

Nature statement

November 2022



As part of our commitment to helping our clients achieve their objectives and build resilient portfolios, we at Manulife Investment Management¹ are committed to positively affecting nature and biodiversity through our business and investment activities.

We aim to proactively assess and manage nature-related risks and opportunities across our investments, as we understand how essential nature is for the future success of businesses, the economy, and society. This statement outlines the value of nature and biodiversity and our approach to nature in the investment process and asset stewardship.

Key definitions

Biodiversity: The variety of life on earth—typically a measure of the variation at the genetic, species, and ecosystem levels. Biodiversity is a characteristic of healthy natural capital assets and underpins nature's capacity to generate flows of ecosystem services, such as how birds, insects, and other animals pollinate our crops

Ecosystem services: Benefits that people obtain from natural capital such as air and water purification services, also known as nature's contributions to people

Natural capital: Stocks of renewable and nonrenewable resources that combine to yield a flow of benefits to people

Nature loss: Decline of natural capital, ecosystem services, or biodiversity

Produced capital: Consists of physical assets generated by applying human productive activities to natural capital and capable of providing a flow of goods or services

We invest in a global economy dependent on nature

Nature is, quite simply, the natural world. It includes both nonliving realms (land, soil, water, air) and living ones (ecosystems, species, and genes), which we refer to as biodiversity. In addition to nature's tremendous inherent value, all life on earth, to varying degrees, depends on the benefits nature provides. Nature and biodiversity are critical for the functioning of society and the global economy. Over half the world's total GDP—about \$44 trillion of economic value generation—is moderately or highly dependent on nature and its services.

Yet the current trajectory for the use and management of natural capital isn't sustainable. As outlined in the Dasgupta Review, a seminal global review of the economics of biodiversity, economic and technological advancement has come at a devastating cost to nature. Estimates indicate that between 1992 and 2014, produced capital per person doubled, but the stock of natural capital per person declined by nearly 40%. The gap between the rate of natural capital consumption and nature's ability to regenerate continues to widen: One estimate from the Global Footprint Network (GFN) is that the ratio of our demand from the biosphere to its regeneration rate increased from 1 in the late 1960s to 1.6 in 2020.

Consideration of nature in investment decision-making

Companies can interact with nature in two ways: through their business models, which may depend on natural capital inputs, and through their operational impact on the natural world. For example, a food or beverage company depends on natural capital such as water, soil quality, and pollinators to maintain a reliable supply of agriculture inputs for its products. On the other hand, the company may affect biodiversity and nature through its land use, greenhouse gas emissions, sourcing activities, and the agriculture practices of its suppliers.

Businesses should consider the importance of nature to their operations by evaluating their potential to reverse the negative impacts of their operations on nature and, where possible,

¹ Manulife Investment Management is the unified global brand for Manulife's global wealth and asset management business, which serves individual investors and institutional clients in three businesses: retirement, retail, and institutional asset management (public and private markets). This statement applies to the institutional asset management business of Manulife Investment Management.

positively contributing to restoring it. We believe companies that better manage natural resources and environmental impacts from operations can offer investors a better risk/reward profile over the long term as nature-related risks begin to manifest both physically and financially. On the contrary, businesses that fail to account for their relationship with nature could face several negative consequences. Examples include a lack of raw materials that leads to revenue reduction, severe supply chain disruption due to extreme weather events, product substitution, and loss of market share due to consumer appetite changing toward more sustainable products and business culture.

Companies have largely not been charged for their consumption of natural capital; using the resources that nature provides has been free, leading to the degradation of global natural capital stocks due to overconsumption. As society begins to realize the impacts of the overexploitation of natural capital, businesses may face a variety of financial risks as society explores mechanisms to discourage unsustainable consumption.

An overview of nature-related risks and how businesses may be affected

| Type of Risk | How risk materializes | Impact on companies |
|--|--|---|
| Physical risk Ecosystem services at risk due to: <ul style="list-style-type: none"> • Pollution • Invasive species • Climate change • Overexploitation of natural resources • Land and sea use change | Leads to the decline of: <ul style="list-style-type: none"> • Air quality • Water security and quality • Land productivity • Soil health • Pollinator health • Habitat intactness | <ul style="list-style-type: none"> • Decreased food and raw material production • Supply chain disruption • Raw material price volatility • Reduced land value and stranded assets • Capital destruction • Loss of revenues |
| Transition risk Resulting from societal response to nature loss | <ul style="list-style-type: none"> • New policy and regulation • Technological obsolescence • Adaptation of business operations • Shift in consumer and investor preferences toward nature-positive products/business models | <ul style="list-style-type: none"> • New purchaser requirements • Limits on investment activities • Additional reporting requirements • Investment in new technologies or products • Higher operating costs and/or loss of revenues • Stranded assets • Shifts in capital allocation |
| Liability and reputational risk | <ul style="list-style-type: none"> • Litigation • Payouts and fines • Insurance costs • Reputational damage | <ul style="list-style-type: none"> • Negative consumer or investor sentiment • Loss of market share/revenues • Ratings downgrade and/or share price losses • Loss of licenses to operate or develop |

Our approach to nature in the investment process

Our investments intersect with nature along the axes of many different material issues. Examples include water security, water quality, deforestation, land use change, air and water pollution, commodity production, and the circular economy.

