NATURE POSITIVE INITIATIVE

Building Consensus on State of Nature Metrics to Drive Nature Positive Outcomes

Supporting Information for Consultation brief

AFRICAN NATURAL CAPITAL ALLIANCE · BirdLife INTERNATIONAL · BUSINESS FOR NATURE · Campaign for Nature · CAPITALS COALITION · CONSERVATION INTERNATIONAL · GLOBAL COMMONS ALLIANCE · GRI · ICLEI Local Governments for Sustainability

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Introduction

This Supporting Information document has been developed as part of the Nature Positive Initiative's current project on Building Consensus on State of Nature Metrics to Drive Nature Positive Outcomes. This document is intended to be read in conjunction with our Consultation Brief on Draft Metrics.

The information contained in this document aims to provide additional detail on why state of nature metrics are an important component of any comprehensive nature strategy or measurement framework. It also explains how state of nature metrics fit within the existing metrics landscape.

The project approach and scope is also clarified, alongside additional detail on the proposed State of Nature Metrics Framework and a hypothetical case study example demonstrating how it can be applied in practice. A Glossary of key terms is also provided.

For more information, please visit www.naturepositive.org/resources.

This Supporting Information document has been prepared in conjunction with a Consultation Brief on Draft Metrics.

Please access the brief here: Consultation Brief.

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Background and context

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Background and context

In December 2022, the Kunming-Montreal Global Biodiversity Framework (GBF) set goals to halt and reverse nature loss by 2030, aiming for harmony with nature by 2050. Since then, the 'nature positive' movement has continued to gain momentum, with calls for transparent and accountable action to protect and restore nature.

In response, several global frameworks aimed at guiding nature risk and opportunity assessment, reporting, and target setting, have emerged:

- Taskforce for Nature-related Financial Disclosures (TNFD), providing a nature-related risk and opportunity assessment and reporting framework for financial institutions and corporates.
- Science-Based Targets for Nature (SBTN), offering guidance for companies and cities to set science-based targets to address their environmental impacts.
- Global Reporting Initiative (GRI) Topic Standard for Biodiversity, to help organisation to better understand their impacts on biodiversity, and how they can be managed.
- European Union's Corporate Sustainability Reporting Directive (CSRD), mandating company disclosures on environmental and social impacts.
- International Financial Reporting Standards (IFRS) Foundation's research into biodiversity, ecosystems, and ecosystem services (BEES), signalling the possible future integration of nature into global financial reporting.

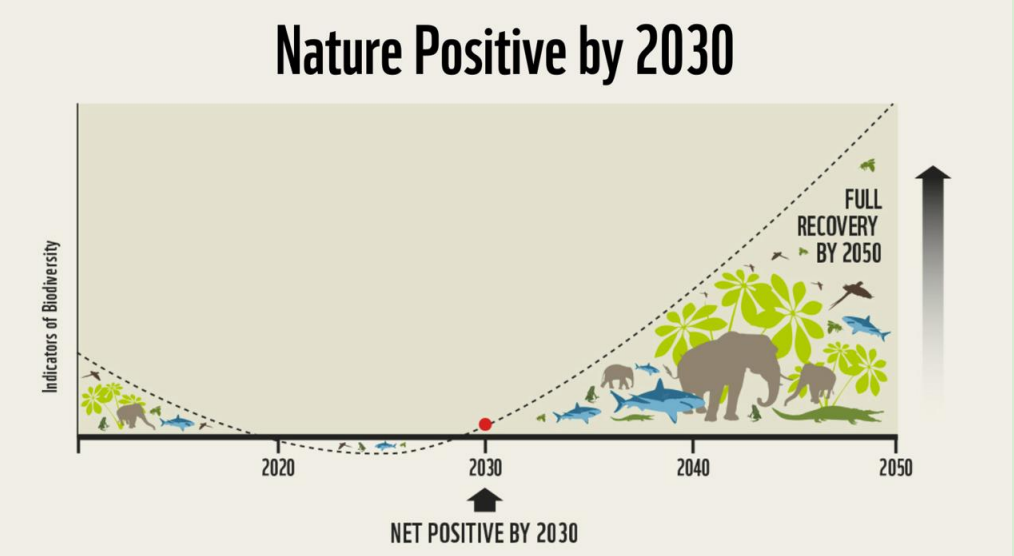
These frameworks come alongside substantial efforts to align the private and public sector on action to restore nature, including significant technical work by the UN System of Environmental Economic Accounting (SEEA), UN Environment Program Finance Initiative (UNEP FI), Capitals Coalition, World Business Council for Sustainable Development (WBCSD) and many others.

Our current mission is to build consensus on a set of measurable indicators and metrics to define the state of nature and help bring measurability to the term 'nature positive'.

Defining nature positive

'Nature positive' is a global societal goal defined as 'halting and reversing nature loss by 2030 on a 2020 baseline and achieving full recovery by 2050'. To put this more simply, it means ensuring more nature in the world in 2030 than in 2020 and continued recovery after that. This ambition is captured in the GBF.

Delivering the nature positive goal requires measurable net-positive biodiversity outcomes through the improvement in the abundance, diversity, integrity and resilience of species, ecosystems and natural processes. The goal is designed to drive society to an absolute improvement in the state of nature, and in turn improving nature's contributions to human wellbeing.



State of nature metrics and the GBF

State of nature metrics can holistically support efforts to monitor and drive progress towards the GBF's overarching mission to halt and reverse biodiversity loss by 2030, specifically:

- Goal A of "Protect and Restore ['the integrity, connectivity and resilience of all ecosystems are maintained, enhanced, or restored… extinction of known threatened species is halted… by 2050'] and its targets; and
- Target 15 ['Businesses should Assess, Disclose and Reduce Biodiversity-Related Risks and Negative Impacts'] which focusses on private sector action.

Measuring the state of nature

Why measure the state of nature?

Biodiversity encompasses a wide variety of species, ecosystems and the complex relationships and natural processes they share with one another and their surroundings. There are several elements that must be considered to build a comprehensive view of nature, such as the extent and condition of ecosystems, species population sizes and extinction risks, among others.

Consequently, measuring the state of nature can be highly context-driven, and it can be difficult for organisations to pinpoint what to measure. This has contributed to a notable lack of consensus on metrics to measure changes in the living, or 'biotic', elements of nature.

Significant progress has been made on measuring the non-living, or 'abiotic', elements of nature (e.g. water quality), and metrics to measure 'pressures' on nature (e.g. wastewater discharged) and our 'responses' to improve the state of nature (e.g. wastewater treated) metrics.

State of Nature (SON) metrics are needed to monitor whether our responses are truly contributing to nature's recovery, meaning they are central to any comprehensive nature strategy or framework. Collectively, SON metrics can provide insights into the overall health and integrity of ecosystems, species, and natural processes.

