

What does becoming “nature positive” mean, and how can it realistically be achieved?

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Department of
BIOLOGY

ICCS

Interdisciplinary Centre for
Conservation Science

The Global Biodiversity Framework, Dec 2022

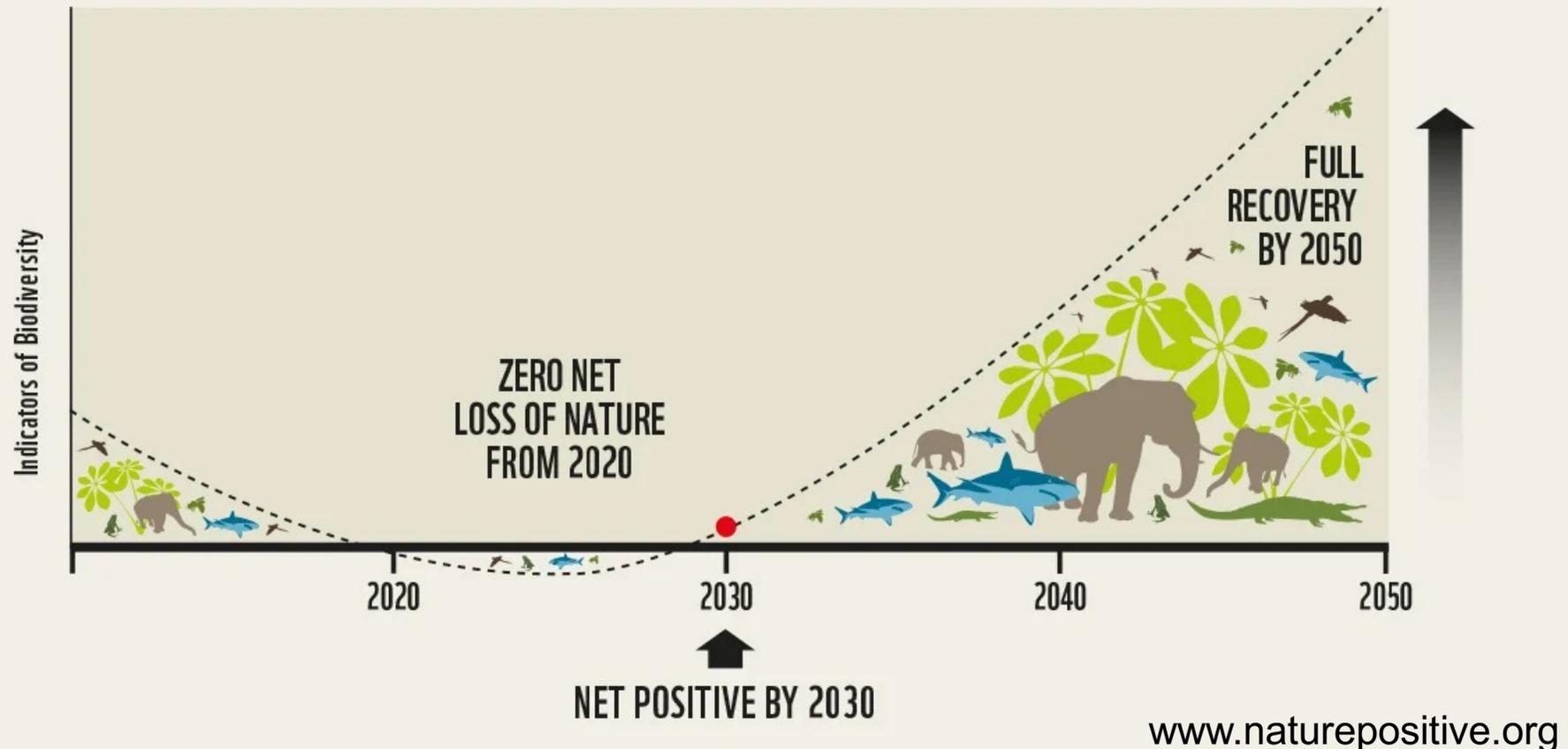
Vision for 2050: Biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.

Mission for 2030: To take urgent action to halt and reverse biodiversity loss to put nature on a path to recovery...

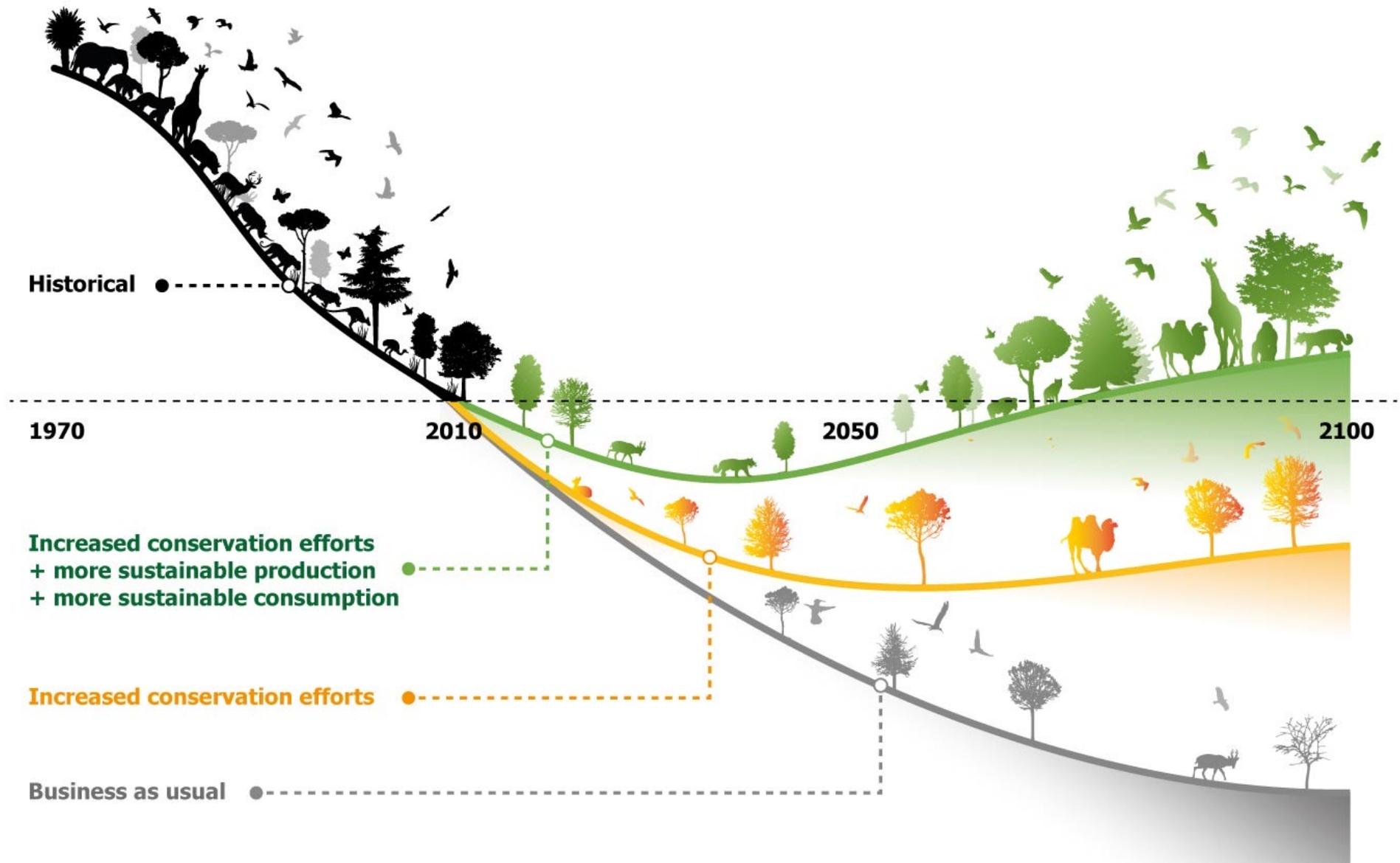


To achieve this, aligned visions are needed throughout society

Global Goal for Nature: Nature Positive by 2030



“We need to halt and reverse nature loss measured from a baseline of 2020, through increasing the health, abundance, diversity and resilience of species, populations and ecosystems so that by 2030 nature is visibly and measurably on the path of recovery”



This artwork illustrates the main findings of the article, but does not intend to accurately represent its results (<https://doi.org/10.1038/s41586-020-2705-y>)

Leclere et al. (2020) *Nature*
<https://www.nature.com/articles/s41586-020-2705-y>

What do we need to get there?

