



Institute
and Faculty
of Actuaries

Biodiversity

IFoA Resources



2023

Biodiversity Resources at the IFoA

Overview

There is a broad array of resources for actuaries on biodiversity. As a starting point, we recommend the 2023 Introductory Guide:

- [Biodiversity and nature-related risks for actuaries: an introduction](#)

The introductory guide includes a glossary, a list of voluntary measurement and target-setting initiatives, references to 94 papers and links to over 21 supervisory initiatives.

The guide is supported by a broader array of resources and insights from the IFoA and its Sustainability Board:

- A Biodiversity Curated Library
- Sessional Research Papers
- Blogs
- Podcasts
- Climate Risk and Sustainability Course
- Articles in the Actuary

Additionally, ongoing updates can be found by joining IFoA Sustainability Board Community [Weekly Newsletter](#), articles in [The Actuary](#) and IFoA Members can join the [Sustainability IFoA Community](#). Those looking at their CPD needs can use the [CPD Reflective Practice Discussion \(RPD\) Toolkit on Climate change and sustainability](#) as a helpful guide.

For IFoA members, there are also many webinar and event resources within the [Virtual Learning Environment \(VLE\)](#). Log in and search for Sustainability or Biodiversity for webinars and thought leadership events.

Biodiversity Curated Libraries

The Sustainability Curated Libraries seek to provide a brief overview of some of the key non-actuarial reports on sustainability as an introduction to specific topics:

- The [Importance of Biodiversity Risks](#) library provides reading on the significant risk of biodiversity loss for actuaries.
- The [Natural Capital](#) library covers discussions on how to capture biodiversity risk and potentially quantify it
- The [Policy and biodiversity](#) library includes links to the green book and Dasgupta review
- The [Biodiversity and Justice](#) library looks at the broader aspects, including “nature not for sale” and which stakeholders have the power to limit valuation to monetary values

Research Papers

The April 2021 Biodiversity Sessional meetings produced five papers on different ways Biodiversity impact actuaries:

- An overview is provided in "[Planting the Seeds](#)"
- [The importance of biodiversity risks](#)
- [Biodiversity & zoonotic disease](#)
- [Introduction to valuation tools](#)
- [Natural Capital an actuarial perspective](#)
- [Biodiversity & Justice](#)

Each of these papers offer a peer-reviewed assessment of the different actuarial aspects.

Podcasts, Blogs and Consultations

The Sustainability Board has created a series of [SDG podcasts](#). In the [Biodiversity Podcast](#), Nick Spencer speaks to Aled Jones (Anglian Ruskin University) and Gillian Rutherford (Swiss Re) to discuss the impact of biodiversity on the insurance and finance industries.

A broad array of blogs have been written covering specific aspects of Biodiversity risk for Actuaries. Highlights include:

- [Biodiversity Risk, Natural Capital and actuarial practice](#)
- [Nature-related risks and opportunities: commonly used terms and definitions](#)
- [Comparing nature-related and climate-related risks](#)
- [Assessing nature-related risks](#)
- [Understanding nature-related physical risks](#)
- [Transition risks arising from nature-related risks](#)
- [Impacts of biodiversity loss Part 1: Economic impacts](#)
- [Impacts of biodiversity loss Part 2: Sovereign credit ratings](#)
- [Impacts of biodiversity loss Part 3: Biodiversity disclosures](#)
- [Reversing the trend: Managing biodiversity loss in the UK](#)
- [Biodiversity and the role of actuaries](#)

Biodiversity has also been a significant element of recent IFoA consultations, with particular insights on Biodiversity, the economy, and the finance industry in:

- [Consultation Response - FCA consultation on Sustainability Disclosure Requirements \(SDR\) and investment labels Discussion Paper 7 January 2022](#)
- [Consultation Response - Environmental Audit Committee inquiry into Aligning the UK's Economic Goals with Environmental Sustainability, 7 January 2022](#)
- [IFoA response to the EAC's inquiry into biodiversity and ecosystems, 15 April 2021](#)

IFoA Climate Risk and Sustainability Course

In March 2022, the IFoA created a Climate Risk and Sustainability Course so that its members could understand and consider climate and sustainability-related risks in the same way as other major risks, such as interest rate risk and mortality risk.

