Planet Tracker

BIOcrastination

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The Global Risks Report 2023 by the World Economic Forum has deservedly received a lot of publicity. Many sustainability commentators celebrated when this 18th edition revealed that 6 of the top 10 long term risks are related to the environment.

Although biodiversity loss and ecosystem collapse ranks fourth, this is only in the longer term (i.e. in a 10-year period). In the short term (2 years), it ranks 18th.

Worryingly, business leaders in particular do not recognise biodiversity collapse as a near term threat, nor do they or others view corporates as responsible for managing this risk.

This paper examines some well-known biodiversity indicators which suggest that acknowledging biodiversity failure in a 10-year time frame is simply too late.

Confusingly, many biodiversity-related risks do make the short-term risk ranking, suggesting that interdependencies with nature are not fully understood.

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Global Risk Data

The Global Risks Perception Survey (GPRS) underpins WEF's Global Risks Report.[i] The risks are determined from 'over 1,200 experts across academia, business, government, the international community and civil society'. Data was collected between 7 September and 5 October 2022. This was prior to the recent United Nations Biodiversity Conference (COP15) in Montréal, so responses do not take into account the outcome of this meeting. Global risk is defined as ***'the possibility of the occurrence of an event or condition which, if it occurs, would negatively impact a significant proportion of global GDP, population or natural resources'***.[ii] The short-term outlook had 1,086 respondents while the long-term outlook had 999.[iii]

Figure 1 shows the ranking of global risks by severity over the short and long term. Although there are five environmental short-term risks, biodiversity is not one of them. However, it is perceived as a rising risk in the future, as it is ranked as fourth on a 10-year view.

