



Insurance Council
of Australia

Valuing Nature for a Resilient Future




Acknowledgement of Country

ICA acknowledges the Traditional Custodians of Country throughout Australia and recognise their continuing connection to land, waters, species and culture. We acknowledge their ongoing status as the First Peoples of Australia and pay our respects to their Ancestors and Elders past, present and emerging.

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The Insurance Council of Australia Limited (ICA) engaged Ernst & Young Australia (EY) for assistance to prepare this nature briefing paper on the relationship between insurers, nature and the Taskforce on Nature-related Financial Disclosures (TNFD) for ICA members. EY has undertaken the work under the ICA's instructions and the results of EY's work are included in this report. The briefing paper is the sole responsibility of the ICA.

About ICA

The ICA is the representative body for the general insurance sector of Australia. General insurance has a critical role in the economy, insulating individuals and businesses from the financial impact of loss or damage to their insured assets.

The ICA's work with its members, consumer groups and all levels of government serves to support consumers and communities when they need it most. ICA members represent approximately 90% of private sector general insurers, spanning both insurers and reinsurers. Our members provide insurance products ranging from those usually purchased by individuals, such as home and contents insurance, to those purchased by small businesses and larger organisations, such as product and public liability insurance. The ICA is committed to shaping positive outcomes for our members, our people, and our communities by supporting fair policy outcomes, effectively engaging members, and purposefully advocating on behalf of its members. The ICA believes an insurable Australia is a resilient Australia, and its purpose is to be the voice of a resilient Australia.

About EY

With a 20+ year legacy in sustainability services, EY combines deep technical skills across a breadth of issues to help business create value for sustainability as well as help sustainability create value for business.

Working in this way ensures we build a better, more sustainable working world. We call this value-led sustainability, and it's everybody's business.

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Foreword



Climate change, pollution and poor land-use planning decisions are contributing to eco-system and biodiversity losses in our natural environment, with compounding economic and societal impacts.

Nature underpins the global economy, with more than half of the world's economic output – US\$44 trillion of economic value generation – being highly or moderately dependent on nature.¹ Without management, the societal impacts of unabated nature-related loss will be felt in every corner of the world – through impacts on operations, supply chains, and markets.

Insurers have an important role in identifying and managing nature-related risks and opportunities, with their underwriting, investments, and claims' supply chain all linked with nature. Many of Australia's general insurers are underwriting and investing in sectors that either impact or are dependent upon nature, from underwriting nature restoration initiatives, to driving capital towards investments that generate nature-positive and resilient outcomes.

Underwriting and investing in nature can play a key role in building resilience to climate change in landscapes and communities. Nature-based mitigation solutions like reforestation and wetlands restorations can be used to reduce the incidence and impact of flooding, landslides, and other disasters.

Where initiatives like this serve to reduce risk, it can serve to better protect communities and ultimately moderate rising pressure on insurance premiums.

The Taskforce on Nature-related Financial Disclosures (TNFD) will provide a global framework for business and finance to disclose and address nature-related risks and opportunities. While it is intended to be a market-led and voluntary framework, it appears likely that TNFD reporting will, in the future, move to a stronger legal footing, as has been the case with climate reporting.²

This report can assist the insurance sector prepare for the TNFD framework, exploring the links between insurance and nature and outlining some practical steps insurers can take to start integrating TNFD reporting into their own reporting and business strategies.

The next ten years are a critical window for the insurance industry to play its part in mitigating nature-related risks and unlocking nature-based opportunities. This is why the Insurance Council and its members have developed this report, to support the insurance industry in enabling a more resilient and nature-positive future.

A stylized, handwritten signature in white ink, consisting of a series of fluid, connected loops and strokes.

Andrew Hall
CEO and Executive

1. World Economic Forum (WEF), Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy, January 2020.
2. Allen & Overy, 'TNFD – where are we now?'

Executive summary

Nature is defined as the natural world with an emphasis on living organisms and their interactions.³ Nature underpins the global economy, with more than half of the world's economic output – US\$44 trillion of economic value generation – being highly or moderately dependent on nature.⁴

Despite this, extreme weather events and biodiversity loss are among the most severe nature-related risks identified for the next decade.⁵ There has never been a more important time for insurers to assist in managing nature-related risks and unlocking the opportunities.

The insurance sector's underwriting, investments and claims supply chain are all linked with nature.

- Investing in nature can be a highly effective resilience measure in the face of climate change. Coral reefs can be critical in reducing coastal erosion, which in turn can assist in reducing the risk of exposed properties along the shoreline, putting downwards pressure on home and contents insurance premiums. As a result, some insurers offer products to protect reefs, such as insurance that enables the rapid disbursement of funds which allow trained community members to deal with reef damage following a severe storm.

- Nature degradation can affect the claims supply chain, for example the increased costs of construction on degraded land. For example, the costs of sourcing housing materials, and raw material price volatility are all affected by nature degradation, which in turn can impact an insurer's ability to accurately price premiums and repair costs.
- Insurers are also considering how investment portfolios can drive the transition to a nature-positive economy, from setting up natural capital funds to allocating capital in partnership with governments towards sustainability and marine conservation outcomes.

