NATURE-RELATED RISKS AND IMPACTS FOR INSURANCE

Stakeholder engagement on biodiversity loss risk for insurers 10 June 2024



NATURE AND BIODIVERSITY-RELATED RISKS

'Nature' living and non-living elements on our planet

Ecoystems: dynamic interaction between the elements of nature



Ecoystem services: provisioning, regulating, cultural

Biodiversity: variability among living organisms, which includes the diversity within species, between species and of ecosystems

Risks to nature:

Sea and land use change; Overexploitation of organisms; Climate change Pollution; Invasive alien species



SIMILARITIES AND DIFFERENCES WITH CLIMATE RISK

Similarities to climate risk	Translated via existing prudential and conduct risks
	Uncertainty about timing and severity, non-linearity, systemic nature, tipping points causing irreversibility of damage
	Requires forward-looking risk assessment + scenarios for risk prevention
	Issues to insurability, also due to interrelation of risks
Differences with climate risk	Even more multi-dimensional, targets difficult to capture in one metric (e.g. such as reduction of GHG emissions)
	Risk restoration and conservation require more intricate action, often at regional level
	Risk data more difficult to collect and model (multiplicity of pathways)
	Nature losses are not easily connected with single events
	Possibly more intensified risk concentration (local ecological processes); possibly wider systemic impacts of loss of systemically biomes (e.g. Amazon Rainforest)



TRANSMISSION OF BIODIVERSITY-RELATED RISKS TO INSURANCE

Sources of risk



Transmission of the risks to society



Transmission of the risks to insurance

Transition risk:
misalignment with
preservation or restoration
of nature

Physical risk: decline of biodiversity leading to decline of ecosystem services

Economic activities that negatively impact nature are most likely to be exposed to transition risks

Economic activities that are highly dependent on intact nature are most likely to be exposed to physical risks.



By investing in or providing coverage to companies or activities that are not adapted to the transition to a low impact (nature positive or neutral) environment or that are (increasingly) at risk from reduced biodiversity and ecosystem services



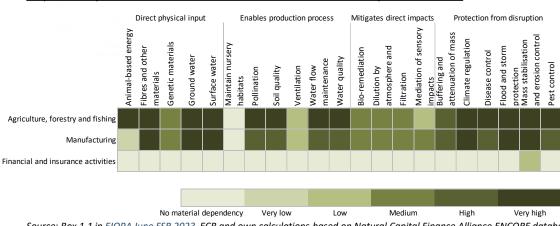
<u>Causing prudential or conduct risks</u> underwriting, market operational, reputational or legal risk



RISK ASSESSMENT: DEPENDENCY ON ECOSYSTEM SERVICES

- The level of dependency of economic activities on ecosystem services related to a given asset serves as a proxy of the assets' vulnerability to changes in the provision of these services.
 - EIOPA conducted a physical risk assessment in collaboration with ECB via the ESRB Project Team Climate based on ENCORE database, which
 provides a set of materiality scores for the dependency of economic activities on ecosystem services.
 - Approximately 30% of EEA insurers' direct investments in corporate bonds and equity are towards economic activities that highly depend on at least one ecosystem service. The major vulnerabilities are towards surface and ground water, as well as flood and storm protection.

<u>Dependency scores of selected economic activities on ecosystem services</u>



Source: Box 1.1 in <u>EIOPA June FSR 2023</u>. ECB and own calculations based on Natural Capital Finance Alliance ENCORE database (2022). For more information on the methodology, please see <u>Ceglar et al.</u> (2023) - "Living in a world of disappearing nature: physical risk and the implications for financial stability".



THANK YOU

- <u>EIOPA staff paper on nature-related risk published in March 2023.</u>
- Box 1.1 in EIOPA June FSR 2023 for direct dependencies on ecosystem services of corporate bonds and equity.

