

Our Commitment to Nature

Supporting biodiversity
and sustainable land use
through engagement



February 2021

Key takeaways

- 1 Protecting and restoring biodiversity is a stewardship priority. EOS calls on companies to commit to having a net-positive impact on biodiversity throughout their operations and supply chains.**
- 2 Up to one million species are at risk of extinction and average species population sizes fell by 68% between 1970 and 2016. Companies and their investors must play a role in reversing this unprecedented decline.**
- 3 Our engagement framework outlines how each company's net-positive goal should be accompanied by strong governance, effective measurement, an impactful strategy, and regular disclosure.**
- 4 Companies must focus on eliminating deforestation, supporting the transition to regenerative agriculture and investing in impactful nature-based solutions. We expect a substantial reduction in corporate contributions to the five drivers of biodiversity loss.**
- 5 Our societies and economies are deeply embedded in nature. A failure to act could result in the collapse of food systems, further breaches to planetary boundaries, and significant financial repercussions across the global economy.**

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Introduction

The role that nature plays has often been under-appreciated by companies and their investors – not only for its intrinsic and societal value, but also for the economic value that it underpins. All life on earth and all businesses, to varying degrees, are dependent on the common goods provided by nature. Estimates place the value of ecosystem services and natural capital at between US\$125 trillion and \$145 trillion per annum¹, and research suggests that over half of global GDP is highly or moderately dependent on nature².

Despite many sectors of the global economy being dependent on biodiversity and ecosystem services, this information has not been routinely considered in the context of either risk management or strategic decisions at the company level. The lack of attention to this issue has also contributed to the ongoing depletion of biodiversity, due to the way in which operations and supply chains are managed. The risk of biodiversity loss has reached unprecedented levels and the risk of hitting irreversible tipping points is high³.

The mindset of taking nature for granted, and assuming its permanence, must change. Companies and their investors need to urgently acknowledge their impact and dependence on nature. They must address the risks associated with this high dependence and commit to having no further negative impact on biodiversity. Given the extent of biodiversity loss, conserving existing biodiversity will not be enough; it will also be necessary to restore biodiversity and the capacity of ecosystems. We expect companies to work toward implementing measures that will have an overall net-positive impact on biodiversity. This should not be limited to operations; ensuring sustainable land use occurs throughout the supply chain will be a critical component of meeting this challenge.

The global pandemic has once again emphasised the fragility of our relationship with nature. The destruction of habitats through land-use change brings humans and animals into ever closer contact, which increases the risk of new infectious diseases being transmitted from animals to humans⁴. With global biodiversity goals expected to be agreed in 2021, it is critical that national and corporate Covid-19 recovery plans make provisions for biodiversity protection and restoration around the world.

We believe the need to reverse biodiversity loss should command more attention from investors. The financial materiality of biodiversity-related risks across multiple sectors is clear⁵ and ecosystem collapse poses systemic risks to the

financial system and the global economy⁶. Stewardship on these issues is a key means by which investors can accelerate the process of companies recognising the importance of biodiversity and then taking meaningful steps to protect it. We have signed up to the Finance for Biodiversity Pledge as the International business of Federated Hermes and we are committed to accelerating action on biodiversity through engaging with companies, alongside the other activities that are highlighted in the pledge.

This paper outlines the value of biodiversity and makes the business case for its protection and restoration. The World Economic Forum reports that three systems – food, land and ocean use; infrastructure and the built environment; and energy and extractives – are responsible for endangering 80% of threatened or near-threatened species⁷. Companies operating within these systems must urgently make the necessary transformations to their own operations and supply chains.

The mindset of taking nature for granted, and assuming its permanence, must change.



This paper outlines our expectations and engagement priorities for sectors characterised by having high biodiversity impacts and dependencies. These include consumer goods and retail, agrochemicals, mining and materials, oil and gas, utilities, real estate and construction, and finance. While the focus of this publication is on sustainable land use and terrestrial biodiversity, marine and freshwater biodiversity are equally important and will be addressed in a separate publication.

Key definitions

- Biodiversity⁸: “The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.”
- Ecosystem services⁹: “The direct and indirect contributions of ecosystems to human wellbeing.” The four categories of ecosystem services are provisioning services, regulating services, habitat or supporting services, and cultural services.
- Natural capital¹⁰: “Natural capital is another term for the stock of renewable and non-renewable resources (eg plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people.”



Biodiversity enables adaptation to the changes in external conditions that a species may experience, ensuring the resilience of individual species and whole ecosystems.

The value of biodiversity

Put simply, biodiversity means the variety of life on Earth. It includes variation at three levels: genetic, species and ecosystem⁸.

