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Nature Risk Management in Insurance
Integrating Nature Risk into Risk Management Frameworks

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Executive summary

Increasingly, Nature Risk is being viewed as a systemic risk requiring executive and board committees' attention in insurance organisations.

Why is Nature Risk* important?

Stakeholder attention, scrutiny and expectations are rapidly increasing on the effectiveness of sustainability programmes in financial institutions. Increasingly insurance firms are prioritising their attention on the environment with the aim to be early beneficiaries of the longer-term advantages of leading sustainability management. There is a shifting focus to Nature Risk Management, we have highlighted below why this may be:

1. **New big challenge.** Following climate change, several leading industry players (for example, regulators, analysts, Top 100 FTSE boards) see Nature Risk as the next big challenge that will be at the forefront of shareholders, employees and customers minds.
2. **Ethical and social alignment.** Shareholders, employees and customers are increasingly seeking out companies that align with their personal beliefs and values towards nature and biodiversity.
3. **Securing the best of tomorrow's workforce.** By 2025, 27 per cent of the world's workforce will be made up by Generation Z ("Gen Z"). Gen Z want their employers to care about the environment. They seek sustainable companies to work for and buy from[1].
4. **Longer term advantages from reputational benefits.** Acting now will reduce the effort required because of transition drivers (increased regulatory and policy) and reduced transition risks.
5. **Scale:** $44 trillion US dollars of economic value generated each year is moderately or highly dependent on nature. This is more than 50 per cent of global GDP[2].

Regulatory insights

The Taskforce on Nature-related Financial Disclosures (TNFD); like the Taskforce for Climate-related Financial Disclosures (TCFD) has developed a set of disclosure recommendations and guidance to encourage organisations to report and act on evolving nature-related dependencies, impacts, risks and opportunities.

European Insurance and Occupational Pensions Authority (EIOPA) has also published a paper on how Nature related risks translate into a risk for insurers.

What have we seen

Unlike climate risk, currently there is no mandatory regulation for disclosure on Nature Risk. However, there is an expectation that firms will be required to adhere to **International Sustainability Standards Board (ISSB) and Corporate Sustainability Reporting Directive (CSRD) requirements** in the next two to three years. The **TNFD** has published a set of disclosure guidance for voluntary uptake. Some of the leading composite insurers are quickly acting on the voluntary disclosures, leading as an example for their key stakeholders, resulting in longer term gains and competitive advantages.

*Nature Risk or Biodiversity Risk is defined as the loss of Nature including negative impacts to all the different kinds of life (the variety of animals, plants, fungi, and even microorganisms like bacteria) that make up our natural world.[3]

