

Biodiversity indicators

- supporting many processes

Dr. Chris McOwen, United Nations Environment Programme
World Conservation Monitoring Centre (UNEP-WCMC)



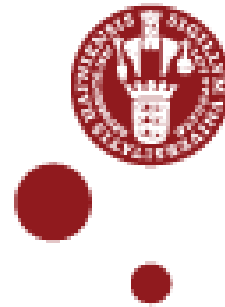
Biodiversity Indicators - “We measure what we value and value what we measure”

- Understanding the state of the environment
- Tracking progress towards goals and targets
- Communicating findings clearly and effectively
- Informing policy and planning

A partnership to monitor biodiversity

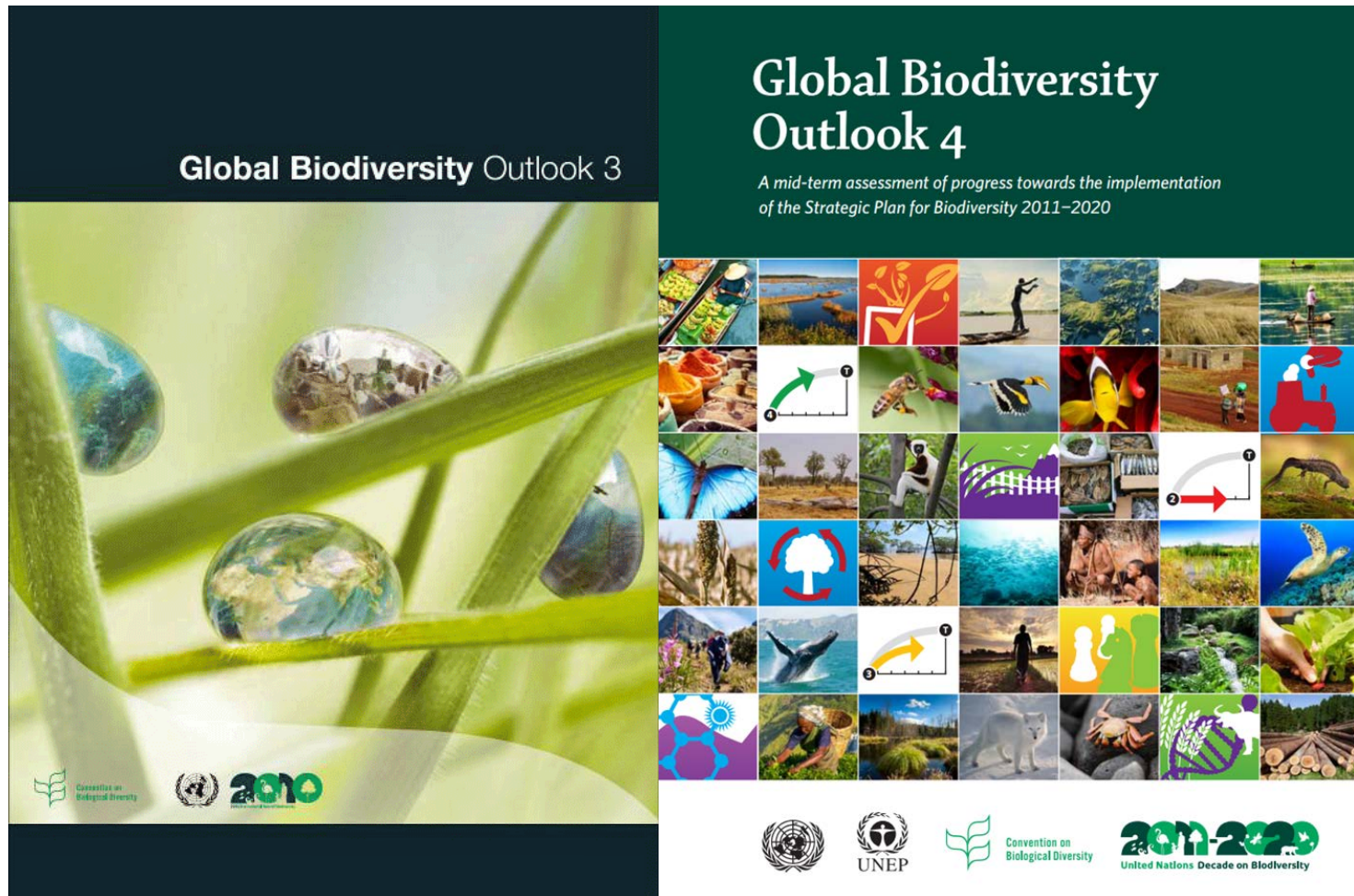


- The Biodiversity Indicators Partnership brings together over 40 organisations working internationally to strengthen the evidence base in support of:
 - the CBD and other Multilateral Environmental Agreements,
 - the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES),
 - national and regional governments,
 - and a range of other sectors (UNSD).

