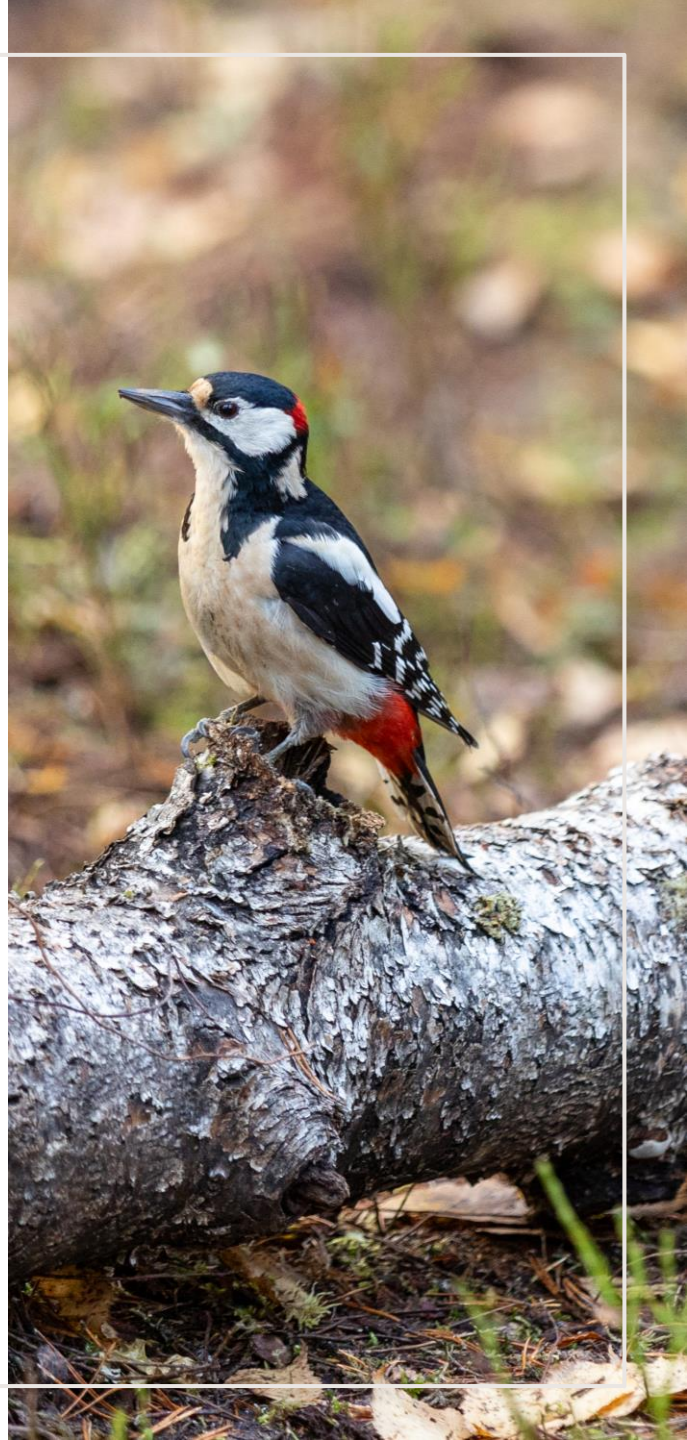
Beyond screening: Using State of Nature metrics to assess on-the-ground outcomes

Proteus Data Forum

29 October 2025

AGENDA

- Introduction to the Proteus Data Forum series
  Elspeth Grace | UNEP-WCMC
- Context and overview of key use cases and initiatives
  Jake Bedford | UNEP-WCMC
- Presentation Q&A
- Measuring State of Nature to understand outcomes- Quality Habitat Hectares approach
  Heather De-Quincey | Anglo American
- Q&A and facilitated discussion



SESSION OBJECTIVES

Proteus Data Forum:

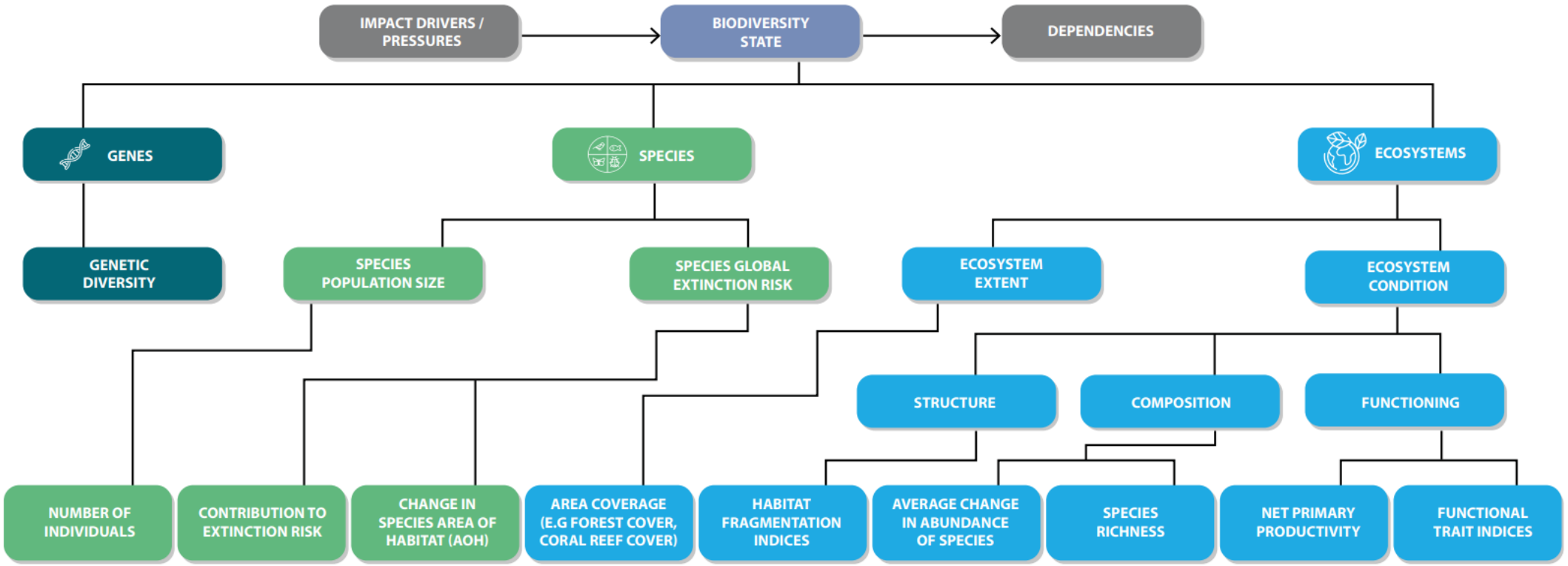
- Aiming to increase familiarity with biodiversity data resources and methods, convene data users and technical experts

Today's session aims:

- To update Partners on State of Nature (SoN) metrics, key initiatives, and use cases
- Share learning and enable cross-sector dialogue on benefits and challenges of SoN metrics
- Answer questions and identify support needs from Proteus Partners

Context and overview of key use cases and initiatives

Jake Bedford



Components of biodiversity and example measurement indicators

KEY USE CASES FOR STATE OF NATURE METRICS

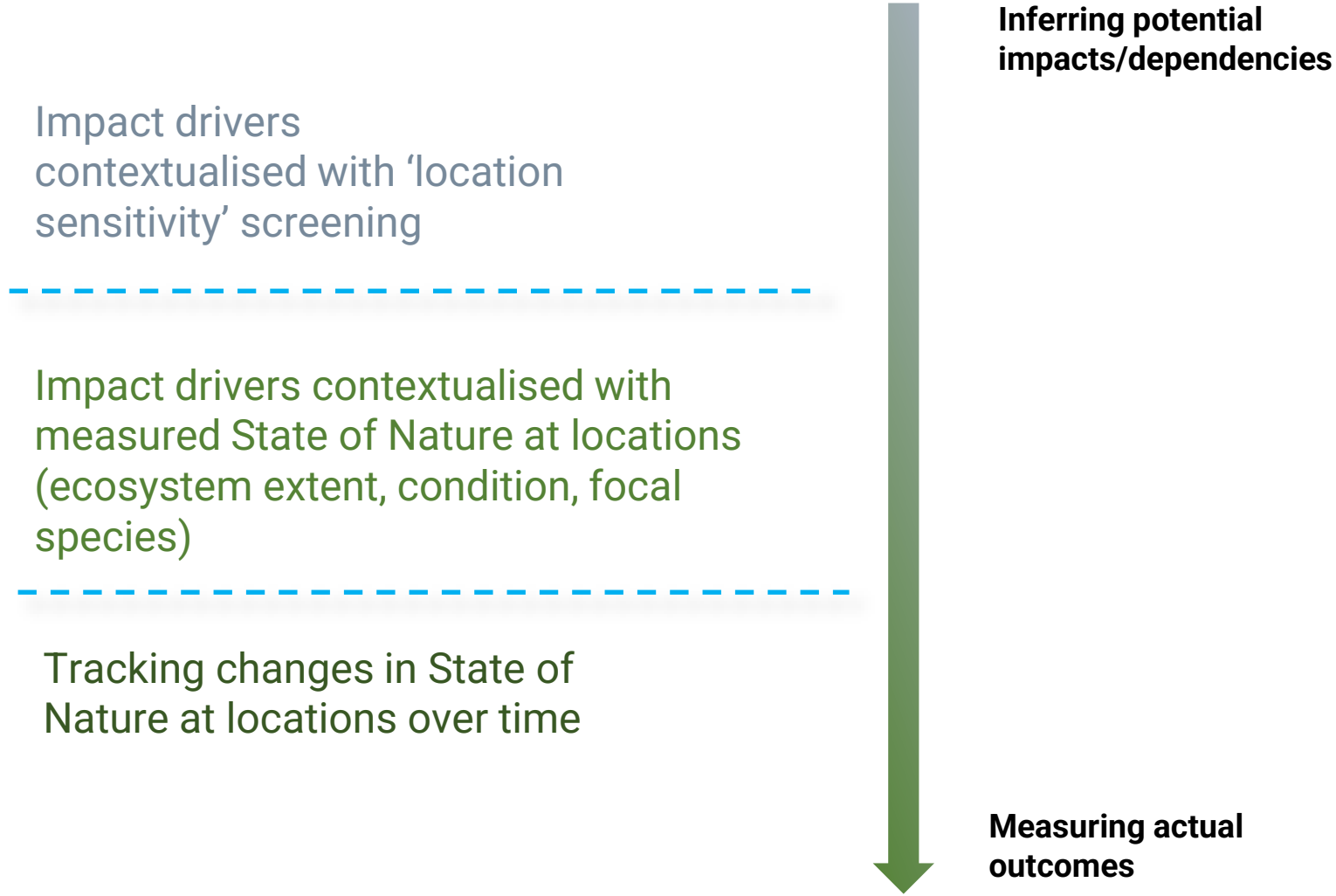
Screening potential impacts/dependencies