As scientific understanding of the natural world, policy, and data evolves, so too will our approach to integrating nature-related considerations into the investment process. We aim to consider natural capital and natural capital management in our investment decision-making. We do so by making use of current data sources and learning from industry initiatives, with the

understanding that available data, and the science behind it, is constantly improving and evolving in this area. We strive to adopt sound practices in natural capital management where we directly operate assets, and we encourage such adoption by third parties and securities issuers when applicable.

The approach we take to nature and biodiversity is calibrated to the asset class we're investing in, the degree of control we have over the assets, and the materiality of issues given other factors such as geography, sector, and ecosystems.

| Asset type | Strategy | Approach | Examples |
|--|---|--|--|
| Real estate, timber, and agriculture | Where we serve as both investment managers and operators of our clients' timber, agriculture, and real estate assets, we're responsible for making the day-to-day decisions on how to operate the assets. | <ul style="list-style-type: none"> Sustainable land management and operations Habitat conservation and protection | <p>Our zero-deforestation policy commits us to not engage in deforestation, either directly or indirectly; for example, through purchasing recently deforested land.</p> <p>Within our real estate investments, we look to support the preservation of green space and restoration of biodiverse habitats within the communities in which we operate. We use a variety of strategies for mitigating biodiversity loss, including limiting the use of chemical pest controls, operating green rooftop environments with native plant species and urban vegetable gardens, maintaining beehives, and protecting the environment for birds.</p> |
| Infrastructure, private equity, and private credit | As we're typically minority investors, and rarely hold board seats, we consider our impact on nature in our initial due diligence. | Environmental, social, and governance (ESG) due diligence tools incorporate biodiversity data | We've added biodiversity questions to our due diligence process when considered to be material to an investment. Before investing in an infrastructure project, we'll assess the impact the asset may have on endangered species; for example, in one of our infrastructure investments, a threatened and endangered species protection plan was implemented. |
| Public equity and fixed income | We may take a variety of actions toward managing nature-related risks and opportunities, including asset allocation and selection, investment analysis and research, and stewardship activities. | <ul style="list-style-type: none"> Proprietary ESG models incorporating biodiversity data Biodiversity data sets and tools | <p>Our investment teams have access to a variety of tools, frameworks, and models to assess their portfolio's impact on nature.</p> <p>Our proprietary ESG industry handbooks and materiality maps capture sector-specific material ESG issues, including nature-related issues such as climate change, exploitation of natural resources, and pollution.</p> <p>Our proprietary sustainability impact and sustainability best-practices models identify best-in-class issuers through capturing and analyzing sector-specific sustainability metrics. These models help identify both nature-related risks and opportunities to which issuers may be exposed.</p> <p>We work with investment teams to build custom monitoring tools for the material issues within their portfolios. Examples include monitoring nature risks, such as land or ecosystem disturbances, or companies operating in biodiverse-sensitive and/or water stressed areas. This process informs engagement opportunities where teams can focus on issuers that perform poorly in these areas.</p> <p>Our sovereign ESG risk model, used by our fixed-income investment teams, captures nature-related risks of sovereign issuers, including water management, levels of pollution, and rates of mineral and forest depletion.</p> |

Our approach to nature in asset stewardship

Our consideration of nature goes beyond the initial investment process to our stewardship responsibilities and, where we directly operate assets, management practices. Similar to the investment process, our approach is calibrated to the asset class and degree of control we have over the asset.

Where we operate private assets, we have specific guidelines that we follow in relation to nature and biodiversity. We actively manage our direct-operate timberland and agriculture investments according to the region-specific best practices recommended by third-party sustainability certification. These best practices encourage biodiversity and protect threatened and endangered species, as monitored by our operations and subject matter expert teams and through third-party research partnerships. We increase our positive nature impacts by collaborating with local land trusts, national and international nonprofits, and national and international biodiversity initiatives (e.g., the [Nature Conservancy](#), [NatureServe](#)). For example, our operations staff and corporate leadership were instrumental in the creation of the world's first third-party sustainability certification for agriculture, [Leading Harvest](#), and our entire U.S. agriculture platform now collects evidence of its biodiversity-promoting best practices, which are part of Leading Harvest audits.²

In real estate, our group's proprietary Sustainable Building Standards provide guidance to property managers on material ESG initiatives such as energy, water, waste, and greenhouse gas management. Standards focused on responsible contracting and sustainable procurement support the selection of products that help reduce the impacts on nature associated with manufacturing, transportation, use, and disposal of materials. These procurement standards provide guidance on sourcing recycled content, rapidly renewable material, or using third-party certifications. Standards focused on tenant and community engagement also support nature and biodiversity through the promotion of initiatives such as urban beekeeping and vegetable gardens at the property level.

