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# *Biodiversity data needs for businesses*



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# **Biodiversity data needs for businesses**

**Hans Van Gossum (ARCADIS)**

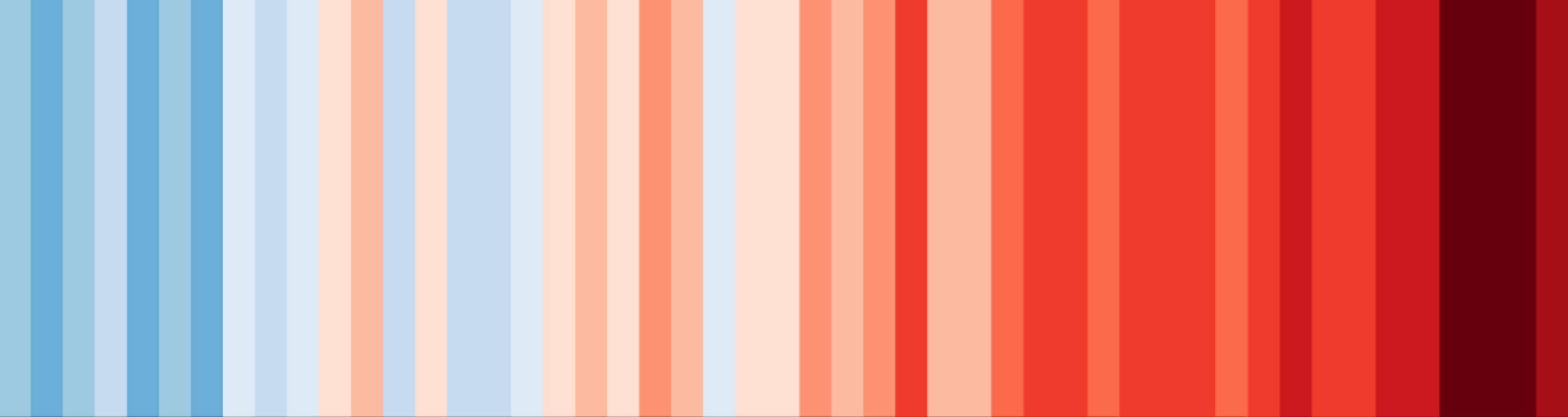


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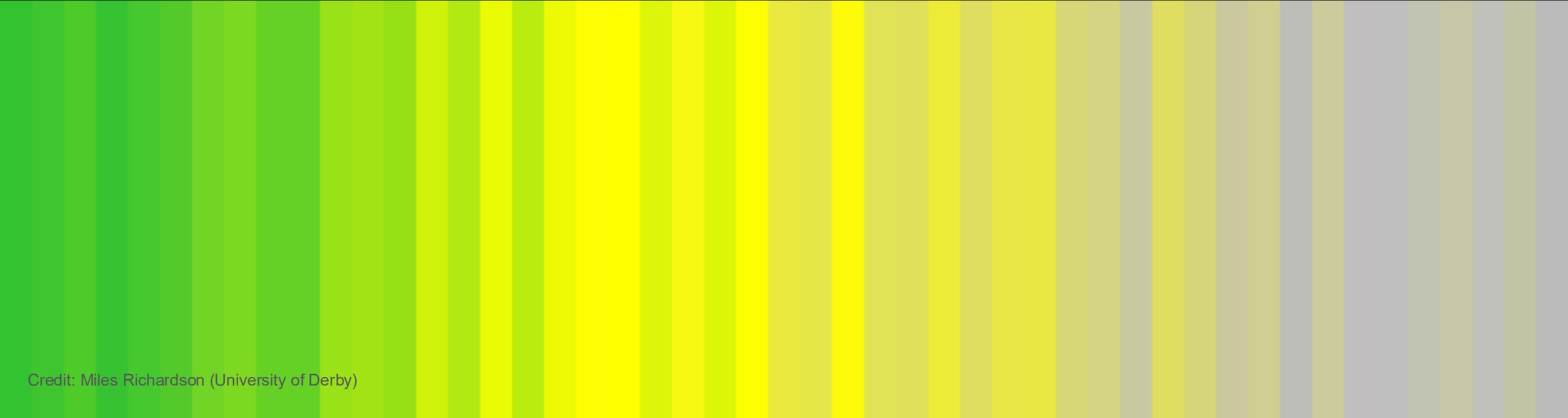


# Why biodiversity matters for businesses



Global warming and biodiversity loss 1970 – 2018

GlobalWarming Stripes. #showyourstripes. Data Source UK Met Office CC BY 4.0  
From biodiversitystripes.info Data: LPI 2022. Living Planet Index <http://stats.livingplanetindex.org/>



Credit: Miles Richardson (University of Derby)

# Business and Biodiversity Nature

**Biodiversity is the living component of nature.** Biodiversity risk is assessed through an evaluation of nature-related impacts, dependencies, risks and opportunities in relation to a company's activities.

There are **five main drivers of nature and biodiversity loss**, all of which need to be considered in these assessments.

Because the **state of nature is location-specific**, biodiversity assessment are to be location-specific as well. Assessments should be performed across all of nature's realms where applicable.