- Screen for potential impacts
- Help prioritize locations for further assessment through screening their significance

Measuring actual impacts/dependencies

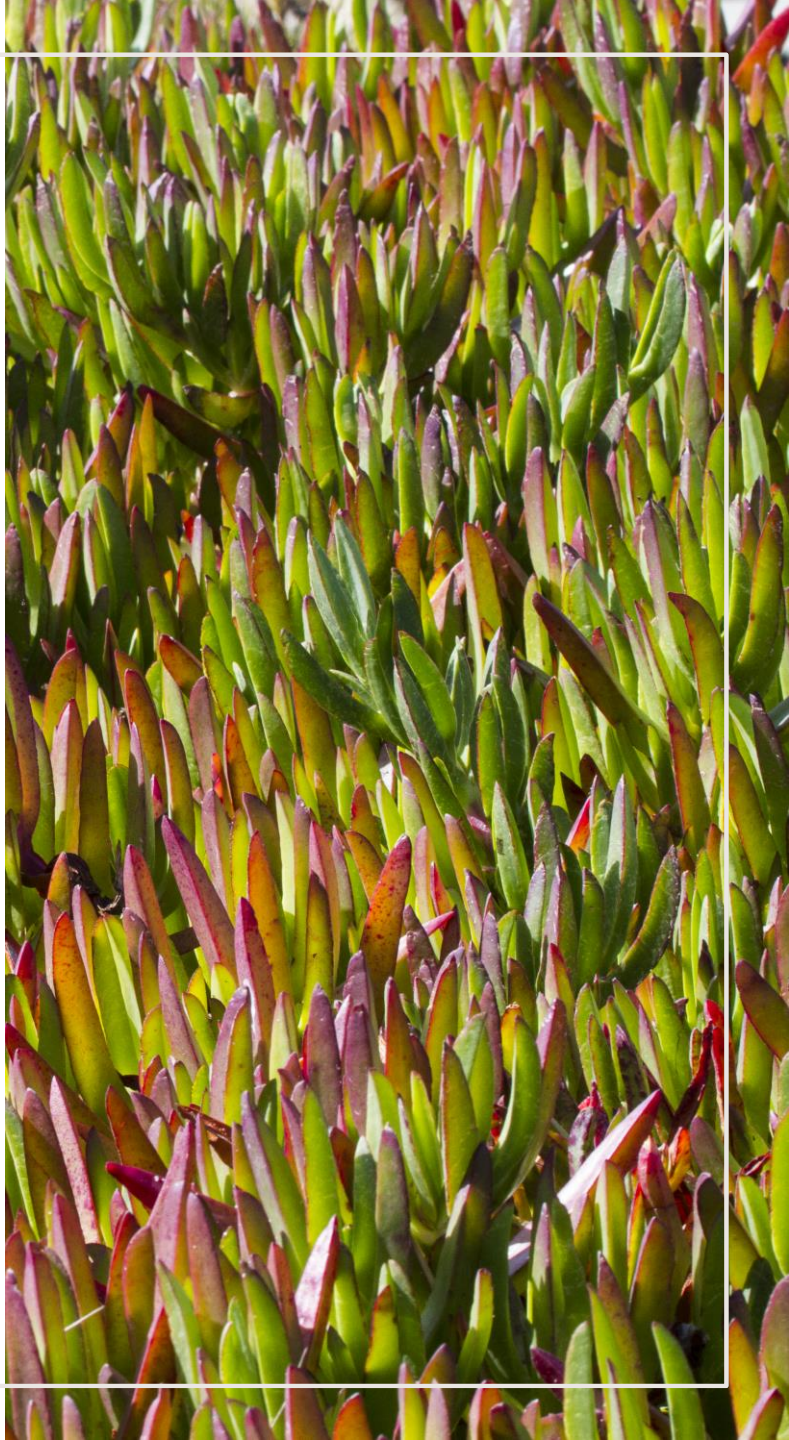
- Track on-the-ground outcomes through state-of-nature measurements