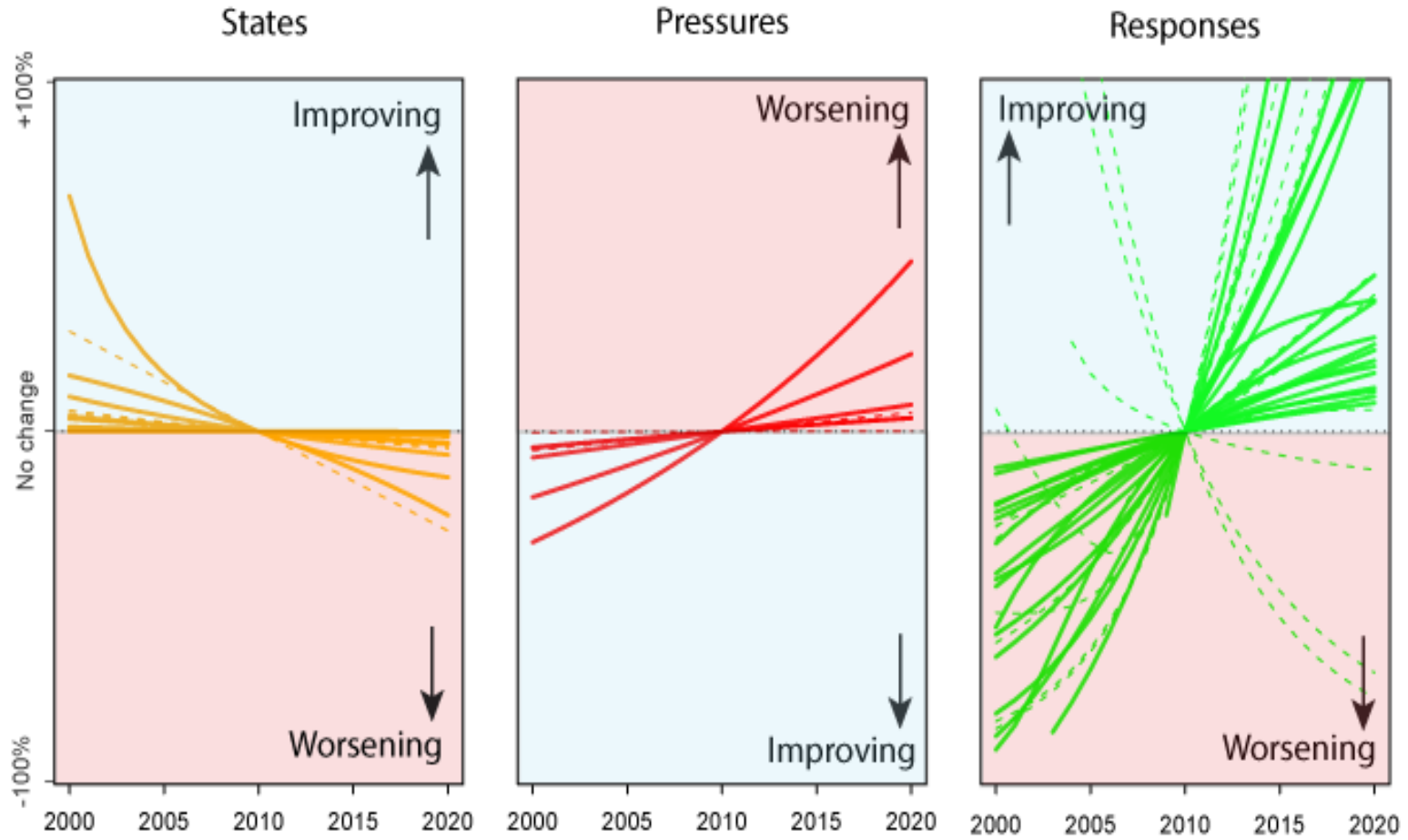


Overview of trends across 20 Aichi targets

These collaborative efforts have been central to the production of the third and fourth editions of the CBD's flagship report, the Global Biodiversity Outlook (GBO-3 and GBO-4).