How do SON metrics fit alongside pressure and response metrics?

SON metrics will not replace existing pressure and response metrics. They will be complementary and help users understand whether their responses to, and the underlying pressures on, nature are contributing to an overall decline or recovery in nature.

The NPI's partners, including the SBTN, TNFD, GRI and WBCSD, recognise the need for SON metrics, and are exploring how these metrics can be integrated into their respective frameworks. This project seeks to identify the most credible metrics that are also practical, accessible and can be readily embedded into existing nature standards.

Table 1: Example pressure, response and state indicators across terrestrial, freshwater and atmospheric realms as they work complementarily together

Realm	Pressure	Response	State (biotic and abiotic)
Terrestrial	Intensity of land-use	Area of land rehabilitated/ restored	Terrestrial ecosystem condition or extent (biotic)
Atmosphere	Annual greenhouse gas emissions	Reduction in fossil fuel consumption	Atmospheric greenhouse gas concentrations (abiotic)
Freshwater	Wastewater discharge	Wastewater treated, reused/ recycled or avoided	Aquatic biodiversity (biotic)

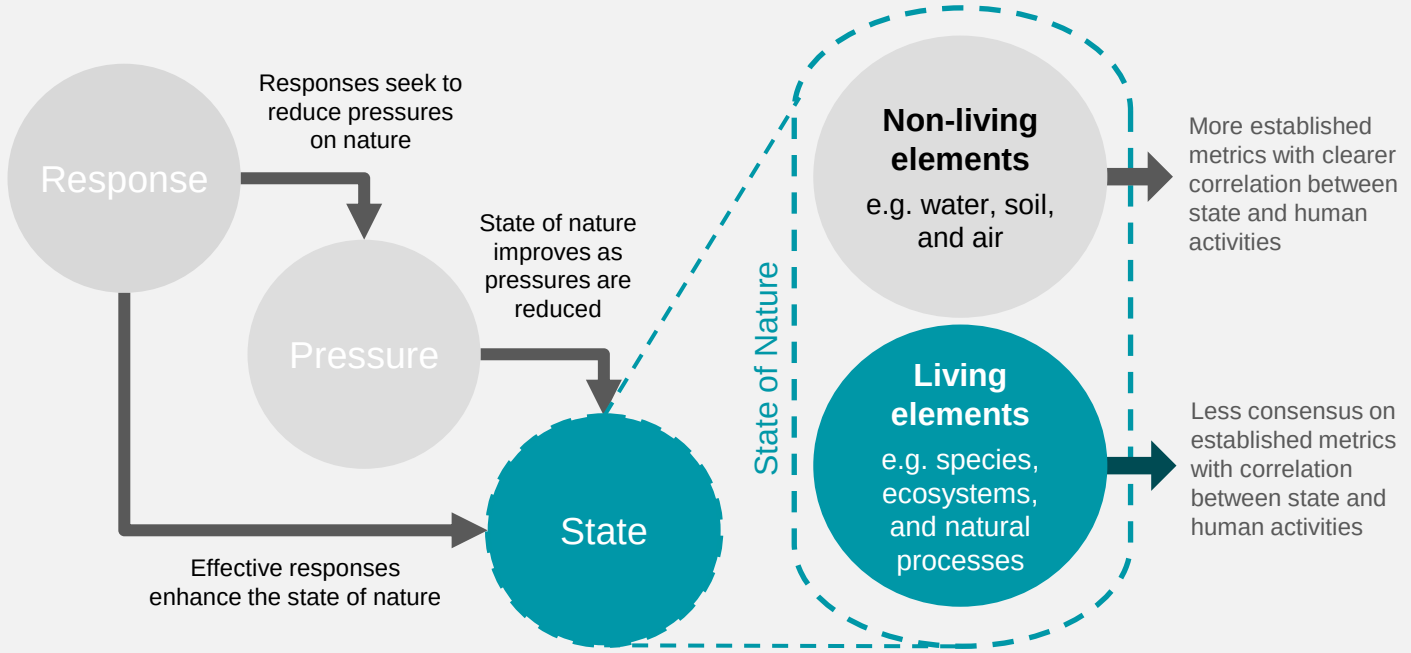


Figure 1: State-Pressure-Response model

Project approach and scope

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Approach

The approach to building consensus on a small set of universally available, meaningful and practical SON metrics took the following steps:

1. Conduct metrics landscape assessment

We conducted a landscape survey to identify existing SON metrics and indicators. This survey identified over 600 metrics from sources including the TNFD, WBCSD, WCMC, stakeholder input, and published databases.

2. Narrow longlist of metrics down to minimum viable metrics sets

The longlist of identified metrics were evaluated against a set of key criteria and potential use cases. Criteria included:

- **Credible and science-based**, with viable datasets and fully documented logic of how the metric is calculated available;
- **Responsive to change**, with a clear link between values of the metric and the state of nature;
- **Flexible** to different types of data and a range of users to apply across different realms, and geographies;
- **Aligned with international standards and frameworks,** including the TNFD and Global Biodiversity Framework;
- **Accessible and affordable** for all users, regardless of their technical expertise or resources;
- **Auditable** and supported by empirical evidence or data that could be independently assured.

3. Map across use cases (see detail in the next slide)

The users could include both state and non-state actors, such as corporates, financial institutions, governments, civil society, and different types of land managers, including indigenous and first nations people.

4. Extensive stakeholder engagement process

The stakeholder engagement process seeks feedback on the approach and draft metrics. This has included a series of interactive workshops, and targeted meetings with industry and technical specialists. This brief forms part of a broader, inclusive public consultation on the metrics.

Defining the scope

This initial phase of work primarily focuses on identifying metrics to measure and track 1) species and 2) ecosystems. Natural processes will be addressed in future phases. Understanding these elements are critical to measuring nature positive outcomes.

Although there is some consensus on how to measure the non-living, or ‘abiotic’, elements of nature, such as water, soil, and air quality, by contrast, there's a notable lack of consensus on metrics to measure changes in the living, or ‘biotic’, elements of nature, where the link between human activities and outcomes is more complex and less clearly understood. This project therefore focuses more on the biotic elements of nature. With that said, abiotic components are incorporated within some indicators, such as ‘ecosystem condition’, because living and non-living elements of nature cannot be entirely separated.