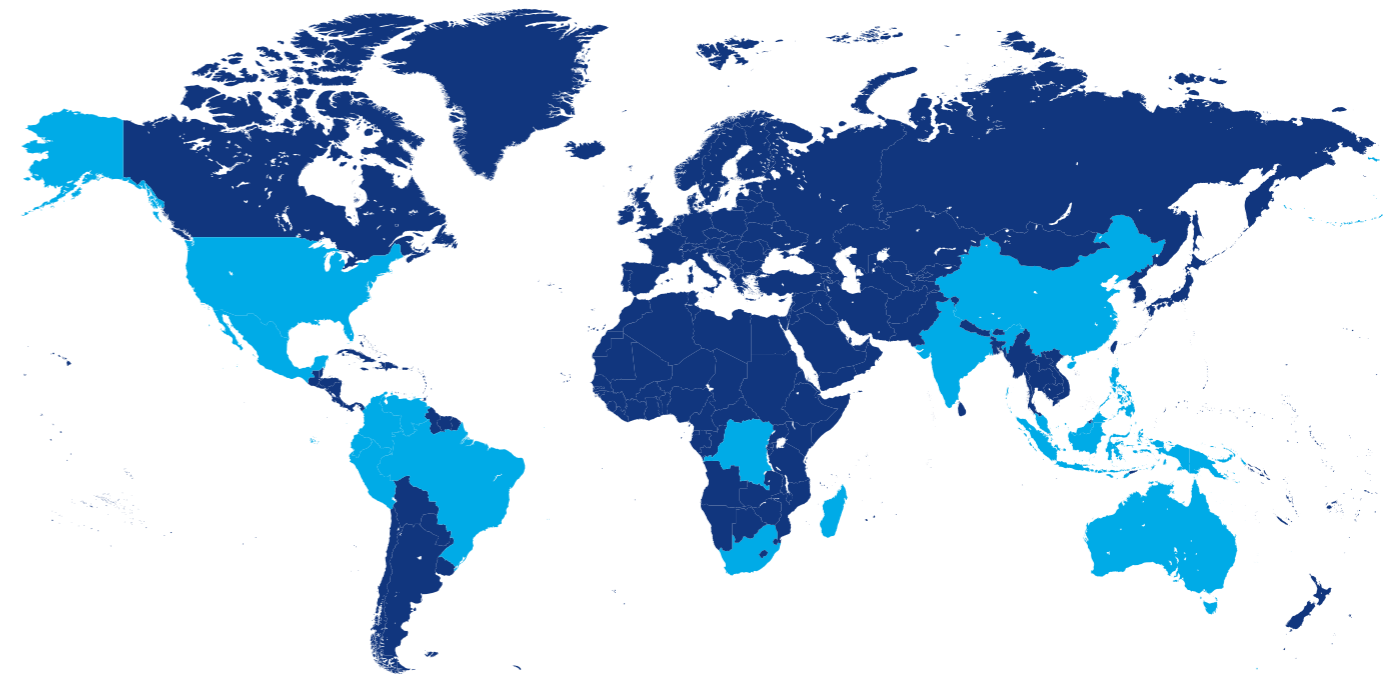
It captures the extraordinary diversity of plants, animals, insects and other organisms in land, ocean and freshwater ecosystems. Biodiversity enables adaptation to the changes in external conditions that a species may experience, ensuring the resilience of individual species and whole ecosystems. This capacity – both within species and within ecosystems – will become increasingly more important as climate change alters temperatures, precipitation patterns and the frequency of extreme weather events.

Biodiversity hotspots indicate 36 areas where the risk of biodiversity loss is particularly high.

Non-profit environmental organisation Conservation International identifies 17 mega-diverse countries that contain the highest levels of terrestrial biodiversity (see Figure 1). These countries are thought to be home to over 70% of the world's terrestrial biodiversity, whilst covering approximately 10% of land surface area¹¹. The protection of biodiversity in these countries is thus critically important. This is not to say other regions are not important: many other countries have been highly biodiverse in the past, so the focus there should be on restoration, rather than just protection.

Biodiversity hotspots indicate 36 areas where the risk of biodiversity loss is particularly high. These hotspots cover 2.4% of the world's surface area whilst containing over half of the world's endemic plant species and over 40% of endemic bird, mammal, reptile and amphibian species¹². As these species cannot be found anywhere else on Earth, their protection should be non-negotiable. In these areas, much of the native vegetation has already been depleted, putting the high proportion of irreplaceable endemic species at risk.

Figure 1: Map of mega-diverse countries: United States of America, Mexico, Colombia, Ecuador, Peru, Venezuela, Brazil, Democratic Republic of Congo, South Africa, Madagascar, India, Malaysia, Indonesia, Philippines, Papua New Guinea, China, and Australia.



Source: UN Environment Programme WCMC, Biodiversity A-Z
<https://www.biodiversitya-z.org/content/megadiverse-countries>

Ecosystem services

Our economies and societies are deeply embedded in nature, rather than existing alongside it. Biodiversity of our natural world is our life support system through the ecosystem services it enables and sustains. The water cycle, clean air, and the provision of food are fundamental to all life on Earth. The processes that enable these functions, including photosynthesis and the balance between evaporation and precipitation, rely on well-functioning ecosystems. Healthy soils in which the recycling of organic matter, carbon sequestration, and the regulation of nutrients function smoothly enable food crops and other plants to grow.

Nature also plays an important role in saving lives, as many medicines, especially anti-infectives and anti-cancer agents, originated from plants, fungi or bacteria¹³. It is thought that many more nature-derived medical solutions are yet to be discovered. The list of important ecosystem services extends to a sub-set of regulating services, such as climate regulation, natural hazard regulation, pollination and species balance.

Furthermore, the value that nature brings to physical, mental and spiritual wellbeing is vast, with research showing a strong connection between the time spent in nature and reduced stress, anxiety, and depression¹⁴. The cultural and aesthetic benefits of nature, which often result in economic value from tourism, should also not be underestimated; think of Yellowstone National Park in the United States, the Great Barrier Reef in Australia, and other culturally important sites of biodiversity.

Ecosystems are composed of complex webs of different species, all of which exist in a delicate balance and are interdependent in numerous ways. Healthy levels of biodiversity, including among plants, animals and microorganisms, enable ecosystem services to function effectively and retain resilience to change. Some species, known as keystone species, play a disproportionately important role in an ecosystem's functionality compared to their abundance within that system¹⁵. Examples of keystone species includes beavers, who create habitats for other species by building dams that hold still water, and pollinators such as bees and hummingbirds, as they support the existence of many plants through pollination¹⁶.