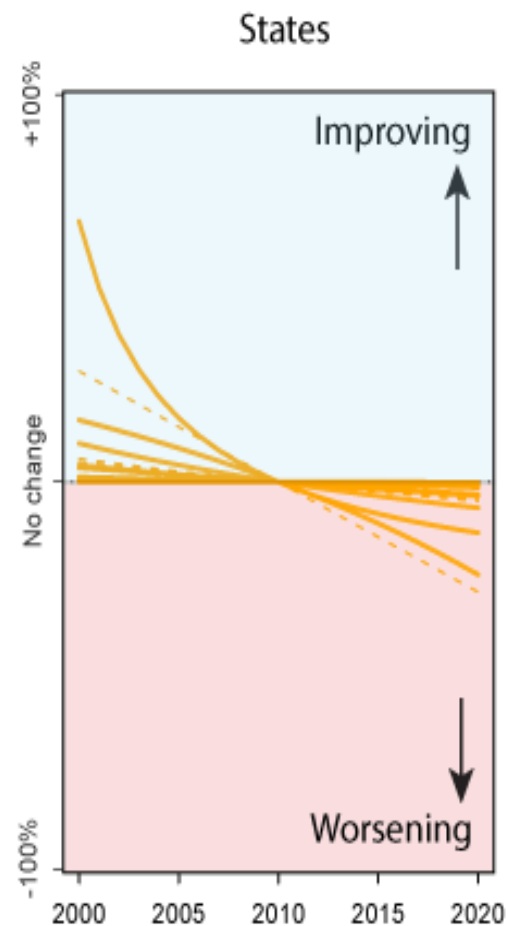


Overview of trends across 20 Aichi targets



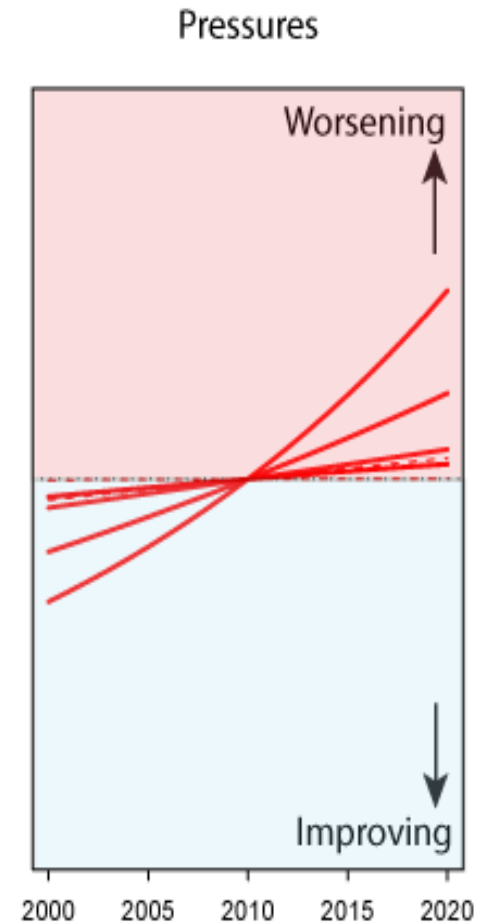
Overview of trends across 20 Aichi targets: GBO-4

- Amongst state indicators, **12 out of 16** (75%) showed significant worsening trends.
- This includes
 - **3 out of 4 indicators of habitat loss** (aggregate natural habitat extent, wetland extent and sea ice extent),
 - **2 out of 3 indicators of population abundance** (Farmland Bird Index, Living Planet Index),
 - **all 6 indicators of species extinction risk.**



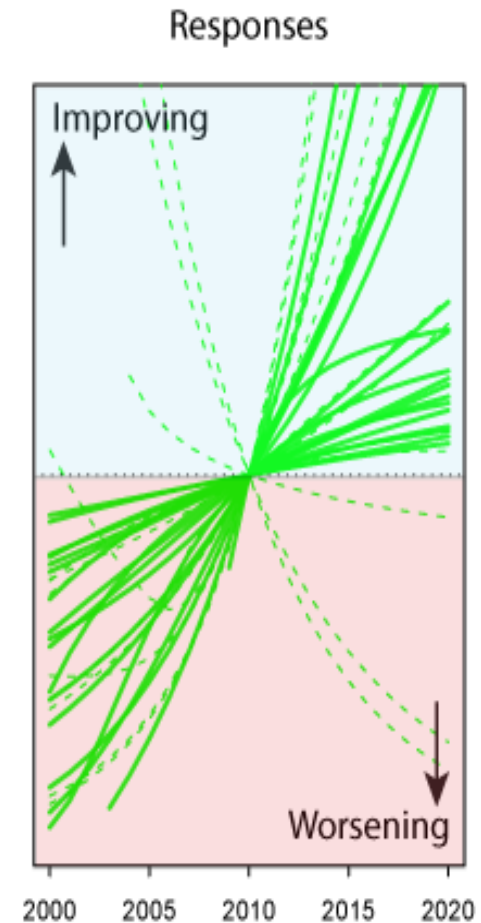
Overview of trends across 20 Aichi targets