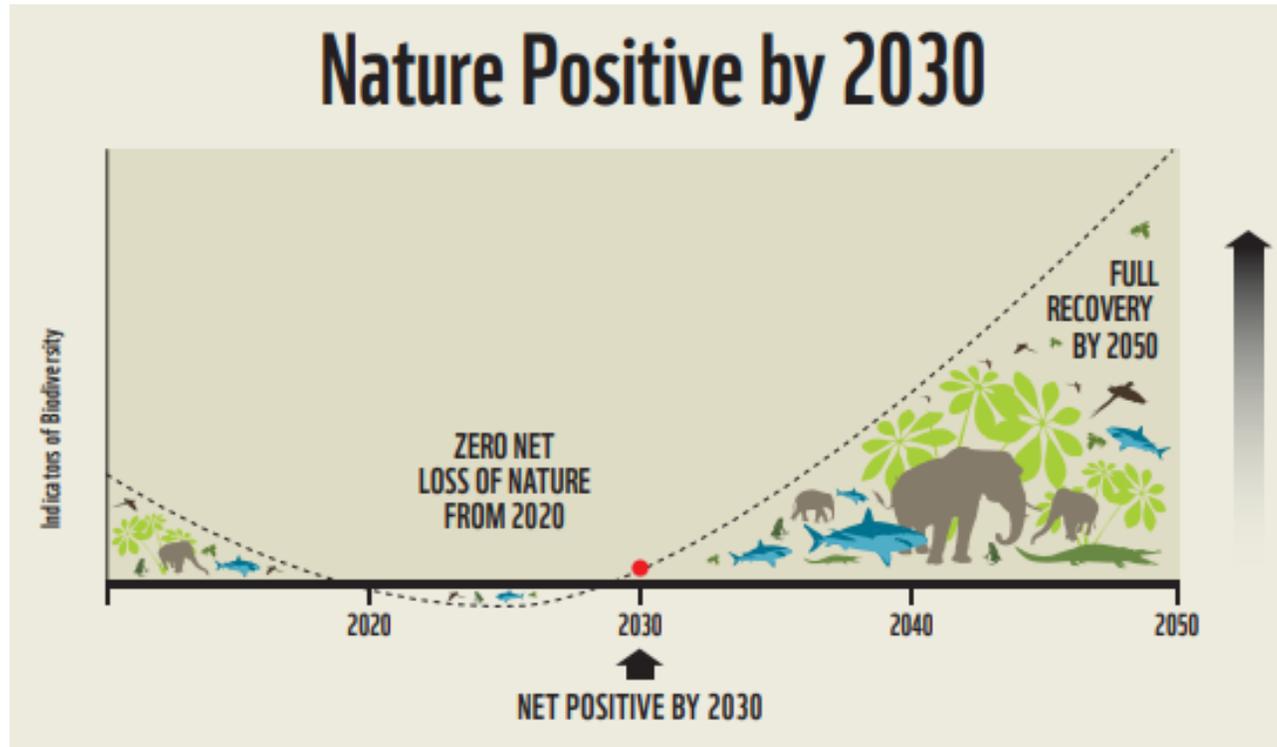


Nature's four realms: Land, ocean, freshwater and atmosphere



The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) identifies five main drivers of biodiversity loss

# Nature Positive



- Goes beyond mitigation hierarchy
- Can best be implemented at landscape scale
- Joint effort with other stakeholders in landscape
- Measuring contributions to NP in line with evidence hierarchy
- Allows for pragmatic way to define credible nature targets and proportionate actions

“

Nature positive is not a slogan – it is an ambitious goal and should not be used to imply something is green or nature-friendly. It refers to measurable outcomes that contribute to halting and reversing nature loss with significant benefits to society.

”

# Why engage with nature and biodiversity as a business?

**> 50%**  
Of global GDP dependent on nature and its services  
(World Economic Forum)

**Biodiversity is how we measure nature's health**

BE SURE TO WASH YOUR HANDS AND ALL WILL BE WELL.