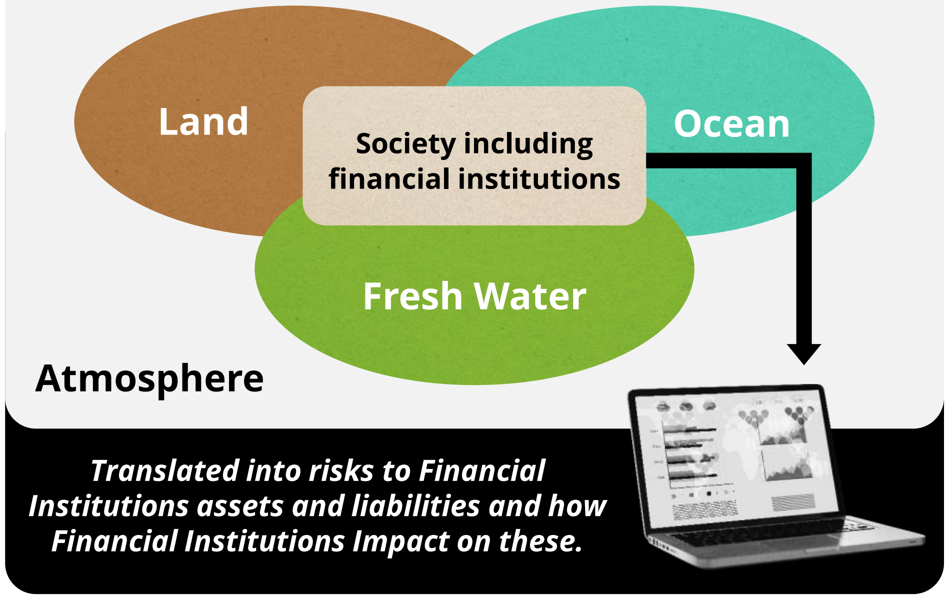
Background to Nature Risk

Nature can be understood through a construct of four realms – land, ocean, freshwater, and atmosphere[4], each rich in their own environmental assets. The environmental assets enable ecosystems to thrive and provide **life sustaining services, such as pest control, pollination, soil quality control, in addition to cultural services which contribute to physical and mental health.**

The sustainability of the environmental assets is underpinned by biodiversity. Society, including financial institutions, depend on and can impact nature as illustrated below.

Losses from Nature Risk are already impacting businesses, including **rising goods prices, reduced talent retention, job losses, global health concerns, economic development and climate change.**

Source: TNFD[4]



Connectivity to climate change

Nature loss and climate change are inextricably interlinked, in both their impacts and solutions. Ecosystems, such as coral reefs, wetlands and mangroves naturally dampen the impact of floods and storms. Whereas restoration of ecosystems have a large mitigation potential in terms of reducing emissions and reducing carbon. **Addressing Nature and biodiversity loss is crucial for success with the climate change net-zero transition[5]**. Accordingly, to successfully manage climate change risk, it is imperative to address Nature Risk through successful and robust management.

Challenge

Like climate risk, managing Nature Risk requires **targets at global and regional levels,** and in the case of nature to conserve and restore biodiversity. However, the complexity of the loss from Nature Risk (including first and second order as referred on next page) makes it difficult to develop one target, unlike for example, the Paris agreement for global warming[5]. Measurement of the potential impact of nature-related risks on insurers balance sheets is a challenge, mainly because of issues related to **data availability, quality and completeness** (currently qualitative), common risk indicators and absence of common scenarios.

Accountabilities

In financial institutions, including insurers, accountability for the management of Nature Risk lies with the **Senior Management Functions (SMF) responsible for sustainability**. This can be through the **Chief Sustainability Officer (CSO)** or **Chief Risk Officer (CRO)** as the second line risk, providing **oversight, challenge and monitoring**.

How to successfully manage Nature Risk

For insurers it is important to consider the contribution to the restoration and conservation of nature. To obtain **competitive advantage, insurance firms should start integrating Nature Risk into their Risk Management Frameworks (RMF's). Leveraging the experiences and lessons learned from proven approaches to managing climate related risks as part of RMFs,** to aid in identifying the types of approaches for **assessing and managing the risks and impacts**. For more information refer to slides 6-7.

Challenges and opportunities for insures with Nature Risk Management

Challenges with assessing and manging Nature Risk include the complexity of identifying Nature Risk in the first instance. More awareness and understanding is required for Nature Risk and the related data and information, supervisory guidance and skills required for successfully Nature Risk Management.

Emerging practice in Nature Risk Management includes categorising Nature Risk into the following two sub-types which are directly leveraged and aligned to industry expectations for climate risk management.

The two sub-categories of physical and transition risks could impact insurers through the products they offer policy holders to mitigate loss to those policy holders' businesses, and the investments they make.

Nature related risks can be transmitted into society directly **(first order)** or indirectly through the value chain and the spill over impacts **(second order)**. For example, the loss of biodiversity, would have an impact on the productivity of agricultural activity (declining soil productivity) **(first order)**, impacting the food production value chain which can result in lower productivity and thus loss in revenue **(second order)**[5].

Related impact on insurers. Lower productivity in agricultural businesses could increase claims volume and scale on insurance lines providing business interruption coverage for loss of revenue. In second order, loss of biodiversity can also lead to a lack of diversity in diets causing malnutrition, diseases and premature deaths, increasing health care related claims[5].