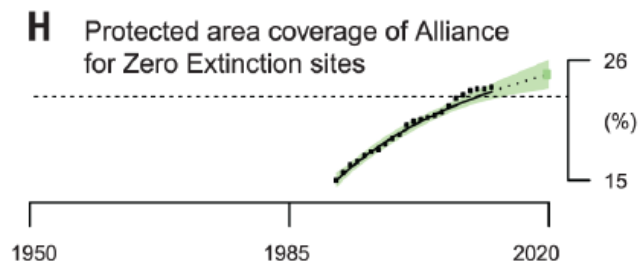
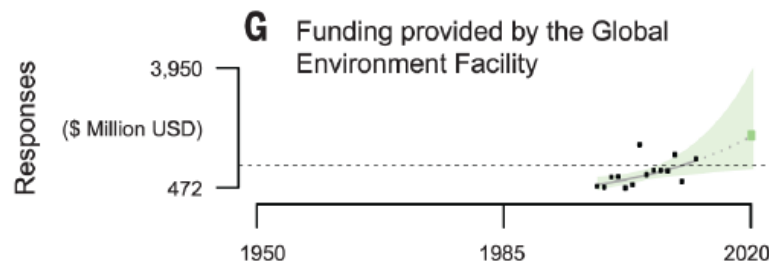
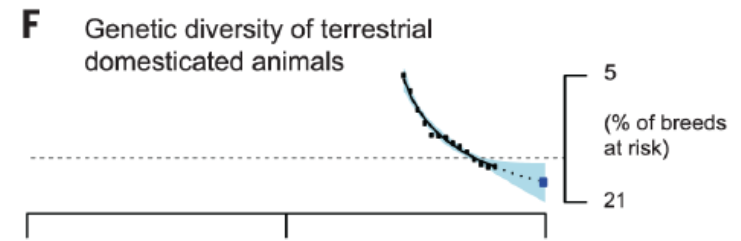
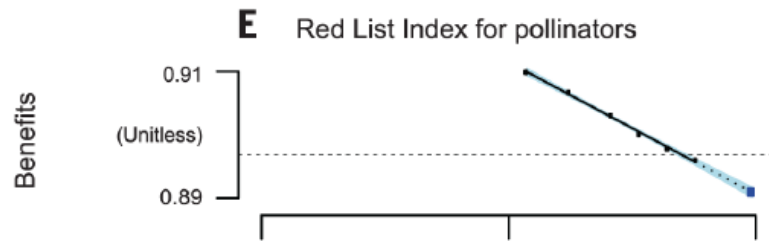
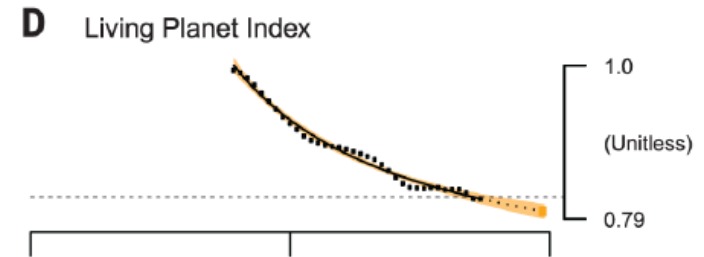
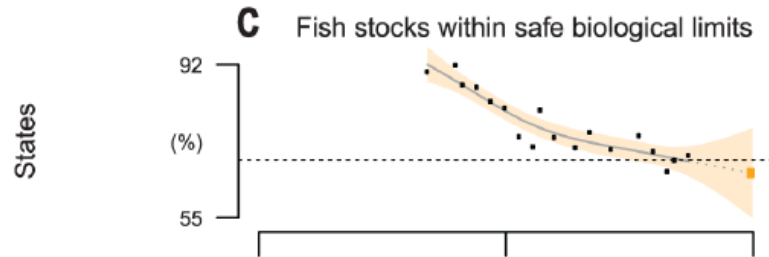
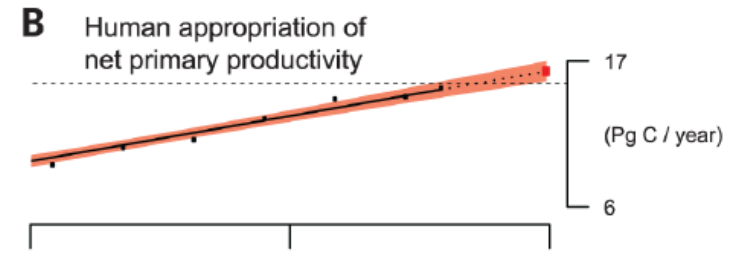
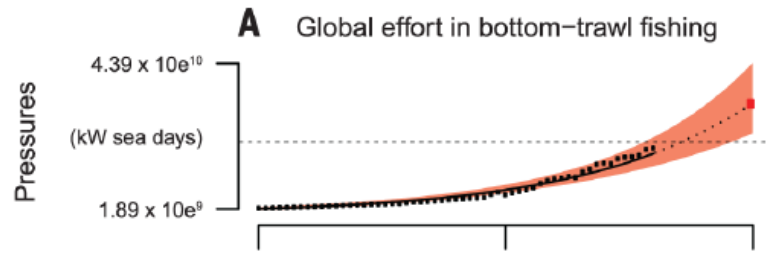
- For the pressures, our results indicate that **no significant improvement** or a **worsening situation** by 2020, relative to 2010.
- **5 out of 7** pressure indicators showed significant increases (a worsening situation), including indicators of consumption (ecological and water footprints, global fishing trawl effort), pollution (nitrogen surplus) and invasive species introductions.