‘TIERS’ OF INFORMATION FOR IMPACTS AND DEPENDENCIES ON STATE OF NATURE



KEY QUESTIONS IN DEVELOPMENT

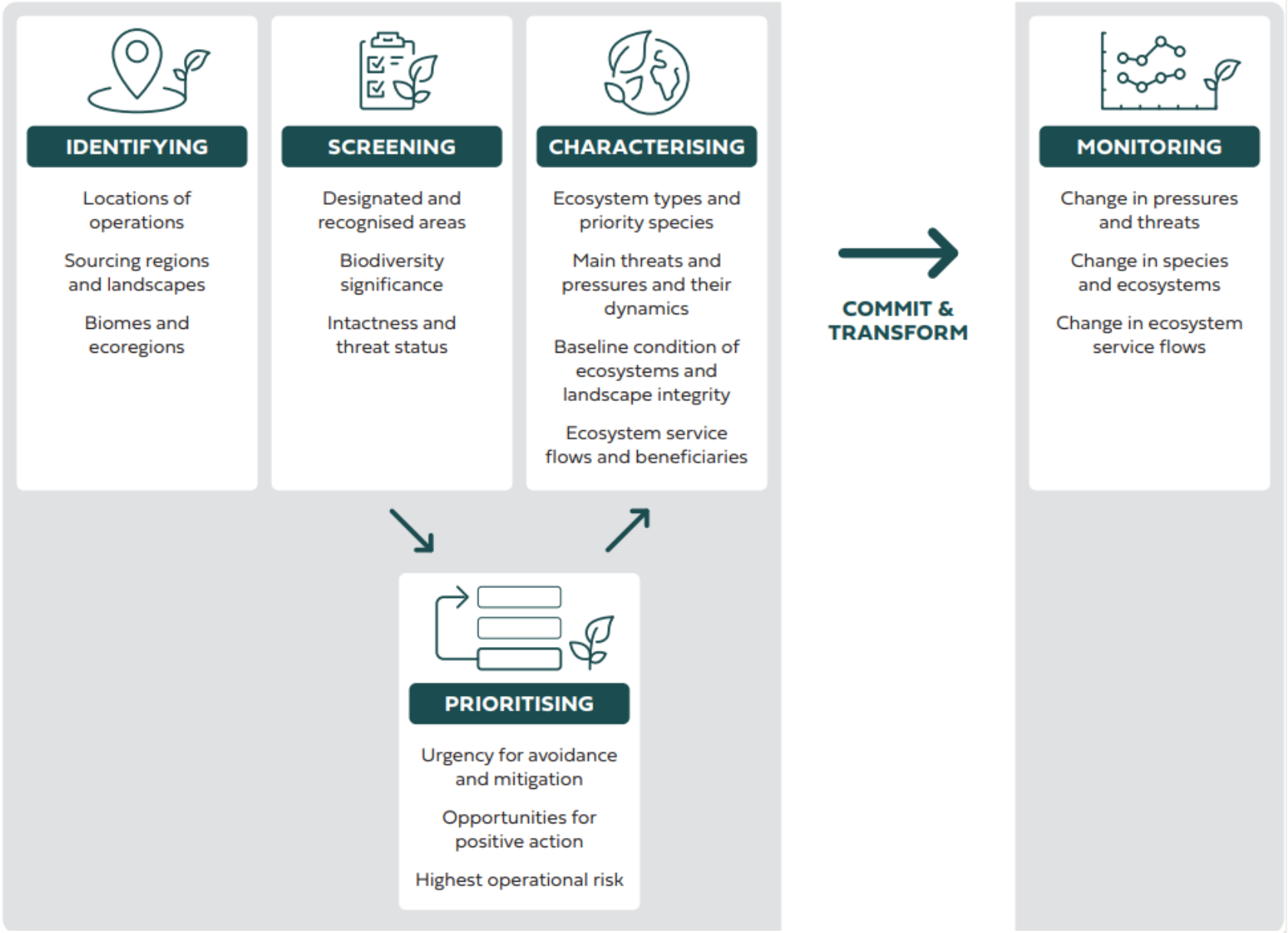
- In what context is measuring SoN directly needed to evidence outcomes?
- What are the barriers and opportunities, especially within supply chains?
- Can SoN outcomes be meaningfully aggregated at corporate level?
- How can we integrate local context and information into standardised reporting indicators?



POLL

How is your company using State of Nature metrics?

- Not using them
- Identifying
- Screening
- Prioritising
- Characterising
- Monitoring



5 core roles of spatial datasets and metrics in nature strategies.
From 'Building narratives through nature data', A-Track (2025)

Relevant initiatives

KEY INITIATIVES WORKING ON STATE OF NATURE

NATURE POSITIVE INITIATIVE

TNFD Taskforce on Nature-related Financial Disclosures

NATURE POSITIVE INITIATIVE'S STATE OF NATURE METRICS

	ECOSYSTEM EXTENT		ECOSYSTEM CONDITION		SPECIES
Universal Indicators	Ecosystem Extent 		Site condition 	Landscape Condition 	Species Extinction Risk 
Case-specific Triggers	*If Priority Ecosystems are present, also measure:*	*If located in an Intensive Land Use Biome, also measure:*	*If Priority Ecosystems are present, also measure:*	*If located in an Intensive Land Use Biome, also measure:*	*If Priority Species are present, also measure:*
Case-specific Indicators	Extent of priority ecosystems 	Proportion of semi-natural habitat 	Condition of priority ecosystems 	Condition of semi-natural habitat 	Species population abundance 

