



*Mundus
maris*



Bridging the Gap: Connecting Biodiversity Research with Stakeholder Action for more Sustainable Solutions

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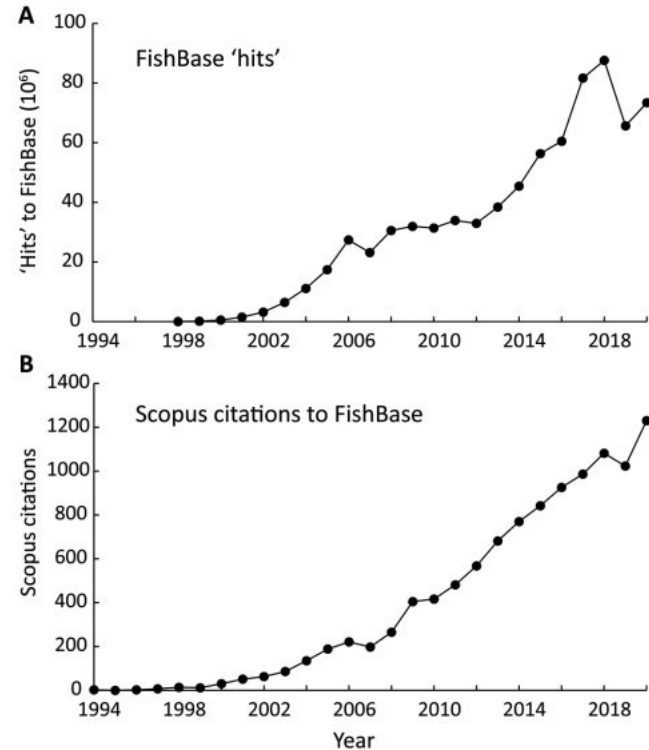
FishBase is in the top 1% of all cited items

FishBase has received more than 10,000 citations in total from 1994 to 2020 in Scopus, 15,000 in Google Scholar.

Use of FishBase is highest in Europe, the USA, Brazil, and Australia.

Most citations of FishBase use it as a source of data for information on diet composition, fish sizes and length-weight relationships, taxonomy, or fish habitat.

Humphries, A. et al. (2023). Measuring the scientific impact of FishBase after three decades. *Cybium* 2023, 47(3):213-224. <https://doi.org/10.26028/cybium/2023-002>