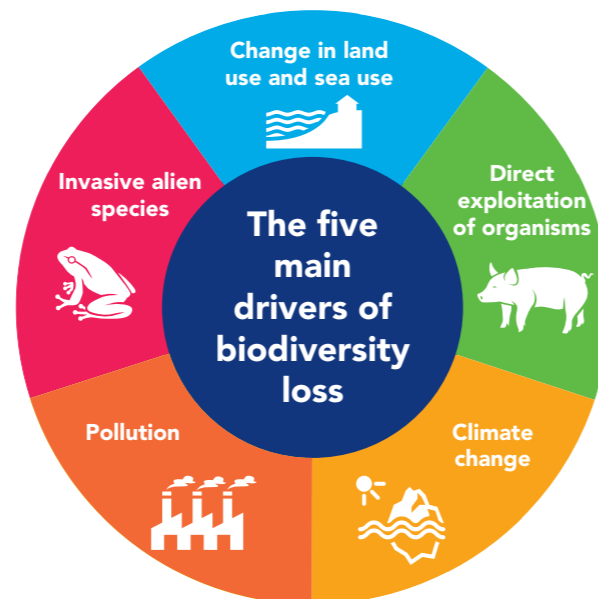
Other species may play more important roles than is at first apparent – and which only become apparent when they disappear: a change to one aspect of the system caused by the loss of these species creates a series of unforeseen knock-on effects. Predicting and understanding biodiversity tipping points and feedback loops is challenging because of the high number of interactions between species, the non-linear nature of changes, and thus the uncertainty involved¹⁷. However, it is apparent that the extinction of one species or destruction of one area of habitat is likely to have significant repercussions elsewhere. On this basis, the prudent approach should be precautionary in managing biodiversity levels. This is not the approach that has been taken to date, on the whole.

Biodiversity at risk

Despite its immense known and unknown value, the risks to current levels of biodiversity are alarming. A comprehensive global study of nature by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) revealed that up to one million species are at risk from extinction, out of a known eight million species, and that the rate of extinction is increasing³. Human activity has “severely altered” 75% of terrestrial environments and there has been a 47% decline in global indicators of ecosystem extent and condition against their estimated natural baselines.

The recent Living Planet Index echoes these shocking statistics, showing an average 68% decrease in mammal, bird, amphibian, reptile and fish population sizes between 1970 and 2016¹⁸. The IPBES study identifies five main drivers of biodiversity loss: changes in land use and sea use, direct exploitation of organisms, climate change, pollution and invasive alien species.

Figure 2: The five main drivers of biodiversity loss



Source: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

The protection and restoration of biodiversity is an important goal in itself. However, the health of the biosphere is also important in tackling climate change because of its capacity to enable effective climate change mitigation and adaptation. For example, forests, peatlands and grasslands, among other ecosystems, are natural carbon sinks that absorb and store carbon dioxide from the atmosphere. For this reason, protecting and restoring forests and other ecosystems is considered to be the second most effective solution to climate change, after switching away from fossil fuel use¹⁹.

Similarly, mangroves, wetlands and other coastal ecosystems provide vital protection from flooding and hurricanes, and are increasingly seen as more effective in helping human populations adapt to climate change than artificial solutions, such as flood barriers. Between 100 million and 300 million people face an increased risk of flooding due to the loss of coastal habitats³. Yet the vicious cycle of biodiversity loss and climate change can be reversed by taking steps to address both issues simultaneously.

The business case for protecting biodiversity

All businesses, to varying degrees, rely on the common goods that are provided by biodiversity and ecosystem services. If we are to avoid a continuation of the ‘tragedy of the commons’, companies must play a more proactive role in protecting them.

The first step is for businesses to acknowledge their dependence on nature. The second step is to commit to identifying, mitigating and then reversing their direct and indirect negative impacts on biodiversity and ecosystem services. These impacts can no longer be considered inconvenient “externalities” that can be ignored in risk management and business strategy decisions. We consider it an essential component of corporate responsibility to not damage biodiversity through operational and supply chain activities.

While climate change has risen up the agenda in many companies, the risks from biodiversity loss remain largely unacknowledged and unaddressed. We identify four major ways that companies are exposed to business risks, which must be integrated into strategic thinking to make the protection and restoration of biodiversity a corporate priority.

Supply capacity

Some sectors are almost completely and directly dependent on ecosystem services and therefore healthy levels of biodiversity throughout their supply chains. These sectors include agriculture, food and beverages, forestry, household products, and cosmetics. Recent research²⁰ indicates that one fifth of the world's countries, including South Africa, Australia and India, are at high risk of ecosystem decline, with inevitable consequences for global supply chains. Companies look increasingly likely to face direct challenges in sourcing raw materials due to disruptions to the ecosystem services that enable their business model.

In agriculture, for instance, the decline of pollinators due to pesticide use, climate change, and habitat loss has been well documented²¹, posing significant risks to food security and to company sourcing practices that rely on nature-based inputs. Furthermore, industrialised farming practices are contributing to the degradation of topsoil, which contains most of the soil's organic matter, microorganisms and biological activity, as well as causing water pollution from nutrient run-off. Under these conditions, farmers will face increasing costs to maintain stable yields, or any yield at all.

