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MANAGEMENT	

ECONOMIC COST OF BIODIVERSITY LOSS

Biodiversity encompasses the variety of organisms within ecosystems including plants, animals, and microorganisms that are fundamental to ecological stability and resilience. This variety of species supports ecosystem services – such as pollination, flood control, clean water, and carbon sequestration – which are sources of natural capital for economic growth and development.

Currently, land use change is the primary driver of biodiversity loss, however, by 2050, climate change is projected to overtake land use change as the main driver of loss¹. As such, biodiversity research can contribute to assessing the potential costs of climate change on capital markets.

ASSESSING FINANCIAL MATERIALITY TO INDUSTRIES AND BUSINESS MODELS

Consistent with our data-driven climate research, our approach to biodiversity focuses on financial materiality across asset classes, regions, and securities over the long-term. We have found that research on biodiversity loss is complementary to our climate research, given the many direct and indirect interrelated impacts.

Biodiversity can pose potential risks to a business by way of dependencies and impacts. *Dependencies* refer to inputs to company operations such as natural resources and benefits from ecosystem services, potentially increasing the cost of goods sold (COGS) for a business as their availability becomes scarcer and/or more volatile. *Impacts* are negative externalities that result from company operations or products, such as pollution, which can become a cost through regulatory intervention.

Generally, industries with higher biodiversity risk operate in direct contact with nature or extract large amounts of natural capital as raw materials. For instance, a company that relies on natural resources such as water, timber, or agricultural products may experience challenges related to biodiversity loss that may necessitate alternative sourcing, production disruption, or require investments in more resilient practices. Relative biodiversity impacts and dependencies vary by industry, as will relative contribution of these exposures to overall financial risk.

DEEPENING OUR RESEARCH ON BIODIVERSITY

Scientific research partnerships

Our research partnerships with the Woodwell Climate Research Center and MIT Center for Sustainability Science and Strategy have helped us identify the critical links between biodiversity, transition, and physical climate risks and inform how these considerations may be financially material to the long-term value of securities. For example, insights from our research partners have enabled us to better understand the extent to which raw-material sourcing, water management, and supply chain management are tied to biodiversity challenges via Scope 3 reporting and location-based sensitivities.

Tools and resources

As with any rapidly evolving area, we continually strive to interpret changing client, market, and regulatory priorities around biodiversity, and apply them to our efforts as appropriate. One challenge the industry faces is the availability of biodiversity data due to limited company disclosures and standardized metrics. The Climate Research Team evaluates relevant data sets and investor tools for conducting security level analysis, which remain limited given nascent adoption of company disclosures.



Until company disclosure improves, we focus on understanding biodiversity risks and opportunities through sector-level heat mapping analysis and engagement. The Climate Research Team has developed a sector-level heat mapping analysis, utilizing World Wildlife Fund (WWF) Biodiversity Risk Filter sector dependency and impact data to identify issuers held in portfolios that fall under sectors with high impact and dependencies on biodiversity. Additionally, using our Climate Exposure Risk Application (CERA), we have globally mapped water scarcity and drought measures and can determine which geographies or municipal-, company-, and supplier-specific locations may have the greatest potential exposure to this biodiversity risk. This analysis can be applied through climate-focused portfolio reviews offered to investment teams. At Wellington, each investment team can apply climate research in the context of its investment objective and time horizon, and as relevant to its philosophy and process (P&P). We expect to continue to evolve our analysis of biodiversity risks and opportunities as data availability expands.

Engagement

As a result of the interconnectivity between climate change and nature, many issuers with material physical and transition risks may also have material biodiversity risk. Therefore, as with climate risks, we view engagement as the primary means of assessing biodiversity risks and issuers' mitigation strategies, where financially material. The Climate Research Team works with investment teams to prioritize discussions with issuers with potentially financially material exposure to biodiversity-related risks, such as those with heavy operational or supply chain reliance on ecosystem services. For the reasons above, this topic is generally discussed alongside physical and/or transition risks. The extent to which an individual engagement will influence investment decisions depends on the portfolio manager's or team's investment philosophy and process and the engagement itself.

Please refer to the reports and policies page of our <u>website</u> to access our Climate and Sustainability reports for examples of our engagement on biodiversity risks.





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¹ Environmental Outlook to 2050: The consequences of inaction," Organisation for Economic Co-Operation and Development, 2021

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1 January 2025

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