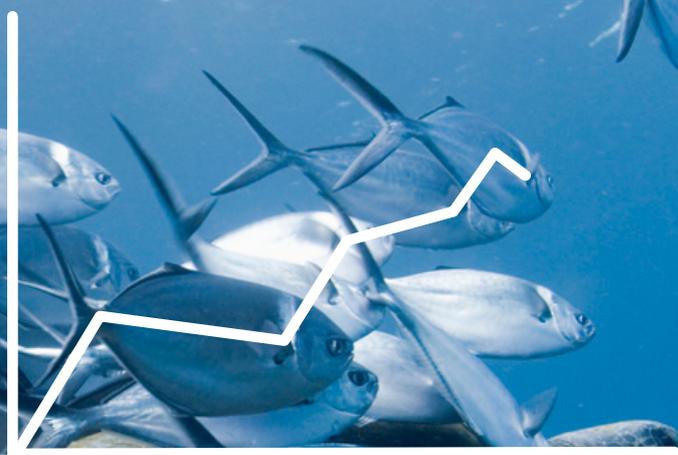


ESG Thema

#10 | July 2022

*There is no
place like
Earth: How
investors
can address
biodiversity
loss*



Confidence
must be earned

Amundi
ASSET MANAGEMENT

Key findings

- **Biodiversity, the term used to describe life on Earth**, or simply Nature, is declining at an alarming rate, and human activities are driving this loss.
- **Yet nature provides economic and social value through material benefits** (such as food) and ecosystem services (i.e. climate regulation, pollination, water & air purification).
- However, companies generally underestimate how much they both impact and rely on nature.
- **We can identify three types of risks for corporates** that depend on biodiversity: systemic risks through far-reaching impacts on food security, health and socioeconomic development; physical risks such as extreme weather events; as well as transition risks.
- **Addressing biodiversity loss can also be an opportunity for corporates:** the World Economic Forum (WEF) has identified this opportunity to be valued at around \$10 trillion/year by 2030.
- In order to integrate biodiversity considerations into investment analysis and portfolio construction, there is a need, as investors, **to understand better how companies affect and depend on biodiversity.**
- Going forward, emerging regulations and working groups trying to address problems linked to biodiversity reporting will contribute to speeding up action on biodiversity.
- **Finally, engagement will continue to be a key tool for investors to push companies to adopt best practices** and encourage standardized and transparent reporting on material ESG topics. This is why Amundi has launched a major engagement campaign on biodiversity in 2021.

Introduction

Biodiversity, or the term used to describe all living organisms and ecosystems of which they are part, is declining at an alarming rate with now 1 million (out of an estimated 8 million) plant and animal species being threatened with extinction¹.

According to the IPBES 2019 report² the main drivers of biodiversity loss are land degradation and habitat destruction; unsustainable resource exploitation; pollution; climate change; and invasive species. Human activities are both directly and indirectly driving biodiversity loss and yet nature provides economic and social value through material benefits (e.g. supply of food, water,

fibers, wood and fuels) and other ecosystem services (e.g. climate and flood regulation, crop pollination, water and air purification, soil fertility, recreational activities, spiritual well-being, etc.).

While the risks associated with biodiversity loss have always existed, global awareness of the subject is still in the early days. With regulations only beginning to emerge, investors have a key role to play to ensure that companies understand how biodiversity loss affects the company and vice versa, and ensure that companies are prepared to report on it accurately and effectively.

1. <https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/>

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

What is biodiversity and why is it so essential?

Biodiversity describes all life on earth. It provides key services to society in three different ways:

- **Provisioning services:** such as food, energy, and medicines. For example, in addition to food, 70% of drugs used for cancer are natural or synthetic products inspired by nature and over 2 billion people rely on wood fuel to meet their primary energy needs³.
- **Cultural services:** nature is often tied to one's cultural identity and plays a key role in a person's physical and psychological wellbeing.
- **Regulating services:** such as pollination, climate regulation, carbon sequestration,

flood & erosion prevention, water purification, and habitat provision. For instance, 75% of global food crops rely on animal pollination⁴. Furthermore, marine and terrestrial ecosystems are carbon sinks for anthropogenic emissions with global gross sequestration of around 5.6 gigatons of carbon per year (equivalent to 60% of global anthropogenic emissions)⁵.