Targets and regulatory requirements are evolving to support positive action on nature.

The 2022 Kunming-Montreal Global Biodiversity Framework (Global Biodiversity Framework), among other things, set a global target to protect and conserve 30% of the world's land and oceans by 2030. The TNFD is currently developing a framework for financial institutions and corporates (including insurers) to assess, manage and report on their nature-related risks and opportunities to direct global financial flows towards nature-positive outcomes.⁶

This paper explores the key links between insurance and nature, with reference to the concepts in the TNFD framework. The paper then outlines some practical steps insurers can take to start integrating TNFD considerations into their decision-making processes and business strategies.

The role of insurers

General insurers provide Australian businesses and households with 41 million policies each year and pay more than \$188 million in claims every working day. Insurance is a key component of the economy and underpins every facet of our lives, from running a business to running a car, from keeping a roof overhead to getting ahead. Insurance is vital everywhere, but especially in a country like Australia where extreme weather is a regular reminder of the challenges we face to protect property, lives, and livelihoods.

There are many links between insurance and nature. Insurers underwrite and invest in sectors that either impact or are dependent upon nature. These impacts and dependencies create nature-related risks and opportunities for the insurance sector and its supply chain.

The next ten years are a critical window for the financial services sector (including insurers) to play their part in mitigating nature-related risks and unlocking nature-based opportunities. For example, insurers can support wider government resilience initiatives through underwriting coastal restoration to improve resilience to extreme weather events, as well as placing downwards pressure on insurance premiums.⁷ Insurers can also drive capital towards investments that generate nature-positive and resilient outcomes, from sustainable forest management to mangrove restoration.⁸ Market frameworks that incentivise underwriting and investment in nature-based and resilient outcomes, whilst being streamlined with existing frameworks globally, will provide greater opportunities for insurers to support a nature-positive future.

3. TNFD, *The TNFD Nature-related Risk & Opportunity Management and Disclosure Framework (Beta v0.3 Release)*, November 2022.
4. World Economic Forum (WEF), *Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy*, January 2020.
5. WEF, *The Global Risks Report 2023 18th Edition*, January 2023.
6. TNFD, *The TNFD Nature-related Risk & Opportunity Management and Disclosure Framework (Beta v0.4 Release)*, March 2023.
7. Ferrario, F., Beck, M., Storlazzi, C. et al., "The effectiveness of coral reefs for coastal hazard risk reduction and adaptation", *Nature Communications*, 13 May 2014.
8. World Bank, *Insuring Nature's Survival: The Role of Insurance in Meeting the Financial Need to Preserve Biodiversity*, April 2022.



Why is nature important for the insurance sector?

This section provides background context on nature and its relationship with insurance.

Overview

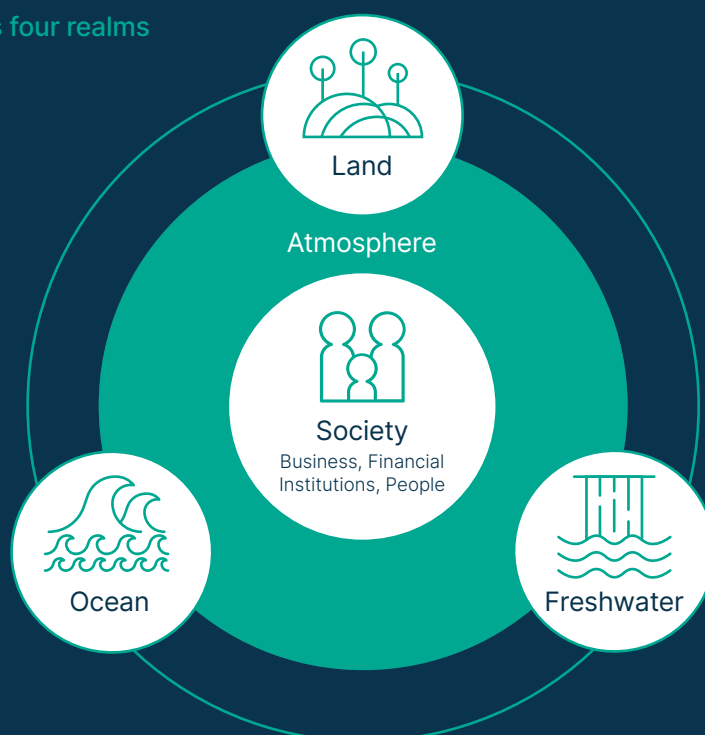
Nature is defined as the natural world, with an emphasis on the diversity of living organisms and their interactions among themselves and with their environment.⁹ Nature is seen to be constructed of four realms: land, ocean, freshwater, and atmosphere (Figure 1).¹⁰

There are a number of nature-related terms that are commonly used, in particular by the TNFD. For example, nature is comprised of natural resources that benefit people, defined as *natural capital*. Organisations and people impact and depend upon natural capital. *Environmental assets* are the naturally occurring living and non-living components of the Earth (e.g. forests, wetlands, coral reefs and agricultural areas) that give rise to flows of natural capital benefits to people and the economy.