Large-scale crop failures could lead to price shocks, prolonged shortages, or devastating regional famines. Regenerative agricultural practices that reverse the damage and improve soil health are urgently needed to maintain supply capacity and ensure food security for a growing population. Many other sectors have indirect dependencies on ecosystem services, so will also be affected by the decline of biodiversity²².



Consumer

Consumers are increasingly indicating their preference for greater sustainability and transparency through purchasing patterns. Research in the US suggests that 75% of millennials take the environment into account when making purchasing choices and that they are willing to pay more for sustainable products²³. As the risk and impact of biodiversity loss gains greater public attention, it will become another lens through which consumers can assess and develop preferences around companies and products. The rapid way in which consumer views on plastics changed indicates how quickly consumer trends can form and become mainstream, although there is still a long way to go in addressing plastic pollution and transitioning to circular economy business models.

Companies that are found to be responsible for deforestation, oil spills in precious ecosystems and any other form of biodiversity decline are likely to face severe reputational risks, as well as financial risks. The systemic risks associated with biodiversity loss may pose reputational challenges to entire sectors or markets²². For instance, some British supermarkets warned that they would boycott Brazilian beef if a law was passed to enable faster destruction of the Amazon rainforest²⁴.

Reputation is not only important for maintaining a strong customer and investor base; local communities play a critical role in securing a company's social licence to operate. In many countries, indigenous communities are effective stewards of the land and its biodiversity²⁵. Companies must get to grips with their full supply chains and engage directly with indigenous communities in the areas they source from in order to verify that materials are being sourced sustainably and, in doing so, secure a social licence to operate over the long term.



Market

Companies that do not pivot to a nature-positive economy are likely to face a series of transition risks²². Getting ahead of this curve by understanding the company's current relationship with nature will empower organisations to develop more sustainable operations, products and supply chains that contribute to the protection and restoration of biodiversity. The World Economic Forum recently concluded that 'nature-positive' solutions can create almost 400 million jobs and over \$10 trillion in business opportunities by 2030⁷. Companies should consider how to capitalise on these opportunities, as many have already done in thinking through their contribution to the Sustainable Development Goals (SDGs).

Two SDGs – Life Below Water and Life On Land – are explicitly linked to biodiversity, while many more, including those relating to poverty, gender equality, health, climate action and others, are indirectly dependent on intact biodiversity and ecosystem services. Analysis shows that the decline of biodiversity and ecosystems will undermine progress towards 80% of the assessed SDG targets²⁶. Companies should be proactive and innovative in developing nature-positive operations, products and supply chains. Doing so will improve the resilience of their business model, enable them to realise significant business opportunities and genuinely contribute to the SDGs. The global pandemic has forced countries to rethink their approach to economic development and encouraged companies to critically re-evaluate their business models; it is vital that biodiversity is considered a key pillar of the revised strategies.



The EU's biodiversity strategy features ambitions to increase organic agriculture to 25% of total EU agriculture, halve the use of the most hazardous pesticides and reverse the decline of pollinators.

Climate regulation has developed around the world and regulation targeting single-use plastic has been introduced in various countries, partly driven by changing consumer attitudes. It is likely that the regulatory landscape for biodiversity protection will also expand in order to hold companies to account for ongoing environmental damage. For instance, the UK government is planning to introduce legislation that requires companies to conduct due diligence on their supply chains to ensure there are no ties to illegal deforestation²⁸. Companies should prepare to adjust their business models and supply chains before regulation relating to biodiversity is enforced.

The litigation risks that arise when companies negatively impact biodiversity are already apparent. The Deepwater Horizon oil spill in 2010 released 130 million gallons of crude oil into the highly biodiverse Gulf of Mexico, with extensive ongoing harms to marine life²⁹. The clean-up and litigation costs amounted to US\$65 billion³⁰.

In another sphere, to protect the valuable ecosystem service of pollination, the EU banned neonicotinoids from being used in open fields in 2018 due to their link to bee population decline. The ban introduced financial risks to Bayer, Syngenta and other agrochemical companies with neonicotinoid products and has resulted in high legal fees as they try to challenge the legislation³¹. As the importance of biodiversity becomes a public policy priority, the regulatory risks and litigation costs for companies found to be associated with biodiversity loss are likely to increase.



Reforestation in Chile

Policy and legal

Companies will face increasing regulation relating to biodiversity. Countries are expected to agree on a post-2020 framework for biodiversity at the Convention on Biological Diversity COP 15, which was postponed from 2020 due to the Covid-19 pandemic. Like the Paris Agreement for climate change, the targets will be delivered by countries and companies. The EU's biodiversity strategy²⁷ already targets the protection of at least 30% of land and seas by 2030. It also features ambitions to increase organic agriculture to 25% of total EU agriculture, halve the use of the most hazardous pesticides and reverse the decline of pollinators.