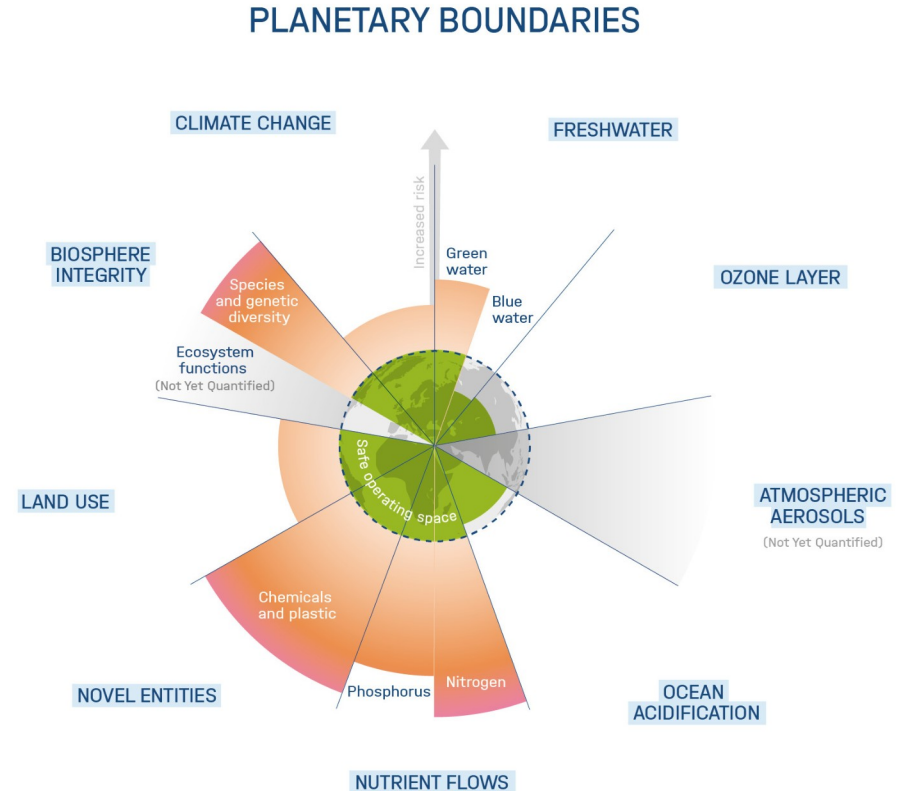


Planetary crisis

The combination of widespread overfishing, climate change, pollution and a range of other effects of human technical innovations is accentuating the planetary crisis which affects countries and societies unevenly.

Power and resources have gotten more concentrated at the expense of those who contributed least to the current state of affairs. International cooperation and accountability are central to solutions.

Graph courtesy: [helmholtz-klimate.de](https://www.helmholtz-klimate.de)



Adapted figure originally produced by Azote for Stockholm Resilience Centre, based on analysis in Wang-Erlandsson et al., 2022, Persson et al 2022 and Steffen et al 2015.

Safe operating space

Planetary boundary exceeded



Need to close the implementation gap

Governments have agreed on the Global Biodiversity Framework in Dec. 2022. Among the many measures to counter mass extinctions is to protect 30% of the land and the sea for recovery.

The BBNJ Treaty protecting biodiversity on the High Seas also envisages declaring 30% off limits.

Yet, practical measures are hard to agree on and enforce as shown by fights over the 'Nature Restoration Law' in Europe.





Reconnecting people and planet

Some technologies scale well, but unintended negative effects are often insufficiently accounted for. Global claims are often based on little or no analysis of alternative options.

Approaches to managing social affairs often do not scale as cues even from ubiquitous brands give rise to different responses in different localities and countries.



Jasanoff, S. (2004). Ordering knowledge, ordering society. Chapter 2 pp. 13-45
in Jasanoff, S. (ed.), *States of Knowledge: The Co-Production of Science and the Social Order*. Routledge





Small step towards +public engagement

Role Play for young adults to make a marine protected area work in the face of at least partially contrasting interests of different stakeholders or rights holders. FishBase app. and other tools can be used. Currently being tested. Learning effects expected to be biggest during debriefing afterwards - by connecting information with emotions and critical reflection.

Objectives:

- Trigger interest in biodiversity protection
- Practice respectful deliberation





SeaLifeBase for reducing sp. introductions?

Maritime traffic is a major route for species introductions. Container ships move fast, leisure boats usually more slowly.

The International Maritime Organization (IMO) regulating merchant shipping was below radar in past global environment conferences, but was present in Paris 2015.

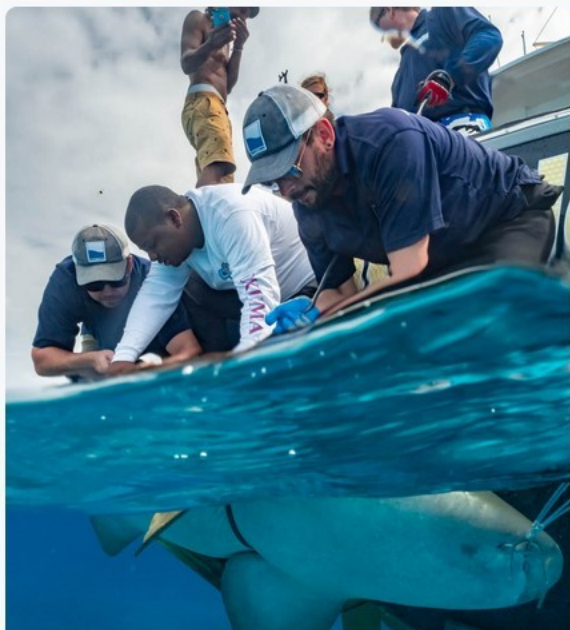
The Sub-Committee on Pollution Prevention and Response works on guidance for in-water cleaning for minimizing the transfer of invasive aquatic species which involves the removal of biofouling from a ship's hull, propeller or other underwater structures and niche areas, with additional benefits also for ship energy efficiency.