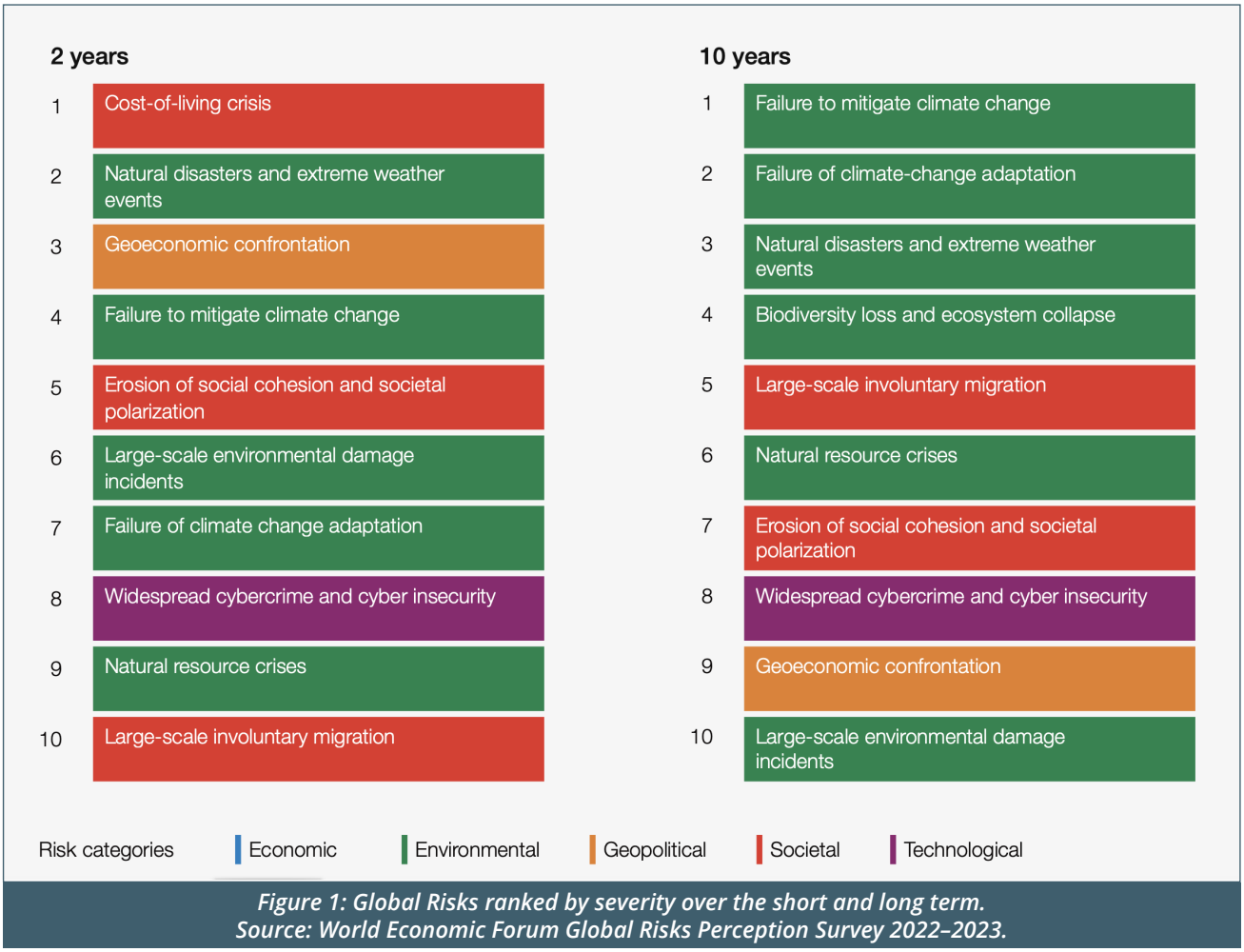

Figure 1: Global Risks ranked by severity over the short and long term.
Source: World Economic Forum Global Risks Perception Survey 2022–2023.

Biodiversity trends are disturbing, and we've known this for a long time

One of the best known measures of how species are coping can be found in the Living Planet Reports.

In 1998, the Living Planet Report[iv] showed that the **Living Planet Index** (LPI)[v] fell by over 30 per cent between 1970 and 1995 and that the average rate of decline between 1990 and 1995 was about 3 per cent per year. The LPI is a measure of the state of the world's biological diversity based on population trends of vertebrate species from terrestrial, freshwater and marine habitats. The LPI was adopted by the Convention of Biological Diversity (CBD) as an indicator of progress.

In the latest 2022 Living Planet Report,[vi] which states it is 'the most comprehensive analysis of the global state of nature' shows that between 1970 and 2018, there was an average decline of 69 per cent in the global LPI, based on almost 32,000 populations of over 5,200 species. Note that more extreme declines were recorded in Latin America (-94%)[vii] and freshwater environment (-83%).[viii]