Ecosystems are an important part of environmental assets comprising the dynamic complex of plants, animals, and microorganisms, interacting with each other and their non-living environment. *Biodiversity* is an essential characteristic of nature that is critical to maintaining the quality, resilience and quantity of ecosystem assets and the provision of ecosystem services that business and society rely upon.¹¹

Details of these terms and how they relate is shown in Figure 2.

Figure 1: Nature's four realms



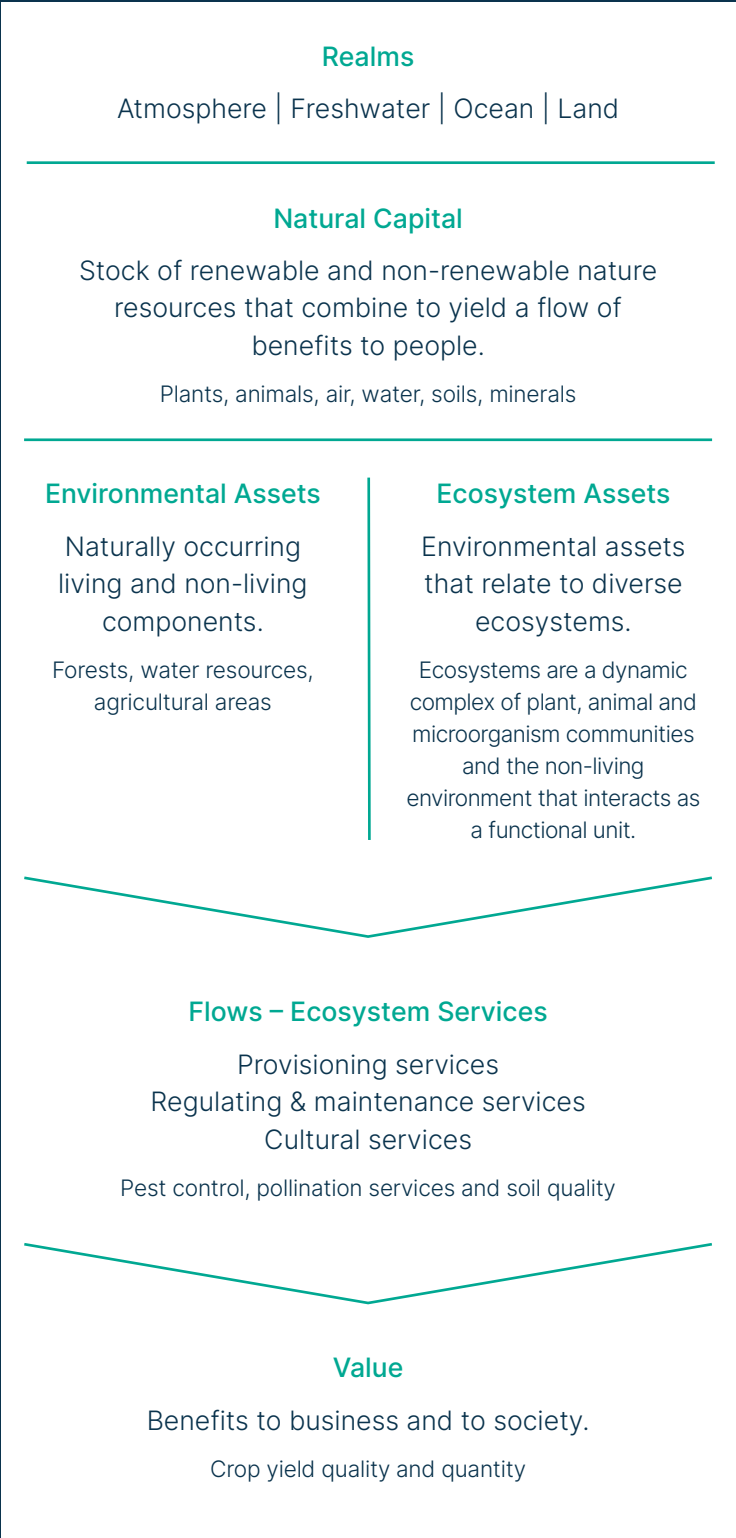
Whilst characterisation of nature within this paper is focused on its relationship to people and the economy. Nature and its four realms exist outside the construct of people and the economy and encompass the whole of the environment within the Earth.

9. TNFD, *The TNFD Nature-related Risk & Opportunity Management and Disclosure Framework (Beta v0.1 Release)*, March 2022.

10. Ibid.

11. TNFD, *The TNFD Nature-related Risk & Opportunity Management and Disclosure Framework (Beta v0.3 Release)*, November 2022.

Figure 2: Terms for understanding nature



Nature

The natural world, with an emphasis on the diversity of living organisms (including people) and their interactions among themselves and with their environment. Nature can be understood through a construct of four realms – land, ocean, freshwater and atmosphere.



Biodiversity

The variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems.



Nature Loss

The loss and/or decline of the state of nature. This includes, but is not limited to, the reduction of any aspect of biological diversity e.g. diversity at the genetic, species and ecosystem levels in a particular area through death (including extinction), destruction or manual removal.