1. A Target

2. Concrete commitment

3. A Framework for action

4. Accountability

5. Adaptive management

6. Coherence & scalability

A target: “Nature Positive”?

- Target-based: “Becoming Nature-positive means reversing the current declines in biodiversity, so that species and ecosystems begin to recover” (UK Joint Nature Conservation Committee)
- Conceptual: “A nature-positive approach puts nature and biodiversity gain at the heart of decision-making and design. It goes beyond reducing and mitigating negative impacts on nature as it is a proactive and restorative approach focused on conservation, regeneration, and growth” (UK Council for Sustainable Business)
- Process-based: Does not define nature-positive, but outlines how to achieve nature- positive outcomes via a process of “assess, commit, act, advocate” (Business for Nature)

2. Commitment

- Do businesses actually make commitments?
- Do these commitments clearly contribute to a global Nature Positive goal?
- Are commitments improving over time?



Study 1: Addison, Bull, Milner-Gulland (2019) – Fortune 100 companies 2016

Study 2: Da Silva et al. (2019) – companies with NNL/NP commitments in 2016

Study 3: zu Ermgassen et al. (preprint) – Fortune 100 companies 2021 + comparisons



2016 Fortune 100 Global companies:



Represent **15 sectors**, dominated by the financial sector (23 companies) and the energy sector (21 companies)



Have **headquarters located in 15 countries**, dominated by USA (38 companies) and China (19 companies)

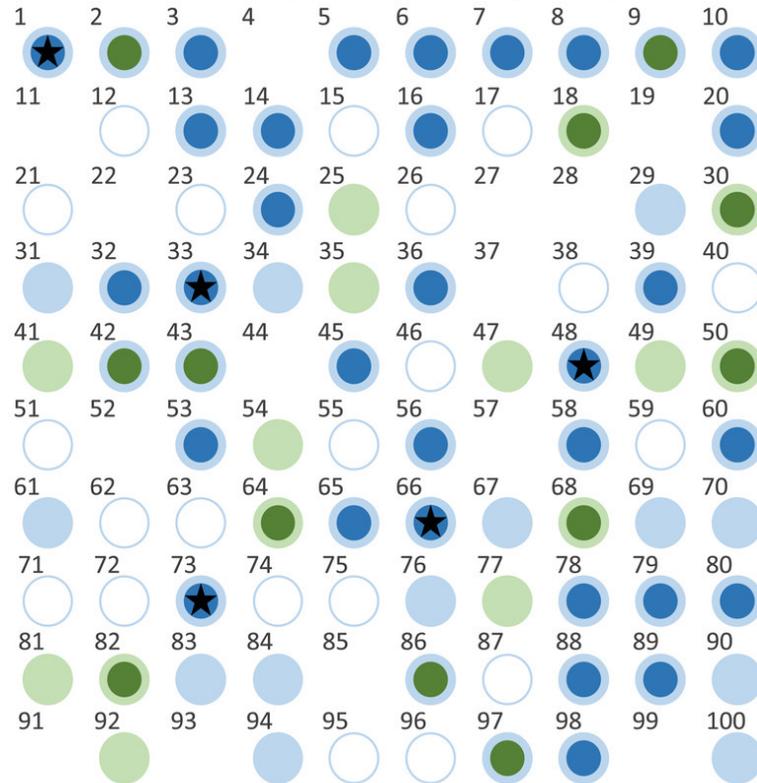


Total revenue =
US\$12.6 trillion



Total employees =
26.4 million staff

Of the **top 100** companies, **86** have publicly available sustainability reports:



49 companies

mentioned biodiversity or biodiversity related issues, and an additional

16 companies

mentioned sustainable forestry or fishing (with no mention of biodiversity)

31 companies had a clearly stated biodiversity **commitments**, and an additional

12 companies had forestry or fishing goals (with no mention of biodiversity)

Only 5 companies

had biodiversity **commitments that are specific, measurable, & time-bound (★)**

(Walmart, AXA, Hewlett Packard, Nestlé, Carrefour)

Mention Commitment

Biodiversity

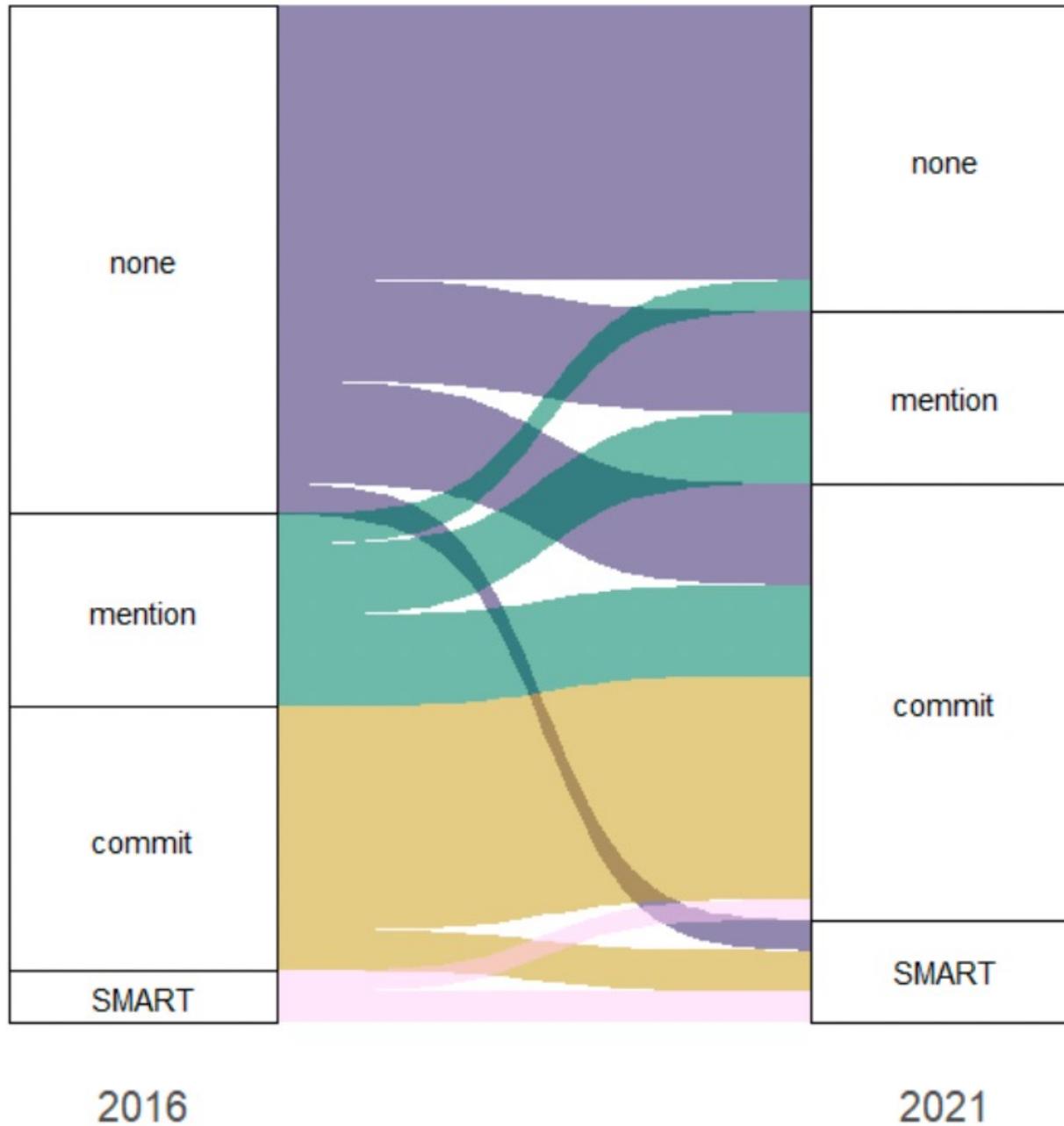


Sustainable forestry or fishing (only)