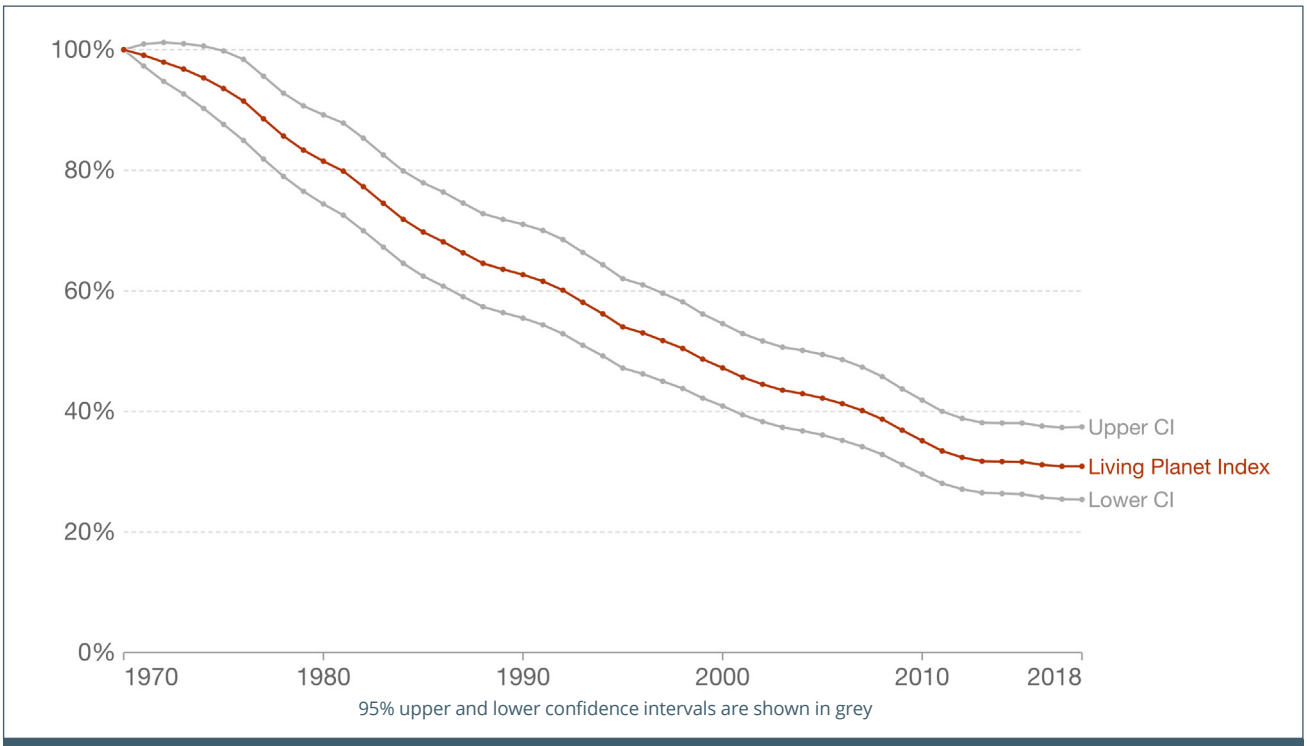

Figure 2: Living Planet Index, World.
Source: WWF and Zoological Society of London, Our World in Data.

Note: The Living Planet Index (LPI) measures the average decline in monitored wildlife populations. A population is a group of individuals of the same species that live in the same geographical area. A species will often have multiple or many populations, each living in a different area. The index value measures the change in abundance in 31,821 populations across 5,230 species relative to the year 1970 (i.e. 1970 = 100%).

Another barometer of biodiversity is the **Species Habitat Index** (SHI),[ix] calculated in the Map of Life[x] led by the universities of Yale and Florida. SHI measures changes in the estimated size, connectivity and quality of species habitats, relative to a baseline set in the year 2001.

The SHI serves as a proxy for potential population losses and the extinction risk to individual species. Only one country (Iceland) of more than 150 countries assessed, fails to show a decrease in the SHI index over the last decade.

The **Mean Species Abundance** (MSA) metric is an indicator of local biodiversity intactness. MSA ranges from 0 to 1, whereby 1 means that the species assemblage is fully intact while 0 means that all original species are eradicated. MSA is calculated based on the abundance of individual species under influence of a given pressure, compared to their abundance in an undisturbed situation (natural situation/reference).[xi] MSA is used in the GLOBIO model,[xii] which was established within the UN's Environment Programme following the Conference of the Parties of the Convention on Biological Diversity (CBD) in 2002, to evaluate the target of achieving a significant reduction in the rate of biodiversity loss. The area-weighted mean MSA values for 2015, as published by the latest version of GLOBIO 4, are shown in Figure 3.