Overview of trends across 20 Aichi targets

- Societal responses to the biodiversity crisis generally showed improvements in their projections, with **19 of 32** indicators projected to show a significant increase by 2020.
- Those increasing significantly included all **9** indicators of **protected area coverage, representativeness and management** and all **4** indicators of **sustainable management**.



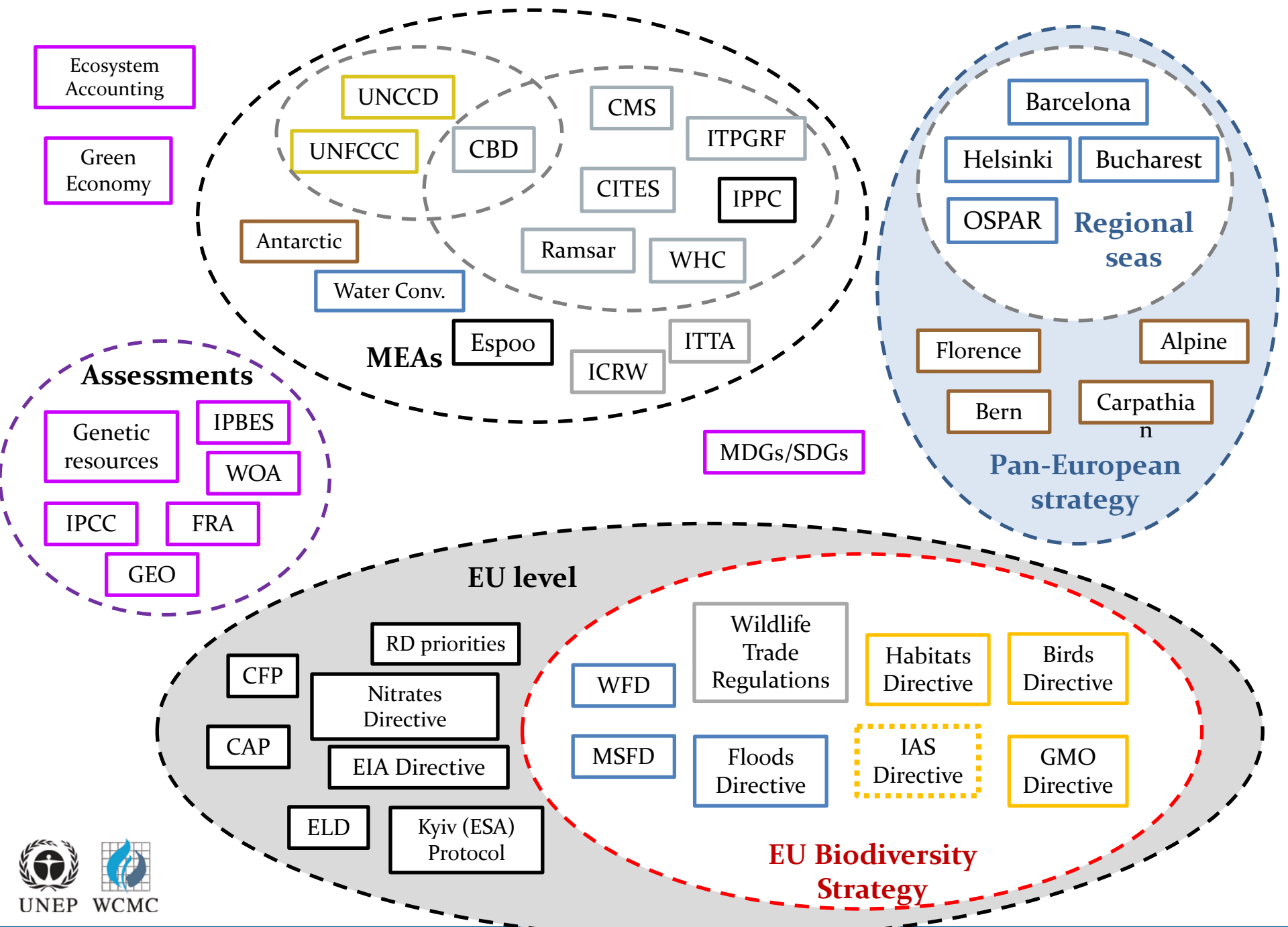


Caveats from GBO-4

- Statistical extrapolations make the **assumption of the underlying processes remaining constant** into the future
- A global analysis **may not reflect local and regional improvements**
- Despite these caveats, our ability to quantify progress towards Targets **continues to improve.**