Key issues flagged for future phases of work

The following important elements to measuring nature and nature positive outcomes have not yet been addressed as part of this initial phase of work due to project constraints. However, the NPI plans to convene processes to address these items as part of future work:

- **Marine and freshwater metrics (currently in progress):** Biodiversity metrics across the marine, freshwater, and terrestrial realms differ considerably in methodology and application. Additional analysis and consultation with stakeholders is required to tailor a suitable set of metrics suitable for marine and freshwater environments.
- **Natural processes and ecosystem services:** The initial phase has focused on metrics for ecosystems and species. Natural processes and ecosystem services, while important, will be addressed in work due to current data and metric maturity constraints.
- **Indigenous Peoples and Local Communities (IP&LC):** Recognising the depth and value of knowledge held by IP&LCs, it is essential to recognize their insights and practices. In the next phase, we aim to convene a process to build consensus on how traditional knowledge can complement state of nature metrics in measuring whether nature is in recovery. Guidance on how the metrics and indigenous knowledge can be applied in relation to Indigenous Peoples and Local Communities also needs to be developed.
- **Guidance on making ‘nature positive’ claims:** Linking an organisation's actions to nature positive outcomes is complex, as multiple entities may impact the same landscape and contribute to its degradation or recovery. Stakeholders highlighted the need for guidance on establishing credible connections between organisational efforts and nature positive outcomes. While this initial phase does not provide such guidance, the proposed metrics lay the groundwork for defining what could constitute sufficient contributions to nature positive outcomes in the future.

Mapping metrics to use cases

Creating the use case framework

To build consensus on SON metrics, they must be applicable and relevant across a variety of users and scenarios. The key to their success lies in their standardisation for various types of users, locations, scales, and measurement objectives.

Three overarching use-case dimensions have been identified: type of user, scale, and objective of user. While each combination of the use case framework presented to the right suggests a potential use case, not all may be relevant.

Illustrative use cases include:

- An almond producer preparing a TNFD-aligned disclosure uses SON metrics to understand its risk exposure due to declining pollinator populations;
- An investor using SON metrics to baseline and measure performance of a mining company within its portfolio; and
- A local government agency performs a biodiversity assessment to evaluate the health and condition of a river ecosystem.

Priority use cases

Credible measurement of nature positive outcomes is fundamentally dependent on location-specific information. This principle was supported by stakeholder feedback. This has guided the prioritisation of metrics for users who have access to or can obtain location-specific data.

Recognising the challenges many users may face in achieving complete traceability across their entire value chain, the consultation brief offers options for entities to analyse their value chain or portfolios. These options suit users with different levels of data accessibility and value chain traceability maturity, providing a flexible framework that can adapt as they work towards more comprehensive data integration and application of the proposed SON metrics.

Use cases framework

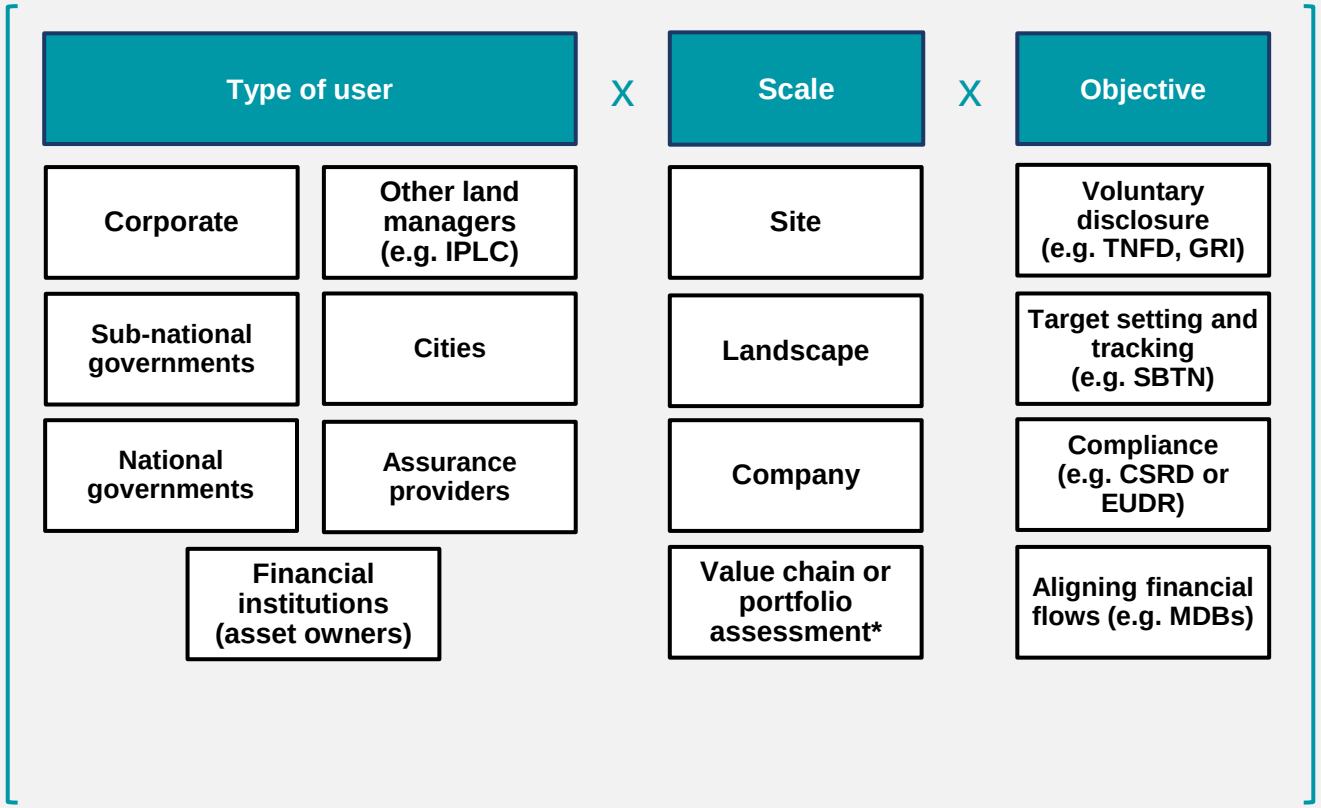

Figure 2: Use cases framework

** Value chain and portfolio assessments will require users to have access to or can obtain upstream and/or downstream location data.*

Applying the metrics framework in practice

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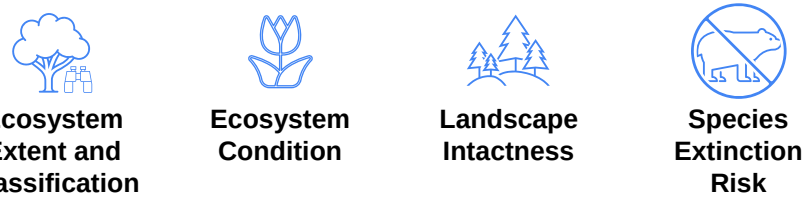
Framework foundations

The SON Metric Framework ('the Framework') provides two types of metrics: **Universal** and **Case-specific**, with two data types: **Individual** and **Contextual**. It also includes a maturity scale with 'Entry-level', 'Standard', 'Advanced' and 'Future' to provide users of varying sizes and capabilities a pathway to entry and improvements over time.