A fourth category is often considered as well: the supporting services. They are necessary for the production of three other ecosystem services, for example by providing plants and animals with living spaces, allowing for diversity of species, and maintaining genetic diversity.

Biodiversity is in a Rapid State of Decline...Which Poses Significant Risks for Society

The **IPBES Biodiversity Intactness Index (BII)** estimates how much originally present biodiversity remains on average across regions. According to this index, biodiversity loss has accelerated rapidly over the last 60+ years across the globe.

In turn, **biodiversity loss poses significant risks to society, and notably to corporates.**

Biodiversity is fundamental to food security as it ensures a stable environment, fertile soil, and healthy population of pollinators like bees. Agricultural production (with a value estimated in 2016 at \$2.5 trillion) has increased threefold since 1970, but land degradation has reduced agricultural productivity by 23%. On top of that, between USD\$235 and \$577

billion of annual global crop output is at risk due to pollinator decline⁶.

Biodiversity loss also represents significant risks to human health. Almost three quarters of emerging infectious diseases in humans come from other animals, also known as zoonotic diseases including Ebola, Avian Influenza, SARS, and HIV. Land-use change and wildlife exploitation increase people's proximity to potential pathogens. It makes pandemics an ever more likely occurrence⁷. Nature also helps purifying air and water: vegetation can help absorb excessive nitrogen dioxide, ozone and particulate matter for example⁸. With around 4.2 million people⁹ dying every year due to air pollution and nitrogen largely exceeding planetary

3. IPBES, 2019

4. IPBES, 2019

5. IPBES, 2019

6. <https://www.weforum.org/agenda/2016/02/to-bee-or-not-to-bee-11-reasons-pollinators-matter/>

7. <https://www.oecd.org/coronavirus/policy-responses/biodiversity-and-the-economic-response-to-covid-19-ensuring-a-green-and-resilient-recovery-d98b5a09/>

8. <https://unece.org/air-pollution-ecosystems-and-biodiversity>

9. https://www.who.int/health-topics/air-pollution#tab=tab_1

boundaries, anyone can understand the need to protect our biodiversity, which regulates these threats.

Moreover, **biodiversity protects us against climate-related events** and provides stable conditions in our surrounding environment. Mangroves are good illustrations: they provide extensive flood protection against chronic events like tropical cyclones. It is unfortunately estimated that over 35% of their original cover is lost and, if today's mangroves were to disappear, 18 million more people would face flooding every year. This would represent a 39% increase in floods and a 16% increase in annual damages to property at roughly \$82 billion¹⁰.

These threats create systemic risks for society. Economic growth and prosperity have come at the expense of intensive use of natural systems, which underpin all life on Earth. In turn, biodiversity loss resulting from human activities poses severe risks to economic stability in our society. Indeed, the 2022 World Economic Forum Global Risks Report has identified biodiversity loss in the top three most severe risks for the next decade. Furthermore, the estimates of the financial toll from biodiversity loss are staggering. A 2014 study estimates that declining biodiversity resulted in financial losses of up to \$20 trillion per year between 1997 and 2011¹¹.

Human Activities are Responsible for Biodiversity Loss

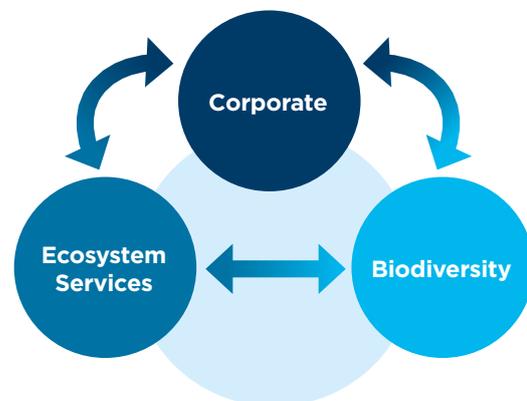
We affect biodiversity primarily through five direct drivers: climate change, unsustainable resource exploitation, land degradation and destruction, pollution, and invasive species. Human activities currently demand 1.7 times more resources the Earth can regenerate and have severely altered 75% of land and 66% of marine environments. Roughly, 25%

of assessed plant and animal species are threatened by human actions, with a million species facing extinction, many within a few decades¹². Human activities are hence severely altering our planet beyond its regeneration rate, which our ecological footprint has been exceeding ever since 1970.