Where we don't operate private assets, we conduct stewardship activities by building meaningful partnerships with leading operators and sponsors. Once we invest, our team works to maintain a close relationship with the management teams of companies and our investment partners to continue monitoring material aspects of the investment, including nature and biodiversity factors.

For public corporate issuers, we expect management teams to consider the impacts of operations and products on the natural world with an eye toward achieving operations that use natural capital in a sustainable manner. For example, we may engage mining companies on rehabilitation of used land from operations when they've closed tailings dams or mines. We primarily use direct engagement with management teams and directors, collaborative engagement, and, where applicable, proxy voting to encourage adoption of best practices and iteration toward sustainable use of natural capital.

- **Engagement**—We engage with management teams regarding biodiversity, air quality, waste management, water management, sourcing practices, product lifecycle, and other sustainability factors related to nature. We have these conversations as part of our general monitoring and due diligence activities on behalf of our portfolios. We also may engage with a management team to request adoption of certain best practices and reporting related to management of natural capital to improve the risk/return profile of that investment.
- **Proxy voting**—Where we believe nature and biodiversity present a material risk or opportunity for an issuer, Manulife Investment Management may express an opinion on an issuer's oversight of those risks and opportunities through exercise of proxy votes. This can include, for example, support for shareholder resolutions, including, where we believe appropriate, proposals to provide more information on water efficiency, efforts to curb deforestation, programs on limiting pollutants, supply chain and sourcing practices, and product lifecycle management.

In situations where we identify a material board failure resulting in significant harm to, or mismanagement of, nature and biodiversity, we may voice our concern by voting against responsible directors. As a limited set of examples, we may vote against directors where board negligence results in a massive spill of hazardous waste, the illegal trafficking or poaching of wildlife, or a fire that causes significant loss of timberland.

We also may vote against directors where we engaged and requested certain changes of management over a reasonable timeframe and found them unresponsive.

² Oliver Williams, global head of agriculture, is current chair of the Board of Directors for Leading Harvest. For more information on Leading Harvest, please see leadingharvest.org/about.

Collaborations with stakeholders on nature

Beyond our asset stewardship/management, unilateral engagement, and proxy voting activities, we also collaborate with other investors, standard setters, and policy makers to encourage best practices in natural capital and biodiversity reporting and management. We participate in various nature-related initiatives, including:

- **Taskforce on Nature-related Financial Disclosures (TNFD)**—As a member of the TNFD Forum, we support the development of a risk management and disclosure framework for nature-related risks.
- **Finance for Biodiversity Pledge and Foundation**—We're signatories to the pledge and members of the foundation, where we sit on the advisory board and working groups (engagement, public policy, impact assessment, target setting) committed to developing best practices around assessing impact, both positive and negative, on biodiversity and creation of targets to increase significant positive impacts on biodiversity.
- **World Business Council for Sustainable Development (WBCSD)**—As a member of the WBCSD, we collaborate with other organizations to advance sustainable business development and are involved in the Nature Action and Scaling Positive Agriculture programs and the Forest Solution Group.

We aim to monitor these industry groups, as well as new industry groups, to further inform our process and the future development of metrics and targets. We may also join collaborative engagement efforts where investors group together to engage with a specific management team.

We also know that positive outcomes come not only from private action, but from responsible government policy aimed at protecting our natural systems. Through collaborative groups, we therefore work to encourage development of government policy that works toward sustainable economic growth, and we advocate for policies that protect and restore biodiversity with an emphasis on aligning financial flows with global biodiversity goals.

A widespread health crisis such as a global pandemic could cause substantial market volatility, exchange-trading suspensions and closures, and affect portfolio performance. For example, the novel coronavirus disease (COVID-19) has resulted in significant disruptions to global business activity. The impact of a health crisis and other epidemics and pandemics that may arise in the future could affect the global economy in ways that cannot necessarily be foreseen at the present time. A health crisis may exacerbate other preexisting political, social, and economic risks. Any such impact could adversely affect the portfolio's performance, resulting in losses to your investment.

Investing involves risks, including the potential loss of principal. Financial markets are volatile and can fluctuate significantly in response to company, industry, political, regulatory, market, or economic developments. These risks are magnified for investments made in emerging markets. Currency risk is the risk that fluctuations in exchange rates may adversely affect the value of a portfolio's investments.

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Manulife Investment Management

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