Seakeepers International possible partner

Contact with Seakeepers one avenue for data on hull-based introductions from leisure boats through data collection protocol and collaboration with U. Pavia specialist to enrich SLB.



Scientist-led Expeditions



**Citizen Science and
Instrument Deployment**



**Educational Outreach
Events**



Can we create other interfaces?

2022: COP27 and CMA4 agreed to establish a **Loss and Damage Fund** (LDF). The Transitional Committee (TC) elaborated recommendations for establishing institutional arrangements.

The World Bank is to “operationalize the Fund as a WB hosted financial intermediary fund (FIF) for four years”. It will host the Fund secretariat, and provide trustee services for the Fund.

After COP28 and CMA5 USD 661 million were pledged

July 2024: Philippines to host the LDF Board, majority of DCs among 26 members



Picture from Rappler.com



Countries need data to access LDF

LDF Board will need to operationalise the Governing Instrument (GI) to support particularly vulnerable DCs coping with economic and non-economic loss and damage associated with the adverse effects of climate change, e.g. for developing national response plans; addressing **insufficient climate information and data**.



Picture courtesy Boell Foundation, US

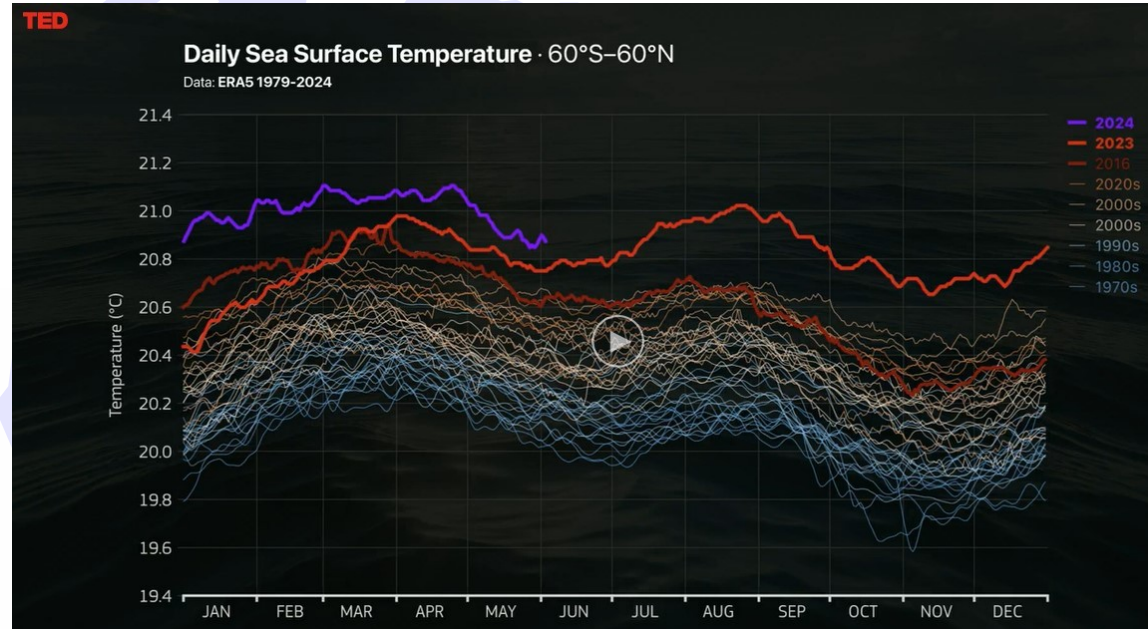
Decision making should normally be by consensus. Active observers representing core stakeholder groups including, youth, women, Indigenous Peoples and environmental NGOs should be able to fully engage in inter-session decision making.
Priority: get ready fast for disbursement of funds.



What constitutes loss and damage?

Loss and damage can result from **extreme weather events** like cyclones, droughts and heatwaves, as well as from **slow-onset changes** such as sea level rise, desertification, glacial retreat, land degradation, ocean acidification and salinization.

Damages from the effects of climate change can be further divided into two categories — **economic losses** and **non-economic losses** — though there is overlap between the two, incl. when **mitigation** and **adaptation** were insufficient.