COVID-19

RECESSION

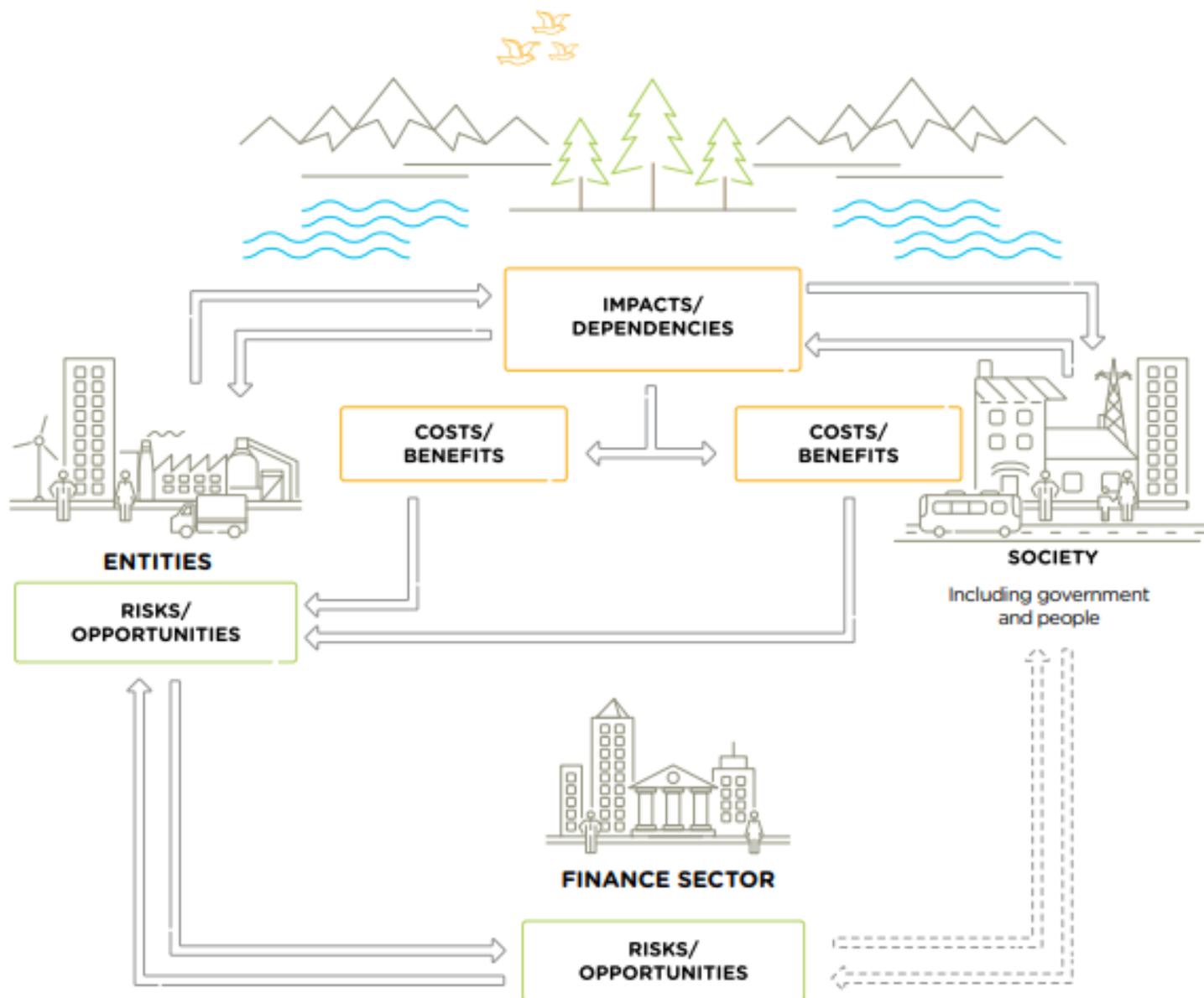
CLIMATE CHANGE

BIODIVERSITY COLLAPSE

MACKAY  
mackaycartoons.net



Source: <https://nowfornature.org/pulse/>

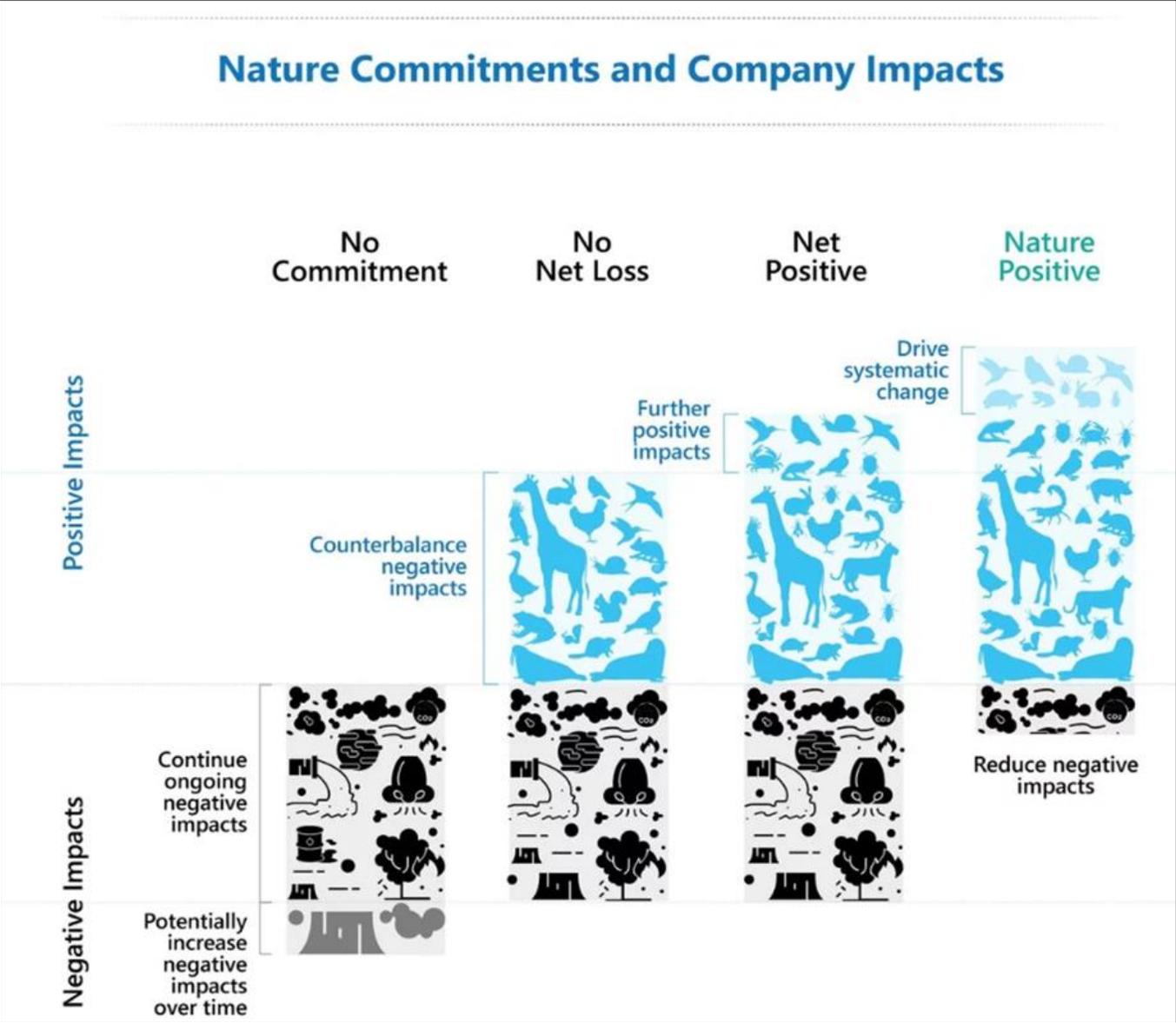


## The business case for natural capital and biodiversity

Healthy ecosystems provide benefits to businesses and society. Degraded ecosystems create risks.

Reducing impacts on ecosystems or restoring ecosystems creates opportunities.

# Halt and reverse



The relationship between negative and positive impacts of an individual company for a given year under different Corporate Nature Commitments.

Negative and positive impacts are set against the baseline of the No Commitment scenario, whereby ongoing and new negative impacts continue year-on-year.

Source: Imagery by the Biodiversity Consultancy

# Biodiversity data: from disclosing to actions

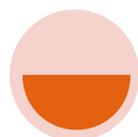
# Nature-related assessment Step-by-step



## 1. Scoping

Where to focus

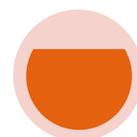
- Identify **value chain stages**: direct ops, upstream and downstream
- Identify **locations** with critical nature interfacing



## 2. Materiality

What to focus on

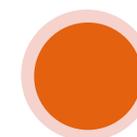
- Identify key nature-related **impacts and dependencies (sector and/or commodity level)**
- Describe associated **pressure drivers**
- Double materiality assessment: prioritize



## 3. Risks and opportunities

Why does it matter

- Based on key dependencies described, identify key areas of **risks and opportunities** for business and biodiversity



## 4. Actions

What to do

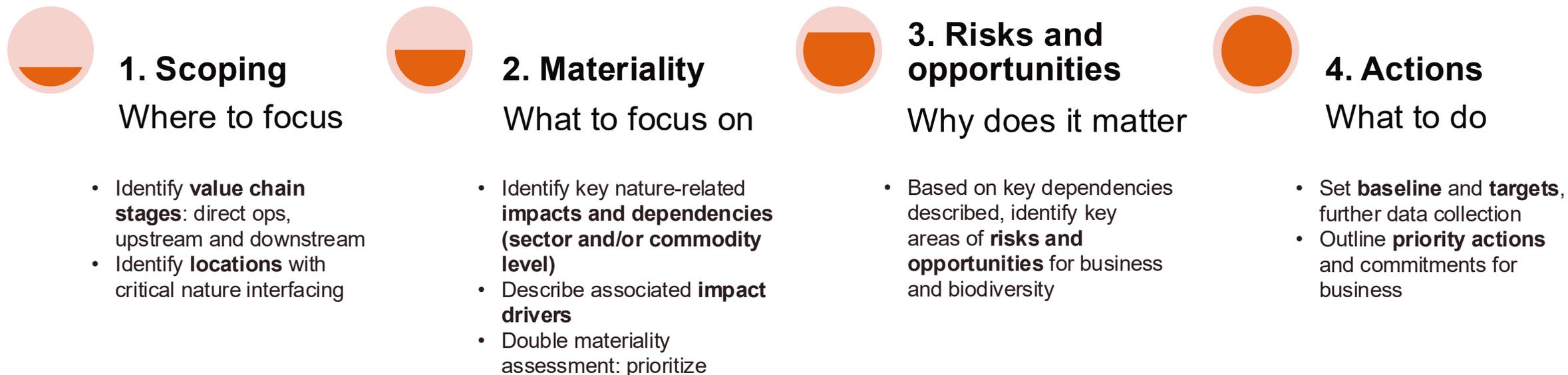
- Set baseline and **targets**, further data collection
- Outline **priority actions** and commitments for business

TNFD >>	Scope & Locate
SBTN >>	Assess
CSRD >>	Strategy / business model

Evaluate
Interpret & Prioritize
Double materiality assessment

Assess	Prepare
Measure, Set, Disclose	Act   Track
Policies and actions	Targets and metrics

# Nature-related assessment Tools



— Tools



# Biodiversity assessment Identifying priorities

Due to the complexity of the topic and the location-specific nature of biodiversity, biodiversity assessment is about identifying priorities: *Where do your activities result in negative pressures and are these locations known to host sensitive habitats and biodiversity?*



There are **five main drivers of biodiversity loss**

- Land and/or sea use change
- Direct exploitation of organisms (e.g. overfishing)
- Climate change
- Pollution
- Alien Invasive Species

Impact on biodiversity is location-specific. **Sensitive locations to avoid with priority** are

- Areas of high biodiversity value
- High integrity ecosystems
- Areas of rapid decline
- Areas of water stress
- ...

