

Proteus action area: Embedding biodiversity in business risk management

The plans proposed in this document will be reviewed with Proteus partners during the Proteus Annual Meeting 2026, and subsequent engagements, to guide work under Proteus across its 2026-2030 phase.

The challenge

In most companies, biodiversity does not yet feature in the same risk registers, capital allocation processes, and decision-making frameworks used to manage other strategic risks. This is despite all businesses facing costs and risks linked to biodiversity loss.

The disconnect between biodiversity-related risks and risk management processes exists across mining, renewable energy, manufacturing, agriculture, forestry, fashion, and other sectors. It arises in part because of technical difficulties in quantifying the relationship between biodiversity and risks at the level of individual companies or operations. For example, analysis of how changes in biodiversity affect the likelihood or severity of risks like operational or supply chain disruptions is typically associated with high uncertainty. In addition, there remains limited recognition by senior leadership and risk management teams of how biodiversity underpins business activities. This reduces appetite for acting based on uncertain data.

Efforts have been underway for some time to strengthen business understanding of dependencies on biodiversity and associated risks. Screening tools like ENCORE allow businesses to identify the extent to which their operations and key supply chains are likely to depend on different ecosystem services. TNFD LEAP, and its accompanying sector guidance, provides a process for developing a more company-specific understanding of dependencies and the pathways through which they translate to risks. Academic research, and work with central banks, are increasingly highlighting the financial risks associated with biodiversity loss at the scale of national economies. Commercial organisations are beginning to translate the methods developed into service offerings for businesses.

The tools and resources now available have unlocked significant progress. However, technical efforts continue to be associated with high uncertainty. Results are rarely seen as sufficiently compelling to inform risk assessments, investment decisions, or operational planning. As a result, biodiversity-related risks are frequently not treated as comparable to other more tangible business risks. This can lead to missed opportunities to reduce risks and build business resilience.

What is needed?

Existing business risk management processes would be strengthened by embedding consideration of biodiversity. For this to happen, business senior leaders and risk management teams need to recognise the significance of biodiversity to business risks. Corporate biodiversity teams and technical organisations need to bring insights to these professionals that are scientifically robust, compelling, and accessible. Both real-life case studies and quantitative data can help.

Real-world case studies can illustrate why changes are needed. They can demonstrate how overlooking biodiversity in risk management has resulted in costs to businesses. To do this, they need to clearly show the link between biodiversity and the likelihood or severity of tangible business risks. This should include illustrating the connections between biodiversity and types of risks that businesses are familiar with

managing, from stakeholder opposition, litigation and stranded assets to cost overruns, operational shutdowns, and missed production targets. It should also include other environmental risks, for example, how biodiversity is linked to risks of assets being damaged by hazards like flooding, fire, and landslides. Additional case studies could demonstrate how actions to manage biodiversity-related risks have created business value, through avoiding/reducing risks or realising opportunities.

In terms of quantitative data, models linking biodiversity with specific business risks can support understanding of the materiality of biodiversity and the return on investment for potential response options. To be useful for businesses, these models must reflect the nuanced differences between different locations and companies, providing outputs that are relevant to an individual business's context. While complete accuracy may be unattainable, they need to provide similar accuracy as is given by approaches used to understand other risks that businesses consider seriously despite manifesting through complex pathways, such as price volatility, geopolitical instability, and corporate reputation. It is crucial that the accuracy of model results is clearly communicated to support their trust and uptake.

Together, tangible case studies and trusted quantitative modelling tools can equip biodiversity professionals and risk management teams to appreciate and embed biodiversity in risk management processes. Doing so would support business actions on biodiversity that are underpinned by robust internal evidence.

What will Proteus do?

First, we will focus on mapping the connections and transmission pathways between biodiversity and key business risks for priority sectors including mining, renewable energy, infrastructure, agriculture and forestry. We will begin by looking at typical risks on business risk registers and analyse the extent to which biodiversity loss affects the likelihood and severity of them. This will draw from established literature and be validated with Proteus partner companies.

For key transmission pathways and sectors, we will collect case studies that illustrate the relationship between biodiversity and business risks. These will exemplify both where biodiversity loss has resulted in costs to businesses, and where investment in biodiversity has provided risk mitigation (and other co-benefits where applicable). They will be drawn from existing literature, Proteus partners, and other companies across sectors. We will present the case studies in narrative formats, working with Proteus partners to ensure resonance with the operational realities of risk managers and senior decision makers in their businesses. Depending on demand from Proteus partners, we may also provide additional capacity building materials, for example guidance in the 'Every Job is a Nature Job' series focused on Enterprise Risk Managers and/or training materials and workshops on biodiversity-related dependencies and risks.

In parallel, we will advance research on modelling frameworks that make decision-useful connections between biodiversity and specific business risks. We will do this in collaboration with other initiatives and organisations working on the same topic, including engaging with public-good and commercial researchers. We will promote open access principles and modelling frameworks for others to build from. If it will add value beyond the existing offerings already available and in development, we may also provide new quantitative datasets, tools, or models for business use, either standalone or integrated into existing tools (e.g. ENCORE). Outputs will be guided by Proteus partners to ensure their suitability for informing business decisions. We will also work with partners directly through Proteus Technical Support to assist their uptake of the best available approaches, datasets and tools.