Our engagement priorities and expectations

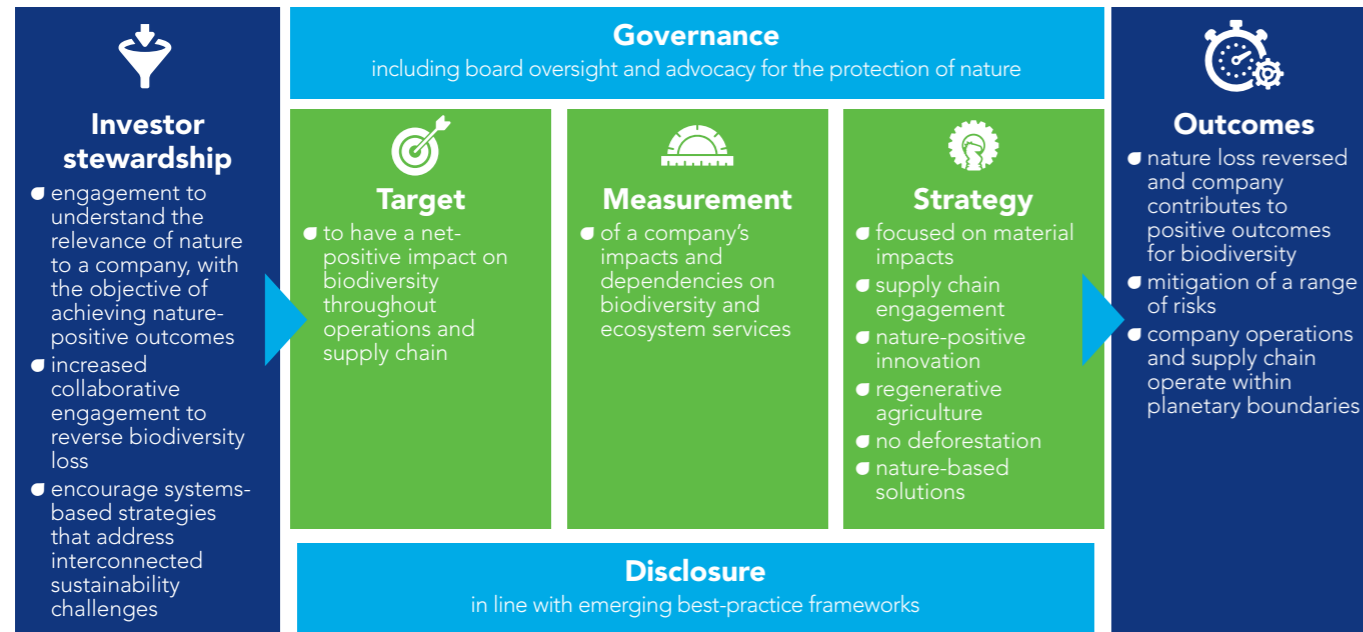
Companies' relationship with nature can be characterised by impacts and dependencies. Our engagement with companies seeks to understand the ways in which biodiversity and ecosystem services are relevant to companies, be this through their sourcing practices and supply chains, in the construction of new sites on land, especially if this is an ecologically important habitat, or through the way their operations interact with surrounding ecosystems.

The first engagement priority is to encourage companies to assess the extent to which their business models are dependent on biodiversity and ecosystem services, and the potential risks and opportunities associated with this dependency. The second engagement priority is for companies to understand, mitigate and reverse the negative impact their operations and supply chains are having on biodiversity and ecosystems. This will include mitigating their contribution to the drivers of biodiversity loss, such as climate change, pollution and land use change (as shown in Figure 2).

Companies must acknowledge how central nature is to their long-term success and take responsibility for actively contributing to its preservation and restoration. As best practice, we expect companies to commit to having a net-positive impact on biodiversity. While the commitment may be at the organisational level, much of the work required to ensure a net-positive impact on biodiversity will be conducted at a local level.

Sector	Key impacts and dependencies on biodiversity and ecosystem services ³²
Consumer goods and retail (including food, beverages, tobacco, household products, cosmetics and fashion)	<ul style="list-style-type: none"> High dependence on ecosystem services such as pollination, soil quality and water flow to maintain a reliable supply of agricultural products and other nature-based inputs High impact on biodiversity through significant land footprint, greenhouse gas emissions and the overall business model (including sourcing activities and agricultural practices)
Utilities	<ul style="list-style-type: none"> Operational dependence on ecosystem services such as water quality and flow, climate regulation and others High impact on biodiversity through significant greenhouse gas emissions and contributions to climate change, pollution of air, soil and water, land use (including potentially higher land use requirements for renewables), and disturbances to species
Mining & materials	<ul style="list-style-type: none"> Operational dependence on ecosystem services such as water quality and flow, climate regulation and others High operational impact on land and ecosystems, significant greenhouse gas emissions and contributions to climate change, pollution of air, soil and water (including one-off events such as tailings dam collapses), and disturbances to species
Oil & gas	<ul style="list-style-type: none"> Operational dependence on ecosystem services such as water quality and flow, climate regulation and others High operational impact on land and ecosystems, significant greenhouse gas emissions and contributions to climate change, pollution of air, soil and water (including through high-risk events such as oil spills), land use (including operations in fragile ecosystems) and disturbances to species
Agrochemicals	<ul style="list-style-type: none"> Dependencies on genetic materials, water quality and flow, climate regulation and others High direct impact on biodiversity and ecosystem services through pollution of soil, air and water, and greenhouse gas emissions and contributions to climate change
Real estate and construction	<ul style="list-style-type: none"> Dependence on ecosystem services such as raw material input (eg timber), water quality and flow, protection from floods and storms, and others High impacts on biodiversity and ecosystem services through significant land use, greenhouse gas emissions, and pollution of air, soil and water
Financial services	<ul style="list-style-type: none"> High potential impact on unsustainable land use and the loss of biodiversity through financing of, and investment in, all other sectors

Figure 3: Summary of engagement priorities and expectations



Governance

We expect companies to establish strong governance and oversight for biodiversity; in our opinion this is a necessary pre-requisite for success. Climate change has become an important board-level issue and the company's relationship with nature can be an organic extension to this conversation. The board should work to understand the company's key risks, dependencies and impacts in relation to biodiversity and ecosystem services; it should take responsibility for ensuring that the company's operations and supply chain make a positive contribution to nature. Through voting and other forms of stewardship, board directors will be increasingly held accountable for ensuring sustainable land-use throughout the supply chain, including eliminating links to deforestation.