Nature in context for insurers

The economic value of nature is estimated at US\$160-180 trillion per year.¹² Just over 55% of the world's gross domestic product (GDP), or nearly US\$44 trillion, is moderately or highly dependent on nature and its services.¹³

There are connections between business, insurance and nature everywhere, from the food and agricultural industries that rely on healthy and abundant crops, livestock, and well-stocked oceans, to the construction, manufacturing, and clothing companies that need timber, cotton, and other natural materials to make their products. All these sectors (and more) rely on either the direct extraction of natural resources or the provision of “ecosystem services” that are supported by the environment, such as healthy soils, clean water, pollination, and a stable climate.¹⁴ Insurers either underwrite or invest in these sectors.

The risk to the health of our planet has been identified as the biggest threat facing humanity over the next 10 years.¹⁵ The most potentially damaging threats to both people and planet include extreme weather events and biodiversity loss. Biodiversity loss includes cutting down rainforests for agriculture, the overexploitation of natural resources (such as overfishing) and the pollution of the land, sea, and air (Figure 3).¹⁶ These threats have been directly realised by the Australian insurance sector, with insurers experiencing an 8% increase in gross claim costs associated with recent adverse weather events in New South Wales (NSW) and South-Eastern Queensland (QLD).¹⁷

Despite these threats, nature is already in ongoing global decline as a result of human activity, namely natural resource exploitation, land and sea-use change, climate change, pollution, and invasive alien species.¹⁸ In accordance with the recently published State of Environment Report, the state and trend of natural capital in the land environment of Australia is declining at an alarming rate with 10 out of 18 ecosystems at risk of collapse.¹⁹

Figure 3: World Economic Forum, Global Risks Report 2023

1	Failure to mitigate climate change	●
2	Failure of climate change adaptation	●
3	Natural disasters and extreme weather events	●
4	Biodiversity loss and ecosystem collapse	●
5	Large-scale involuntary migration	●
Key: ● Environmental risk ● Social risk		

Nature loss and climate change are interrelated and mutually exacerbating. Bushfires, floods, droughts, heatwaves and storms are key climate- and nature-related risks to Australia which are compounding through supply chains and services across insurer's underwriting portfolios.²⁰ It is estimated that almost US\$354 billion insured assets had climate-related losses globally between 2017–2020.²¹ Australia also experienced record drought, heat and wildfires during 2019–20, including a bushfire event which impacted more than 8 million hectares of native vegetation.²² Shortly following this, in 2021–22 the East-coast of Australia experienced five major flooding events over 19 months, impacting 43 local government areas with severe flooding across hundreds of kilometres of land.²³ These events are decreasing the provision of ecosystem services on our physical environment, increasing physical risks that translate to financial risks for insurers.

Despite the risks, there are also significant opportunities for insurers to promote restoration, protection and enhancement nature through asset protection, liability reduction and facilitation of capital inflow from financial markets.²⁴ Insurers can also directly invest and channel capital towards nature-positive outcomes.²⁵



Relevant policy and regulatory developments

Recent policy and regulatory developments have highlighted the relationships between insurance and nature.

For example, the Global Biodiversity Framework included a number of goals and targets relevant to insurers as follows:²⁶

- Goal A: increase the area of natural ecosystems and halt human-induced extinction of known threatened species by 2050
- Goal D: align financial flows with the Global Biodiversity Framework and the 2050 Vision for Biodiversity
- Target 15(a): ensure that businesses (particularly large and transnational companies and financial institutions) regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity
- Target 19: increase the level of financial resources from all sources, including public and private resources, to implement national biodiversity strategies and action plans, by 2030 mobilising at least US\$200 billion per year

These goals and targets directly impact the insurance sector as insurers will have to assess and disclose nature-related risks, impacts and dependencies, as well as scale and re-align financial flows to achieve nature positive outcomes.

Australia has also committed to the Global Biodiversity Framework including protecting 30% of Australian land and 30% of Australian oceans by 2030.²⁷ Broader action is being taken by the Australian Government on environmental reform under the Nature Positive Plan, including improving environmental data and regional planning, establishing new national environmental standards to be enforced by a national independent Environmental Protection Agency and developing a nature repair market.²⁸

The TNFD is expected to be finalised by September 2023 and will provide guidance for financial institutions and corporates (including insurers) to assess, manage and report on their nature-related risks and opportunities.²⁹

12. Costanza, R. et al., "Changes in the global value of ecosystem services", *Global Environmental Change*, Vol. 26, 2014.

13. World Economic Forum (WEF), *New Nature Economy Report II: The Future Of Nature And Business*, 2020.

14. Faull, R, Can we insure the natural world?, Marsh Insurance, July 2022.

15. WEF, *The Global Risks Report 2023 18th Edition*, January 2023.

16. Ibid.

17. Australian Prudential Regulation Authority, *Quarterly general insurance performance statistics – highlights*, December 2022.

18. United Nations Development Program and Sustainable Insurance Forum, *Nature-Related Risks in the Global Insurance Sector*, November 2021.

19. Department of Climate Change, Energy, the Environment and Water, *State of the Environment Report*, July 2021.

20. Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability (AR6) – Chapter 11*, 2022.