Current indicators landscape

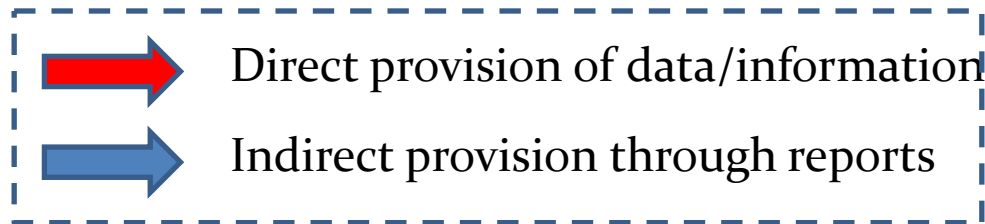
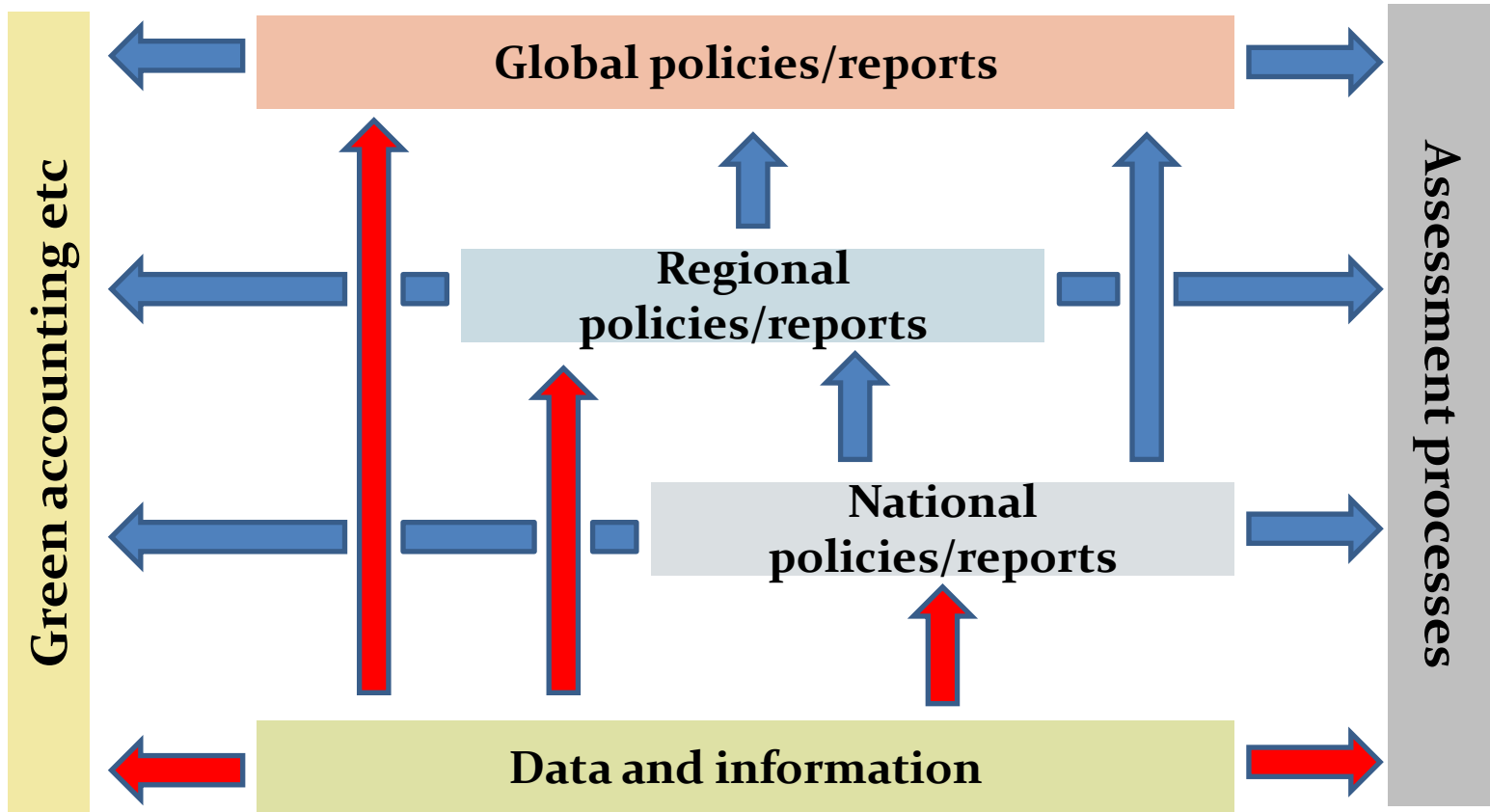
- There are numerous processes currently ongoing at the **global, regional and national** levels that aim to promote and support the development and use of **indicators** for biodiversity and ecosystem services.
- Also numerous MEAs, policies and processes with a requirement for biodiversity indicators