Why these indicators have been selected

The indicators in Table 2 and Figure 3 have been selected to provide a holistic view of the state of nature. All users should measure and report the Universal metrics, which cover ecosystem extent (which links to the GBF 30x30 target of to protect 30% of the planet's land and water areas by 2030), condition (the quality of the land that is preserved), intactness (the functional intactness of the land) and species extinction risk (a measure of priority species of critical importance).

Across the **9** core indicators, the **4** Universal indicators that all users must measure, track and report include:



Ecosystem Extent and Classification | **Ecosystem Condition** | **Landscape Intactness** | **Species Extinction Risk**

Case-Specific metrics are needed to provide a higher level of confidence in the outcomes where biodiversity is most valuable or at risk. For example, where threatened species are present, users should track their population abundance; or where users are operating in intensive land use biomes, measure the condition and proportion remaining of natural ecosystem.

See the Consultation Brief for more detail on the case specific triggers and the Glossary on page 12 of this Supporting Information document for information.

Table 2: Proposed Indicator and Metric Framework

		Indicators (IND)	State of Nature (SON) Metrics: Entry-level	Standard	Advanced	Data type
Universal	Ecosystem	Ecosystem Extent (Change and Classification)(IND 1)	SON E1	SON S1	SON A1	Individual
		Ecosystem Condition (IND 2)	-	SON S2	SON A2	Individual
		Landscape Intactness (IND 3)	SON E3	SON S3	SON A3	Contextual
	Species	Species Extinction Risk (IND 4)	SON E4	SON S4	SON A4	Contextual
	Natural processes	*Planned for future integration*				
Case-specific	Ecosystem	Extent of Highly-Threatened or Local Value Ecosystems (Change and Classification (IND 5)	SON E5	SON S5	-	Individual
		Condition of Highly-Threatened or Local Value Ecosystems (IND 6)	SON E6	SON S6	-	Individual
		Proportion of Natural or Semi-Natural Habitat (IND 7)	SON E7	SON S7	-	Individual
		Condition of Semi-Natural Habitat (IND 8)	-	SON S8	SON A8	Individual
	Species	Species Population Abundance (IND 9)	SON E9	SON S9	SON A9	Individual
	Natural processes	*Planned for future integration*				

Why do we need metrics that use individual and contextual data?

The framework recognises the challenge in attributing the actions of specific actors to nature positive outcomes, and the need for all actors in a landscape to contribute to them. In the next phase of this project. we will develop guidance on contribution and attribution. For this reason, a mix of indicators that can be collected by users, and indices that can better measure landscape-level wellbeing, are included.

Metrics are delineated between 'Individual' and 'Contextual' data types. Most of the proposed SON metrics rely on individual data, where a user collects the data for their sites. Third parties may provide complementary spatial data for metrics tagged as 'Individual'. Users that have progressed to the 'Advanced' metric maturity will be required to do in-situ data collection.

'Contextual' metrics provide an index or score of intactness or species extinction risk. This is derived from publicly reported data, allowing users to understand the broader scale health of a particular ecosystem or species outside the boundaries of their operational site(s).

The value of applying both individual and contextual metrics is that they:

- bridge the gap between site-specific data and broader landscape-level information;
- encourage collaboration and engagement between NGOs, governments, finance, corporates etc.;
- encourage leverage of broader data to draw on insights from institutions operating at larger scales.

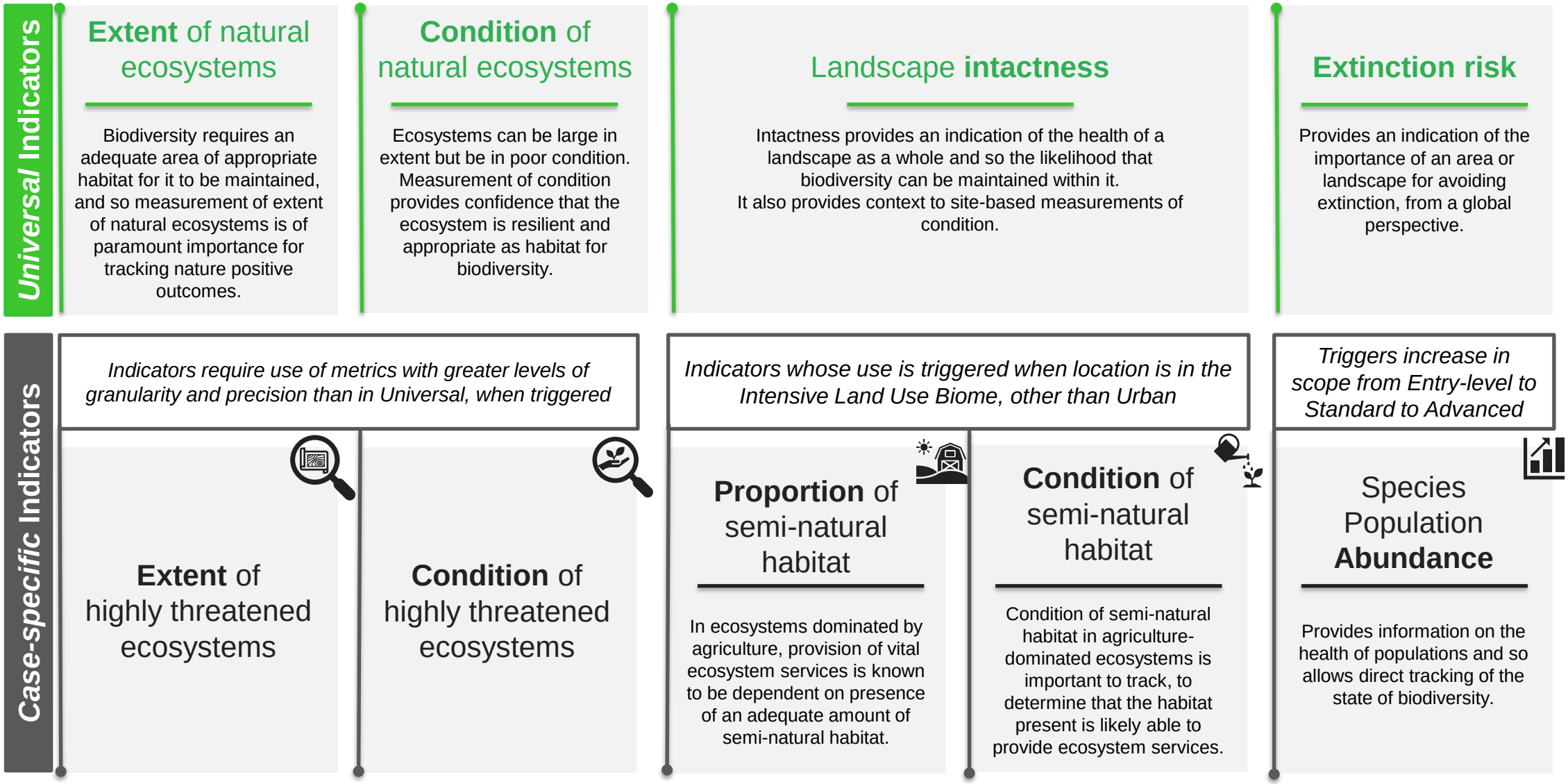


Figure 3: Rationale behind the proposed indicators

Applying the maturity levels

The framework incorporates maturity levels to account for users with different capabilities in applying the metrics. There are three key maturity levels; Entry-level, Standard, and Advanced. These maturity levels are embedded within the Universal and Case-specific metrics sets.