It provides an 8-week online course designed to be taken anywhere in the world and provide members with an understanding of:

- the main concepts of climate risk and sustainability relevant to actuaries
- how those concepts are relevant, and what impact they might have on actuaries' work
- how to apply these concepts in their work

It is not intended that the successful completion of the course would make an actuary a climate risk or sustainability expert but as an enabler to stimulate interest and a potential platform for further study. Details of the [course and next booking are here](#).

Articles in The Actuary

There have been a wide, ongoing series of articles covering biodiversity. Some highlights, with brief descriptions, are provided in the table below.

Title	Description
Nurturing nature with biodiversity scenarios , July 2023	While most businesses scenario-test for climate change, hardly any do for biodiversity. This needs addressing, argue Aled Jones and Ian Trim.
Blended finance explained , July 2023	What opportunities do developing nations have to secure the funds they need to tackle climate change? Blended finance is one way, say Neha Bhatia and Ranjan Pant.
Actuaries' role in the game of 'Earth Jenga' , April 2023	Like a game of Jenga, we keep whittling away at the building blocks of the Earth to make new things to precariously pile on top. But actuaries can help anchor the wobble, says Sandy Trust
Natural capital investing , February 2023	Chris Howells and Andrew Dreaneen discuss how today's investments in natural capital can profit portfolios as well as the planet and humanity
Interview: chemist and climate expert Sir David King on how actuaries can save the Arctic , February 2023	Actuaries can save the Arctic, according to esteemed chemist and climate-change expert Sir David King. He tells Alex Martin that risk management is as relevant to preserving the planet as groundbreaking science
Can we embrace a circular economy? February 2023	With our pull on the planet's resources, are we bold enough to embrace a circular economy? The potential benefits are not just material, argues Travis Elsum
A steep decline - actuaries must get to grips with the biodiversity crisis , November 2022	Alex Martin and Ryan Allison discuss the upcoming UN Biodiversity Conference – and why biodiversity is an aspect of the sustainability crisis that actuaries must not ignore

Interview: Professor Paul Dalziel on changing the focus of economies from growth to wellbeing , November 2022	Paul Dalziel talks to Alex Martin about the true purpose of economics and the lessons we can draw from the 2019 New Zealand wellbeing budget
Interview: Catherine Howarth on shaping responsible investing , September 2022	Catherine Howarth talks to Travis Elsum about shaping responsible investing, and the changes needed to accelerate the transition to a sustainable and ethical economy
A tale of three capitals: preserving natural capital , September 2022	Ian Trim explores The Dasgupta Review's findings on the importance of preserving natural capital, and the role actuaries can play in achieving this
Show your working: new standards from the ISSB , September 2022	Wendy Walford outlines the need for consistent and comparable sustainability disclosures, and discusses why two new standards from the International Sustainability Standards Board are a step in the right direction
A fairer measure: does GDP fail to measure up? August 2022	GDP is increasingly being seen as too crude a tool, failing to reflect factors such as well-being and sustainability. Nick Spencer and Aled Jones consider some alternatives, and the implications for actuaries.
Nature and society: examining the scope of the Taskforce on Nature-related Financial Disclosures , August 2022	Monica Filkova discusses the scope and activity of the Taskforce on Nature-related Financial Disclosures
Climate change guidance published for actuaries , June 2022 (news)	The Joint Forum on Actuarial Regulation (JFAR) has published an extensive report on the science of climate change and how actuaries can help mitigate risks.
Reversing the decline: understanding nature-related risks , June 2022	Oliver Schelske places nature-related risks within an actuarial context, and explains why it is so important for insurers to understand such risks
Fabiola Schneider: Keeping up appearances , May 2022	Fabiola Schneider talks to Travis Elsum about detecting and addressing corporate greenwashing, the new EU Taxonomy, and investors' role in the journey to a low-carbon economy
A sustainable solution: is sustainability-linked lending the answer? May 2022	Wojciech Herchel, Sam Taylor, Clarence Er and David Devlin consider whether sustainability-linked lending is the answer to changing corporate behaviour
Better than cure , April 2022	Actuaries are well placed to help humanity prevent many of the gravest risks it faces, argues Sanjay Joshi
Biodiversity loss to become 'material risk' for global businesses by 2024 , March 2022 (news)	Businesses may soon struggle to access financial services as requirements to protect biodiversity raise significant liability and litigation risks over the next two years, Clyde & Co has warned.
Natural Justice: issues of fairness posed by the environmental crisis , March 2022	Aled Jones sets out the issues of fairness posed by the environmental crisis, and why actuaries are well placed to help in this area
Jørgen Randers: An end to growth? , December 2021	Professor Jørgen Randers talks to Chris Seekings almost 50 years after the publication of The Limits to Growth, and outlines what we can expect for the world during the next half-century
Caught on camera: how data can help preserve biodiversity , November 2021	Olga Mierzwa-Sulima, Robin Whytock and Jędrzej Świeżewski share their experience of building a machine-learning algorithm that helps track biodiversity in Gabon's tropical forests
The butterfly defect: Global connectivity makes us vulnerable to collapse , November 2021	Aled Jones discusses how the environmental pressures of a complex global economy increase the risk of collapse, and which parts of the world are best placed to survive such an event