While Nature Risk Management is viewed by some as hard to implement and embed successfully for insurers, several insurers have worked hard and had success with managing their climate change risk. Accordingly, there is an opportunity for firms to leverage the proven approach for climate risk management to accelerate a robust approach development and implementation for successful Nature Risk Management.

Physical risks: materialisation of damage to nature and/or nature related assets. If insured products face nature-related damage, insurers may face increasing numbers and amounts of claims. Generally natural ecosystems and arrangements, such as forests, wetlands, and coral reefs protect against natural disasters, such as flooding and storm surge damage which can impact property and business interruption insurance. Other examples include crop insurance policies facing increased claims due to loss of soil fertility, formation and pollination[6].

Transition risks: responses to nature loss through policy, technological, legal, consumer preferences and developments aimed at reducing or reversing damage to nature can result in increased counterparty defaults or declining asset values (market risk) on their investments in bonds, stocks and funds, as well as risks of mispricing and increasing claims.

Transition risks can also occur due to increased litigations against companies with high impacts on biodiversity. Including insurers that underwrite activities that contribute to Nature and biodiversity loss[6].

Risk events caused by Nature Risk

Nature Risk can be perceived as a cross cutting risk for insurers, indirectly impacting many of the typical primary risks[6]. Below we have listed where the risk may hit the risk profile of insurers.

Underwriting risk

Mispricing (due to the challenges of modelling nature related risks) and increasing number of claims and fundamentally increasing exposure to catastrophe and liability risk; for example, from property and business interruption resulting from natural disasters, land degradation crop insurance, limited water availability and climate change.

Credit risk

Loss arising from reduced credit quality of investment holdings and the insurers investees e.g., due to nature related losses resulting in natural catastrophes spilling into reduced value of properties, in exposed areas, affecting collateral value of assets backing mortgages.

Market risk

Losses due to declining asset prices due to market conditions; for example, changes interest rates because of nature related transition risks.

Liquidity risk

Inability to meet payment obligations when they become due because of other risks; for example, increased claims payments or other financial risks resulting in insurers having to sell assets at a loss or limit coverage form existing assets.

Operational risk

Losses caused by flawed or failed processes, policies, systems or events that disrupt business operations adversely impacting stakeholder and shareholder value of the insurer. For example;

- reputational impacts by being associated with investees and policyholders who have a negative impact of nature;
- conduct risks if insurance products are unclear about coverage of losses covered caused by nature related risks; and
- legal and liability risks, by failing to perform due diligence as part of regulatory requirements.

The four-stage approach for developing and implementing robust Nature Risk Management

Many firms are adopting the TNFD Locate, Evaluate, Assess, Prepare (LEAP) Framework as an integrated approach for initial assessment of their nature related risks.

The TNFD LEAP approach recommends a pre-work scoping phase activity which involves looking at the value chain mapping, determining the scope of the assessment and internal alignment on goals and timelines. Following this stage of the framework involves locating the interface with nature, this is a prerequisite, the geographical element means that policies covering property damage or business interruptions may be impacted following loss of natural structures at specific locations. Moreover, disruption to supply chains means that risks may materialise many miles from the original event affecting claims across the supply chain; for example, on non-damage business interruption policies[8].

