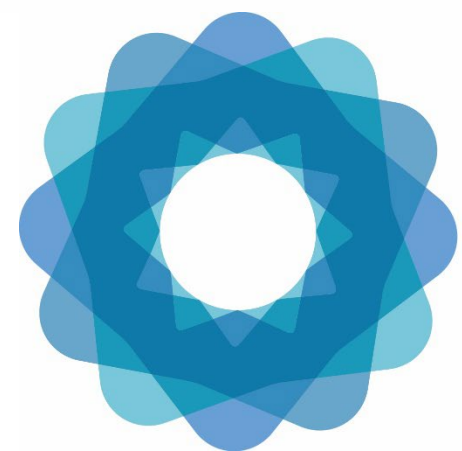




System of
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Introduction to Compilation Guidelines on indicator B1 – Provision of Ecosystem Services

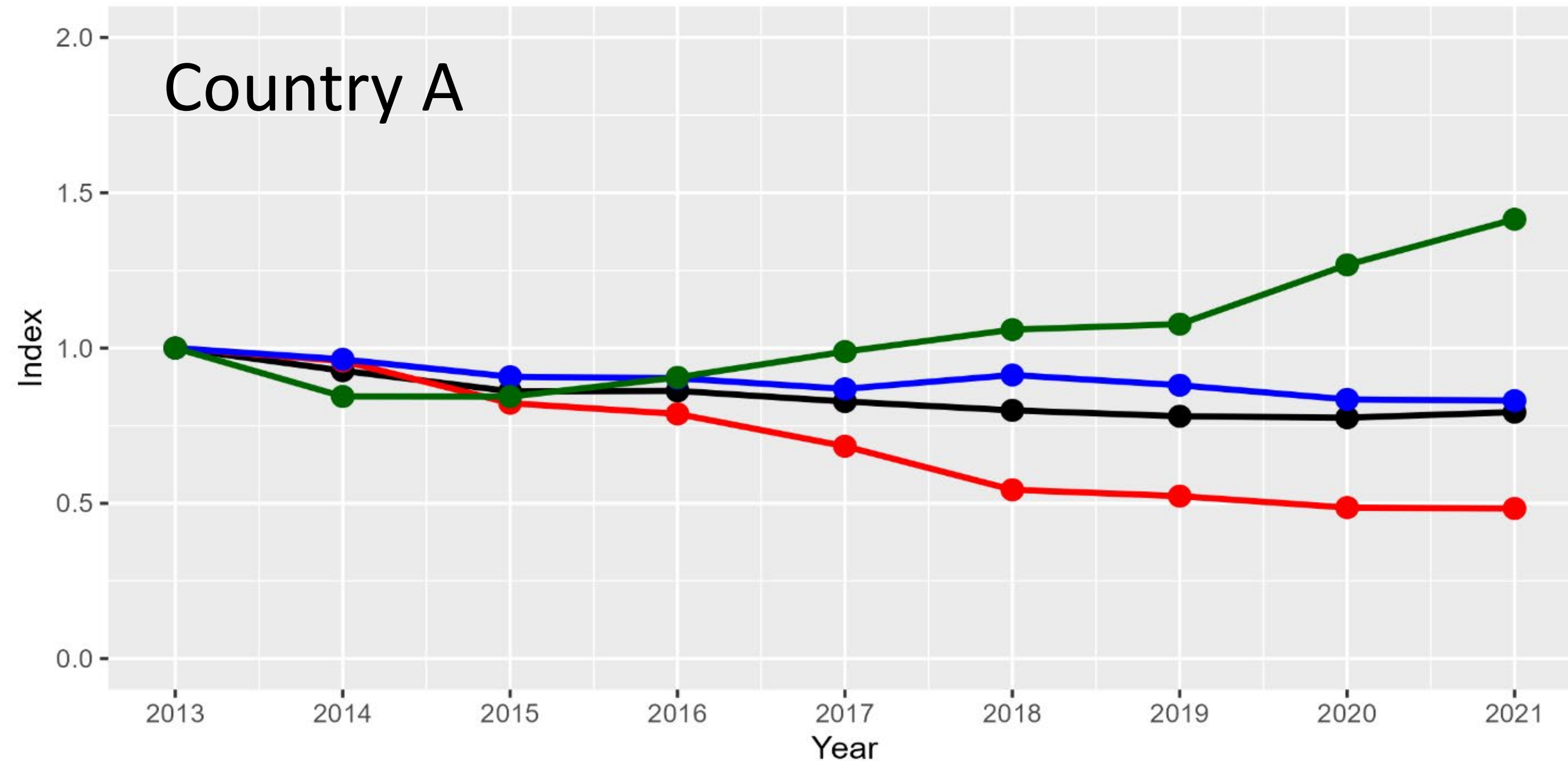
Chiba Training
4 to 7 August 2026

Ilaria Di Matteo
United Nations Statistics Division



United Nations

Headline Indicator B.1: Provision of Ecosystem Services



Three sub-indices



- **Goal B:** Biodiversity is sustainably used and managed and nature's contributions to people, including ecosystem functions and services, are valued, maintained and enhanced.
- **B.1 Rationale:** Ecosystem services are critical for the wellbeing of people and the economy.
- **B.1 Intent:** Track average trend in the provision of a set of ecosystem services to provide insight into changes in ecosystem service flows.
- Easy-to-understand aggregated trends in the relative flows of ecosystem services important for well-being and compatible with sustainable use of biodiversity.