How does biodiversity matter to corporates?

Biodiversity Loss presents specific Risks to Companies

Corporate actions and economic development depend on biodiversity, while simultaneously contributing to its loss. Companies' heavy use of natural resources beyond the rate of natural replenishment, their destruction of natural habitats, and their contribution to climate change all have an impact on biodiversity. All of this increases pressure on ecosystems, threatens their stability and reliability, and leads to a decline in healthy and well-functioning ecosystem services, services which corporates themselves rely on.



10. IPBES, 2019.

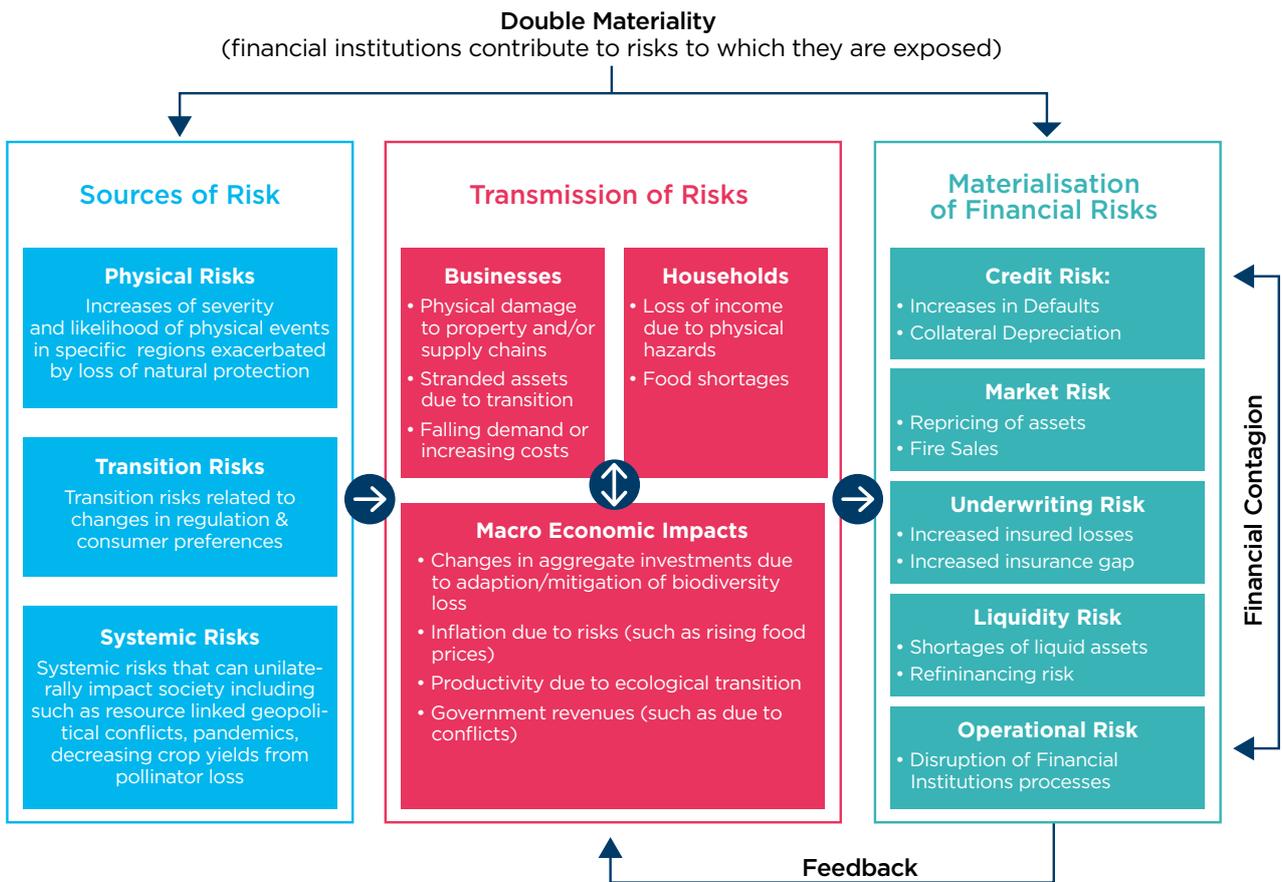
11. Global Environmental Change, Costanza et al., 2014