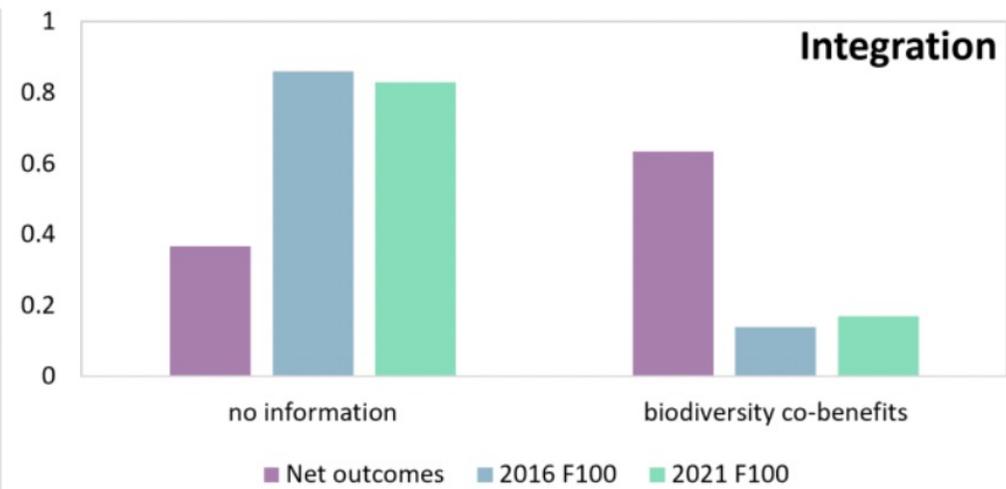
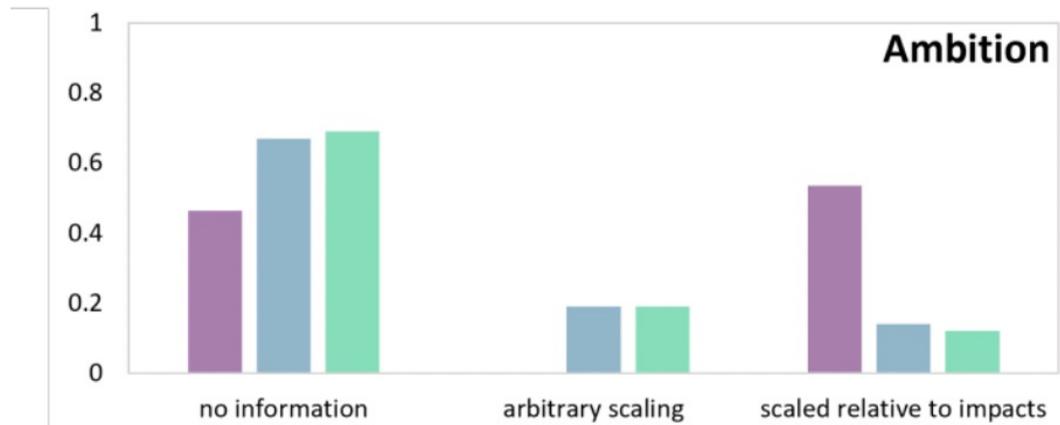
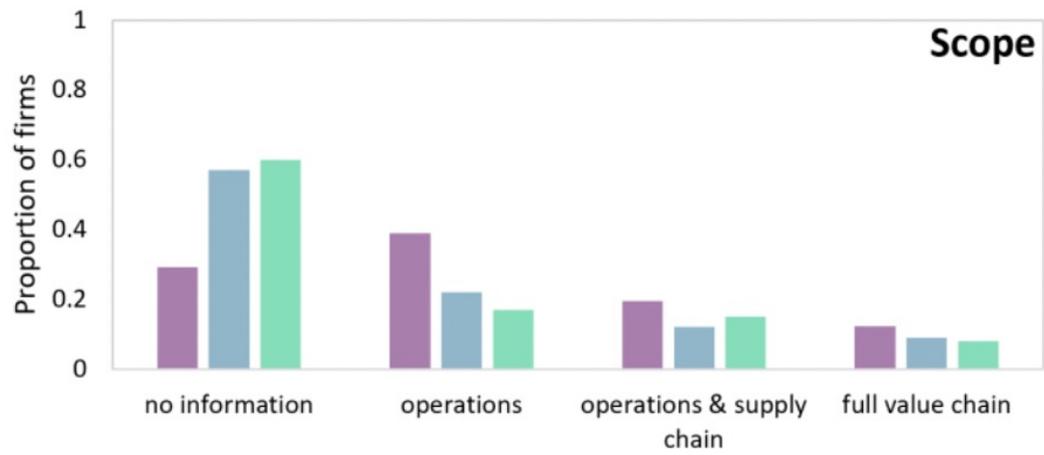


NEITHER biodiversity NOR sustainable forestry/fishing mentioned in sustainability report



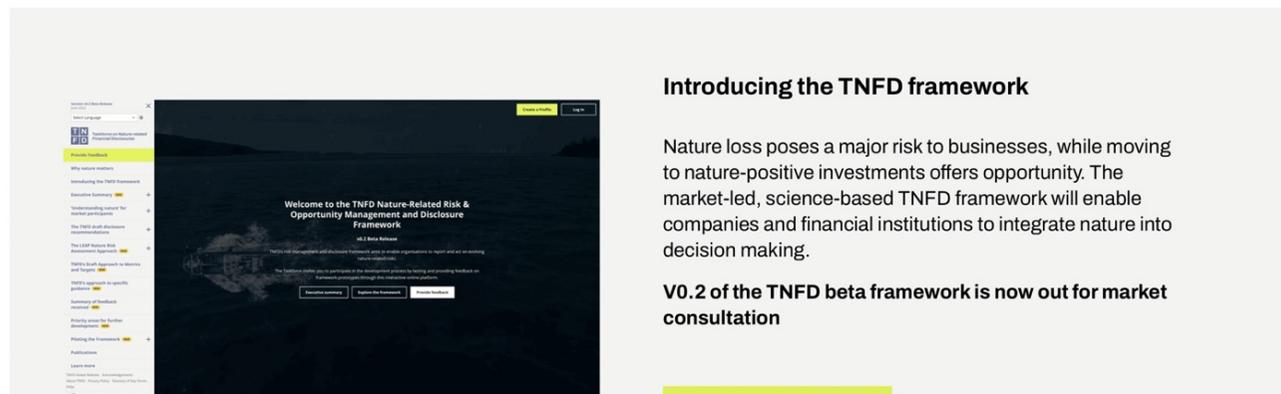
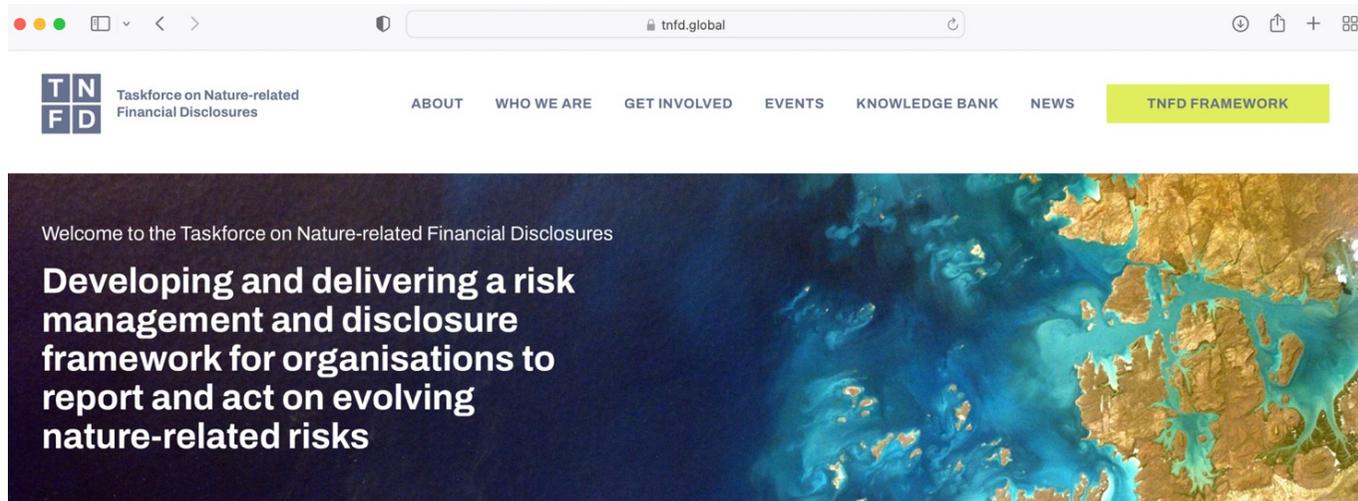