Good governance of this issue includes advocating for the protection of nature through public policy, as well as working with governments and peers to ensure that effective regulatory frameworks are developed and enforced. Biodiversity risks and opportunities should be deeply integrated into all relevant processes, including risk management, business strategy, supply chain management, procurement, research and development, and operations.

Measurement

A priority for many companies will be to improve the understanding of their relationship with nature. This may require additional internal or external expertise. Measuring a company's dependence and impact on biodiversity is challenging, as the systems are multifaceted, and impacts are situation-specific. There are no catch-all metrics, which can make it difficult to compare impacts on different species, habitats and ecosystems. Furthermore, supply chains are generally complex and extensive, meaning that biodiversity impacts and dependencies can be widespread and diverse.

However, frameworks and metrics are emerging and will improve as adoption by companies increases. The Cambridge Institute for Sustainability Leadership has compiled a list of tools and data that can support companies in measuring their relationship with nature³³. Options, depending on what is most relevant for a company, include an environmental profit and loss assessment and the healthy ecosystem metric framework. Building on the widespread adoption of the Task Force on Climate-related Financial Disclosures (TCFD), the Task Force on Nature-related Financial Disclosures (TNFD) is planning to release a reporting framework to help companies measure their nature-based risks.

An impact and dependency assessment, even if qualitative at first, will help companies to understand where their most material challenges are, which may be sourcing from a particular region, reliance on a commodity, or a key stage of the production process. In many cases, companies' contributions to the decline of biodiversity will be through high greenhouse gas emissions, significant land use, unsafe levels of pollution and other such pressures, some of which may already be measured. Companies will benefit from understanding their relationship with nature; the outcomes of this work will enable them to build nature-positive operations, supply chains and products.



The goal will require companies to have a good grasp of where their most material negative impacts are, as well as the levers that can be pulled to reverse these impacts.

Targets

We strongly encourage companies to aspire to have a net-positive impact on biodiversity at the organisational level, including throughout the value chain. The net-positive principle follows the four stages of the mitigation hierarchy³⁴: companies should avoid the impact to the extent that this is possible; they should minimise the remaining impact; rehabilitate the land and habitat where possible; and, as a last resort, offset the remaining impact at a suitable location.

Research on previous corporate commitments to no net-loss or net-positive impact on biodiversity highlights the need for more science-based criteria and more transparent reporting of progress towards the commitments³⁵. Initial guidance on setting Science-Based Targets for Nature has been published, providing a five-step guide to setting science-based targets and introducing the AR³T Action Framework (avoid, reduce, restore and regenerate, and transform)³⁶.

The goal will require companies to have a good grasp of where their most material negative impacts are, as well as the levers that can be pulled to reverse these impacts. For instance, food and beverage companies will be able to influence how ingredients are produced, including the extent to which soil health and biodiversity on growing sites are core considerations within the farming process.

General Mills, a US-headquartered food manufacturer, has committed to advancing regenerative agriculture on one million acres of farmland by 2030³⁷. Taking responsibility for its high land requirement, luxury fashion company Kering committed in 2020 to having a net-positive impact on biodiversity by 2025 by regenerating and protecting an area about six times its total land footprint³⁸. A mining company that is winding down a site will play an important role in ensuring that the land is rehabilitated to become a thriving habitat for native plant and animal species.

For some companies, aspiring to have a net-positive impact on biodiversity for new and existing sites, projects or products will be a first step towards achieving a net-positive impact on biodiversity at the organisational level. In 2020 BP, for instance, announced a goal to achieve a net-positive impact on biodiversity in new projects from 2022³⁹. We recognise that having a net-positive impact on biodiversity as an organisation is a challenging goal, but one that is critical to the long-term restoration of biodiversity and the continuity of ecosystem services.

Strategy

Once a company has identified its material dependencies and impacts on biodiversity and ecosystem services, it will be able to design impactful interventions to enable it to have a net-positive impact on biodiversity. The goal should be to integrate nature considerations into risk management and strategic decisions taken throughout the company. The highest dependencies and impacts for many companies are likely to be found in the supply chain, so improving supply chain oversight and engagement will be a key aspect of the biodiversity strategy.

The strategy may target particular geographical areas, commodities and processes. It may include nature-focused innovation and new product development, including technology and artificial intelligence for monitoring changes in land use and deploying alternatives to chemical fertilisers that do not damage soil and aquatic biodiversity.

As explored further in the three "spotlight issues" highlighted below, deforestation, regenerative agriculture and nature-based solutions may be relevant pillars of biodiversity strategies for some companies. Certain interventions are likely to overlap with existing initiatives on climate change and water, as they are closely linked to biodiversity and sustainable land use. For instance, existing work on reducing greenhouse gas emissions, eliminating links to deforestation or sustainable agriculture can be strengthened through a biodiversity lens and more systems-based thinking. Much of the work to protect and restore biodiversity will need to be done through coalitions and partnerships due to the scale, urgency and complexity of the challenge.

Disclosure

Companies should regularly report on their approach, including the process for assessing biodiversity dependencies and impacts, the long-term goals, the assumptions used in developing a strategy to achieve these goals, and the progress made towards them. Companies should follow emerging best-practice disclosure frameworks, such as the TNFD. Investors, consumers and other stakeholders will be increasingly interested in how companies think about nature-related risks and opportunities, and how their approach is governed.