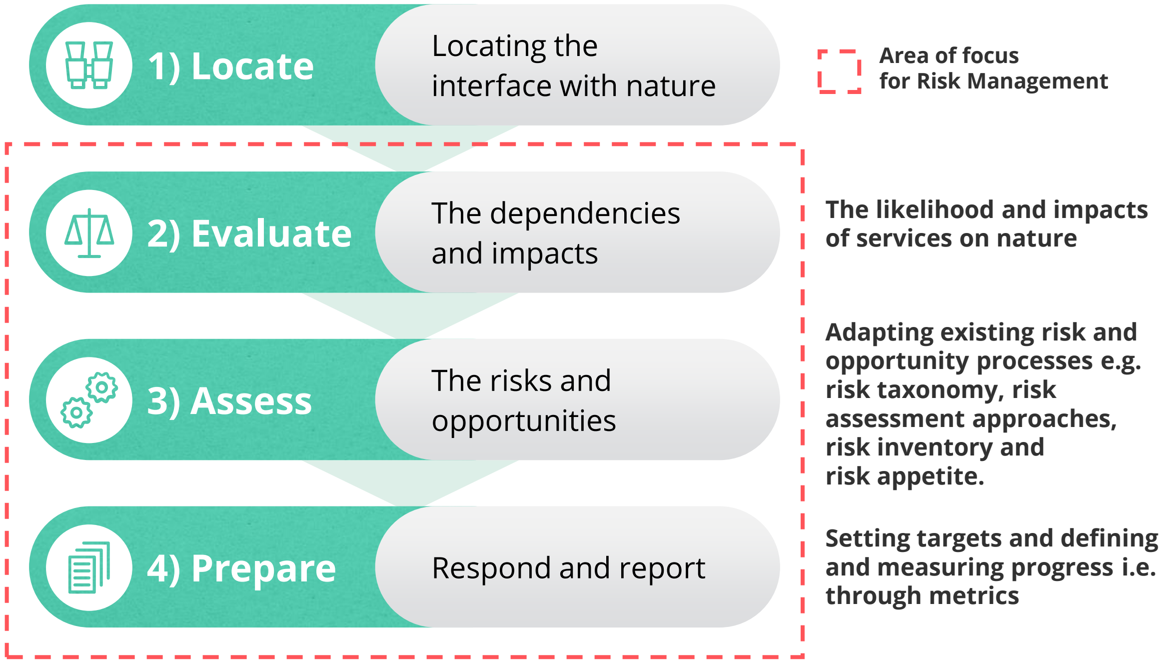


Figure 1: TNFD LEAP approach framework[7]

Figure 1 displays the TNFD LEAP Framework. Figure 2 highlights how firms can adapt and enhance **existing risk assessment approaches**, as part of **step 3** of the LEAP framework. This demonstrates that firms can enhance their current risk and control assessment process for each of the relevant risk categories listed on the previous page and adapt as part of the Nature Risk Management process.