IPBES

The Platform will “*collaborate with existing initiatives on biodiversity and ecosystem services, including multilateral environmental agreements, United Nations bodies and networks of scientists and knowledge holders, to **fill gaps and build on their work while avoiding duplication***”
(Appendix I to the resolution establishing IPBES)

- **Don't reinvent the wheel**
- **Indicators can provide coherence**
 - **between IPBES regional assessments**
 - **linking different MEAs/processes (CBD, GSPC, ecosystem accounting, etc.)**

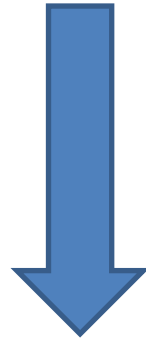


	Q2 2015	Q3 2015	Q4 2015	Q1 2016
CBD AHTEG				
IPBES assessments				
SDGs indicators				
Unlocking global datasets				
EC Mind the Gap				
Pan European indicators				
EU indicators				
UK indicator review				
GEF Connect				

Indicator Suitability

- **Challenge of locating data** that enables quantification of progress
 - Some indicators less well aligned with Targets than others
 - Indicators have differing spatial, temporal, and/or geographical coverage
 - Unable to locate and access indicators for Targets 15 and 18
 - Targets 16 and 17 relate to aspects of the CBD process with too narrow a time window for this type of analysis

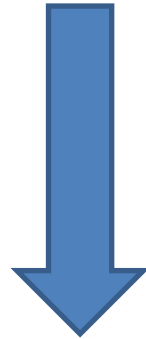
Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.



Indicator: *Number of GBIF records over time*

Difficulty: *Alignment*

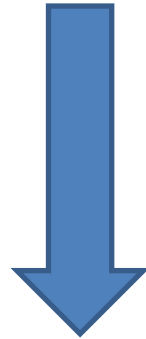
Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained



Indicator: *Living Planet Index*

Difficulty: *Taxonomic - Only vertebrates*

Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.



Indicator: *Wild Bird Index*

Difficulty: *Geographic - Only North America and Europe*

New indicators needed.

Target 2: “...biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes...”

Target 3: “...incentives, including **subsidies**, harmful to biodiversity are **eliminated, phased out or reformed** in order to minimize or avoid **negative impacts**, and **positive incentives** for the conservation and sustainable use of biodiversity are developed and applied...”

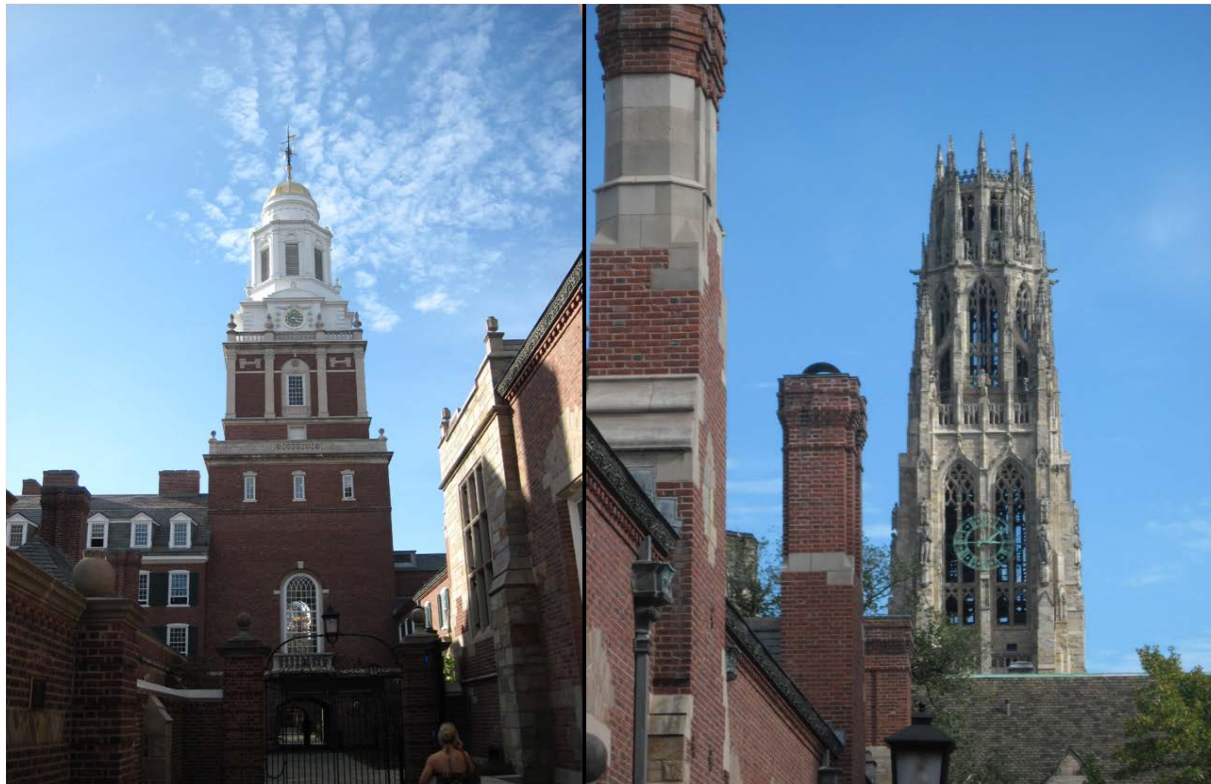
Target 15: “...ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, **including restoration of at least 15 per cent of degraded ecosystems...**”