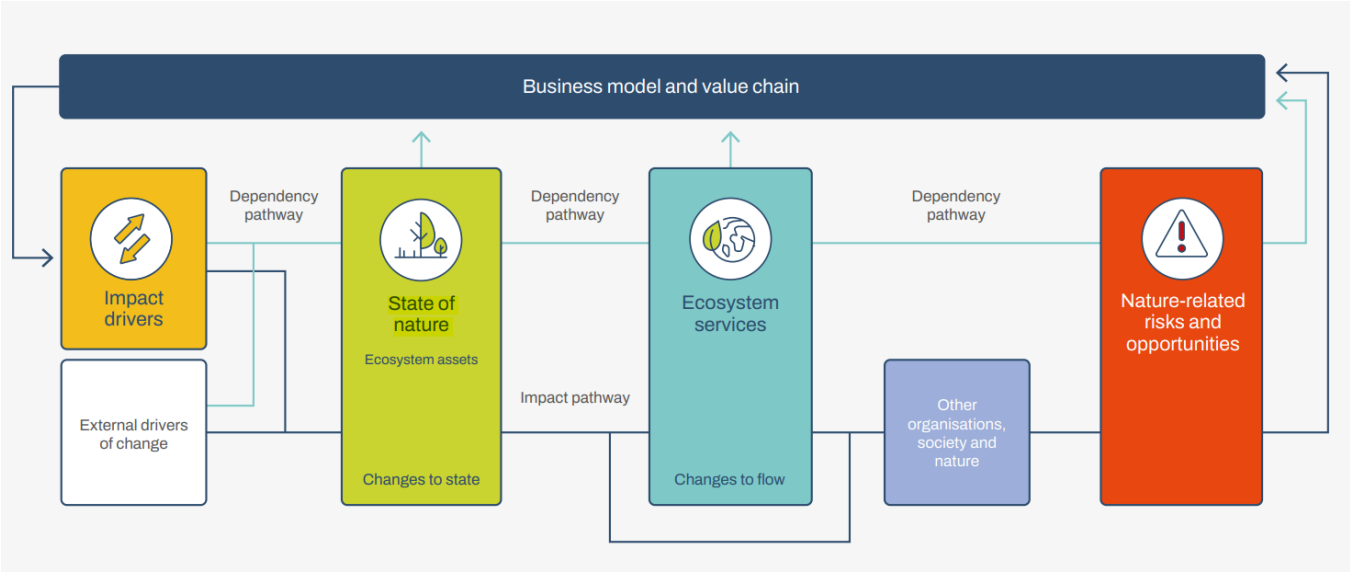
STATE OF NATURE METRICS FOR PILOTING IN NATURE POSITIVE INITIATIVE

Indicators (IND)		Metrics	Granularity Level	Case-specific Triggers
Ecosystem Extent	Ecosystem Extent & Classification (IND 1)	Area (absolute and percentage) of loss, gain and net change* in extent of each ecosystem type, and per ecosystem asset (ha)	Low, Medium, High	Universal Indicator -no trigger
	Extent of Priority Ecosystems (IND 1.1)	Area (absolute and percentage) of loss, gain and net change* in extent of each ecosystem type, and per ecosystem asset (ha)**	Medium, High	Priority Ecosystem
	Proportion of natural or semi-natural habitat (IND 2)	Value and net change* in the average proportion of natural and semi-natural habitats within each 1-km^2 (%)	Low, Medium, High	Intensive Land Use Biome
Ecosystem Condition	Site Condition (IND 3)	Area and change* (absolute and percentage) of each ecosystem type and each ecosystem asset, by condition class (ha per condition class)	Low (Provisional), Medium (Provisional), High	Universal Indicator – no trigger
	Condition of Priority Ecosystems (IND 3.1)	Area and change* (absolute and percentage) of each ecosystem type and each ecosystem asset, by condition class (ha per condition class)**	Medium (Provisional), High	Priority Ecosystems
	Landscape Condition (IND 4)	Value and change*, within site and surrounding area, of a) landscape intactness, b) structural connectivity, and c) functional connectivity	Low, Medium, High	Universal Indicator – no trigger
	Condition of semi-natural habitat (IND 5)	Area and change* (absolute and percentage) of natural and semi-natural habitat of each ecosystem asset, by condition class (ha per condition class), as measured by a) connectivity, b) proportion of core area and c) relative abundance of species important for ecosystem function	Medium, High	Intensive Land Use Biome
Species	Species Extinction Risk (IND 6)	Species extinction risk score and trend over previous years (+/-) showing the contributions of a site and its surrounding area to extinction risk of threatened species	Low, Medium, High	Universal Indicator – no trigger
	Species Population Abundance (IND 7)	Change* in the number and proportion of priority species with: 1) stable or increasing populations, and 2) declining populations	Low, Medium, High	Priority Species