21. EY Australia, *EY 2022 Global Insurance Outlook*, 2022.

22. Department of Climate Change, Energy, the Environment and Water, *State of the Environment Report*, July 2021.

23. Klein, A., "Eastern Australia is Battling Fifth Major Wave of Floods in 19 Months", *New Scientist*, 25 October 2022.

24. World Bank, *Insuring Nature's Survival: The Role of Insurance in Meeting the Financial Need to Preserve Biodiversity*, April 2022.

25. Ibid.

26. Convention on Biological Diversity, *COP15: Final Text of the Kunming-Montreal Global Biodiversity Framework*, December 2022.

27. Department of Climate Change, the Environment, Energy and Water, *A New Global Biodiversity Framework: Kunming-Montreal Global Biodiversity Framework*, January 2023.

28. Department of Climate Change, the Environment, Energy and Water, *Nature Positive Plan: Better for the Environment, Better for Business*, December 2022.

29. TNFD, *The TNFD Nature-related Risk & Opportunity Management and Disclosure Framework (Beta v0.4 Release)*, March 2023.

Risks and opportunities

The relationship between insurers and nature manifests in nature-related risks and opportunities. This section therefore explores relevant risks and opportunities for the insurance sector.

Overview

The connections between business and nature result in organisations either impacting or depending upon nature.

These impacts and dependencies manifest risk to the insurance sector in three ways:³⁰

1. **Physical risks** are a direct result of an organisation's dependencies on nature. These are risks arising when natural systems are compromised, due to the impact of climatic events (e.g. extreme weather such as a drought), geologic events (e.g. seismic events such as an earthquake) or changes in ecosystem equilibria, such as changes in soil and air quality or ocean chemistry. These can be acute,³¹ chronic³² or both. Nature-related physical risks are broad and often associated with climate-related physical risks.
2. **Transition risks** result from a misalignment between an organisation's strategy and management and the changing landscape in which it operates. Developments aimed at halting or reversing the damage to nature, such as government regulations or policy, technological developments, market changes, litigation and changing consumer preferences, can all result in transition risks.
3. **Systemic risks** are risks arising from the breakdown of the entire system, rather than the failure of individual parts. They arise from economy-wide dependencies and impacts on nature that affect critical natural systems or financial stability at the portfolio or system level.

In addition, these impacts and dependencies can give rise to substantial opportunities.

1. **Opportunities** include a number of instruments and approaches such as promoting asset protection, liability reduction, facilitation of capital inflow from financial markets and investment into nature-positive outcomes.

The identification of an insurer's material nature-related risks and opportunities requires consideration of its operations (direct) as well as its upstream and downstream (value chain) activities, both locally and internationally.

Insurer's direct operations impact nature through activities such as the generation of greenhouse gas emissions or waste at offices and depend on nature to the extent required to continue operations (e.g., favourable weather conditions).

However, insurer's material dependencies and impacts on nature are primarily derived through their value chain. Impacts and dependencies across insurer's value chains include the impact and dependency of each asset within an insurer's underwriting and investment portfolios (e.g., across different asset classes). This raises significant challenges and opportunities for insurers given its value chain exposure across a breadth of industries.

We have explored risks and opportunities to the insurance sector in further detail in this section. We have focused mainly on value chain activities as the material source of impacts and dependencies for insurers. We have drawn upon illustrative examples across underwriting and investment where relevant to provide context.



Physical risks

Insurers are exposed to few direct physical risks, except for the infrastructure they own (e.g., flooding of their buildings). However, there is exposure to wide reaching value chain physical risks through the products they underwrite and invest in.

These indirect physical risks include, for underwriting:³³

- **Operating risk:** inability of the insurer to adequately price and pool risks in order to ensure premiums outweigh claims payouts. Unanticipated increases in frequency, intensity and geographic concentration of claims (pricing, claims and liability) are a significant threat to underwriting operations.
- **Insurability risk:** nature loss could mean insured assets become uninsurable or unaffordable and insurers could be unable to provide solutions for emerging risks.

For investments, physical risks include:³⁴

- **Credit risk:** due to high level of investment in fixed income. For example, real-estate debts that are exposed to increased severe weather events. In addition, reinsurers are credit counterparties for insurers and will increasingly become a large source of credit risk.
- **Market risk:** due to exposure to market movements when changes in flows of natural capital stocks impact share prices.
- **Solvency risk:** the inability to meet its claims obligations following disposal of investments and other assets.
- **Liquidity risk:** cash resources are insufficient to meet cash needs either under current conditions or in stress scenarios.

Example 1



Home and contents insurance

The level of asset protection associated with home and contents insurance is highly dependent on nature and its ability to moderate severe weather events. For example, coral reefs reduce wave energy, which in turn reduces the impact of severe weather events and protects communities that live near reefs.³⁵

Environmental degradation has led to increased underwriting and investment risks as assets are less resilient to severe weather events, resulting in increased premiums and claims. Insurers are now exploring innovative approaches to reducing these physical risks, for example, Swiss Re recently co-developed an insurance solution with the Nature Conservancy and regional governments in Mexico to fund coral reef restoration following severe weather events to protect insured assets and the region's key source of income, tourism.³⁶

30. TNFD, *The TNFD Nature-related Risk & Opportunity Management and Disclosure Framework (Beta v0.4 Release)*, March 2023.