As users progress up the maturity scale, the metrics often remain generally consistent but require increasing granularity. Entry-level metrics are intended as an interim option, to be applied with a timebound plan to move toward Standard or Advanced metrics.

Entry-level Maturity

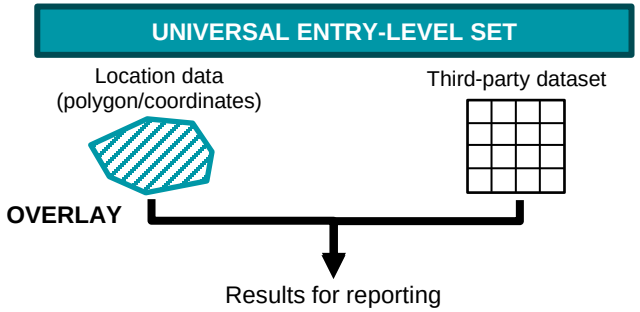
Entry-level metrics should only be applied by users that meet the following:

- Lack technical capacity
- Difficulty accessing relevant data
- Absence of third-party data
- Budgetary constraints
- Traceability challenges

Entry-level example: Change in ecosystem extent (SON1) data is collected at the Global Ecosystem Typology (GET) Level 3 classification, using ≤30m resolution land-cover change products.

Data capture at the Entry-level

Universal metrics at the Entry-level maturity require polygon or coordinate data of the location under assessment, combined with relevant third-party datasets.



Standard Maturity

Standard metrics are the default level of maturity a user should apply. To apply Standard level metrics, users will likely have existing technical capacity and access to comprehensive location data.

Standard example: Change in ecosystem extent (SON1) data is collected at the GET Level 4 classification, using ≤30m resolution land-cover change products.

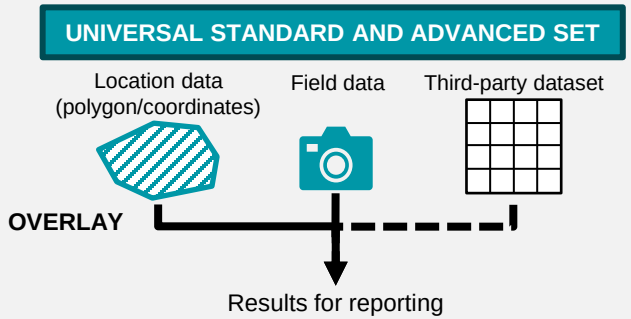
Advanced Maturity

To apply Advanced level metrics, users will likely have existing technical capacity, access to comprehensive location data and ambition to be recognised as a credible leader in biodiversity measurement, reporting high quality metrics.

Advanced example: Change in ecosystem extent (SON1) data is collected at the GET Level 5 or 6 classification, using ≤10m resolution land-cover change products.

Data capture at the Standard and Advanced Levels

Universal metrics at the Standard and Advanced Levels require the collection of in-situ, field data. This provides an additional layer of granularity that improves the credibility of the information being collected compared to the Entry-level metrics.



Illustrative examples demonstrating how the metrics and data capture evolve as users progress through the Metrics Maturity Scale

Example 1: Ecosystem Extent (Change and Classification) (IND1)

Maturity	Metric	Metric Descriptor	Guidance on data Capture		
			Spatial Resolution	Ecosystem classification level	Age of data
Entry-level	**Change in ecosystem extent**	Absolute and percentage of loss, gain and net change for each ecosystem extent (ha/year)*	<30m	GET level 3	<18 months
Standard	**Change in ecosystem extent with ground-truthing**			GET level 4	
Advanced	**Change in ecosystem extent at high resolution and with ground-truthing**		<10m	GET level 5 or 6	<6 months

Example 2: Landscape Intactness (IND 3)

Maturity	Metric	Metric Descriptor	Guidance on data Capture	
			Calculation method	Age of data
Entry-level	**Landscape intactness based primarily on configuration of natural habitat**	Ecoregion intactness score and trend over previous years (+/-) within location and surrounding area	Remote sensing measures	<12 months
Standard	**Landscape intactness based on proportion of original area of each ecosystem type present**		Geometric mean compared to a reference point	<6 months
Advanced	**Landscape intactness based on relative distance from expected collapse of the ecosystem types present**	Ecosystem intactness score and trend over previous years (+/-) within location and surrounding area, and a comparison between natural degradation of condition variables, and those measured within location	Calculation of a geometrics mean based on a conceptual model of ecosystem assemblage	

*This is a two step-process of obtaining ecosystem maps at a relevant granularity, and then measuring the change of the extent of the classified ecosystems, using land-cover change products, each year.

Glossary of terms

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Glossary of key terms

Term	Definition
Absolute species abundance	The number of individuals per species in an area. Describes the representation of a species in an ecosystem.
Abundance indices or estimators	A standardised measure of the number of individuals of a species that does not explicitly attempt to measure the 'true' size of the total population but rather aims to be a proxy of it. For instance, relative abundance could represent the number of birds detected along a fixed transect length or the number of rodents trapped within a unit of time. (Callagahan *et al.*, 2024).
Advanced metrics	The set of metrics that ambitious and well-resourced organisations should be able to use now.
Associated Facilities	Additional infrastructure that would not have been constructed or expanded if the organisations activity did not exist and without which the activity would not be viable. For example, a road to service a mine or a logistics storage area.
Biomes	A biome is "a biotic community finding its expression at large geographic scales, shaped by climatic factors and characterised by physiognomy and functional aspects, rather than by species or life-form composition." (SEEA).
Case specific metrics	Additional metrics that are tailored to users in specific scenarios that demand a more detailed analysis of the state of nature and triggered by specific impacts such as: • Impacting Endangered or Critically Endangered ecosystems, or Key Biodiversity Areas • Impacting Endangered or Critically Endangered species • Intensive land use biome (excluding urban land use).
Composition	Indicators which measure what species are present in the species assemblage as a whole and their relative abundances (rather than the number of individuals within a single species) within an ecosystem (Align).
Conceptual model of ecosystem assemblage	A systematic description of the ecosystem based on its biotic and abiotic components and ecological processes (IUCN).