12. IPBES, 2019

There are very specific risks for corporates that depend on biodiversity. We can divide these into three categories:

Type of Risk	Description
Systemic Risks	Biodiversity loss can affect society through systemic risks. Its far-reaching impacts on food security, health and socioeconomic development can affect the stability and functioning of financial systems. More specifically, these risks span from economic, societal, to geopolitical linked issues and include mass migrations, conflicts, hunger, malnutrition, chronic diseases, and pandemics. For example, water scarcity resulting from land changes and desertification can exacerbate conflicts linked to water rights.
Physical Risks	Similar to climate change, corporates can face serious physical risks exacerbated by the loss of natural protection , such as extreme weather events like forest fires, flooding and erosion.
Transition Risks	Transition risks are, for instance, those related to changes in regulation and consumer preferences .

Figure 1: Biodiversity Risks can and will have real consequences on the financial sector



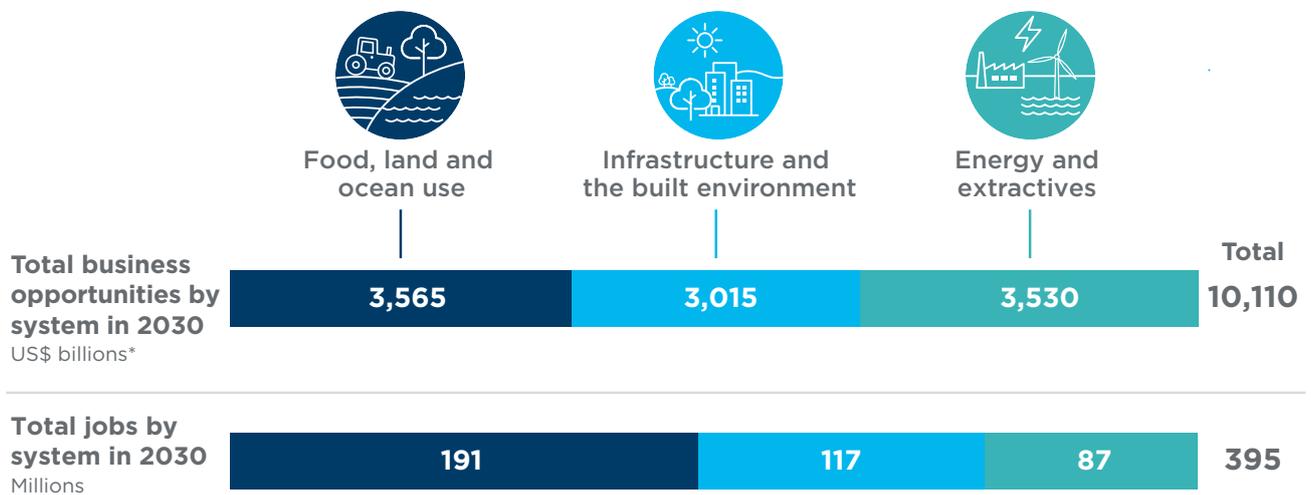
Source: Banque de France, Amundi Asset Management

Combating Biodiversity Loss Also represents Opportunities for Business

Despite the negatives associated with risks and harms to biodiversity, addressing biodiversity loss can also be an opportunity for corporates. The World Economic Forum (WEF) has identified this opportunity to be valued at around \$10 trillion/year by 2030 and create 395 million jobs¹³. Addressing biodiversity loss also provides significant potential for job creation (roughly 400 million jobs according to WEF). These opportunities can be linked to the circular economy (for

more information see our [2021 Report](#)) or regenerative agriculture. Significant investments are nevertheless needed to realize these opportunities. The WEF has estimated the investment requirements to be around \$2.7 trillion a year through 2030. While the price is high, it should be nuanced by the cost of inaction: the single Covid-19 pandemic has been estimated to cost around \$10 trillion in foregone GDP over 2020-2021¹⁴.

Figure 2: Business opportunities related to Biodiversity could deliver \$10.1 trillion of annual business by 2030 and 395 million jobs by 2030



* Based on estimated savings or project market sizing in each area. These represent revenue opportunities that are incremental to business-as-usual scenarios. Where available, the range is estimated based on analysis of multiple sources. Rounded to nearest US\$5 billion.

Source: Market research; Expert interviews; AlphaBeta analysis; World Economic Forum, 2020¹⁵.