31. Note: Driven by events or projects, e.g. natural disasters exacerbated by loss of coastal protection from nature (coastal marshes) leading to costs of storm damage to coastal infrastructure.

32. Note: Longer terms shifts in the way that ecosystem's function or cease to function, e.g. loss of crop yield due to decline in pollination services.

33. United Nations Development Program and Sustainable Insurance Forum, *Nature-Related Risks in the Global Insurance Sector*, November 2021.

34. Ibid.

35. Ferrario, F., Beck, M., et al., "The effectiveness of coral reefs for coastal hazard risk reduction and adaptation", Nature Communications, May 2014.

36. Swiss Re Group, *Designing a new type of insurance to protect the coral reefs, economies and the planet*, 17 May 2022.



Transition risks

Insurers are exposed to a number of transition risks including reputational risk, market risk, regulatory and litigation risks, credit risk, liquidity risk, solvency risk and stranded-asset risk.

For underwriting, transition risks include operating risks, namely the ability of the insurer to correctly price and pool the risks to maintain premiums higher than claims payouts and operating expenses. Nature loss could translate into:³⁷

- **Pricing risk:** if risks are underestimated and inaccurately priced.
- **Claims risk:** a higher average amount of claims across a geographic or sectoral concentration.
- **Liability risk:** with evolving legislation, claims under liability policies due to harmful impacts on nature could increase.

For investments, transition risks are similar to those of other financial institutions, namely:³⁸

- **Credit, market, solvency, and liquidity risk:** as discussed under the physical risks section above.
- **Stranded asset risk:** nature-based resources availability, environmental degradation, new regulations, litigation or evolving social norms leading to write-downs, devaluation, or conversion of the asset to liabilities.

Across both underwriting and investments, reputational risk applies when insurers invest in or underwrite assets that result in nature loss.

Example 2



Market risks in home insurance

The construction of robust homes is moderately dependent on several ecosystem services, most prominently the provision of ground and surface water, timber production, erosion control, climate regulation, hydrological cycle and moderation of extreme events. This dependency is particularly high for raw materials such as sand, clay, limestone, stone, gravel, wood, iron, aluminium, and copper, among others. In Europe, housing alone accounts for 30–50% of the use of these materials.³⁹

The increased costs of construction on degraded land, costs of sourcing supply chain materials used to build homes and greater regulation of sustainable materials, will increasingly lead to raw material price volatility.⁴⁰ This will impact insurer's ability to accurately price premiums and repair costs.

Example 3



Environmental liability

In July 2022, the United Nations General Assembly adopted a historic resolution declaring access to a clean, healthy, and sustainable environment, a universal human right.⁴¹ In addition, the TNFD and other biodiversity-related tools signal new emerging standards of best practice. These developments have already led to predictions that biodiversity litigation against corporate actors may be 'the next frontier' of environmental litigation.⁴²

Continued environmental degradation and nature-loss could lead to greater claims against policies. It could also lead to greater liability risk for insurers underwriting assets that impact the environment or result in nature-loss.

Example 4



Reputational risks

The Global Biodiversity Framework includes targets to encourage the private sector to monitor, assess and transparently disclose risks, dependencies and impacts on biodiversity, as well as invest in positive biodiversity outcomes.⁴³ Accordingly, insurers are likely to face increased reputational risk associated with how they share nature-related information and products and engage customers on nature-related risks.

37. United Nations Development Program and Sustainable Insurance Forum, *Nature-Related Risks in the Global Insurance Sector*, November 2021.

38. Jules C., Marine M., "Biodiversity and Re/insurance: An Ecosystem at Risk", SCOR Corporate Foundation for Science, April 2021.

39. Ecorys, *Resource efficiency in the building sector*, May 2014.

40. European Council, *Council agrees on new rules to drive down deforestation and forest degradation globally*, June 2022.

41. United Nations, *Recognise right to healthy environment, Secretary-General urges, in message for Council of Europe Parliamentary Assembly*, Press Release, September 2021.

42. London School of Economics, *Global Trends in Climate Change Litigation 2022 Snapshot*, June 2022.

43. Convention on Biological Diversity, *COP15: Final Text of the Kunming-Montreal Global Biodiversity Framework*, December 2022.

Systemic risks

Systemic risks are risks arising from the breakdown of the entire system, rather than the failure of individual parts. They are characterised by modest tipping points combining indirectly to produce large failures with cascading interactions of physical and transition risks, as one loss triggers a chain of others, and with systems unable to recover to equilibrium after a shock.

Example 5



Ecosystem collapse

The Australian agriculture industry is responsible for 2.4% of Australia's GDP, accounts for 55% of Australian land use, and 24% of water extraction.⁴⁴

Poor environmental management and increased land degradation associated with the agricultural sector (including land clearing, drought, and invasive species) creates severe environmental pressures that could result in natural ecosystem collapse. This would result in a depletion in agricultural productivity and supply, as well as the sector becoming un-insurable or unaffordable to insure.

Consequently, entire key commodity producing regions could face sustained or permanent loss of productivity and yield capacity leading to wider negative social and economic impacts.⁴⁵

Example 6



Stranded assets and value chain disruption

Sectors that have significant impacts and dependencies on nature may become stranded assets or experience value chain disruption as a result of systemic risk.