Climate change has become an important board-level issue and the company's relationship with nature can be an organic extension to this conversation.

Spotlight issues

 End and reverse deforestation

Halting and reversing tropical deforestation will be essential if we are to avoid the consequences of severe climate change and biodiversity loss. Tropical rainforests are home to approximately half of the world's plant and animal species⁴⁰. They also play an important role in regulating local and global precipitation patterns. Forests absorb carbon dioxide from the atmosphere, providing a valuable carbon store, whilst producing oxygen during photosynthesis; the Amazon rainforest is often called "the lungs of the planet"⁴¹. Clearing and burning forests releases carbon dioxide back into the atmosphere and eliminates the possibility of future carbon storage. Studies show that large ecosystems, such as the Amazon rainforest, may collapse quickly once critical tipping points are reached⁴².

The removal of tree cover from peatland, often carried out in south-east Asia for palm oil plantations, is especially concerning because it releases highly concentrated carbon stores from the peatland⁴³. According to the Intergovernmental Panel on Climate Change (IPCC), 23% of global anthropogenic greenhouse gas emissions come from agriculture, forestry and other land use, with 11% of this coming from global deforestation and land conversion⁴⁴.



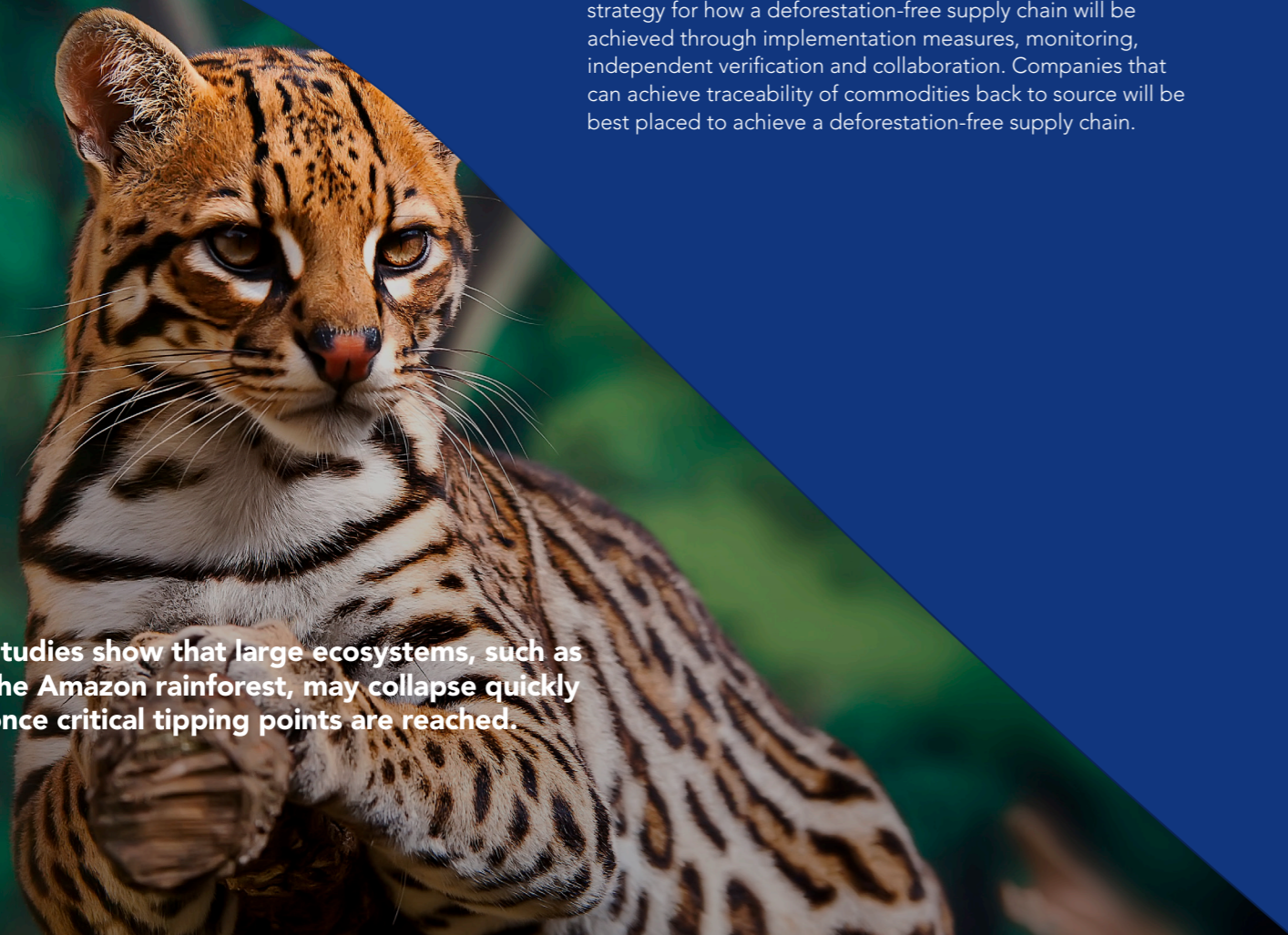
Tropical deforestation contributes approximately 7% of global greenhouse gas emissions, mostly driven by beef, palm oil, soy and other agricultural commodity production.

Deforestation and forest degradation continue despite the immense value of tropical rainforests. Alarmingly, the rate of deforestation has increased in Asia, Africa and Latin America during the Covid-19 pandemic⁴⁵. Of the 350 largest companies using commodities that may be linked to deforestation, 140 companies have not made commitments to no deforestation⁴⁶. This means that they may be exacerbating climate change and the loss of biodiversity through their sourcing practices, while putting the future sourcing of those commodities at risk.