(AXA, Carrefour)



Still a really long way to go

- No firms in zu Ermgassen et al's study explicitly aimed to achieve biodiversity outcomes aligned with a defined overarching global or national policy target



New targets will also help

TARGET 14

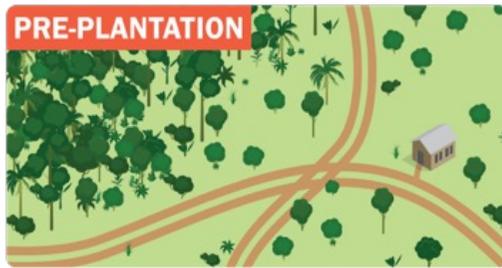
Ensure the full integration of biodiversity and its multiple values into **policies, regulations, planning** and development processes, poverty eradication strategies, strategic environmental assessments, environmental impact assessments and, as appropriate, national accounting, within and across all levels of government and across all sectors, in particular those with significant impacts on biodiversity, progressively aligning all relevant public and private activities, fiscal and financial flows with the goals and targets of this framework.

TARGET 15

Take legal, administrative or policy measures to **encourage and enable business**, and in particular to ensure that large and transnational companies and financial institutions:

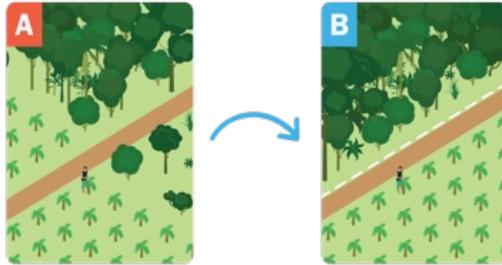
- (a) Regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity, including with requirements for all large as well as transnational companies and financial institutions along their operations, supply and value chains and portfolios;
- (b) Provide information needed to consumers to promote sustainable consumption patterns;
- (c) Report on compliance with access and benefit-sharing regulations and measures, as applicable;

in order to progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of production.

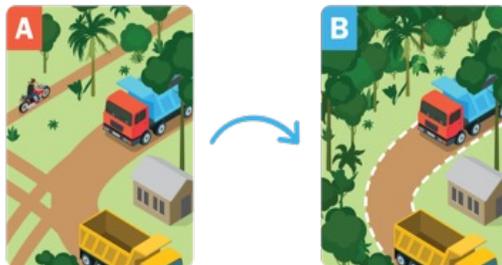


Left: Pre-plantation, or original state of the area prior to palm oil plantation.

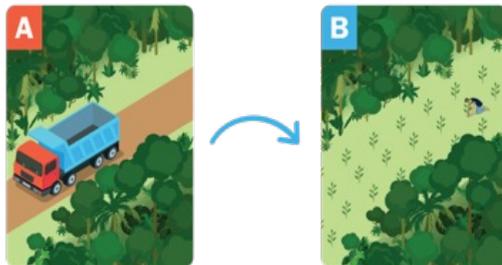
3. A Framework for Action



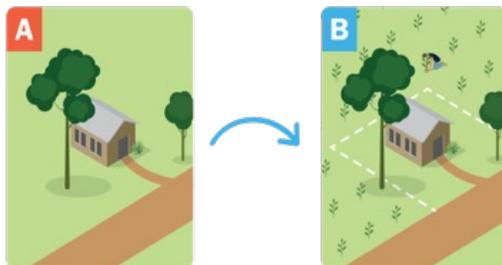
Step 1. Avoid
 Avoid deforesting primary growth rainforest, or forest areas containing high levels of biodiversity or protected species. Example: Protected Area closure or new site selection following stakeholder consultation.



Step 2. Minimize
 Minimize harm to biodiversity by adhering to best practice growing and extraction practices. Example: limiting the footprint of heavy machinery used to extract and transport palm oil to specific areas and ensure any runoff is contained to prevent polluting watercourses.



Step 3. Remediate
 Remediate the biodiversity loss within the oil palm site. Example: replanting cleared areas of forest following road infrastructure development.



Step 4. Offset
 Residual additional damage caused by the oil palm development through improvement of rainforest elsewhere. Example: Local areas with degraded rain forest is replanted near the development site.

Prevention

Compensation

Arlidge et al. *BioScience* (2018),
 Milner-Gulland et al. (2021) *One Earth*

4. Accountability

4.2 Overview of the status of available indicators for the proposed components of targets

The 20 proposed targets have 67 components and 162 elements for monitoring, and for these a total of 161 available indicators have been identified for the current document (Table 2; Annex).

Table 2. Summary of the data in the Annex for the proposed targets of the monitoring framework on the number of components, monitoring elements and available indicators. (If an indicator has been listed for more than one monitoring element of a target it has only been counted once for this analysis).

Target	No. components	No. elements	No. indicators
1	5	25	45
2	7	9	26
3	2	3	6
4	3	10	6
5	5	12	9
6	4	12	2
7	2	7	1
8	2	7	9
9	3	8	10
10	3	3	0
11	2	11	7
12	3	4	1
13	3	9	0
14	3	6	7
15	3	6	12
16	3	3	0
17	2	4	8
18	5	11	5
19	4	6	7
20	3	6	0
Total	67	162	161

(spatial planning)

(sustainable production)

5. Adaptability

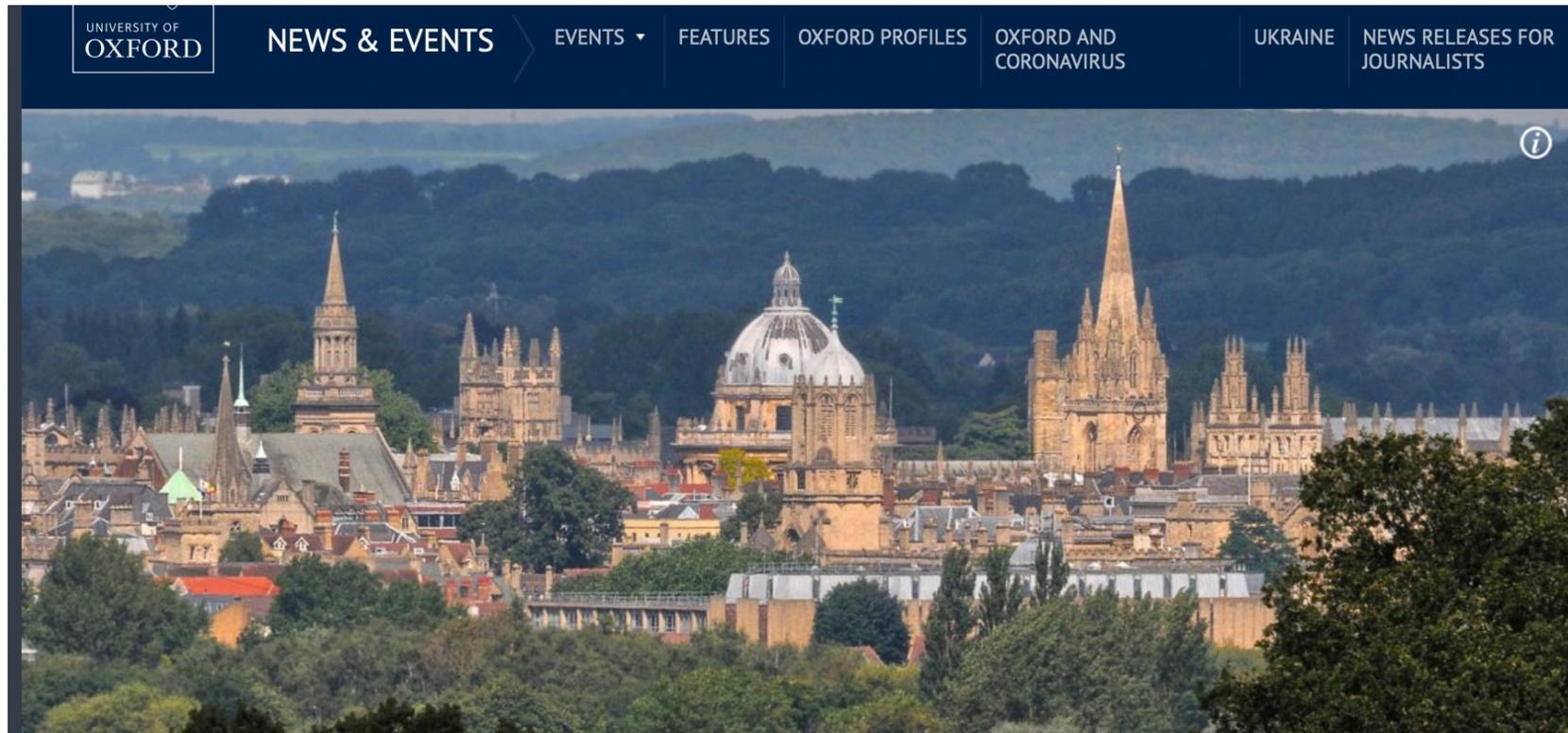
- We need to get started now rather than waiting for the perfect answer
- We need to be prepared to revise our analyses, because the science is evolving, and we need to raise ambition over time
- But we need transparency and humility to be able to do this