For example, a mining company may be unable to continue operations due to changes to regulations that aim to limit biodiversity, water intensive and large-scale land impacts. This may cause the operations to become a stranded asset, with any initial investments lost or having very low rates of return.

Regarding value chain disruption, the construction sector may be unable to source products as a result of natural ecosystem collapse. This would cause widespread disruption to the construction value chain and real estate sector, with substantial flow-on impacts to investors, insurers, and the financial system.

Opportunities

While there are a number of nature-related risks to navigate, there are also a significant number of opportunities associated with addressing nature-related risks, as outlined in the table below.

Figure 4: Opportunities to address nature-related risk

The Association of British Insurers (ABI), *A Guide to Nature Action: Securing our natural world*, 2023.

Opportunities	Example Actions
Incentivising nature-positive behaviours with clients and customers	<p>Educating and incentivising insurance customers to take actions that reduce nature of risk</p> <p>Giving advice on adaptation resilience (such as how to protect buildings from flooding or heatwaves)</p>
Innovating in asset protection (including insurance cover for natural infrastructure)	<p>Insurance for providers and users of nature-positive credits</p> <p>Innovations in ecosystem insurance (specialised cover for environmentally significant sites, reflecting associated revenue streams such as tourism and hospitality)</p>
Financing through capital flows, and where appropriate, carbon credits and offsetting	<p>Scaling up investment in nature-positive businesses or projects, alongside targets to reduce nature-damaging activities</p> <p>Underwriting or investing in sustainable or green bonds</p> <p>Investing in high integrity nature-positive credits and carbon offsetting markets</p>
Extending net zero strategies into nature-positive strategies and actions	<p>Review net zero targets and transition plans for biodiversity impact</p> <p>Ensure any carbon credits have a biodiversity co-benefit</p> <p>Acknowledge, communicate and address potential trade-offs and synergies between net-zero and biodiversity actions</p>
Collaborating with governments, industry and other stakeholders	<p>Work with industry peers, academic experts and other stakeholders to improve datasets, evaluate actions and share best practice</p> <p>Use this enhanced evidence case to advocate for policy and regulatory change⁴⁶</p>

44. Department of Agriculture, Fisheries and Forestry, *Snapshot of Australian Agriculture 2022*, 2022.

45. Infrastructure Australia, *A National Study of Infrastructure Risk*, 2021.

46. The Association of British Insurers (ABI), *A Guide to Nature Action: Securing our natural world*, 2023.

4. Risks and opportunities cont.

Example 7



Nature-based solutions

There are many emerging examples of successful nature-based solutions that reduce risk and insurance premiums. Insurers are well placed to encourage risk management and resilience building trends towards nature-based solutions to create nature-positive outcomes, while also supporting health, social inclusion, and economic resilience.

For example, forestry techniques could reduce residential insurance premiums by 41% in wildfire risk areas in northern Sierra Nevada.⁴⁷ Natural assets such as mangroves can also meaningfully reduce flood damages to downstream communities, helping reduce property losses.⁴⁸ Policies could be proposed for 'community-based insurance' where local government purchase home insurance and homeowners contribute a proportionate fee for coverage. The premium savings could be used to issue wildfire resilience bonds to fund or finance ecological forestry.⁴⁹

As another example, Swiss Re Group provided construction risk cover to move 5 million cubic metres of sand around the island of Texel to reinforce the existing dyke, create a new coastline and mitigate erosion risk.⁵⁰ The project protected the community as well as tourism revenue of a World Heritage Site and also delivered financial benefits through enhanced fish production, climate regulation and water quality regulation.⁵¹



Example 8



Nature-related investments

Insurers are also increasingly investing in nature-based solutions. For example, Aviva's Natural Capital Transition Global Equity Fund targets opportunities to align investment to support and benefit from the transition to a nature-positive economy.⁵²

As another example, Credit Suisse recently entered into a blended finance transaction with Barbados to buyback certain existing debt and allocate capital towards sustainability and marine conservation. The project will direct the fiscal savings from the debt conversion to the Barbados Environmental Sustainability Fund (BESF).⁵³

Example 9



Parametric solutions

Insurers can also re-align product structures and offerings toward client needs through the use of parametric insurance products.⁵⁴ The prevalence of parametric insurance is emerging in response to the need to improve insurer control and lower risk exposure in the face of impacts from extreme weather and climate change. Parametric insurance could also be used to manage nature-related risk, through utilising triggering parameters such as soil moisture, excessive rainfall water levels, etc.⁵⁵ Technologies, such as the internet of things, that evaluate data in real time will result in parametric insurance becoming more widely used.⁵⁶



Example 10



Leading through advocacy and collaboration

Insurers can use their wider risk management expertise to build capacity and partner with customers, local governments, and policymakers to encourage better adaptation planning and risk management of nature-related risks. Insurers can also advocate and collaborate to highlight the sector's support for measures to protect and restore nature.