13. <https://es.weforum.org/reports/new-nature-economy-report-series/future-of-nature-and-business#:~:text=Transforming%20the%20food%2C%20land%20and,million%20new%20jobs%20by%202030>.

14. <https://www.economist.com/finance-and-economics/2021/01/09/what-is-the-economic-cost-of-covid-19>

15. <https://es.weforum.org/reports/new-nature-economy-report-series/future-of-nature-and-business#:~:text=Transforming%20the%20food%2C%20land%20and,million%20new%20jobs%20by%202030>.

But, Despite the Risks & Opportunities, Corporate Action is Slow

Despite the risks linked to biodiversity loss, companies are not addressing it rapidly enough. **One explanation is the complexity of the issue:** impacts on biodiversity are not mutually exclusive, reporting is not standardized, and there is no one-size-fits-all metric to evaluate biodiversity loss (in comparison to climate with CO₂ emissions for instance). Biodiversity loss is also not uniform. Some species and geographical locations are more vulnerable (and more valuable) than others, meaning an asset level approach is required to prioritize efforts and preserve certain species and regions. Finally, there is an overall lack of guiding scenarios similar to

the ones existing for climate change. Global metrics and targets on biodiversity are needed, in order to be translated into specific targets for companies and investors.

Despite the complexities of measuring biodiversity and many of the key frameworks to guide disclosure still being in development, companies must start acting to halt biodiversity loss. **There are actionable steps that companies can take now, while investors can play a key role to accelerate the momentum of biodiversity action.**

The Role of Investors in Addressing Biodiversity Loss

In order to integrate biodiversity considerations into investment analysis and portfolio construction, there is a need, as investors, to understand better how companies affect and depend on biodiversity. To do so, companies need to **provide investors with the necessary and appropriate information.** This will enable investors to **mobilize financial resources by allocating capital away from biodiversity-related laggards to support companies that provide solutions to address biodiversity loss.**

There are significant hurdles for investors to account effectively for biodiversity, including

difficulties around data measurement and the need for clear global standards and guidelines. Engagement will continue to be a key tool for investors to push companies to adopt best practices and encourage standardized and transparent reporting on material ESG topics.

For this reason, Amundi began engagement with companies on the topic of biodiversity in 2021. The aim has been to understand and advocate for current best practice on biodiversity, in order to ensure that companies are prepared to address biodiversity-related risks and impacts going forward.

Amundi's key recommendations for companies on biodiversity

Biodiversity is complex but companies can take concrete steps now to prepare for the onset of biodiversity risks. Resulting from our engagements, we have developed the following recommendations for companies:

Develop a Holistic Strategy on Biodiversity from the Top

Board oversight over this topic can help companies assure that biodiversity is taken into account to the maximum extent possible, leading up to increased guidance from groups such as the Convention on Biological Diversity, the Taskforce on Nature-related Financial Disclosures, and the Science Based Targets Network.

Identify How the Company Impacts and Depends on Biodiversity, at least qualitatively at first

Companies can start, at least qualitatively, to assess holistically their link to nature: how they influence it, depend on it, and the associated business risks and opportunities. Tools like ENCORE¹⁶ exist to help corporates to better understand their impacts and dependencies (and it is free to use!). This will help them launch their top-down ambitions and strategies and provide guidance on the key areas of focus.

Push Biodiversity Reporting – Examine what can be done already and Experiment where more work is needed

Companies can begin examining current reporting capabilities for key operations, locations, and commodities to see which KPIs are currently possible (that they don't already do) to feed into their top-down strategy and which areas require more work to develop with third parties. Many

guidelines already exist and corporates need to ensure that their targets and ambitions reflect the importance of the issue of biodiversity loss. For example, companies with impacts in the supply chain should keep working to improve supply chain monitoring, mapping and traceability while establishing aggressive targets to align with existing certifications on each commodity, like the Roundtable on Sustainable Palm Oil (RSPO) for example. Many corporates already have targets, but there is still a lot of room for improvement.

For areas of biodiversity reporting, guidelines and best practices are still being developed, such as how to report quantitatively on biodiversity for example. Companies should not be afraid to test, experiment, and push for more detailed reporting, as this will help businesses be better prepared to meet reporting guidelines in years to come.