- High environmental pressures at sensitive locations
- Supplier industries or high impact commodities known to lead to biodiversity loss

# Measuring What & why?

Selecting a suitable measurement tool and metric is not an easy process for most companies. Different questions need to be addressed.



# Biodiversity measurement

## European Commission

### Challenge

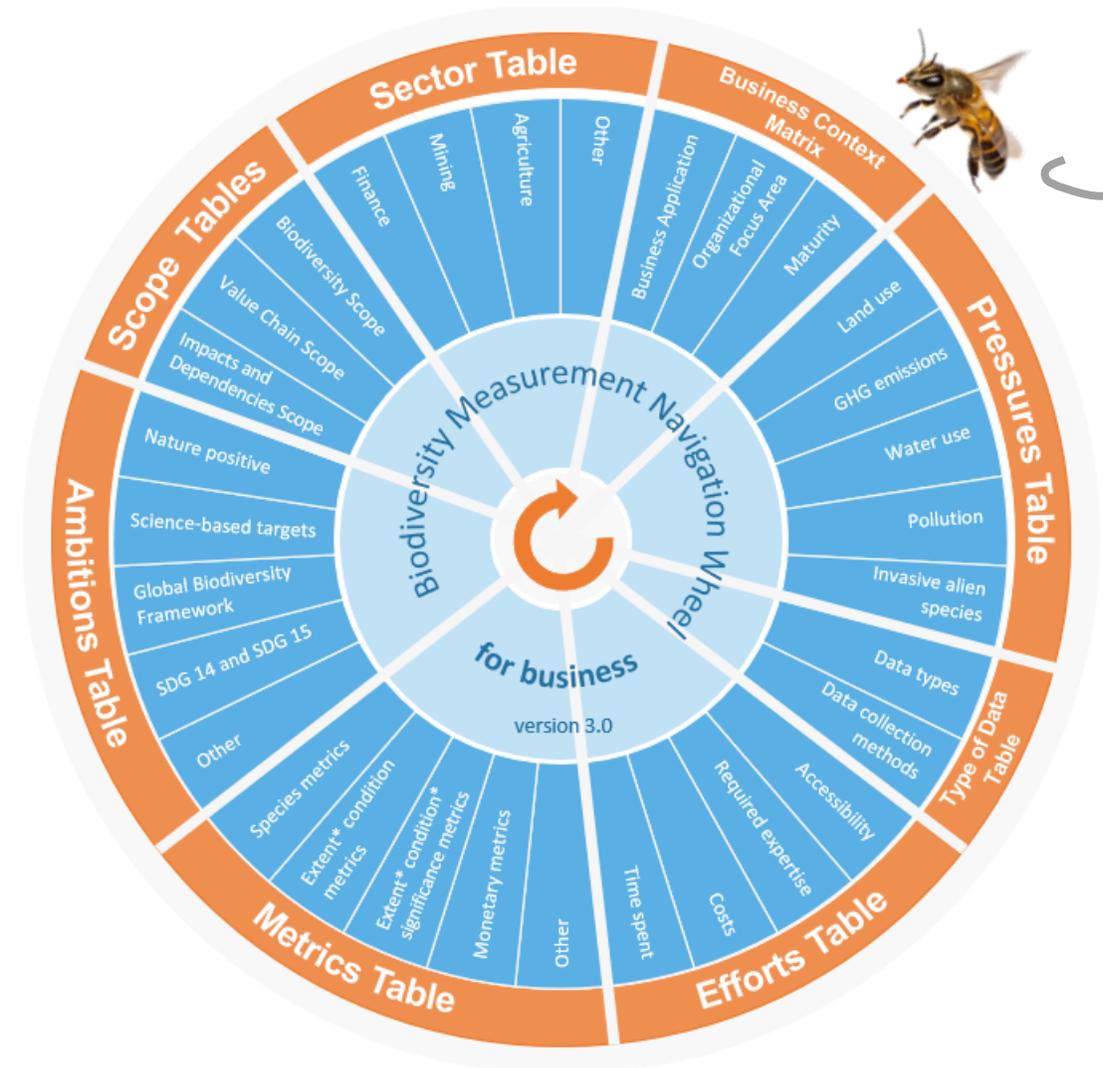
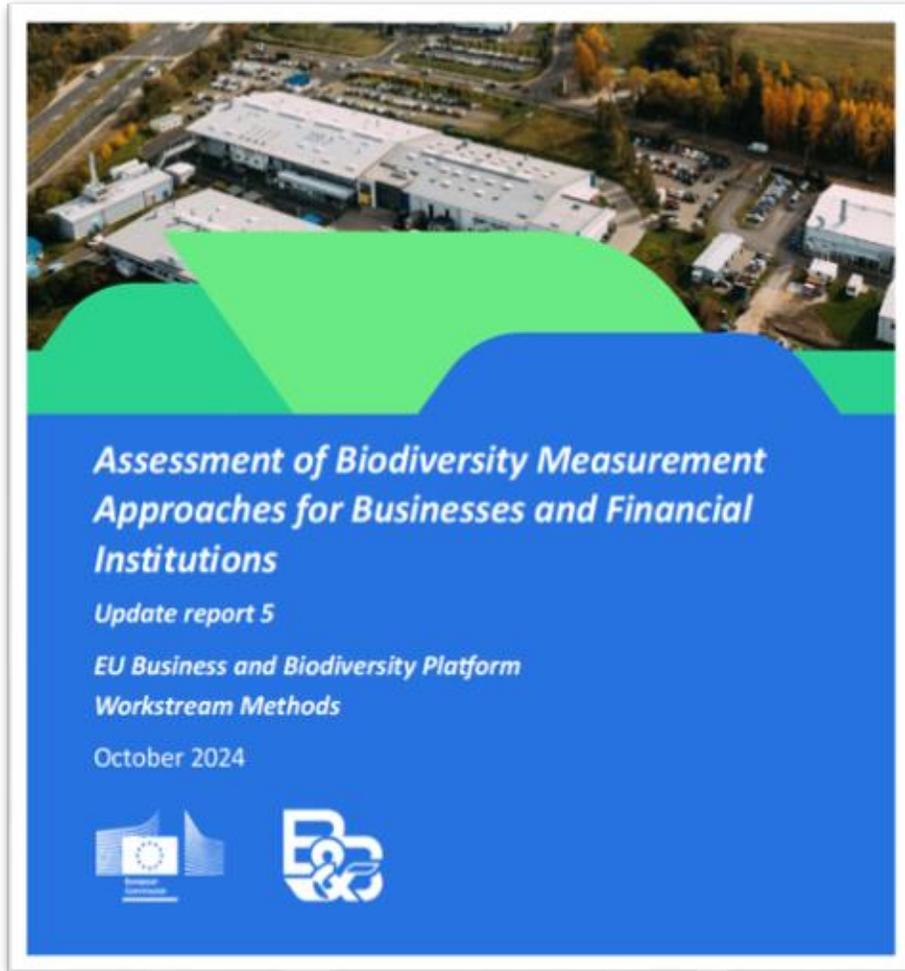
- Review the latest developments in biodiversity and ecosystem services assessment approaches and metrics for businesses and financial institutions.