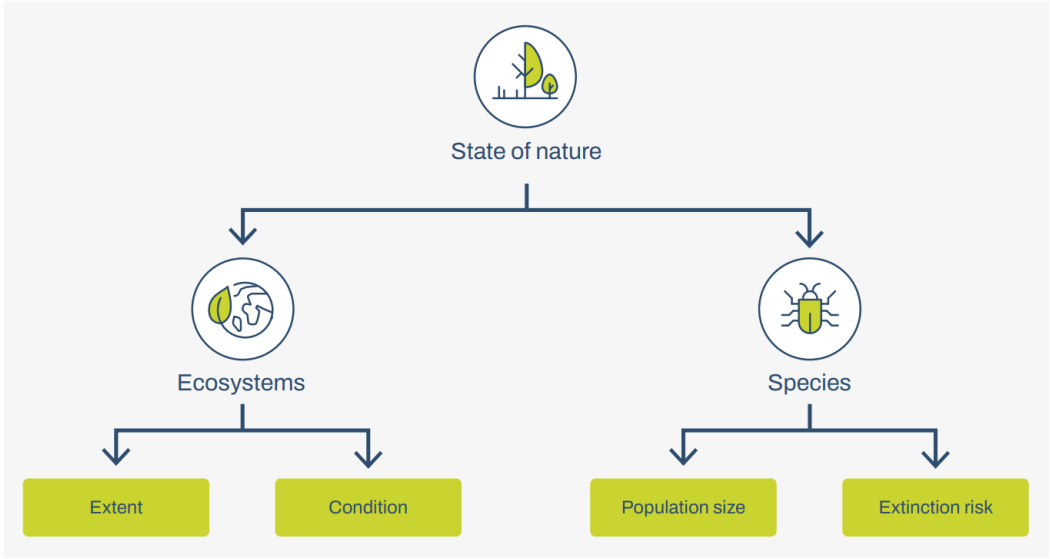
** Change should be measured against a 2020 baseline or earlier, where feasible.*

*** Case-specific metric is the same as the Universal metric, but piloting participants must apply at least the Medium Granularity Level for Priority Ecosystems.*

TNFD

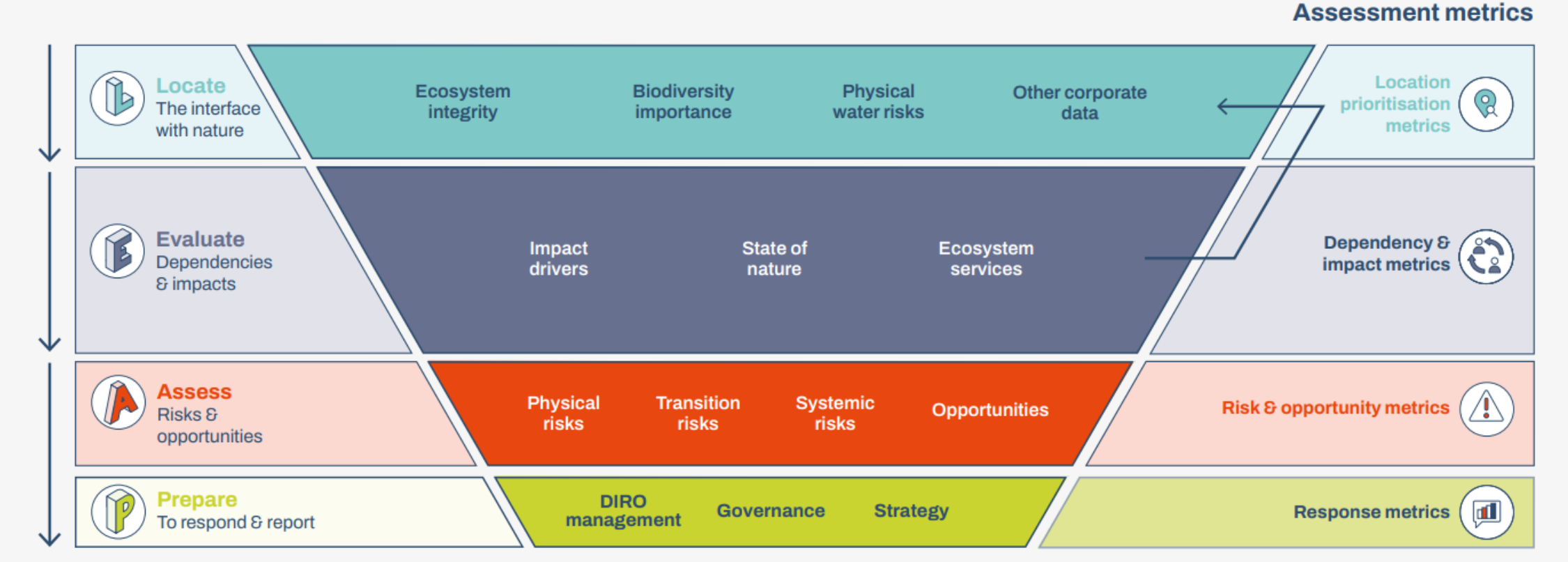


The role that the (changes to) State of Nature play in the Dependency and Impact pathway



Components of State of Nature measurement in TNFD

TNFD



The position of State of Nature metrics within the TNFD LEAP Approach

Q&A on presentation

Measuring the state of nature - Quality Habitat Hectares approach

Heather De-Quincey

October 2025

Why we needed an approach for measuring NPI

1.To deliver on the nature and NPI ambitions.