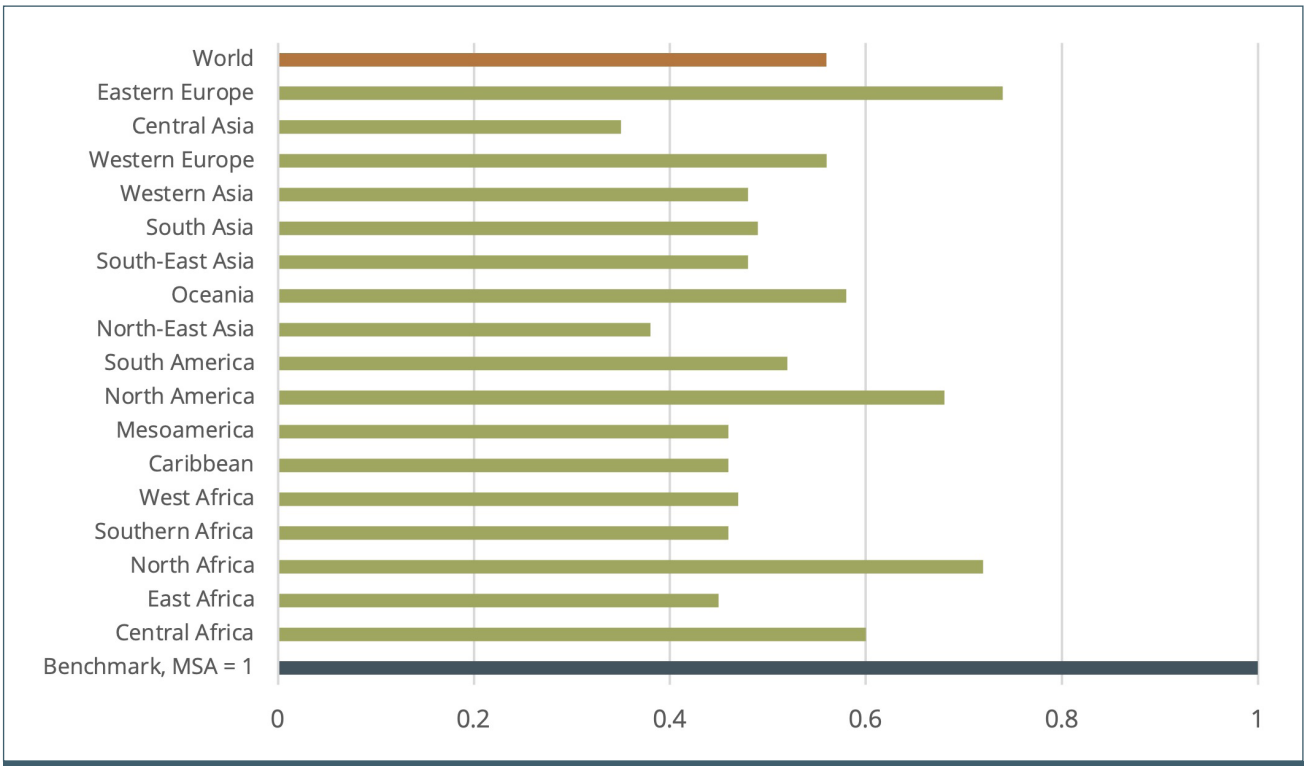

Figure 3: Regional Mean Species Abundance, 2015.
Source: Projecting terrestrial biodiversity intactness with GLOBIO 4

The International Union for Conservation of Nature (IUCN), comprising 1,400 Member organisations and 15,000 experts, monitors species and ecosystems, as well as steering policy and action to protect and restore the natural world.[xiii] **The IUCN Red List of Threatened Species™** is the world's most comprehensive information source on the global extinction risk status of animal, fungus and plant species.[xiv,xv] It assessed 150,388 species of which 42,108 were categorised as threatened.[xvi] It estimates that the number of threatened species increased 4-fold in the last 20 years.

However, it should be noted that this increase will have been influenced by the rise in the number of species assessed. Yet these values do not reflect one key ecosystem characteristic - its dependence on keystone species. If these species are lost it could threaten the existence of the ecosystem and many more species in the food web that are directly or indirectly dependent on them for their survival - see Figure 4. Nevertheless, threatened species numbers are alarming. Academic studies suggest the current extinction rates are 1,000 times higher than natural background rates and that future rates are likely to be 10,000 times higher.[xvii]

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), also draws on IUCN species data along with other studies when it compiled its Global Assessment Report on biodiversity and Ecosystem Services in 2019.[xviii]