### Solutions

- EU Business @ Biodiversity Platform: since 2017 Arcadis is leading the Methods Workstream.
- Publication of Update Reports providing a solid understanding of the strengths and limitations of key tools and metrics, developed through the Biodiversity Measurement Navigation Wheel, which evaluates and guides tool selection.
- Publication of Thematic Reports on Nature Positive, Biodiversity Disclosure Initiatives, etc.
- 'Align' project (*Aligning accounting approaches for nature*) to reach harmonization and align on principles for disclosing on biodiversity performance.
- See [https://green-forum.ec.europa.eu/business-and-biodiversity/our-activities/measuring-your-impacts-and-dependencies-biodiversity\\_en](https://green-forum.ec.europa.eu/business-and-biodiversity/our-activities/measuring-your-impacts-and-dependencies-biodiversity_en)



# Tools Applications & focus areas





## Biodiversity Disclosure Initiatives

Thematic Report

7<sup>th</sup> April 2024 – updated 1<sup>st</sup> August 2024

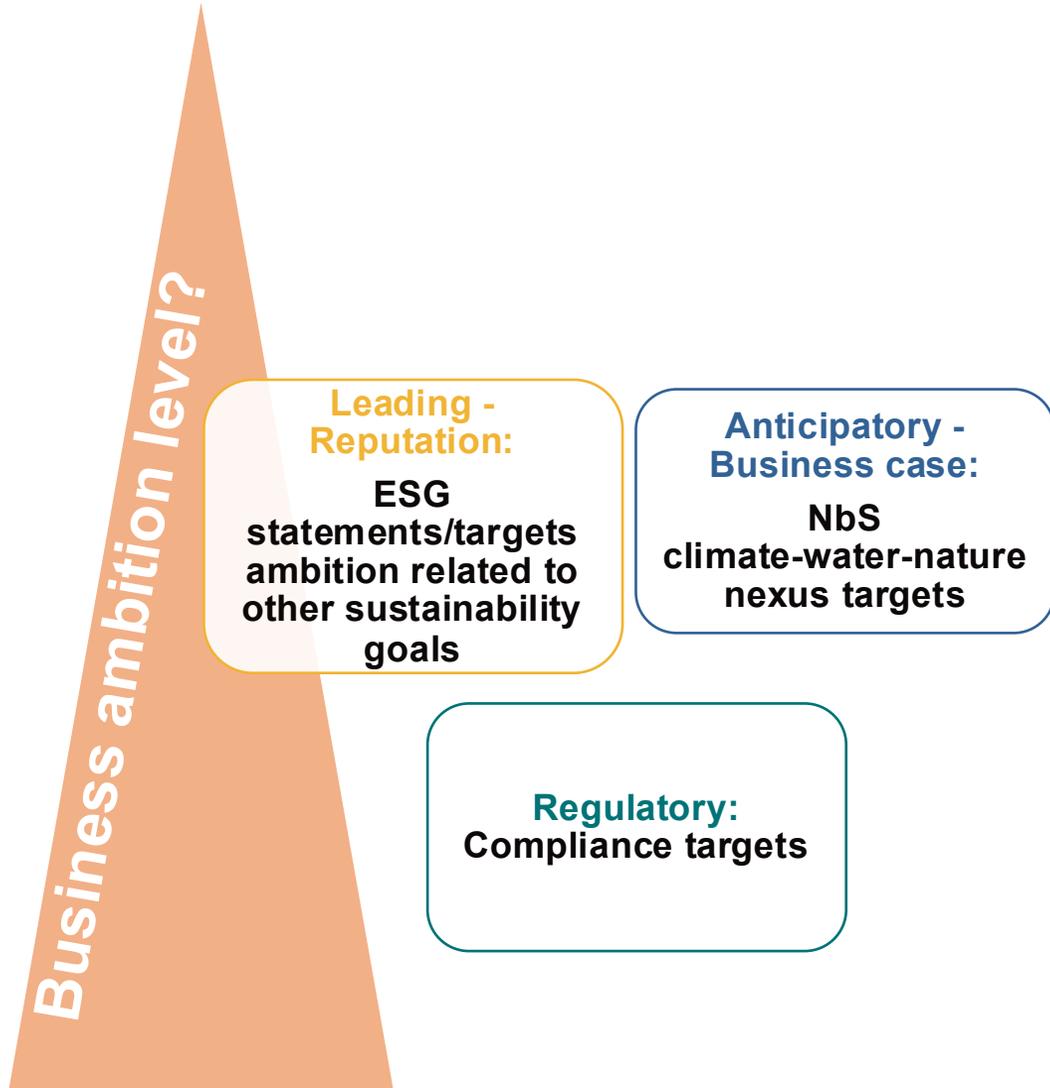


European Business & Biodiversity Platform

- ✓ High level description disclosure initiatives
- ✓ Detailed comparative analysis of disclosure requirements
- ✓ Synthesis table with level of effort to transition between CSRD ESRS E4 and TNFD or GRI 101