Basic research still required.

- **Target 14 - Ecosystem services:** *Ecosystems that provide essential services, including services related to water, and contributing to health, livelihoods and wellbeing, are restored and safeguarded ...*

What is Yale like as a campus?

- **Alignment - Ensure the indicator relates to a specific target.**



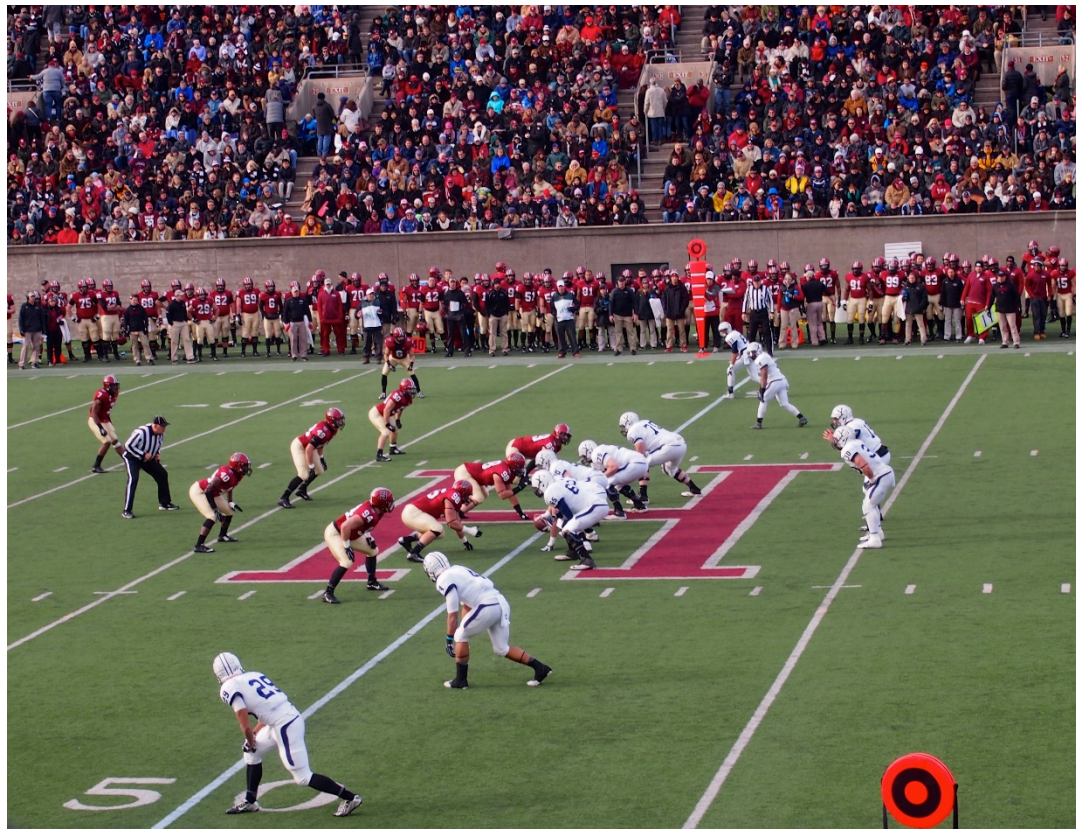
What is Yale like as a campus?

Scale - Ensure the indicator covers a large (global) scale



What is Yale like as a campus?

- **Representative (taxonomic / ecological)- Ensure the indicator is not biased towards a specific component**



What is Yale like as a campus?

- **Data - Ensure information is available through time**



Acknowledgements

- **Eugenie Regan and the BIP team**
- **Authors and contributors to GBO₄**
- **The opportunity to present our work today**