<u>Unhealthy planet, unhealthy people</u> , October 2021	Richard Purcell and Anna Spender present a selection of experts' opinions on how climate change could affect health, care and protection, drawn from a recent IFoA Health and Care webinar
<u>Fall of the wild?</u> October 2021	Gillian Rutherford-Liske and Samantha Dunn explain the role general insurers can play in tackling extreme weather and ecosystem loss
<u>Taking responsibility on ESG investment and risk management</u> , October 2021	Rui Wang provides a primer for how general insurance firms should approach ESG investment and risk management
<u>James Dyke: Almost out of time</u> , September 2021	James Dyke talks to Travis Elsum about the hidden pitfalls of net-zero policies and the need for more academic activism
<u>Hand in glove: aligning SDGs and the Paris Agreement</u> , September 2021	Lucy Saye, Melissa Leitner, Shyam Gharial and Thrinayani Ramakrishnan discuss how the UN Sustainable Development Goals and Paris Agreement are aligned in their aim to balance climate action and poverty eradication
<u>The human error in biodiversity loss and the rise of zoonotic diseases</u> , August 2021	Georgina Bedenham, Amy Shields and Andrew Kirk present the findings from their recent IFoA Biodiversity Working Party paper on the link between biodiversity and zoonotic diseases
<u>Taskforce on Nature-related Financial Disclosures launched</u> , June 2021(news)	A new market-led initiative has today been launched to support financial institutions and corporates in assessing and managing emerging nature-related risks and opportunities.
<u>Interview with Cassandra Coburn: Age Concern</u> , May 2021	Cassandra Coburn talks to Travis Elsum about healthy longevity, diet and sustainability, and how they are connected
<u>Act natural: how the economy and biodiversity loss can impact actuarial work</u> , May 2021	Aled Jones and Lucy Saye discuss the link between the economy and the environment, and how biodiversity destruction and loss could impact on the work of actuaries
<u>Preserving ecology to prevent pandemic risk</u> , April 2021	Gordon Woo considers the effects of ecological change on pandemic risk, and when it is likely we will face an even worse pandemic than COVID-19
<u>Vanishing wilderness</u> , March 2021	Travis Elsum assesses the financial consequences of biodiversity loss.
<u>New economic framework needed to protect nature, review finds</u> , February 2021(news)	The world must rethink how it measures economic success to ensure that humanity's demands on nature can meet supply, an independent review on global biodiversity has concluded today.
<u>Nature-based solutions in tackling climate change</u> , September 2020	John Carstensen discusses the role of nature-based solutions in tackling climate change.



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