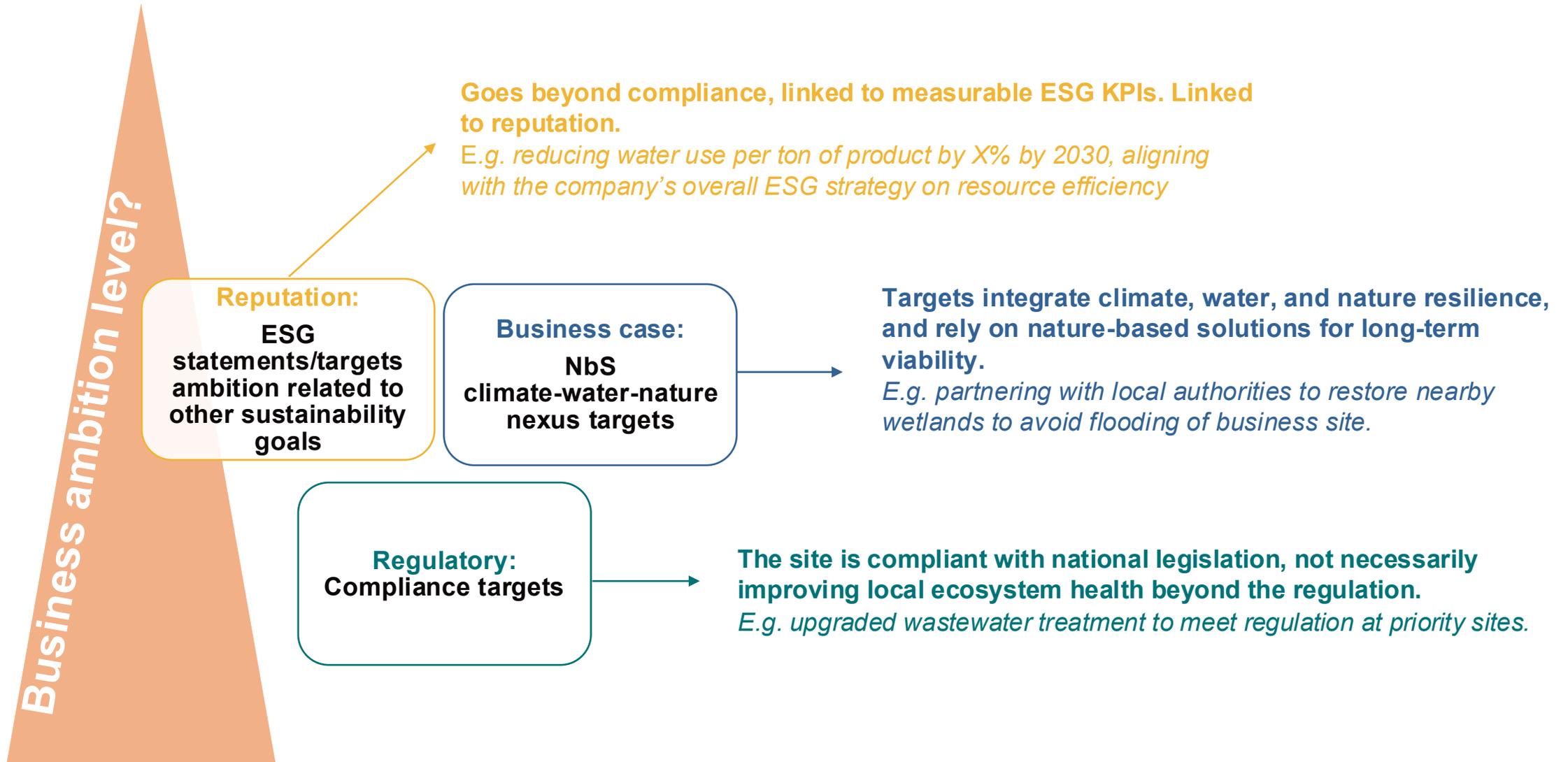
CHARACTERISTICS	Level of effort moving between ESRS E4 and TNFD		Level of effort moving between ESRS E4 and GR 101	
detailed guidance on how companies should measure the size of their dependencies on nature and doesn't refer to the relevant phases of LEAP, <i>hence the higher effort</i> .				
<b>Risks</b>	<b>From ESRS</b>	<b>To ESRS</b>	<b>From ESRS</b>	<b>To ESRS</b>
ESRS and TNFD are <i>well aligned</i> in terms of definitions and categories of risk. Both differentiate between acute and chronic physical risks, transition risks and systemic risks. ESRS and TNFD both outline that companies should assess the likelihood and magnitude of nature-related risks as well as their type. GRI doesn't cover risks. This has been scored before (reporting pillars), <i>so this is left blank</i> .				
<b>Opportunities</b>	<b>From ESRS</b>	<b>To ESRS</b>	<b>From ESRS</b>	<b>To ESRS</b>
ESRS and TNFD are <i>totally aligned</i> in terms of opportunities. TNFD provides more guidance. ESRS and TNFD not only refer to business performance opportunities but also highlight opportunities that benefit nature through companies improving their sustainability performance, such as ecosystem protection, restoration and regeneration and sustainable use of natural resources. GRI doesn't cover opportunities. This has been scored before (reporting pillars), <i>so this is left blank</i> .				
<b>Location</b>	<b>From ESRS</b>	<b>To ESRS</b>	<b>From ESRS</b>	<b>To ESRS</b>
The TNFD uses the definition of 'priority' locations. This includes not only the locations where the company has identified material nature-related issues but also all locations where the company interfaces with ecologically sensitive areas. ESRS and GRI ask to disclose 'material'				

# Ambition (beyond) Regulatory compliance



☑	Ambition?	☒
REGULATORY COMPLIANCE		NATURE + LEADERSHIP
Legal requirements (cf. CSRD)	Ambitions → targets & actions (cf. CSRD)	Aligns with GBF, SBTN, and global goals (cf. CSRD)
Reactive to evolving regulation	Link with other sustainability goals	Proactive: future obligations
Focus on avoiding harm	Future-proofing sites with NbS (~physical & climate resilience)	Measurable net gains for nature
Limited scope: site-level compliance	Baseline-setting to allow monitoring of No Net Loss	Site + landscape-level action
Incremental improvements	Tools such as BNGC	Transformative change and ES restoration
		Internal/external stakeholder interaction (e.g. CSRD)
	<i>Transformative action</i>	
	<i>Resources</i>	

# Targets Across the 3 angles



# Nature based solutions

- Nature-based Solutions (NBS) are actions that **protect, conserve, restore, and sustainably manage ecosystems** while supporting human well-being, ecosystem services, climate change resilience, and biodiversity.
- NBS may provide **significant business benefits**



- Conduct **systematic site screening** to identify NBS opportunities
- Implement **landscape-scale interventions** through off-site NBS
- Adopt a **holistic, multi-benefit approach** prioritizing NBS that deliver **multiple co-benefits**, with a focus on climate adaptation solutions to address site-specific risks
- **Engage stakeholders** through partnerships for off-site interventions
- **Measure and monitor progress** through KPIs and data to understand impact and inform future investment



**Improving the flow of nature data  
between the public and the  
private sector**



**RECOMMENDATION 1:** Governments should recognize businesses as an emerging key user group of natural capital data collected by public authorities

**RECOMMENDATION 2:** Governments should strive to make comprehensive national ecosystem accounts-based data available that is contextual and spatially relevant for business at least at a landscape level, which will turn out as a win-win for all actors

**RECOMMENDATION 3:** Business and government should combine forces and build on existing dialogues to establish a European dialogue platform covering technical and institutional issues from both a supply and demand perspective

[Improving\\_Natural\\_Capital\\_Data\\_Flow\\_Between\\_Governments\\_and\\_Businesses.pdf](#)

# Natural capital data needs by businesses

Business needs in terms of natural capital data can be summarized as **contextual** and **spatially referenced** information at least at a **landscape level** – and the higher the granularity of data, the better – on the following aspects of natural capital:

- **Ecosystem types, extent and condition, and evolution over time**
- **Sensitivity of ecosystems and species to typical business-related impact drivers**
- **Presence of protected areas and protected species/habitats**
- **Ecological thresholds and safe operating space**
- **Science-based targets for nature at a landscape level**
- **Scenarios on ecosystem degradation and ecosystem restoration**
- **Typical ecosystem services associated with specific ecosystem types and local importance of these ecosystem services**
- **Priority areas for ecosystem restoration.**