Term	Definition
Condition adjusted area	The physical area of a portion of an ecosystem weighted by a measure of its condition, where the condition measure is expressed on a range of 0-1 with 1 referring to the reference level. For example, 10 ha at 0.5 condition would be expressed as 5 condition-adjusted hectares, 10 ha at 0.1 would be 1 condition-adjusted hectare. Also called condition-weighted hectares or quality hectares. When condition adjusted areas are used the physical area must always also be recorded and reported alongside.
Condition class	A classification of a continuous measure of condition (i.e., from 0-1) into discrete categories ('bins'), which may be associated with qualitative descriptors and used for simplified reporting. Where condition classes are used, the classification must be described, and the underlying continuous values must also be reported alongside. The bins should be determined based on ability to demonstrate meaningful change.
Contextual metrics	Indicators and associated metrics that are relevant at larger spatial scales and which demonstrate societal progress towards nature positive as a whole. Often not changeable through the actions of one individual actor but can inform scale and type of action appropriate by individual users. Users should report these metrics but, in many cases, they will be measured by a third party.
Core area	The portion of a patch of natural or semi-natural habitat that is 15m or more from the closest patch edge.
Data	The underlying primary, secondary or proxy information gathered to assess the chosen variables, indicators and metrics.
Direct counts	In the context of assessing species population abundance, it refers to actual measurements of individuals of a species in the field.
Ecoregion intactness score	A spatialised measure of landscape intactness, based on the extent, fragmentation, and optionally degradation, of natural habitat within a specified region compared to a reference level. Unlike an ecosystem area or ecosystem health score, an ecoregion intactness score does not take account of ecosystem types.

Glossary of key terms

Term	Definition
Ecosystem area score	A spatialised measure of landscape intactness, based on the geometric mean of the proportion of ecosystem extent remaining for each ecosystem type compared to a reference level, at a biogeographically relevant subnational scale.
Ecosystem asset	Contiguous spaces of a specific ecosystem type characterized by a distinct set of biotic and abiotic components and their interactions. (SEEA).
Ecosystem classification	Ecosystem classification as per IUCN's global standard for ecosystem classification, the Global Ecosystem Typology, is a hierarchical classification that defines major groups of ecosystems distinguished by their functional properties in three upper levels and different compositional expressions of these ecosystem functional groups in three lower levels (IUCN GET).
Ecosystem condition	Ecosystem condition is the quality of an ecosystem measured by its abiotic and biotic characteristics. Ecosystem condition underpins the ecological integrity of an ecosystem and supports its capacity to supply ecosystem services on an ongoing basis. (TNFD/SEEA).
Ecosystem condition variables	Ecosystem condition variables are quantitative metrics describing individual characteristics of an ecosystem asset. Condition variables have a clear and unambiguous definition (measurement instructions, formulae, etc.) and well-defined measurement units that indicate the quantity or quality they measure. Examples of variables are the number of bird species, tree coverage (%), turbidity (SEEA).
Ecosystem extent	The size of an ecosystem asset (SEEA).
Ecosystem health score	A spatialised measure of landscape intactness, based on the geometric mean of the distance of each ecosystem type from a collapsed state, using one or more ecosystem condition variables selected based on a conceptual model of ecosystem assemblage. The score may additionally be weighted by threat status.
Ecosystem type	Defined as per the IUCN Global Ecosystem Typology (IUCN GET).

Term	Definition
Entry-level metrics	A set of indicators and metrics that all organisations with adequate levels of traceability should be able to use now, even if operating in low-resource and data-limited contexts. These indicators trade precision and granularity for ease-of-use and so for most users should be considered an interim stop-gap on the way to using the 'standard' level of indicators and metrics.
Extinction risk	Threat status of a species and how activities/pressures may affect the threat status. The indicator may also measure change in the available habitat for a species as a proxy for impact on local or global extinction risk. (European Commission/TNFD).
Function	"Indicators measure a process that the ecosystem completes or reflects the ability to undertake these processes, e.g., net primary production, water filtration"(Align).
Future	A set of metrics that is likely to become useable in the near future, and which hold promise of greater information content, granularity, precision, or cost effectiveness or a combination thereof, but for which data and/or methodologies are experimental or which are not yet feasible for wide-scale deployment.
Ground-truthing	Ground truthing involves verifying the accuracy of data obtained from remote sensing by comparing it with actual measurements taken on-site at ground level, or with very high-resolution imagery, using appropriate statistical methods.
Highly threatened	Species or ecosystems meeting the criteria for Critically Endangered or Endangered under the IUCN Red List Categories and Criteria, or the IUCN Red List of Ecosystems Categories and Criteria respectively, whether at global or national scale. (IUCN).
Indicator	A quantitative or qualitative factor contributing to understanding the state of nature, including positive upwards or downwards trends (e.g. ecosystem extent and ecosystem condition).
'Individual' metrics	Indicators and associated metrics that are responsive to the activities of an individual actor, and which are measured and reported by individual actors.

Glossary of key terms

Term	Definition
Intensive land use biome	Land-use systems that include major anthropogenic enterprises of cropping, pastoralism, plantation farming, and urbanisation. Human intervention is a dominating influence on this biome, also known as the “anthrome” (IUCN GET).
Land-cover change products	Data products, typically obtained through remote-sensing techniques, which monitor changes in the observed (bio)physical cover on the Earth’s surface (i.e., land-cover) at various temporal and spatial resolutions.
Land-cover classes	Land-cover is the observed (bio)physical cover on the earth's surface. Classes represent different types of land-cover, and can range for example from grassland, woodland and fresh water to urban and suburban built-up areas.
Landscape intactness	A measure of the average state of the ecosystem types in a landscape, compared to a reference condition, or to a state of collapse, measured using habitat configuration, proportion of extent at the reference condition, or the value of ecosystem-specific condition values relative to their reference levels.
Location	A site, Production Unit of Origin, or Sourcing Area, including any Associated Facilities.
Measurement	The process of collecting data for baseline setting, monitoring and reporting.
Metric	A system or standard of measurement used to indicate the current state or condition of a site, ecosystem or landscape (e.g. Mean Species richness or Extinction risk Methodologies).
Natural ecosystems	The term ‘natural ecosystem’ broadly refers to ecosystems where the impact of humans on ecosystem composition, structure and function are low compared to natural factors. (GBF).
Natural habitat	"Areas composed of viable assemblages of plant and/or animal species of largely native origin and/or where human activity had not essentially modified an area's primary ecological functions and species composition (UNEP-WCMC, 2014)." (IPBES).

