskforce on Nature-related Financial Disclosures<sup>9</sup> (TNFD) defines nature-related opportunities as activities that create positive outcomes for organisations and nature, either by creating positive impacts on nature or mitigating negative impacts on nature<sup>10</sup>.

The most important first step from a private finance perspective is to implement measures that will progressively stop and reduce existing financial flows that are already harming nature. Engagement with portfolio companies to set clear expectations can encourage greater awareness of nature-related risks and opportunities, alongside advocacy for policy frameworks that support the preservation of natural capital can be an important lever for change. This includes the implementation of mandatory disclosure requirements for companies and financial institutions, that require them to assess, monitor and disclose their nature-related impacts, dependencies, risks and opportunities. Another effective policy lever would be the inclusion of nature into transition plans alongside climate considerations.

An important framework to consider in this context is the mitigation hierarchy (see diagram below) which outlines the sequential steps a company should follow in managing impacts on nature. First avoiding creating negative impacts on nature from the outset, then moving to minimising and restoring harm and then offsetting any residual adverse impacts as a final step.



Source: The Biodiversity Consultancy

Each of these steps may also involve companies creating positive impacts for nature, including shifting sourcing practices and prioritising the conservation of natural areas on their own land to reducing waste or adopting farming practices that enhance biodiversity and soil health.

Nature-based solutions (NbS) are actions that protect, restore or sustainability manage ecosystems to benefit both people and the environment<sup>12</sup>. There is a nascent market developing around NbS, where the solutions are structured to create revenue streams for investors, but this is still very early stage and inaccessible to many investors.

This is an area that deserves further attention from the private sector, given that the current amount invested in nature-based solutions is approximately US\$133 billion and investments must triple by 2030 to meet our global climate, nature and land-neutrality targets<sup>13</sup>. Public finance will bridge some of the gap, but significant private sector investment is also required.

There are several barriers which still need to be overcome to mobilise large scale finance for nature including:

- 1. A misaligned risk-return profile: There is often a mismatch between the real and perceived risks of conservation investments and the level of return private investors require. There is also a lack of mechanisms that can generate sufficiently high or stable revenue streams and a challenge around the time horizon, with conservation impacts often taking many years to materialise.
- 2. A lack of meaningful monitoring metrics: Investors need reliable ways to measure ecological performance, but current biodiversity metrics are either underdeveloped, costly, or reliant on proxies (e.g. certification labels or offset standards) that can overstate true ecological benefit. This makes it difficult to evidence "additionality" or impact, which is essential for both compliance and reputational risk management.
- **3. Market conditions:** Conservation finance markets suffer from poor linkages between capital and projects. Projects in biodiversity-rich regions are often challenging to attract large pools of capital due to lack of scale and uncertain cashflows or poor governance.

<sup>&</sup>lt;sup>9</sup>The Taskforce on Nature-related Financial Disclosures

<sup>&</sup>lt;sup>10</sup>TNFD, 2025. See: https://tnfd.global/publication/glossary/

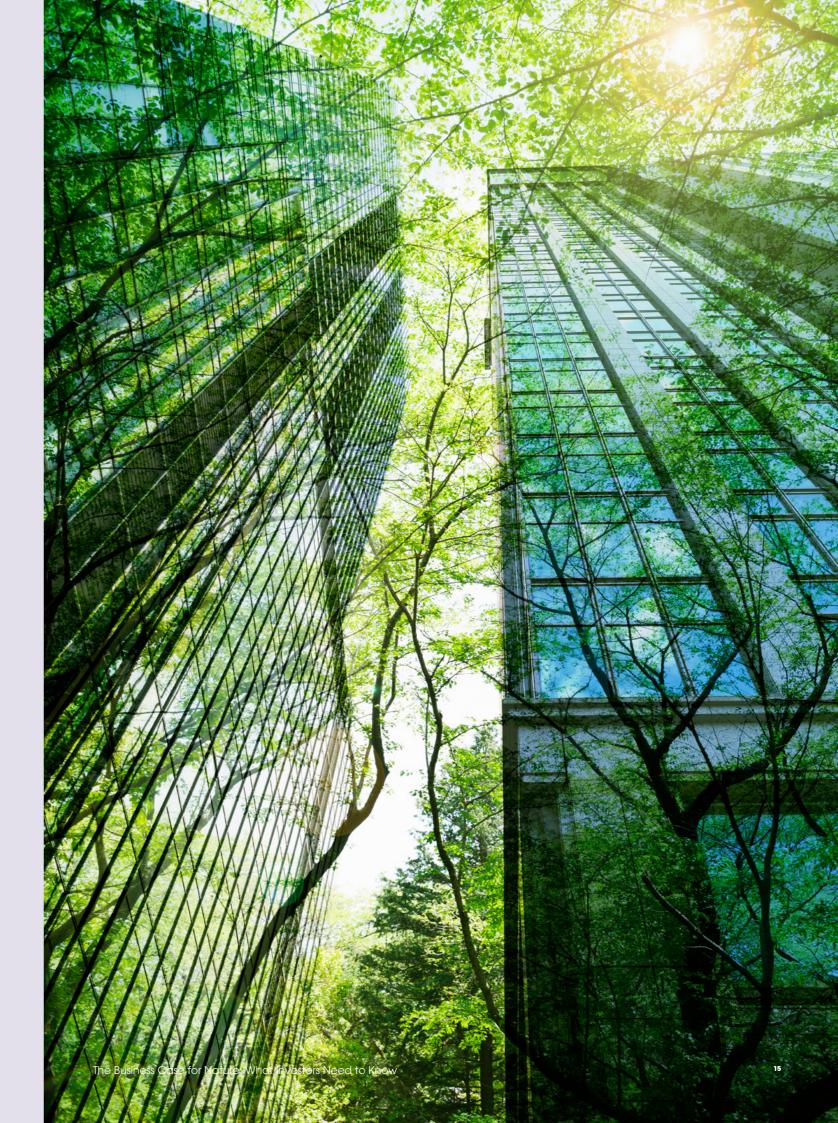
<sup>11</sup> Mitigation Hierarchy - The Biodiversity Consultancy

<sup>&</sup>lt;sup>12</sup> Nature-based Solutions – United Nations Environment – Finance Initiative

<sup>&</sup>lt;sup>13</sup> Finance for Nature-Based Solutions Must Triple by 2030 | UNFCCC

### 3 Conclusion

In this paper we have seen how nature underpins the healthy functioning of our economy and wider society through providing ecosystem services and how companies both impact on and depend on nature in different ways. This foundational knowledge is crucial to start to understand the interactions which are at play between nature and the companies within an investor's portfolio. The next paper in this series will introduce a practical framework for investors to use to understand their nature-related risks and opportunities.



### Greenbank

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