# Landscape context



# State of Nature metrics

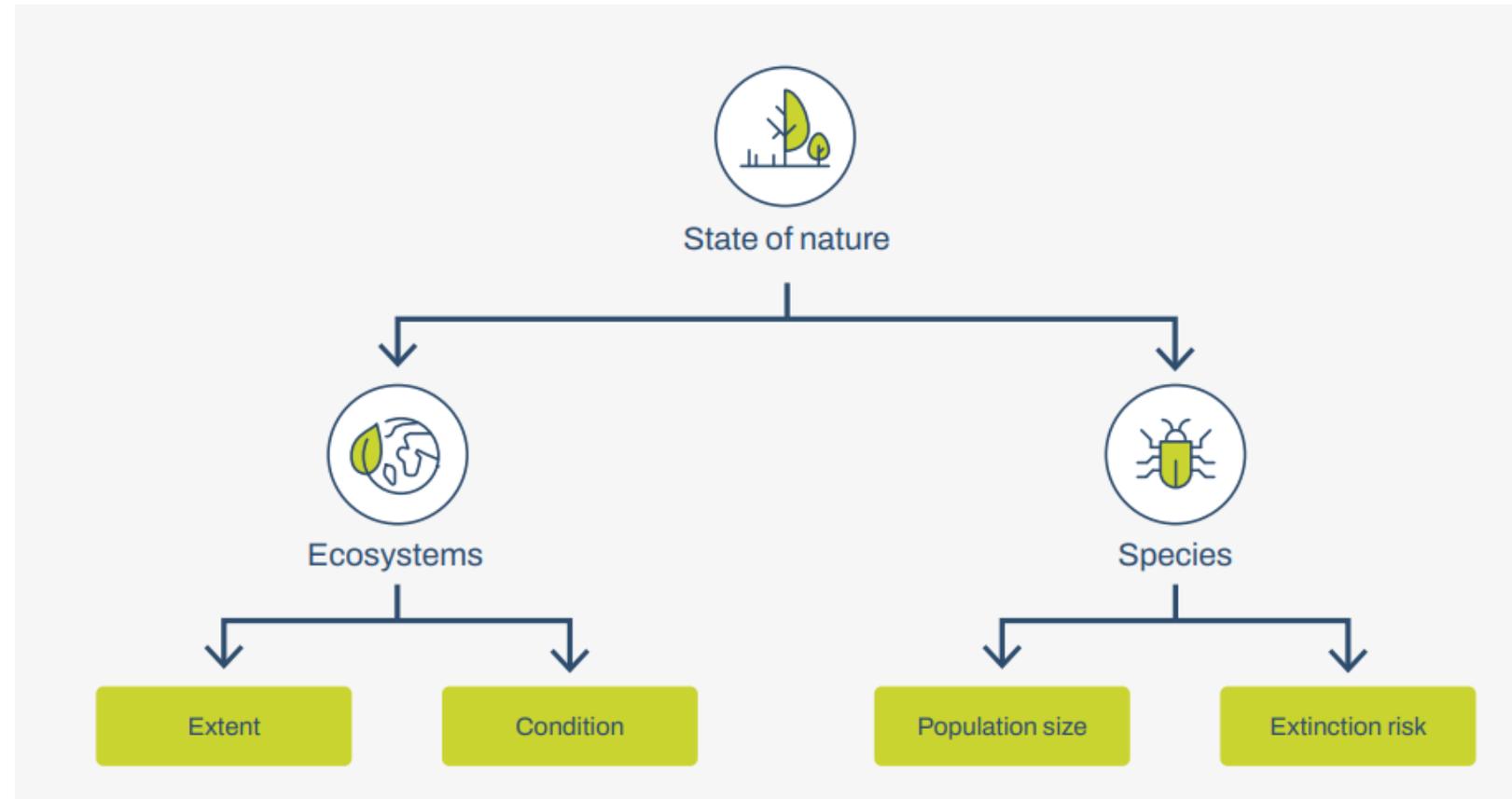
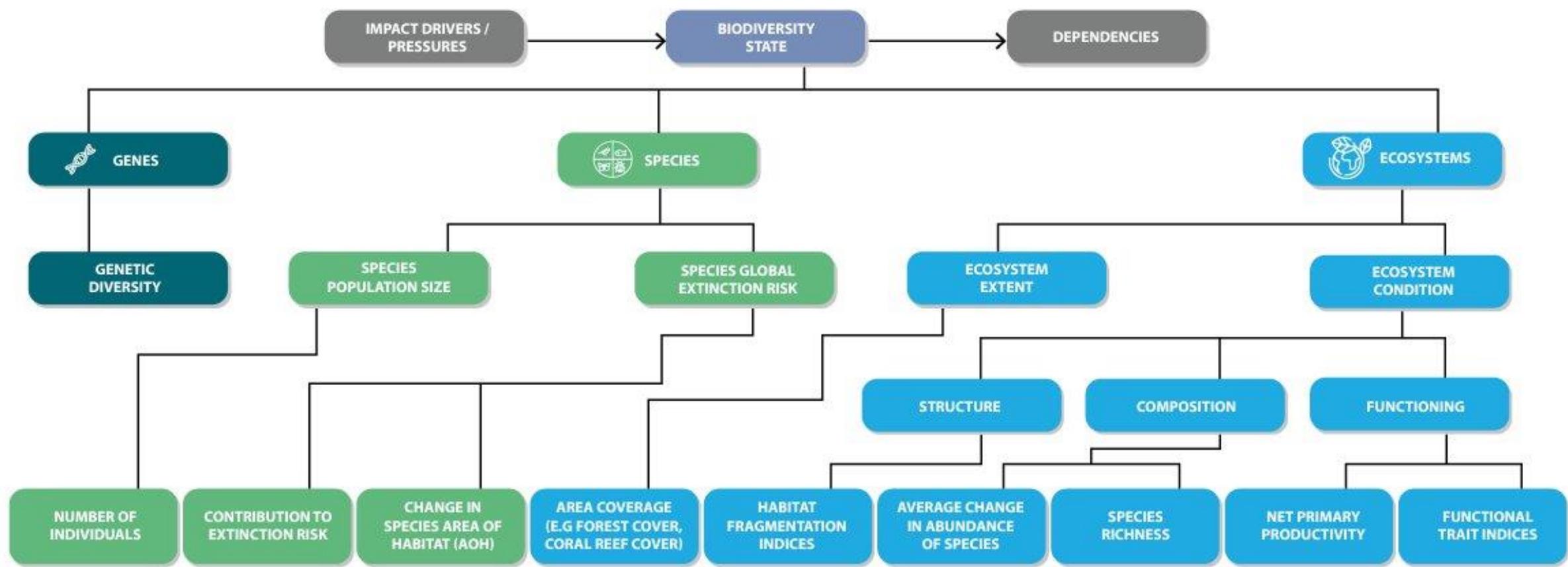
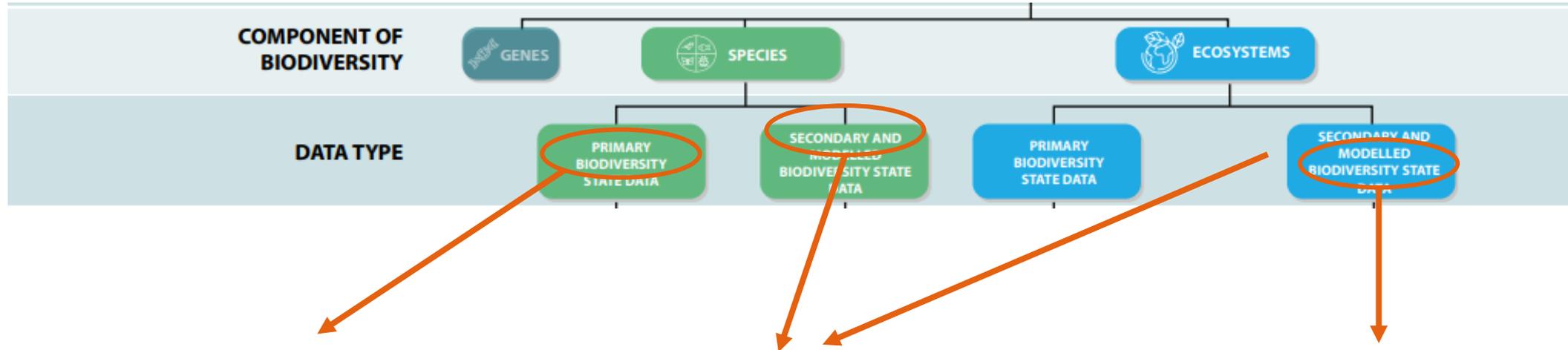