Term	Definition
Net change	The cumulative effect of a combination of losses and gains in the state of nature (e.g., ecosystem extent or condition) because of an action / intervention over a specified time frame.
Other priority species / ecosystems	Species and ecosystems of particular local value for which enhanced measurement is warranted. Definitions will be locally-specific but should include at a minimum, ecosystems and species: • Of importance for local values of nature, including provisioning ecosystem services and cultural values, or common species declining rapidly at a local scale. • For which the user of the metric set has a disproportionately high opportunity to contribute to their conservation locally, for example where locally important breeding or seasonal congregations occur within the location being assessed.
Pressure metrics	Measures of human activities that directly or indirectly change the state of the environment and ecosystem.
Production unit of origin	Specific mapped production units (e.g., farms, ranches, mines, factories or plants, fields, plantations, forest management units) (Based on SBTN).
Proxy metric	A calculation or metric that can be used to represent the value of something, in this case the value of a particular element of the state of nature.
Reference condition	A reference condition is the condition against which past, present and future ecosystem condition is compared to in order to measure relative change over time. It represents the condition of an ecosystem that is used for setting the high level (or one endpoint) of reference levels of the variables that reflect high ecosystem integrity. The reference condition corresponds to a state where all condition indicators have a (spatially averaged) value of 1 (100%). (SEEA).
Reference level	The value of a variable at the reference condition, against which it is meaningful to compare past, present or future measured values of the variable. (SEEA).

Glossary of key terms

Term	Definition
Relative species abundance	A standardised measure of the number of individuals of a species that does not explicitly attempt to measure the 'true' size of the total population but rather aims to be a proxy of it. For instance, relative abundance could represent the number of birds detected along a fixed transect length or the number of rodents trapped within a unit of time. (Callagahan *et al.*, 2024).
Semi-natural habitat	A habitat within or outside a crop made up of a community of primarily native, non-crop plant species, which human activity may modify but is able to contribute to enhanced ecosystem services. (adapted from IPBES, 2019).
Sourcing area	A known area or region where the material was produced or extracted, but that the specific production unit of origin is not known. Sourcing area boundaries could include a sourcing radius from a first point of collection or processing facility (e.g., a radius from a palm oil mill), a defined production landscape (e.g., the area covered by a smallholder cooperative), or a subnational jurisdiction (e.g., municipality) (Based on SBTN).
Spatial resolution	Spatial resolution refers to the level of detail in spatial data (e.g., in remote sensing it is the size of one pixel). For landcover data products, the spatial resolution refers to the minimum resolution of the landcover product or data layer; remotely sensed input data for the landcover product or data layer should have at least the same, and normally finer, resolution.
Species extinction risk score	A spatialised measure of the relative importance of a defined area to preventing or driving extinction of the threatened species present, calculated based on the summed proportions of the global population of each threatened species present within a location, optionally compared to a reference level, and optionally weighted by threat status. The proportion of the global population may be inferred using proportion of species' ranges, proportion of area of habitat, or proportion of verified area of habitat depending on the level of granularity.
Species important for ecosystem function	Species considered indicators of healthy agro-ecological systems that can help to maintain the functioning of key ecosystem services. This can include taxa of importance for ecosystem service provision, functionally important groups or indicator species of ecosystem integrity. The definition will be locally specific but could for example include pollinator species, species of importance for pest control and farmland birds.

Term	Definition
Species population abundance	Measures changes in the number of individuals of a species within a specific area (from ALIGN).
Species range	The current known limits of distribution of a species, accounting for all known, inferred or projected sites of occurrence (source).
Standard metrics	The set of metrics that most organisations should use, if levels of traceability are adequate and resources are able to be provided.
State of nature metrics	The condition and extent of ecosystems, and species population size and extinction risk, including positive or negative changes.
Surrounding area	At entry and standard level, a buffer of 50km around the location, unless the location is small and entirely within the Urban and industrial ecosystems biome, in which case a 5km buffer maybe used. At advanced level, a polygon surrounding the location defined using the concept of an Ecologically Appropriate Area of Analysis (IFC) may be used.
Threatened	Species or ecosystems meeting the criteria for Critically Endangered, Endangered, Vulnerable or Near Threatened, under the IUCN Red List Categories and Criteria, or the IUCN Red List of Ecosystems Categories and Criteria respectively, whether at global or national scale. (IUCN)
Triggering species	A species meeting the case-specific criteria, either due to threat status or to meeting the criteria for being 'other priority species'.
Universal metrics	State of nature metrics that apply to all users in any context.
UN SEEA	The United Nations System of Environmental-Economic Accounting contains the internationally agreed standard concepts, definitions, classifications, accounting rules and tables for producing internationally comparable statistics on the environment and its relationship with the economy.

Alignment of the SON Metrics to the Global Biodiversity Framework Targets

NATURE POSITIVE INITIATIVE

Alignment of the draft **universal** metrics (terrestrial) to the Global Biodiversity Framework Targets

The draft recommended universal state of nature (SON) metrics is organised around 4 core state of nature indicators (IND) relating to:

- IND1 Ecosystem Extent (change and classification)
- IND2 Ecosystem Condition
- IND3 Landscape Intactness
- IND4 Species Extinction Risk

These metrics can be applied to the Global Biodiversity Framework's Mission to halt and reverse nature loss. The following table outlines how the universal individual indicators and associated metrics also link to the Action Targets of the Global Biodiversity Framework.

Indicator	Metric no.	Maturity	Metric	Connection to GBF targets
IND1 Ecosystem Extent (Change and Classification)*	SON E1	Entry-level	**Change in ecosystem extent**	Target 1 (A.2 Extent of natural ecosystems)
	SON S1	Standard	**Change in ecosystem extent with ground-truthing**	
	SON A1	Advanced	**Change in ecosystem extent at high resolution and with ground-truthing**	
IND2 Ecosystem Condition	SON E7	Entry-level	**N/A**	Targets 1,2,3 (A.1 Red List of Ecosystems A.2 Extent of natural ecosystems) Target 11 (B.1 Services provided by ecosystems)
	SON S2	Standard	***In progress (applicable for certain biomes)***	
	SON A2	Advanced	**Ecosystem condition change by ecosystem type**	
IND3 Landscape Intactness	SON E3	Entry-level	**Landscape intactness based primarily on configuration of natural habitat**	Target 1 (A.1 Red List of Ecosystems)
	SON S3	Standard	**Landscape intactness based on proportion of area of each ecosystem type present**	
	SON A3	Advanced	**Landscape intactness based on relative distance from expected collapse of the ecosystem types present**	
IND4 Species Extinction Risk	SON E4	Entry-level	**Species extinction risk score at 5km resolution**	Target 4 (A.3 Red list Index)
	SON S4	Standard	**Species extinction risk score at 1km resolution**	
	SON A4	Advanced	**Species extinction risk score at <300m resolution**	

*This is a two step-process of obtaining ecosystem maps at a relevant granularity, and then measuring the change of the extent of the classified ecosystems, using land-cover change products, each year.