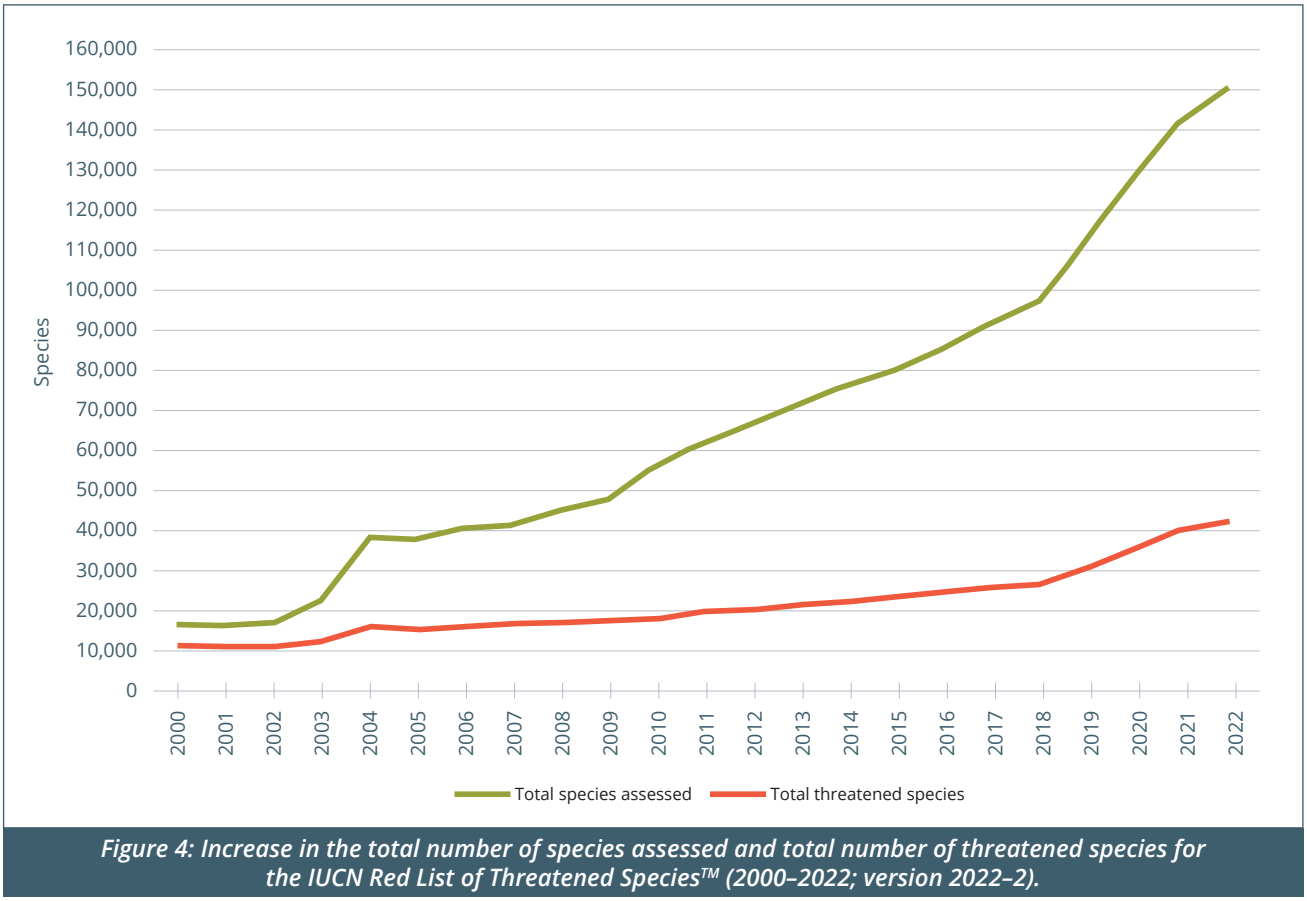

Figure 4: Increase in the total number of species assessed and total number of threatened species for the IUCN Red List of Threatened Species™ (2000–2022; version 2022–2).

Ignoring interdependencies

Planet Tracker is concerned by the apparent lack of urgency over biodiversity loss. This is puzzling as a number of the short-term risks identified in the WEF Global Risks Report (2023) include climate change threats such as failure to mitigate climate change (ranked 4th) and a failure of climate change adaptation (ranked 7th). This implies there is a lack of understanding of the interdependence of climate and nature. Ranked as ninth in the short-term risk ranking are natural resources crises, which again would imply a concern over nature and biodiversity issues.

Planet Tracker examined the top short term risks[xix] identified by the WEF report and identified 17 (53%) that could be affected by biodiversity loss and ecosystem collapse – see Figure 5.

