Science-based targets for biodiversity and nature

Nicholas Macfarlane, PhD. IUCN

nicholas.macfarlane@iucn.org

Science-based Targets-opportunity

Science-based targets can allow **specific actors** (state AND non-state) the opportunity and responsibility to identify how the **specific actions** they undertake in **specific places** stand to **contribute towards a planetary biodiversity target** of "halt loss by 2030, restoration by 2050"

Science Based Targets Network
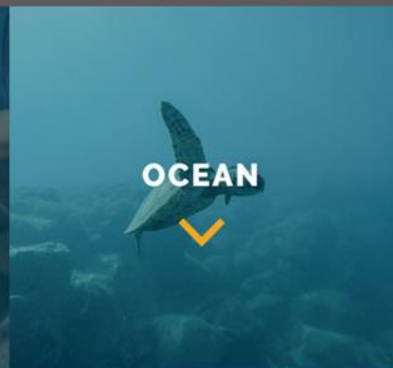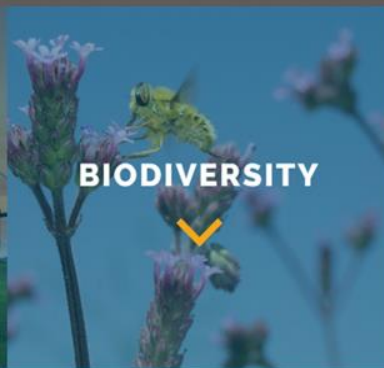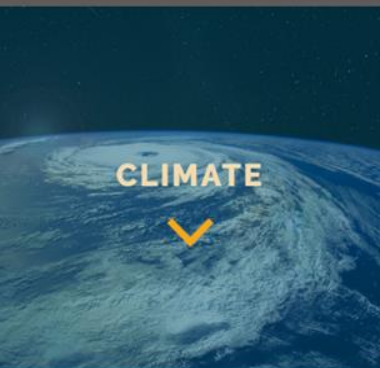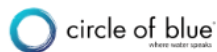
What are Science-Based Targets?

- **Over 670 companies are already future-proofing growth by setting science-based climate targets specifying how much and how quickly they need to reduce their greenhouse gas emissions through the Science Based Targets initiative.**

- Building on this a group of organizations have come together to form the Science Based Targets Network.

- The network partners are developing methods and resources to enable companies and cities to set science-based targets for the interrelated "systems" of freshwater, biodiversity, land and the ocean across their value chains. These will be informed by current science along with reports to be produced by the newly formed Earth Commission.

Science-based targets beyond climate

• **The fight against climate change cannot be won without nature protection being addressed in both corporate climate action and policymaking. We need to transform the way we use natural resources *alongside* decarbonizing our economy.**

• By setting science-based targets for the whole Earth System, companies and cities will help:

  • Halt global warming and build a zero-carbon economy
  • Stop further land conversion and ensure land is used sustainably
  • Prevent further nature loss and develop a world in which ecosystems thrive
  • End ocean pollution and help secure healthy, diverse oceans
  • Preserve freshwater resources to ensure water security and free-flowing rivers.

Global science-based target for biodiversity

Bending the curve on biodiversity loss: what should the ambition be for 2030?

- What the aim should be by 2030? What can be achieved?

- No Net Loss or Net Gain

- <u>Measurable</u> targets with clear outcomes
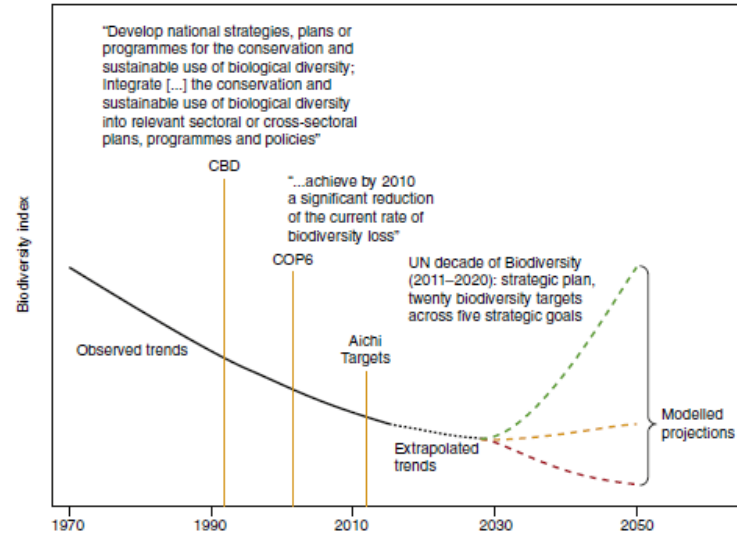
Scientific underpinning for biodiversity targets

- Science-based targets for biodiversity must span genetic diversity, species, and ecosystems
- Early days for **genetic diversity**;
- Method for **ecosystems** requires review and convergence across metrics
- Science-based targets for **species** most advanced

# *Specific* science-based target for biodiversity must be:

1. **Measurable** at all scales
2. **Comparable** between sites
3. Used to **calculate a global target**
4. Allow **disaggregation** to enable contributions of all actors to count towards global target such as 'no-net loss or net gain' in biodiversity
5. Respond at the **speed of investors**
6. Able to measure **threat abatement and restoration**

Science-based targets for species biodiversity
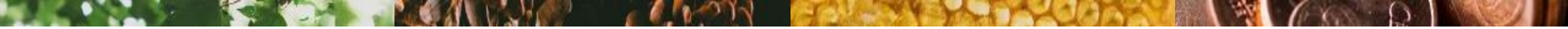
- **What is the target conservation gain that can be achieved by any actor in any place towards the global target?**

- Focus on species that are at risk of extinction

- The Red List has extinction risk assessments of 100,000 species using standard scientific methodology applied by 20,000 scientists

Global Heatmap of opportunities for conservation gain

Score

- 0
- >0-100
- >100-500
- >500-1,000
- >1,000-5,000
- >5,000-10,000
- 10,000-50,000
- >50,000

Mair et al., in prep

Species Threat Abatement and Restoration Metric (STAR)

5x5 km scale

Total of all pixel scores gives global species extinction reduction score

Indonesia contributes 7.8% of global STAR score

Annual and perennial non-timber crops contribute 18.3% of global STAR score

Logging and wood harvesting contribute 12.7%