6. Scalability

- Scaling an approach within a geography or focal issue
- Scaling by replication: learning across geographies or focal issues
- Scaling by building capability to achieve change
- Scaling by prompting systemic change

Scalable Nature Positive approaches have more, and more lasting, impact

Example 1: University of Oxford



UNIVERSITY OF OXFORD

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Home > News > Oxford's ambitious Environmental Sustainability Strategy is approved

Oxford's ambitious Environmental Sustainability Strategy is approved

PUBLISHED
23 MAR 2021

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UNIVERSITY CLIMATE CHANGE ENVIRONMENT POLICY TRUE PLANET

Oxford University approves its Environmental Sustainability Strategy aiming for net zero carbon and biodiversity net gain by 2035.

Vision: From the Vice-Chancellor, October 2019

Commitment: An Environmental Sustainability Strategy adopted in March 2021, with funding

*Biodiversity Net Gain by 2035 across all its activities
against a 2019 baseline*

Framework: Mitigation and Conservation Hierarchy

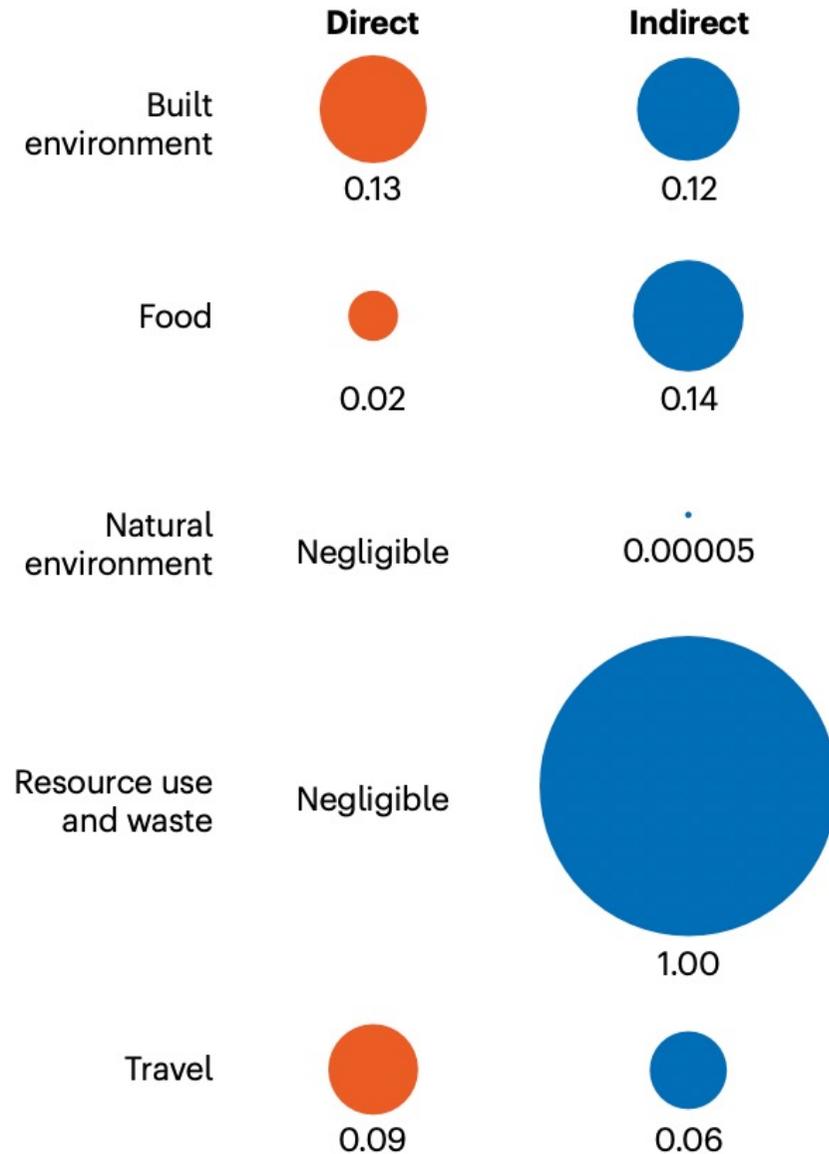
Accountability: Baseline impact evaluation, annual impact publicly reported in Annual Reports

Adaptive management: Already in 3rd year of doing the analysis, data reporting is already better

Coherence: Academics and administrators working together. We'll see if individual Departments step up...

UPSTREAM EFFECTS

The University of Oxford's biggest impact on biodiversity* is from the indirect effects of resource use and waste in external supply chains it does not control.



*As measured by local relative species loss for each impact category (see M. A. J. Huijbregts et al. *Int. J. Life Cycle Assess.* **22**, 138–147 (2017) for method).



Bull et al. 2022 *Nature*

<https://www.nature.com/articles/d41586-022-01034-1>

OXFORD'S OPTIONS

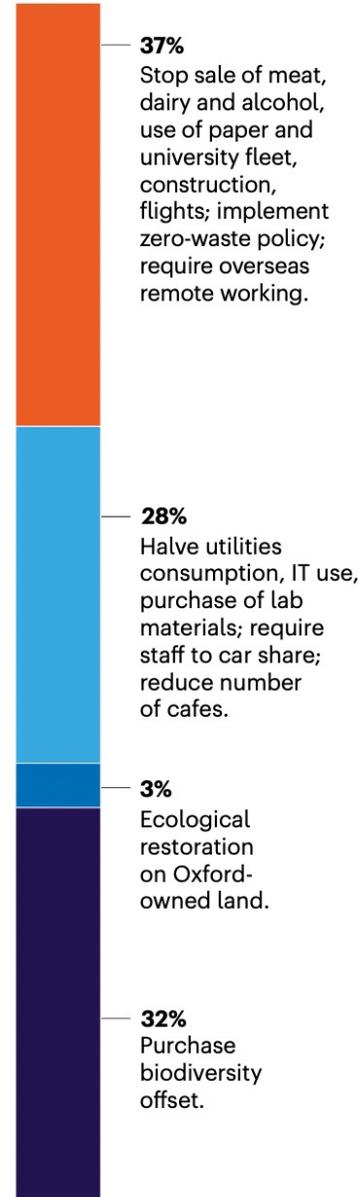
To achieve no net loss of biodiversity, the University of Oxford could focus more heavily on preventing harms to biodiversity (option 1). Or it could try to compensate for the impacts that its activities and operations have on the planet (option 2).