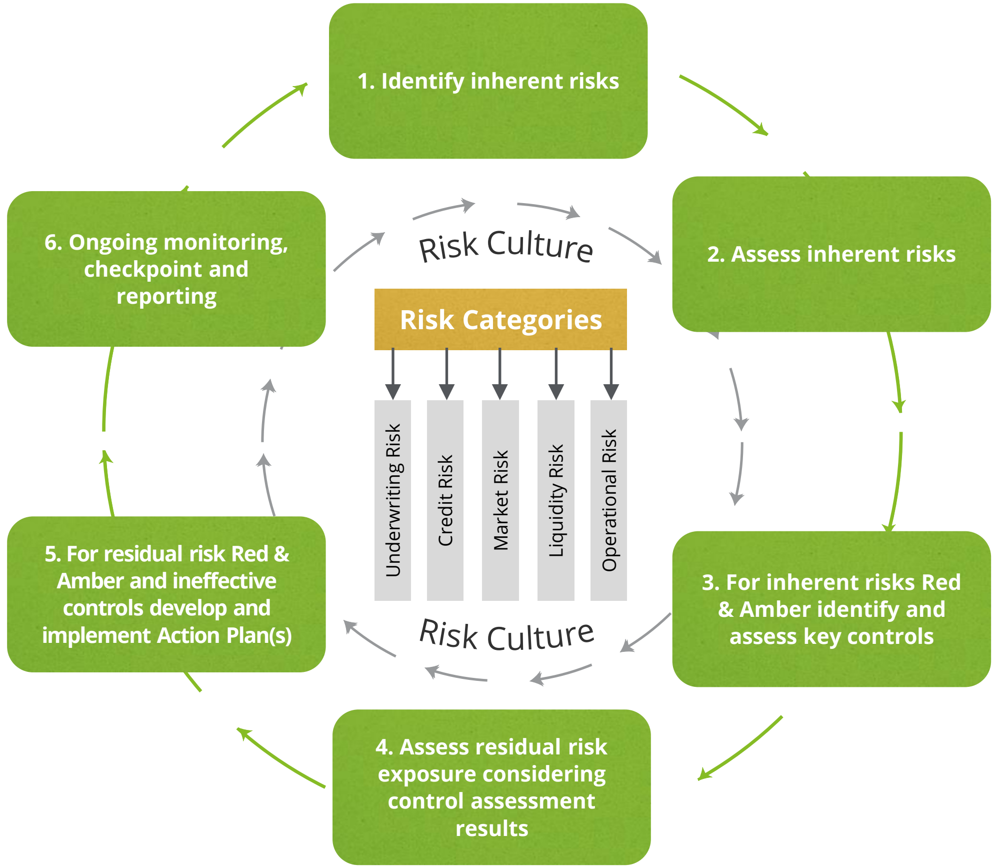


Figure 2: Deloitte's Risk and Control assessment process

How Deloitte can help

As sustainable and nature preservation increasingly accelerates to the top of executive and board related sustainability committee agendas, insurance organisations need to act now to enhance their approach and capabilities for robustly **identifying, assessing and managing their nature-related risks. Several organisations are integrating Nature Risk Management into their overall risk management process, for example as set out below.**

Integrating 'Nature Risk' into your Risk Management Framework

Identification and assessment (including supporting through the TNFD assessments as part of this)

Risk strategy	Make sure Nature Risk is given the right amount of prominence in the firm's **business strategy and the supporting risk management strategy** with regards to **evolving capabilities** in terms of Nature Risk.
Risk taxonomy	Nature Risk is a **cross cutting risk** and should be incorporated into your risk taxonomy as either a Level 1 or 2 risk.
Risk appetite	Develop a **risk appetite statement** and metrics for monitoring your Nature Risk exposure to appetite. For example, we actively aim to control our exposure to Nature Risk by taking action to mitigate Nature Risk as far as practical.
Policy	Set out the **minimum requirements as policy** for managing Nature Risk and supported by **procedures and guidelines for how to implement that policy to robustly manage Nature Risk** in proportion and practicality to the nature, size and complexity of the firm; e.g., investment and underwriting activity
Risk and Control Self-Assessment (RCSA)	Standalone against the **relevant policy and procedures** for Nature Risk Management.
ORSA – Scenario analysis, stress testing and risk profiling	As part of **Solvency II pillar II requirements**, augment your ORSA process to include sustainability risks considerations, including Nature Risk through **scenario analysis (high level qualitative risk assessment).**[5]
Emerging risks assessments	Political, Economic, Sociological, Technological, Legal and Environmental **(PESTLE)** analysis of Nature Risk with respect to the nature, complexity and size of the firm.

Monitoring

Data Suites – through a more automated playbook

Management Information (MI) and Metrics

Monitoring the management of Nature Risk at leadership level through **MI and quantitative and qualitative metrics**. Currently this is slightly more challenging because of the complexity of collecting Nature Risk related data and modelling ecological interactions[5].

Culture – as a result of the flow of ecosystem services into recreational activity, as well as mental and physical health

Next Steps – How Deloitte can help

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Endnotes

1. https://www.zurich.com/en/media/magazine/2022/how-will-gen-z-change-the-future-of-work
2. https://www.weforum.org/press/2020/01/half-of-world-s-gdp-moderately-or-highly-dependent-on-nature-says-new-report/
3. https://www.worldwildlife.org/pages/what-is-biodiversity
4. https://tnfd.global/
5. https://www.eiopa.europa.eu/system/files/2023-03/EIOPA%20Staff%20paper%20-%20Nature-related%20risks%20and%20impacts%20for%20insurance.pdf
6. https://www.cisl.cam.ac.uk/files/why_nature_matters.pdf
7. https://tnfd.global/publication/additional-guidance-on-assessment-of-nature-related-issues-the-leap-approach/
8. biodiversity-and-nature-related-risks-for-actuaries-an-introduction.pdf

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