Alarmingly, the rate of deforestation has increased in Asia, Africa and Latin America during the Covid-19 pandemic.

Companies that source palm oil, soy, beef, leather, pulp and paper, amongst other relevant commodities, must urgently commit to clear timelines for eliminating deforestation from their supply chains. The commitment should cover all commodities, regions and suppliers, including indirect suppliers¹⁹. We expect companies to communicate a clear strategy for how a deforestation-free supply chain will be achieved through implementation measures, monitoring, independent verification and collaboration. Companies that can achieve traceability of commodities back to source will be best placed to achieve a deforestation-free supply chain.

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 Regenerative agriculture

Approximately half of the world's habitable land is now used for agriculture, with 77% of that proportion used for animal grazing or growing crops for animal feed⁴⁷. As agricultural land grows, there is less land available for forests, grasslands and other natural ecosystems that provide habitats for wild species.

The need to transition to more sustainable forms of agriculture is evident. Industrialised farming requires high chemical inputs, promotes monocropping and destroys the soil's natural ability for carbon sequestration. This contributes to climate change and the loss of biodiversity. With 690 million people still undernourished⁴⁸ and the global population expected to reach 9.7 billion by 2050, the challenge is how to feed a growing number of people sustainably.

While the exact definition varies, regenerative agriculture "is a system of farming principles and practices that increases biodiversity, enriches soils, improves watersheds, and enhances ecosystem services"⁴⁹. It seeks to restore the soil's natural ability to absorb and retain carbon, minimises chemical inputs and integrates crops with animals and forestry.

Companies with agricultural supply chains should actively encourage and support farmers in transitioning to regenerative agriculture. By setting targets to source ingredients from regenerative agriculture and working with farmers to implement the change, companies can contribute to a system-wide change in how food is produced. The transition will play a critical role in mitigating climate change and restoring biodiversity. Innovation and technological disruption, such as precision agriculture, vertical farming and lab-grown proteins will play a critical role alongside regenerative agriculture.



Companies with agricultural supply chains should actively encourage and support farmers in transitioning to regenerative agriculture.

 Nature-based Solutions

Nature-based solutions (NbS) address several societal challenges, such as climate change, food security, and human health, through a single nature-based intervention that focuses on protecting, managing or restoring ecosystems. Studies show that 30% of cost-effective climate change mitigation activities could be delivered by NbS in order to keep within a well-below 2°C scenario by 2050⁵⁰. Examples of NbS include planting mangrove belts instead of sea walls to reduce flood risk, and creating green roofs and walls in cities to reduce temperature spikes and provide mental health benefits.

It is important to ensure that NbS do not solve one sustainability challenge whilst exacerbating another. The IUCN Global Standard for Nature-based Solutions⁵⁰ enables greater standardisation, credibility and confidence in the outcomes of NbS. The standard provides eight criteria that can be used to design and verify NbS in order to reach the desired sustainability goals. The third criteria states that all NbS should result in a "net gain to biodiversity and ecosystem integrity", which places biodiversity at the heart of NbS.

As companies plan and implement their decarbonisation strategies, they should consider the benefits of NbS. These solutions should not replace the deep reductions in absolute greenhouse gas emissions, energy efficiency measures, a transition to renewable energy, and the development of new products and services. However, NbS may offer a way for companies to effectively address multiple sustainability challenges, especially biodiversity loss and climate change.

Conclusion

Investors' and companies' current approach to nature is unsustainable. While biodiversity and the ecosystem services it enables form the basis of our economies and societies, they remain overlooked as key value-drivers and risks. Given the significant decline of biodiversity, conserving valuable ecosystems and species must be complemented with effective measures to restore biodiversity around the world. Investor engagement with companies is a key means through which biodiversity loss can be halted and reversed.

We encourage companies to commit to having a net-positive impact on biodiversity throughout their operations and supply chains. The mechanisms to achieve this goal will vary by company and sector, but strategies may include ensuring no deforestation in their value chains, supporting farmers in transitioning to regenerative agriculture and investing in nature-based solutions to address the dual challenges of climate change and biodiversity loss. Reducing corporate pressures on biodiversity, such as land-use change, climate change, and pollution, will be critical. Equally, innovation across operations, supply chains and products will be required to deliver the ambitious goal of having a net-positive impact on biodiversity at the organisational level. The goal should be accompanied by strong governance, effective measurement, an impactful strategy and regular disclosure.

Tropical rainforests are home to approximately half of the world's plant and animal species⁴⁰.

Nature-based solutions (NbS) address several societal challenges, such as climate change, food security, and human health, through a single nature-based intervention that focuses on protecting, managing or restoring ecosystems. Examples of NbS include planting mangrove belts instead of sea walls to reduce flood risk, and creating green roofs and walls in cities to reduce temperature spikes and provide mental health benefits.

Regenerative agriculture seeks to restore the soil's natural ability to absorb and retain carbon, minimises chemical inputs and integrates crops with animals and forestry.



Deforestation and forest degradation continue despite the immense value of tropical rainforests. Alarming, the rate of deforestation has increased in Asia, Africa and Latin America during the Covid-19 pandemic⁴⁵.

Approximately half of the world's habitable land is now used for agriculture, with 77% of that proportion used for animal grazing or growing crops for animal feed⁴⁷. As agricultural land grows, there is less land available for forests, grasslands and other natural ecosystems that provide habitats for wild species.



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