Work with Peers to Solve 'Unsolvable' Problems

Finally, companies need to work more closely with peers, third-party groups, and other stakeholders to find solutions for complex problems around biodiversity measurement. For issues that seem insurmountable, collaboration and experimentation should be praised and considered as an asset rather than a liability. Proactively addressing biodiversity with stakeholders would help corporates not only remain resilient but it would also encourage innovation and open the company up to new opportunities.

16. <https://encore.naturalcapital.finance/en>

The Rise of Regulation and Reporting Standards to Speed up Action on Biodiversity

Investors' concerns about biodiversity loss are only one of the levers of pressure to incentivize action. To address the difficulties of bending the curb of biodiversity loss, there are numerous emerging regulations and working groups trying to address problems linked to biodiversity reporting. Firstly, at the supranational level, COP26 recognized the key role of biodiversity and deforestation in addressing climate change, since an estimated 23% of total emissions stem from agriculture, forestry, and other land uses¹⁷. As a result, more than 100 world leaders pledged to halt deforestation by 2030¹⁸, which could signal a major push for new regulation. Furthermore, the 15th meeting of the Convention of Biological Diversity started its first phase in October 2021 to conclude negotiations around the post-2020 Global Biodiversity Framework¹⁹. This framework sets out four long-term goals for 2050 with 2030 milestones and includes 21 targets for action by 2030.

In Europe, there is a growing awareness of the importance of biodiversity, as shown by the European Commission's Biodiversity Strategy for 2030. Biodiversity will thus become an increasing area of regulatory focus in the EU. Moreover, under the EU Green Deal, the 2030 Biodiversity strategy lays out a long-term plan for protecting nature and reversing ecosystem degradation. Within the Taxonomy, there are six environmental objectives with one specifically related to the protection and restoration of biodiversity

and ecosystems and others concerning drivers of biodiversity loss, such as pollution and climate change²⁰. Sustainable Finance Disclosure Regulation (SFDR)²¹ will include biodiversity within the "adverse impacts" aspect of the regulation. Biodiversity is a standalone indicator and includes metrics around biodiversity and ecosystem protection practices, natural species and protected areas, as well as deforestation.

Third-party working groups are also trying to develop uniform disclosures on biodiversity from the corporate reporting side.

The Task Force on Nature Related Financial Disclosures (TNFD), launched in 2021, aims to set guidelines for how companies should disclose their environmental emissions. Modeled after the TCFD (Task Force on Climate Related Financial Disclosures), the taskforce has committed to delivering a framework by 2023 for organizations to report on how they manage nature-related risks. Another group is the Science Based Targets Network, which aims to create measurable, actionable, and time-bound objectives based on best available science to allow actors to align with sustainability goals. Finally, in what will be a key shakeup for corporate reporting in the near term, the Carbon Disclosure Project (CDP) is including biodiversity questions in its 2022 reporting cycle. These questions will be under the climate change questionnaire and required by all companies filling out the survey.²²

17. <https://www.ipcc.ch/srccl/>

18. <https://www.washingtonpost.com/climate-environment/2021/11/01/more-than-100-world-leaders-pledge-halt-deforestation-by-2030/>

19. <https://www.cbd.int/article/draft-1-global-biodiversity-framework>

20. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en

21. This regulation will require asset managers and institutional investors in the EU to disclose how they incorporate sustainability risks and adverse impacts into their investment making and advisory processes.

22. <https://guidance.cdp.net/en/guidance?cid=30&ctype=theme&idtype=ThemeID&incchild=1µsite=0&otype=Questionnaire&tags=TAG-13071%2CTAG-605%2CTAG-600>

Conclusion: Our Biodiversity Journey has just begun

Biodiversity is all around us. It underpins not only our economy but also our very existence. Yet we are only in the early stages of understanding how essential a healthy environment is to a stable and well-functioning society. Like the primatologist Jane Goodall wrote, *“How come the most intellectual creature to ever walk Earth is destroying its only home?”*

So far, the focus has mostly been on climate change even though climate change and biodiversity loss are inherently interlinked: they exacerbate one another, creating a vicious and perpetual cycle. Going forward, the development of guiding scenarios as those existing for climate change will increasingly allow companies and investors to develop specific goals and thresholds related to biodiversity. Despite the measurement complexities and the fact that many of the key frameworks to guide disclosure are still in development, companies and investors must start acting now to preserve nature and the vital services and materials it provides.



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