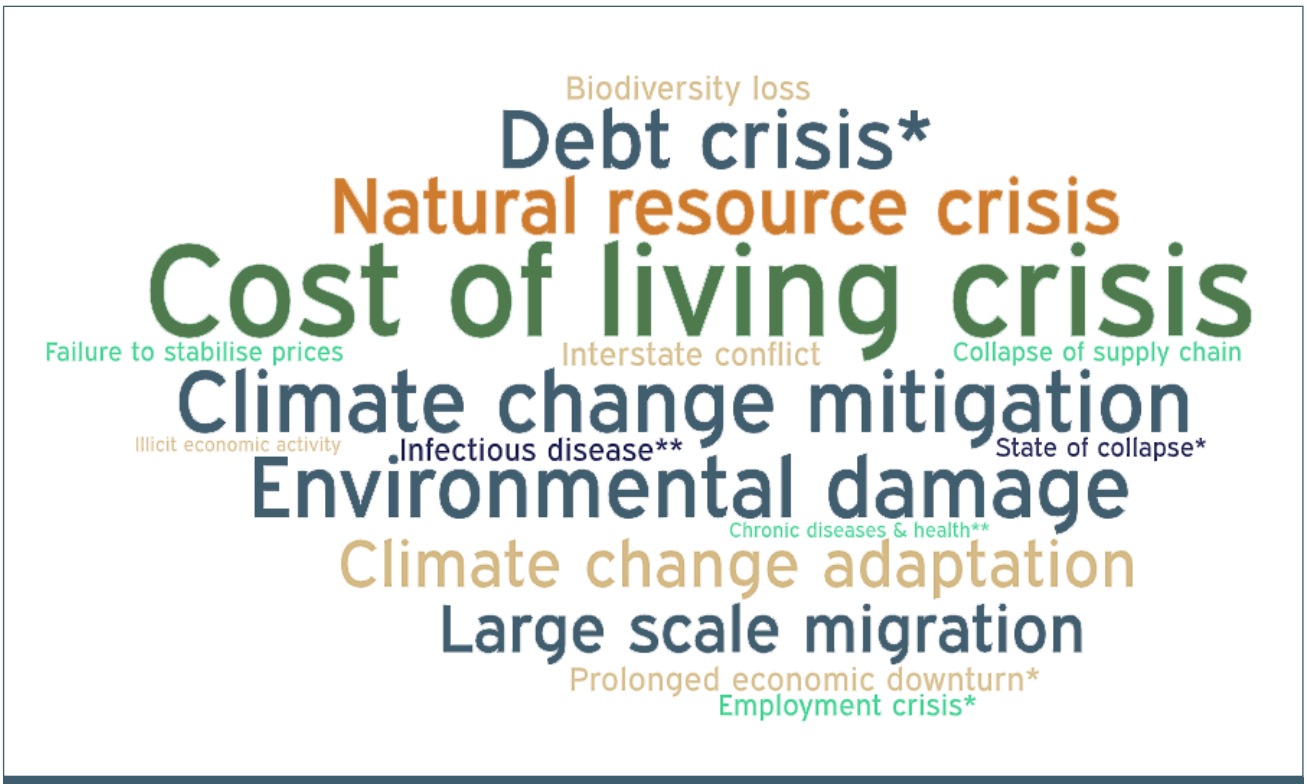

*Figure 5: Global short-term risks. Source: WEF Global Risks Report (2023) and Planet Tracker analysis. *For nature dependent countries see Nature Dependent Exporters[xx] **Notably for zoonotic diseases*

Taking responsibility

A deeper analysis of the WEF data indicates that there is a perceived low level of risk preparedness for biodiversity loss and ecosystem collapse – with only around 10% viewing risk management as either highly effective or effective.

So, which stakeholders are expected to manage this biodiversity and ecosystem risk? According to respondents, only around 5% believe business carries the governance responsibility and another 5% place it with public-private co-operation.[xxi]

This view is supported by WEF's analysis of the Executive Opinion Survey[xxii,xxiii] which collects the views of over 12,000 business leaders from 121 countries. Executives are asked to identify risks that pose the most severe threat to each country over the next two years. Only two countries' corporate leaders place biodiversity loss and ecosystem collapse as a top five risk within the next two years. One is Chad,[xxiv] which recognised terrestrial and blue[xxv] biodiversity. The other was the UK.