From Johan Rockström's TED talk on tipping points and how to avoid further damage (red: 2023 data, dark blue: 2024 data)

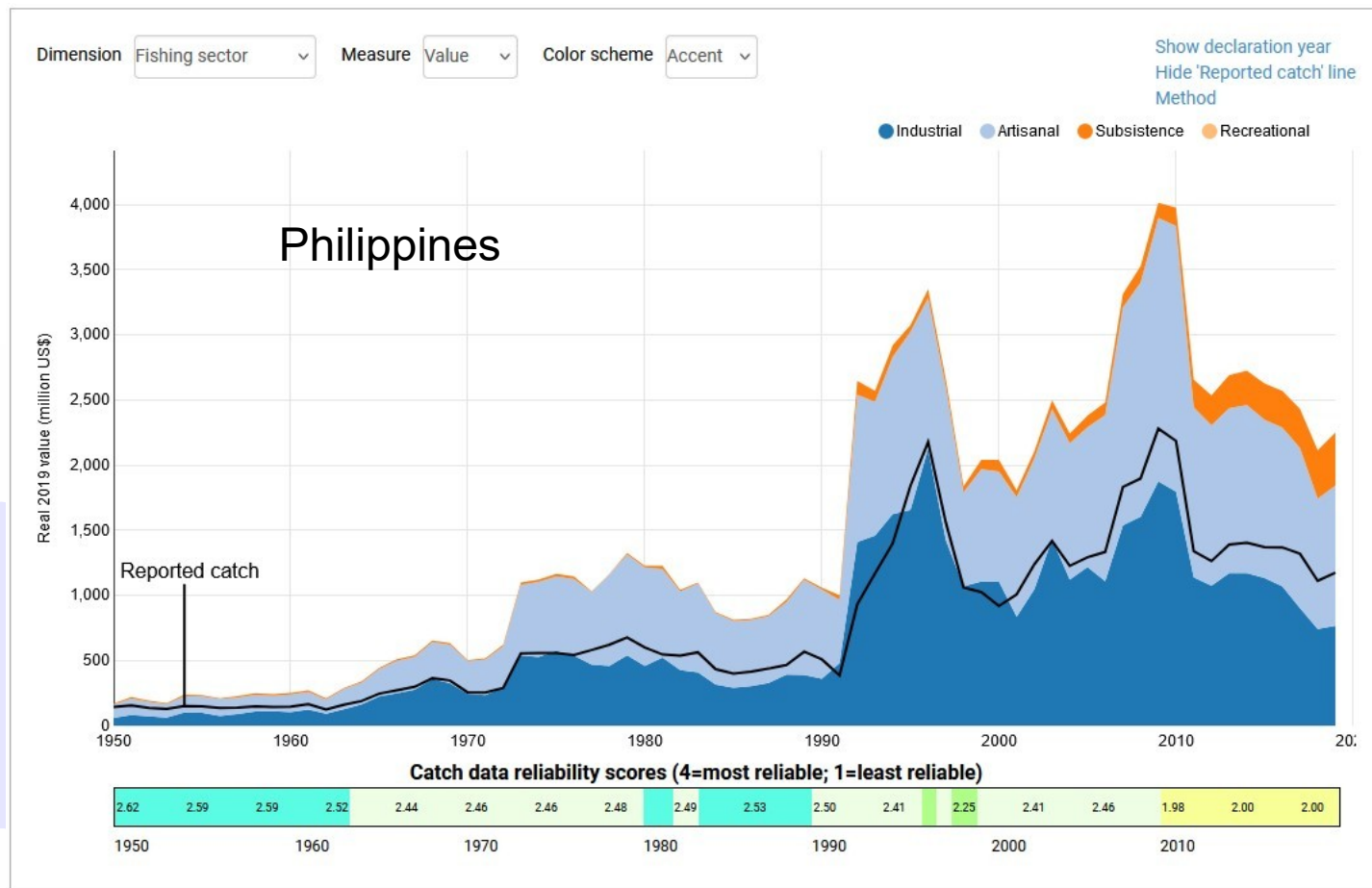


Data and methods we could contribute?

- FishBase / SLB country species lists
- Aquamaps
- Sea Around Us catch reconstructions
- SAU with Fisheries Economics Research Unit

Can we propose an approach to tease apart the effects of overfishing and climate impact?

Separating sectors might help SSF communities to access small LDF grants





Thanks for your attention

More Info:

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