Figure E1. Components of biodiversity and example measurement indicators.



# Data types



## Primary data

- Collected in situ
- From primary sources: using 'on the ground' surveys, remote sensing, eDNA, bioacoustics, ...

## Secondary state data:

- Already available data that has been collected for broader purpose
- E.g. geospatial data layers (via models or through remote sensing)
- Example species: threat status
- Example ecosystem: levels of habitat fragmentation and connectivity

## Modelled pressure-state data:

- Based on model
- More accurate when using directly measured primary pressure data vs sector averages to feed the model

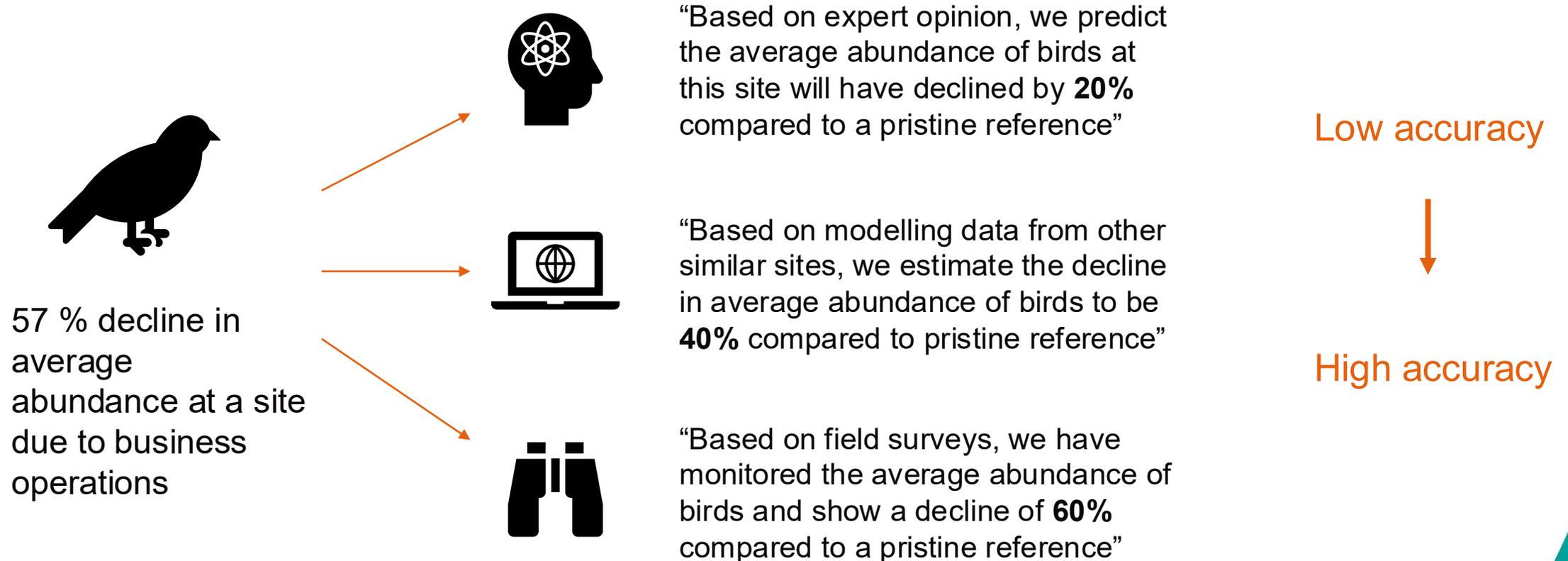
<b>Relevance</b>	<ul style="list-style-type: none"><li>• Appropriate to the decision context</li><li>• Formal recognition for application in the decision context</li></ul>
<b>Rigor</b>	<ul style="list-style-type: none"><li>• Suitable accuracy to enable companies to make decisions with reasonable assurance as to the integrity of the assessment results</li></ul>
<b>Resolution</b>	<ul style="list-style-type: none"><li>• Spatial and non-spatial i.e. fit for use at the right scale for the decision</li></ul>
<b>Temporality</b>	<ul style="list-style-type: none"><li>• Must represent the appropriate timescales for decision making</li></ul>
<b>Update frequency</b>	<ul style="list-style-type: none"><li>• Regularly updated or updated over an appropriate timescale for the decision context</li></ul>
<b>Accessibility</b>	<ul style="list-style-type: none"><li>• Easily accessible in different formats (including languages) and consideration of costs</li></ul>
<b>Comparability</b>	<ul style="list-style-type: none"><li>• Facilitates comparison through inter-operable formats and consistent and comparable within and between sectors</li></ul>
<b>Geographic coverage</b>	<ul style="list-style-type: none"><li>• Permit aggregation and disaggregation to allow for attribution across portfolios, footprints</li></ul>
<b>Thematic coverage</b>	<ul style="list-style-type: none"><li>• Should include pressures on nature, state of nature and response</li></ul>
<b>Authoritativeness</b>	<ul style="list-style-type: none"><li>• From authoritative (peer reviewed, published) or verifiable source (subject to third party audit)</li></ul>

## Characteristics of decision useful data

(adapted from the TNFD for use in EU B@B Platform Thematic Report on Biodiversity Data, 2022)

# Accuracy of measurement

How well the measurement reflects changes that are occurring on the ground



# Thank you!



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