■ Avoid
 ■ Minimize
 ■ Remediate
 ■ Offset

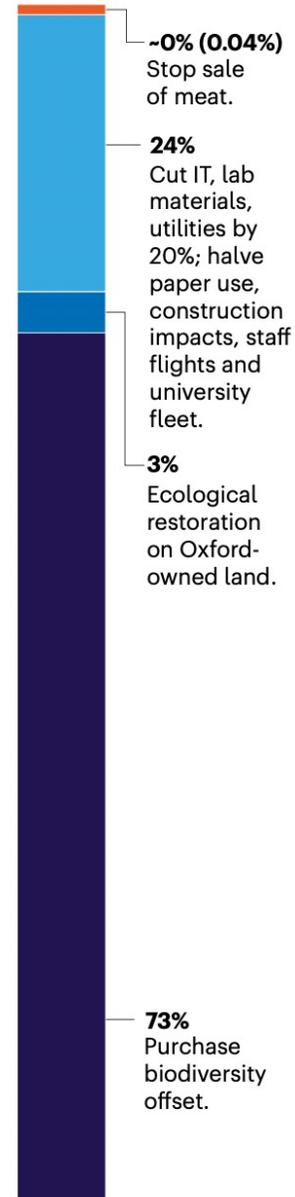
Current strategy



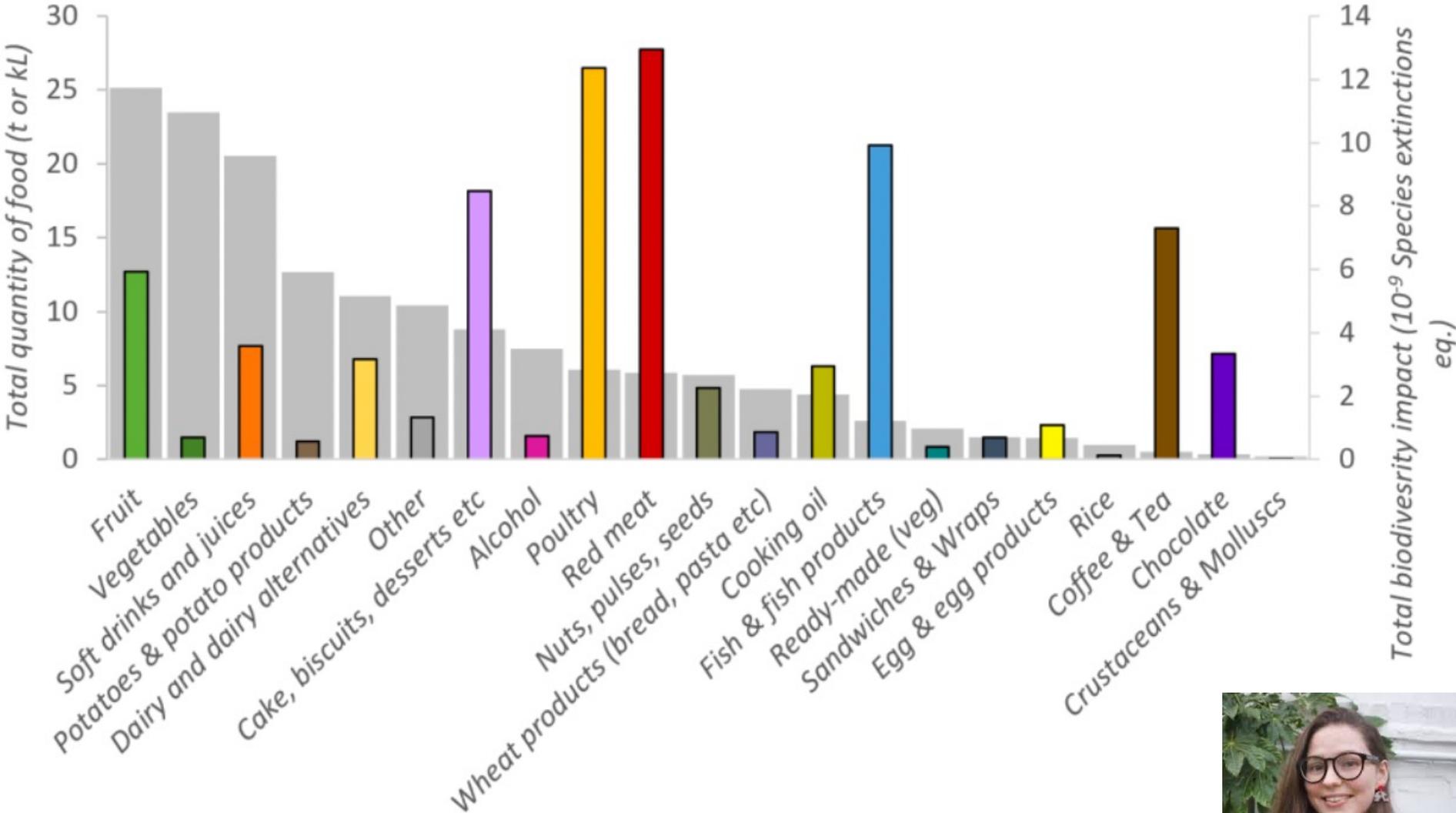
Option 1: Heavy avoidance



Option 2: Heavy offset

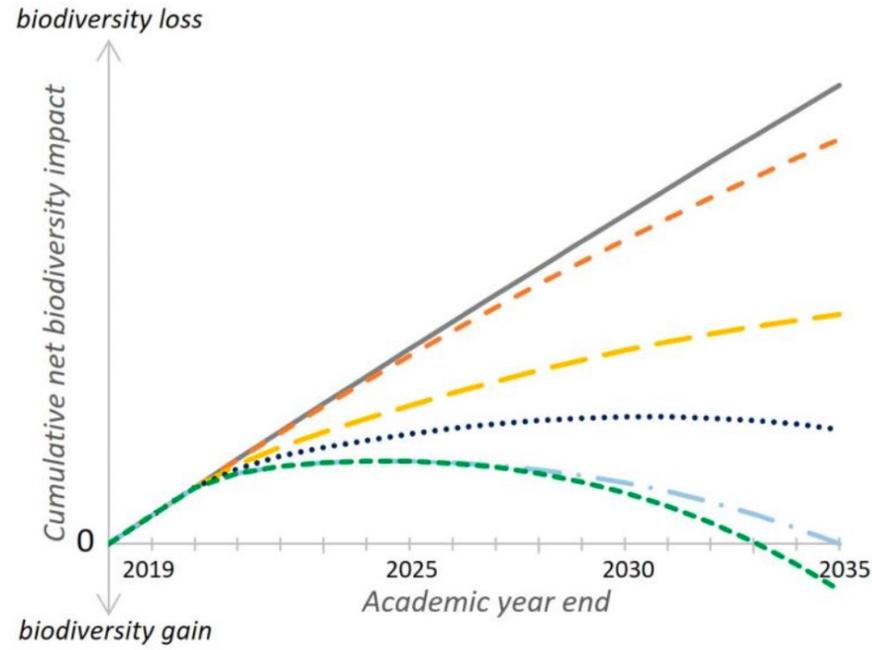


Example 2: Canteen food

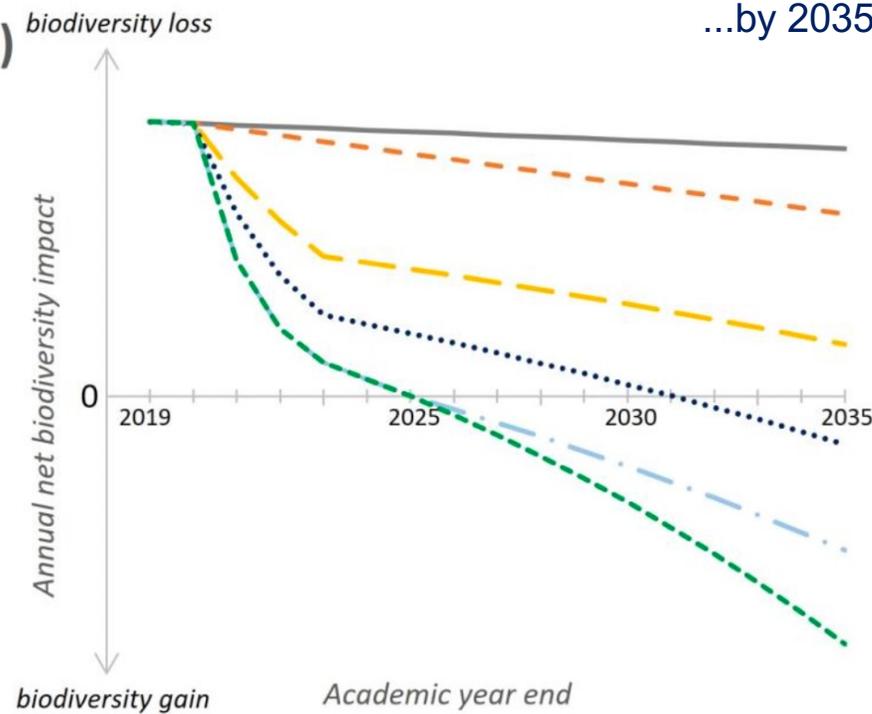


(A)