Insurers should consider opportunities to become actively involved in the development of relevant frameworks, and to participate in policy advocacy to address systemic nature-loss risks. For example, insurers may be able to share greater knowledge on nature-related risks and engage with regulators to ensure construction in high-risk land zones is minimised through land-use planning and building code amendments.

47. University of Cambridge Institute for Sustainability Leadership, *Nature-Positive Solutions to Climate Change*, 2022.

48. Moudrak, N., Feltmate, B., et al., *Combating Canada's Rising Flood Costs: Natural Infrastructure is an Underutilized Option*, Insurance Bureau of Canada, September 2018.

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50. Swiss Re Group, *World Heritage Site nature-based solution leads the way in reducing the risk of rising sea levels*, November 2022.

51. Ibid.

52. Aviva Investors, *Natural Capital Transition Global Equity Fund*, 2022.

53. Credit Suisse, *Credit Suisse finances debt conversion for marine conservation in Barbados*, September 2022.

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55. Swiss Re Group, *What is Parametric Insurance*, 2018.

56. EY Australia, *EY 2022 Global Insurance Outlook*, 2022.



Where insurers can start

Assessing nature-related risks and opportunities, and developing strategies for nature-positive action, is a new and quickly evolving area. This can make knowing where to start, what to do and in what order difficult.

However, insurers can take a number of practical steps to start integrating nature into their business strategies (Figure 5). These steps were highlighted by research undertaken by the Association of British Insurers (ABI) and draw on learnings from ABI members, and lessons learned from climate change work by insurers.⁵⁷

Figure 5: Practical steps insurers can take to start integrating nature into business strategies

- 1 Using documents such as this as a Guide, scope out which external organisations to lean on for expertise and guidance, and whether to participate in their work
- 2 Develop a heatmap cross referencing exposures with sectors/geography as an initial estimation of impacts, and use this to Guide areas of focus
- 3 Set up a working group with members across business units, with a focus on areas of expected high impact, and including strategy, risk, and finance colleagues
- 4 Scope out guiding principles for this early stage of the work, covering scope, governance, accountability, to help clearly formulate the firm's ambition on nature
- 5 Look at best practice: the process and tools used by some of the 'early mover' firms in the sector
- 6 Identify the tools (risk analysis, data etc) that the firm will use
- 7 Build up a plan for Year One, including identifying resource or expertise gaps, and how you will work around data gaps, for example use of proxy data
- 8 Building on the heatmap, investigate areas of highest likely impact, which could be key sectors in your insurance or investment markets, or 'sectors' of nature e.g. deforestation
- 9 On an ongoing basis, revisit plans and ambitions levels to reflect changing landscapes⁵⁸

Figure 5: Practical steps insurers can take to start integrating nature into business strategies, The Association of British Insurers (ABI), *A Guide to Nature Action: Securing our natural world*, 2023.

Some insurers may want to take different steps and adopt other approaches that will make more sense to their company. What is important is to choose an approach and start the work that leads to nature-positive action. As approaches to nature reporting and action evolve, the approach of insurers may evolve – but starting now is important.

The full framework of the TNFD will be released in September 2023 and will require organisations to voluntarily disclose their nature-related risks, impacts, dependencies, and opportunities. The ICA and its members have engaged with the TNFD Taskforce on the design of the framework and are preparing for the role of the insurance industry in enabling a nature-positive future.

58. The Association of British Insurers (ABI), *A Guide to Nature Action: Securing our natural world*, 2023.

Appendix A

Glossary

Term	Definition
Biodiversity	An essential characteristic of nature that is critical to maintaining the quality, resilience and quantity of ecosystem assets and the provision of ecosystem services that business and society rely upon
Ecosystems	An important part of environmental assets comprising the dynamic complex of plants, animals and microorganisms, interacting with each other and their non-living environment
Ecosystem services	The flows from nature which result in a provisioning of services, regulation and maintenance of services and cultural services. Examples include pest control, pollination services and soil quality
Environmental assets	The naturally occurring living and non-living components of the Earth (e.g., forests, wetlands, coral reefs and agricultural areas)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EU	European Union
GDP	Gross Domestic Product
Global Biodiversity Framework	2022 Kunming-Montreal Global Biodiversity Framework, agreed at the 15th meeting of the Conference of Parties to the UN Convention on Biological Diversity is now available as document CBD/COP/15/L25
LCA	Lifecycle assessment
Natural capital	The stock of renewable and non-renewable natural resources that combine to yield a flow of benefits to people
Nature	The natural world, with an emphasis on the diversity of living organisms (including people) and their interactions among themselves and with their environment
PBAF	Partnership for Biodiversity Accounting Financials
Physical risks	Risks that are a direct result of an organisation's dependencies on nature. They arise from nature changes which reduce the availability or quality of the ecosystem services on which a company depends
SBTN	Science-Based Targets for Nature
Systemic risks	Risks arising from the breakdown of the entire system, rather than the failure of individual parts. They arise from economy-wide dependencies and impacts on nature that affect critical natural systems or financial stability at the portfolio or system level
TNFD	Taskforce for Nature-related Financial Disclosures
Transition risks	Risks that result from a misalignment between an organisations strategy and management and the changing landscape in which it operates. They arise from changes in the legal, societal and economic expectations of a company's impact on nature

Appendix B

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