Anglo has a commitment to achieve NPI on biodiversity. QHH provides the quantitative backbone for that ambition, turning qualitative conservation goals into measurable outcomes. It allows Anglo to assess whether restoration, rehabilitation, and offset activities are sufficient to achieve NPI.

2. To provide a consistent, defensible measurement framework.

QHH introduces a standardised, scientifically grounded measure of habitat quality and extent, enabling comparability across over time.

3.To integrate biodiversity into business planning and investment decisions.

By expressing nature performance in a quantitative, spatially explicit metric, QHH enables integration into Life-of-Asset Plans, Resource Development Plans, and closure cost models. It links ecological outcomes to financial and operational decision-making.

4. To future-proof against disclosure and regulatory expectations.

As biodiversity disclosure requirements tighten Anglo needs a metric capable of supporting external reporting and independent verification. QHH provides a robust framework to meet these emerging standards, ensuring Anglo can report credible, site-specific progress toward its nature targets.

Quality Habitat Hectares

Fauna and Flora are developing a detailed method of ecosystem condition calculation

- The indicators are site specific, and are aggregated into condition components - Composition, Structure, and Function – as per the ICMM NNL guidance.
- An operation's BMP ensures they implement the mitigation hierarchy to reduce impacts on biodiversity and identifies high value biodiversity features requiring positive outcomes (Significant Biodiversity Features).
- Each operation has specific NPI targets that aim to achieve gains over and above its impacts on these Significant Biodiversity Features.

Q.H.
Quality Habitat
Condition of the ecosystem
- Composition
- Structure
- Function

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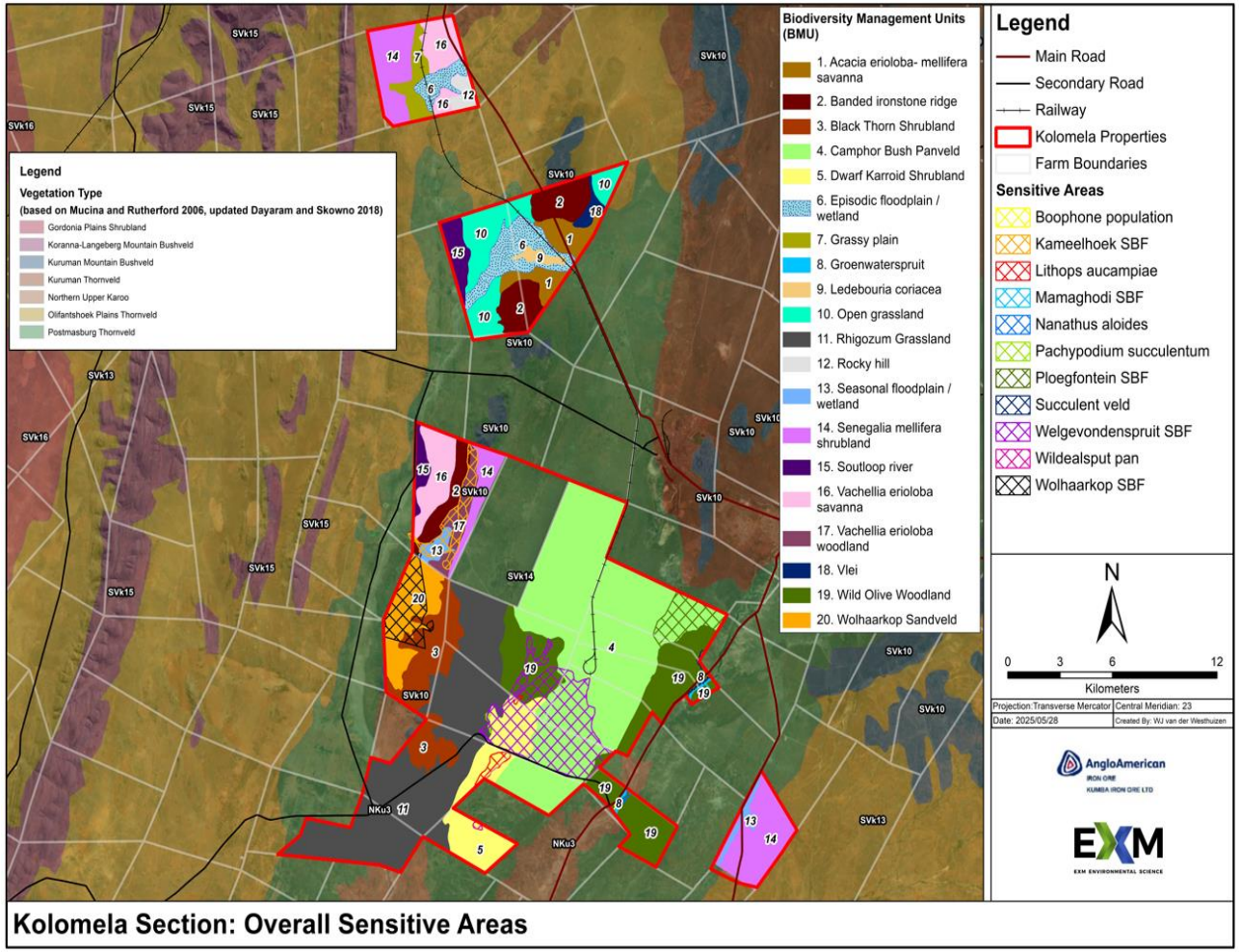
Ha
Area
Impacted area of an ecosystem type measured in physical hectares