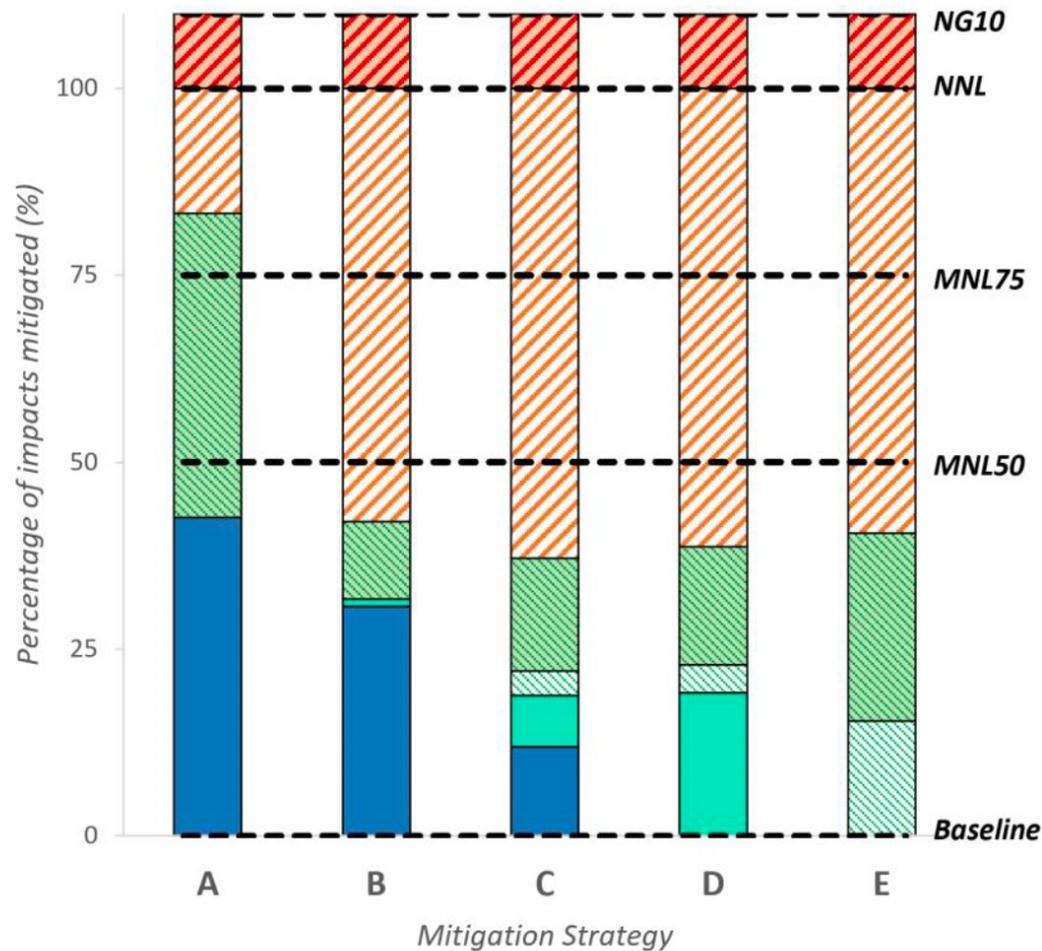
— BAU - - - EL2035 - - - MNL50
..... MNL75 - · - · NNL - - - NG10



(B)



...by 2035 against a 2019 baseline



Offsets + proactive actions under the Conservation Hierarchy

Restoring and offsetting residual impacts



Reduce impacts through best practice sustainable sourcing



Reduce consumption of impactful food through behavioural interventions

Reduce the amount of impactful foods offered



Refrain completely from serving the most impactful foods

Top-down approach:
 Low biodiversity risk
 High social risk



Bottom-up approach:
 High biodiversity risk
 Low social risk

Strategies:

- (A) 'Preventable impacts'
- (B) 'Avoidance-focused'
- (C) 'Mixed approach'
- (D) 'Reduce-focused'
- (E) 'Behaviour-focused'

Example 3: Nature Positive Universities



[Home](#) [What is Nature Positive](#) [Make the Pledge](#) [Get Involved](#) [Case studies](#) [Resources](#)



UNIVERSITIES

804 people from 577 universities have joined the Nature Positive Universities network



COUNTRIES

Universities from 115 countries are represented by our network



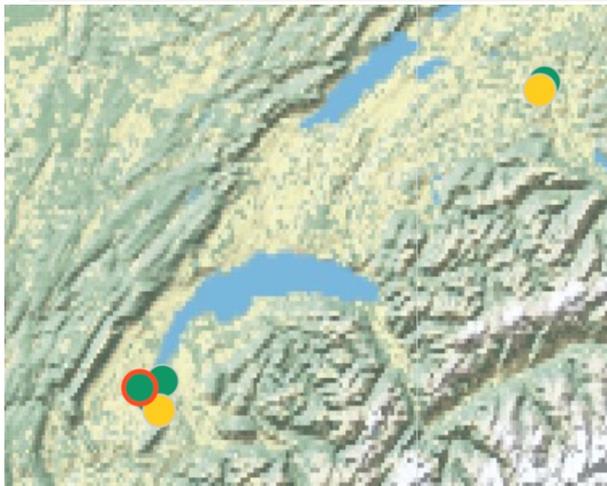
PLEDGES

High level pledges received from senior management of 124 universities across 49 countries



STUDENT AMBASSADORS

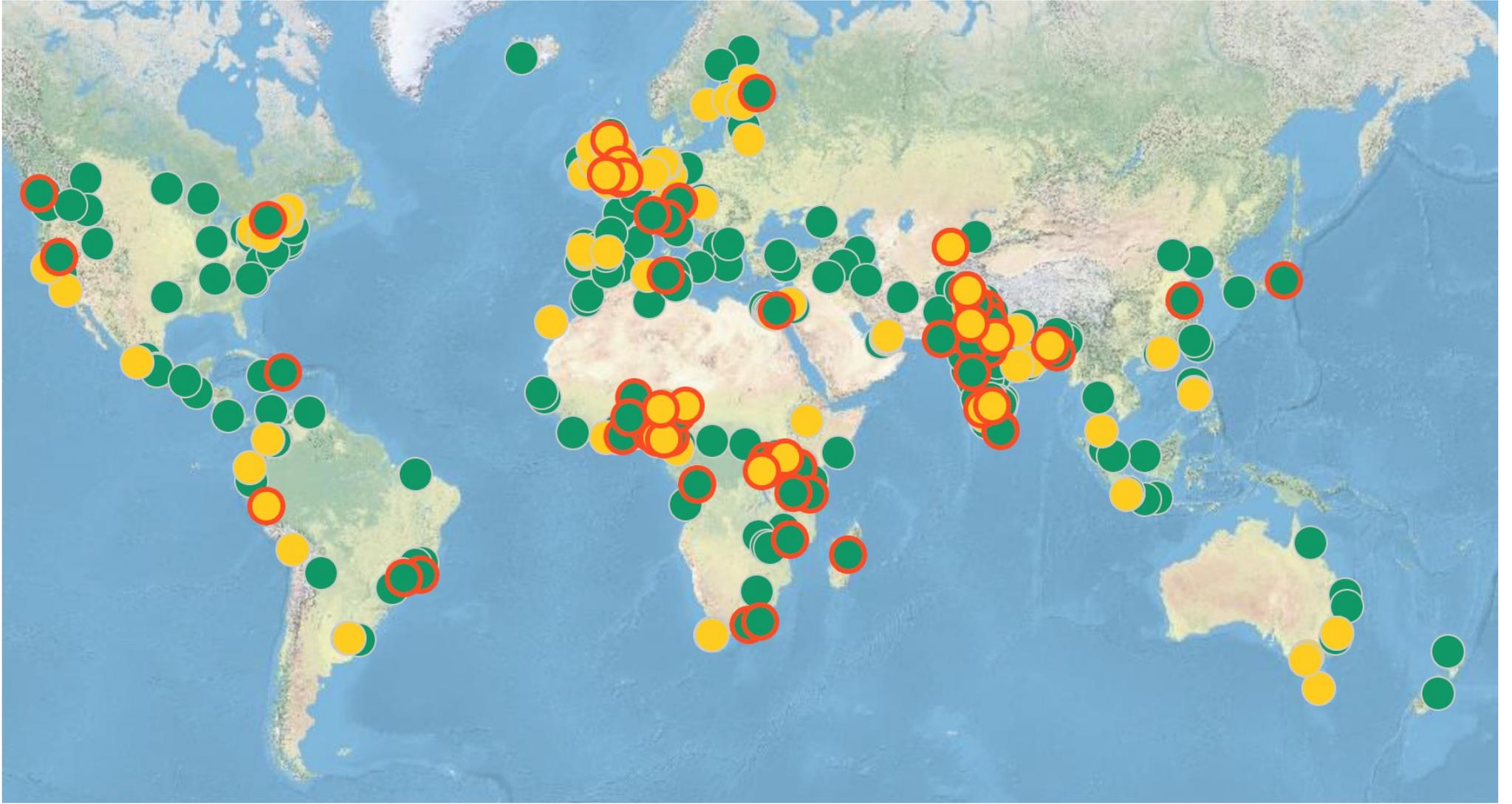
194 student ambassadors from 44 countries have signed up to take action on their campuses