It is possible that these low numbers are affected by the framing of the question which asks whether the occurrence of an event or condition, if it occurs, would negatively impact a significant proportion of global GDP, population or natural resources.[xxvi] Respondents may view these as only long-term issues, rather than short-term risks. The WEF recognises that 'cognitive biases channel public attention towards recent, "catastrophic" events. Business and political imperatives tend to prioritise risks with a direct, immediate and localised impact'.[xxvii]

Despite this, Planet Tracker is surprised by the apparent absence of short-term concern. The global pandemic (COVID-19), which the consensus believes originated in animals, should be recognised as a catastrophic event, as should the ongoing food and other commodities' shortages which, in turn, have stoked rising inflation.

Dampened optimism

Although Planet Tracker welcomes a recognition of environmental threats as revealed in the latest WEF Global Risk Report, urgent focus is needed to tackle short-term biodiversity threats.

This lack of appreciation is perplexing. Not only do comprehensive global studies continue to demonstrate a rapid deterioration in an assortment of biodiversity measures, but related nature issues are being identified as short-term threats, such as climate mitigation. Waiting another ten years for further confirmation of this disturbing biodiversity trend appears unreasonable. There is an understanding that society is ill-prepared to tackle the challenge, but respondents view effective management to lie with governments and international organisations. The vast majority of business leaders do not see how they can effectively manage biodiversity risk. Investors and lenders should demand a rethink from the executives of corporates and an end to biocrastination.

AN END TO

BIOcrastination

Disclamer

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References

i Global Risks Report 2023, World Economic Forum

ii Global Risks Report 2023, World Economic Forum, page 5

iii Global Risks Report 2023, World Economic Forum, page 77

iv WWF 1998 Living Planet Report

v In the 1998 report the LPI was defined as a measure of the change in the health of the world's natural ecosystems since 1970, focusing on the Earth's forest, freshwater, and marine biomes as these contain most of the world's biodiversity

vi WWF/ZSL 2022 Living Planet Report

vii WWF/ZSL 2022 Living Planet Report, page 34

viii WWF/ZSL 2022 Living Planet Report, page 36

ix Species Habitat Index by MOL

x Map of Life website

xi Projecting terrestrial biodiversity intactness with GLOBIO 4, 2020

xii GLOBIO – Global biodiversity model for policy support

xiii IUCN website

xiv Species are classified into one of nine Red List Categories: Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, Near Threatened, Least Concern, Data Deficient and Not Evaluated. Vulnerable, Endangered and Critically Endangered species are considered to be threatened with extinction. The IUCN Red List will be updated on 20 July and 7 December in 2023.

xv IUCN Red List Categories and Criteria, Version 3.1 Second edition

xvi IUCN threaten species

xvii Estimating the normal background rate of species extinction, Jurriaan M De Vos 1, Lucas N Joppa, John L Gittleman, Patrick R Stephens, Stuart L Pimm

xviii IPBES Global Assessment Report 2019

xix Global Risks Report 2023.World Economic Forum, page 11

xx Nature Dependent Exporters – What do they have in common? Planet Tracker

xxi Global Risks Report 2023, World Economic Forum, page 70

xxii Global Risk Report, 2023, World Economic Forum – overview of methodology – page 5

xxiii Global Risk Report 2023, World Economic Forum – Appendix B – Executive Opinion Survey – page 79

xxiv Although Chad is landlocked it has two major river systems, Chari and Logone, which runs into Lake Chad (Lac Tchad). Lake Chad provides water to millions of people from four surrounding countries (Chad, Cameroon, Niger and Nigeria) in the central Sahel. Recently the UN has convened the Lake Chad Basin High Level Conference as some 5.6 million people are viewed as severely food insecure.

xxv Blue refers to marine and freshwater

xxvi Global Risks Report 2023, World Economic Forum, page 5

xxvii Global Risks Report, 2023, World Economic Forum, page 70

ABOUT PLANET TRACKER

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In addition to addressing challenges and solutions in our main programmes, Planet Tracker aims to foster debate on themes which transcend the sector-specific nature of our industry focus and are applicable across all our programmes.

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