=

QHH
Quality Habitat Hectares

Assessing and increasing the quality of habitat



Kolomela Section: Overall Sensitive Areas

- Composition – species diversity, IAS, protected species presence
- Structure – Soil stability, infiltration potential, habitat fragmentation - Mean Core Area Index, Isolation
- Function – Veld condition, grazing capacity, Landscape Function Index

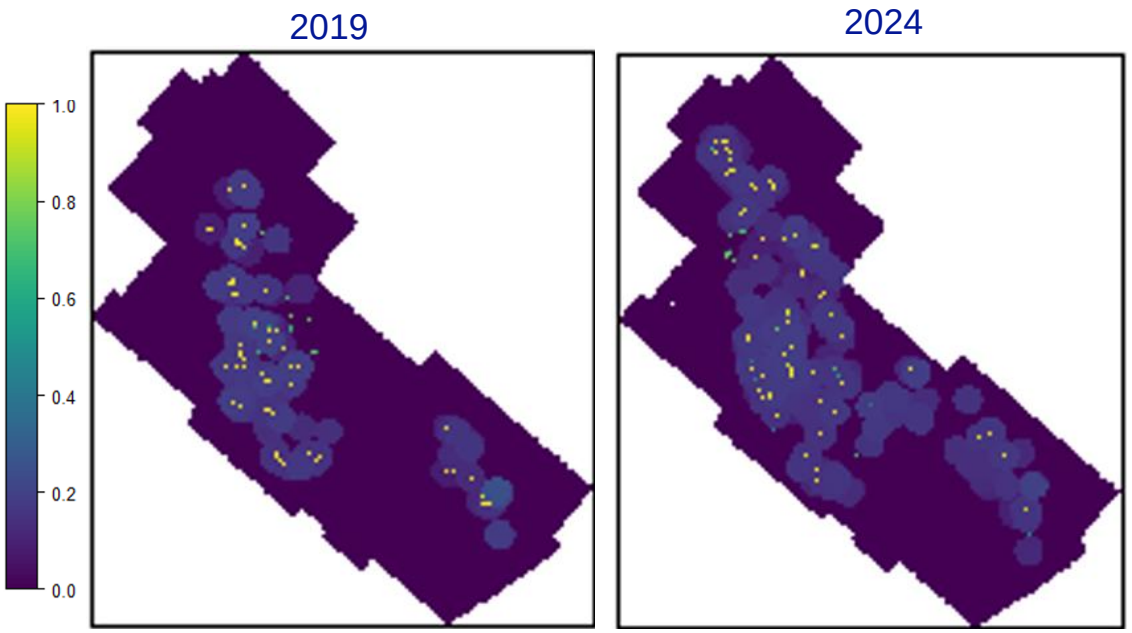
Actions that improve QHH scores:

1. Long term conservation through proclamation
2. Veld condition improvement by changing livestock farm land to conservation (also support corridors through removal of fences)
3. Supporting threatened species, and IAS + bush encroachment clearing

Marine environments

- Primary focus areas were sediment replenishment, benthic communities, and biotopes
- Modelled under different LOM scenarios

- High quality, time series, primary data is required
- A very cautionary approach and assumes full disturbance from sediment removal and conservative recovery times.



Gather biodiversity data to represent SBF & create Baseline layers

Collate Recovery & Sensitivity data for Siltation and Sediment Removal data across diamond recovery footprint

Construct Spatial Pressure Layers (Siltation & Sediment Removal) - Correlate diamond recovery activities to SBF

Overlay Spatial Pressure Layers with Sensitivity Layers to determine diamond recovery impact

Calculate impact & represent as SBF response to impact

Apply Mitigation Hierarchy to each Impact

Determine Residual Impact for each SBF (scaled at 0-1)

Project Future Scenarios to LoM (2057)

Use Biotope Condition Index to calculate QHH (scaled at 0-0.8)

Benefits & Challenges

Benefits

- Highly flexible approach
- Aligned with ICMM guidance
- Tracking the same indicators provides robust time series data
- Indicates which actions have the greatest impact

Challenges

- Overlapping habitats can cause duplication – buffer areas often overlap other habitats
- Relevance of a 2018 baseline for older mines
- Selecting a reference site – what does ‘good’ and ‘better’ look like?
- Only measuring SBF’s excludes restoration and rehabilitation efforts
- Quantification of ecosystem services

Q&A with presenters / facilitated discussion

Thank you

UN environment programme

WCMC