Pledgers:
University of Geneva,
Berne University of Applied Sciences



Student Ambassador:
Noa Olivet,
Université de Neuchâtel



NATURE POSITIVE PLEDGE

Pledge, by someone with authority, on
behalf of your institution to:

1 ASSESS YOUR
BASELINE

2 SET SMART
TARGETS

3 ACT AND
INFLUENCE

4 REPORT
ANNUALLY

Join by October 2022
to become one of the
founding universities!

	REFRAIN	Refrain from actions which would harm species or ecosystems.
	REDUCE	Reduce harm by taking steps to mitigate negative impacts.
	RESTORE	Restore species and ecosystems that have been harmed.
	RENEW	Renew, strengthen and invigorate biodiversity via proactive effort.

THINK ABOUT:

- How decisions about biodiversity and sustainability are made at your institution
- How to achieve high level support and buy-in from the university leadership and community



Recap: How do we get to NP?

Target: Need a consistent, robust, accepted definition

Commitment: Seriously lacking still

Frameworks: Available

Accountability: Metric integration needed

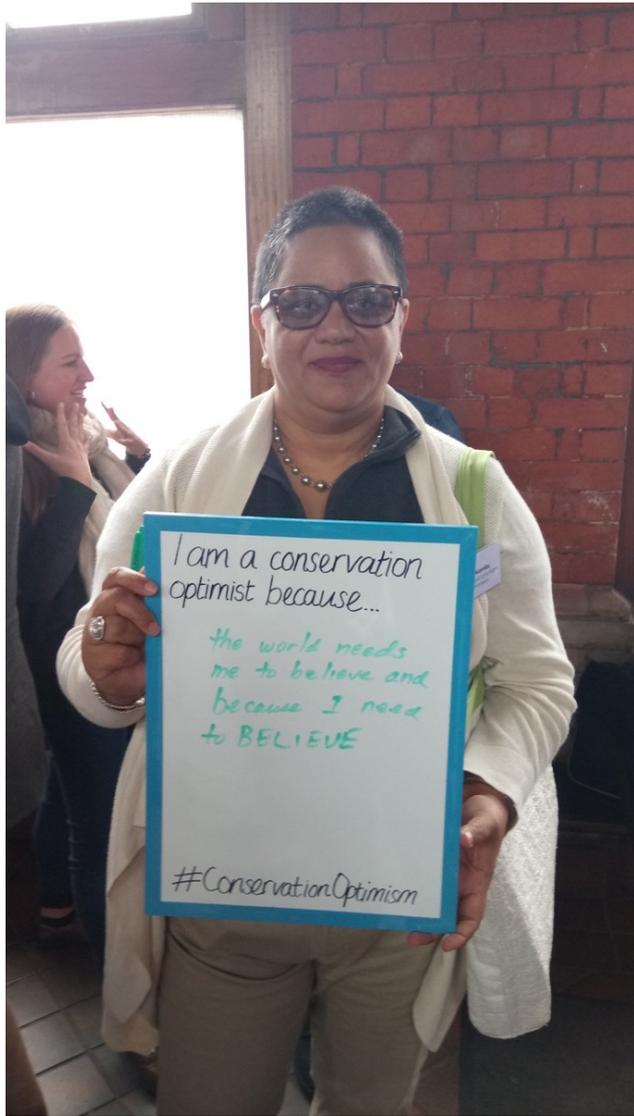
Adaptive management: Let's see...

Coherence: Not great

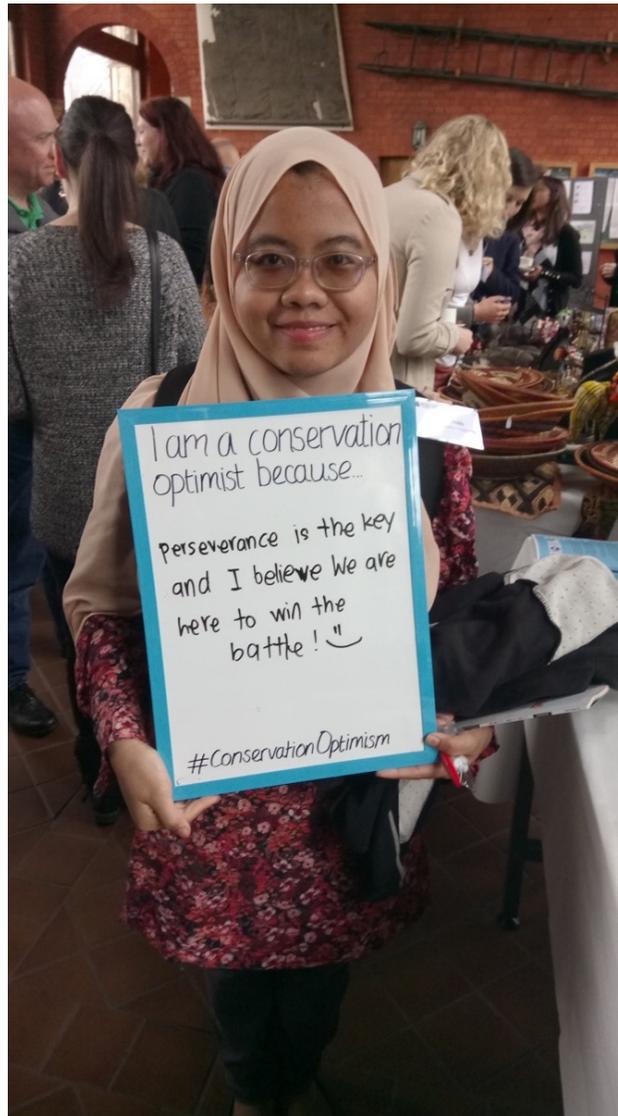
Scalability: Unknown

Final thoughts

- We need to practice what we preach in our own institutions and our own lives, but...
- ...we need systemic change, individual organisations can't make the necessary transition alone. So...
- ...can we coalesce behind the CBD's 2030 mission and support each other's contributions, through a pluralistic approach?
- So many opportunities for collaboration, synergy, catalysis exist
- Keep up the optimism!



The world needs me to believe and because I need to believe



Perseverance is the key and I believe we are here to win the battle!



Trees make me smile!



CONSERVATION
OPTIMISM

Thank you for listening!
@EJMilnerGulland
www.iccs.org.uk