Alignment of the draft **case-specific** metrics (terrestrial realm) to the Global Biodiversity Framework

The draft recommended **case-specific** state of nature metrics is organised around 5 core state of nature indicators relating to:

- IND5 Extent of highly threatened/HLV ecosystems
- IND6 Condition of highly threatened/HLV ecosystems
- IND7 Proportion of natural or semi-natural habitat
- IND8 Condition of semi-natural habitat
- IND9 Species Population Abundance

The following table outlines the **case-specific** indicators and associated metrics. All of these indicators are individual, meaning that users should collect them for the site of reference.

Indicator	Metric no.	Maturity	Metric	Connection to GBF targets
IND5 Extent of Highly-Threatened and High Local Value Ecosystems (Change and Classification)*	SON E5	Entry-level	**Change in ecosystem extent with ground-truthing**	Target 1 (A.1 Red List of Ecosystems) Target 1 (A.2 Extent of natural ecosystems)
	SON S5	Standard	**Change in ecosystem extent at high resolution and with ground-truthing**	
	–	Advanced	**N/A**	
IND6 Condition of Highly-Threatened and High Local Value Ecosystems	SON E6	Entry-level	***In progress (applicable for certain biomes)***	Targets 1,2,3 (A.1 Red List of Ecosystems A.2 Extent of natural ecosystems) Target 11 (B.1 Services provided by ecosystems)
	SON S6	Standard	**Ecosystem condition change by ecosystem type**	
	–	Advanced	**N/A**	
IND7 Proportion of Natural or Semi-Natural Habitat	SON E7	Entry-level	**Area (absolute and percentage) of natural and semi-natural habitat**	Target 1 (A.2 Extent of natural ecosystems)
	SON S7	Standard	**Area (absolute and percentage) of natural and semi-natural habitat, with ground-truthing.**	
	SON A7	Advanced	**Area (absolute and percentage) of natural and semi-natural habitat, at high resolution and with ground-truthing.**	
IND8 Condition of Semi-Natural Habitat	–	Entry-level	**N/A**	Target 1 (A.2 Extent of natural ecosystems) Target 11 (B.1 Services provided by ecosystems)
	SON S8a	Standard	**Connectance Index**	
	SON S8b	Standard	**Area (absolute and percentage) of natural and semi-natural habitat meeting criteria to be "core area".**	
	SON A8	Advanced	**Abundance of species important for ecosystem function**	
IND9 Species Population Abundance	SON E9	Entry-level	**Change in the number and proportion of triggering species with: 1) stable or increasing, and 2) declining populations**	Target 4 (A.3 Red list Index)
	SON S9	Standard	**Change in the number and proportion of triggering species with: 1) stable or increasing, and 2) declining populations**	
	SON A9	Advanced	**Change in the number and proportion of triggering species with: 1) stable or increasing, and 2) declining populations***	

*See page 6 of the Consultation Brief for additional guidance on trigger criteria

About this consultation brief

This Consultation process is convened by the Nature Positive Initiative (“NPI”), with the support of Ernst & Young (“EY”) and The Biodiversity Consultancy (“TBC”).

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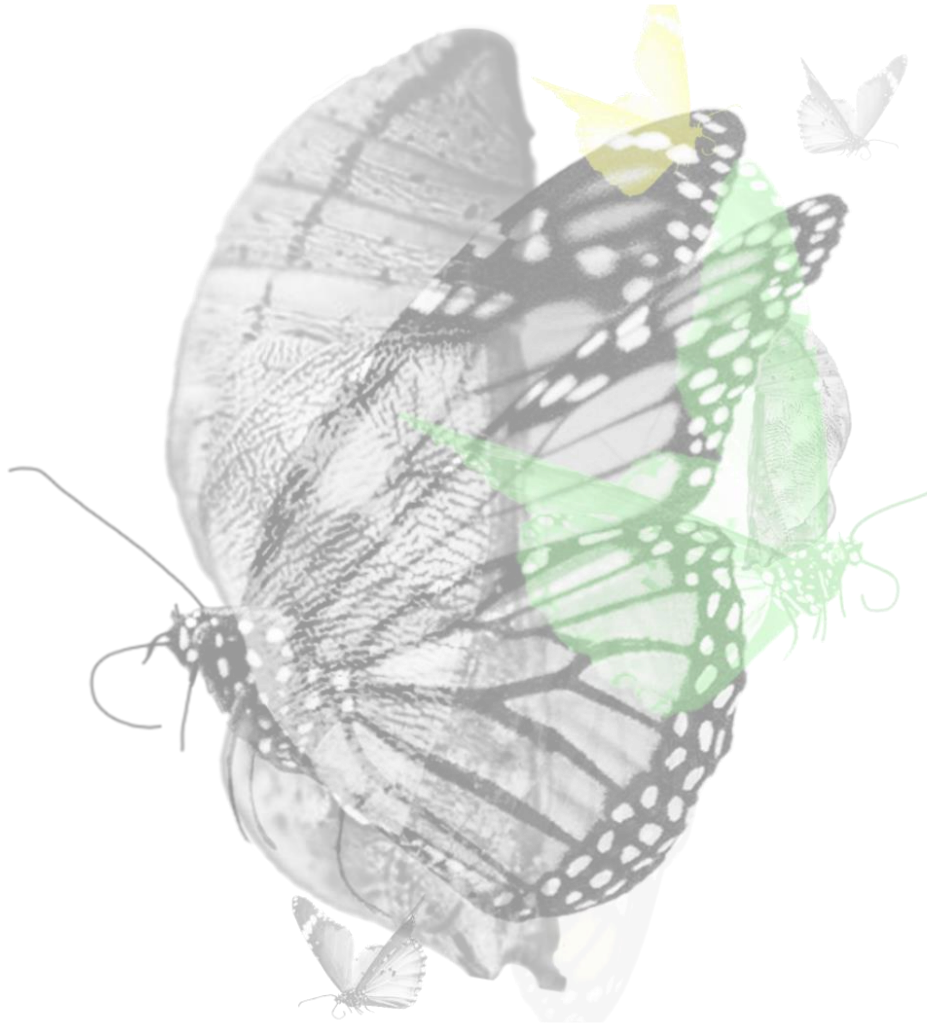

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