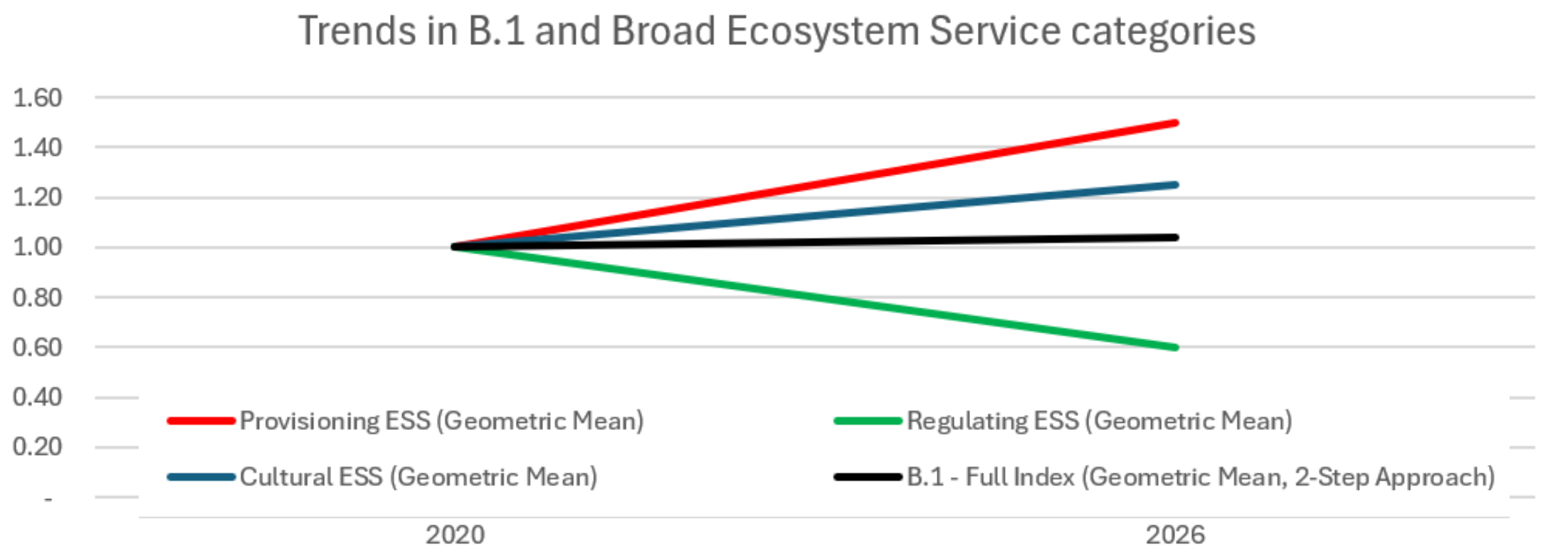
Key concepts, definitions and classifications

- **Ecosystem service flows** – The realised flows of ecosystem services supplied by ecosystem assets and actually used by economic units such as households, businesses, or governments. E
- **Ecosystem types** - A type of ecosystem distinguished from other types by its characteristic functional, structural and compositional properties
- **Reference list of ecosystem services in SEEA Ecosystem Accounting** - Table 6.3 of SEEA Ecosystem Accounting provides a two-level list of ecosystem service types that is intuitive and manageable to use.
- **National ecosystem classifications** - Classification and descriptions of different ecosystem types in a country to which the supply of ecosystem services can be assigned.
- **IUCN Global Ecosystem Typology** - Hierarchical framework for classifying the Earth's ecosystem types across terrestrial, freshwater and marine realms and transitions between them. This is used to support global reporting on the supply of ecosystem services.

Methods and data for B.1

Supply of Ecosystem Services	2020	2026
Grazed Biomass (Tonnes)	10,500	15,750
Wild Fish Provisioning (Tonnes)	2,500	3,750
Global Climate Regulation Service (Tonnes C)	22,500	13,500
Coastal Protection (People protected)	1,500	900
Nature-based Tourism (International Visitors)	5,000	6,250

Relative Supply of Ecosystem Services	2020	2026
Grazed Biomass (Relative to 2020)	1.00	1.50
Wild Fish Provisioning (Relative to 2020)	1.00	1.50
Global Climate Regulation Service (Relative to 2020)	1.00	0.60
Coastal Protection (Relative to 2020)	1.00	0.60
Nature-based Tourism (Relative to 2020)	1.00	1.25



Method of computation: The indicator is drawn directly from **SEEA EA Ecosystem Services Supply and Use Accounts** for selected services in different years.

Data:

- Nationally comprehensive datasets on ecosystem service flows for selected ecosystem services.
- National statistics, public surveys, administrative data, census data, field surveys, hydrological data, earth observation data.
- Ecosystem service modelling platforms (See [Biophysical modelling | System of Environmental Economic Accounting](#)).
- [ARIES for SEEA platform](#). Grazed biomass provisioning, global climate regulation services, coastal protection services and nature-based tourism under development.

B.1 Compilation Guidelines

- Being developed by UNSD as part of the EU funded [SEEA-Related Indicators for the GBF project](#).
- Based on most recent versions of the metadata being discussed at CBD SBSTTA
- Provides practical guidance to countries for compiling and reporting on GBF indicators
 - > Adaptable to countries at different stages of SEEA EA implementation
 - > Build common understanding of the indicator within and across countries.
 - > Support a strategic approach for regular compilation of the indicator.

B.1 Services provided by ecosystems

1. Indicator name
B.1 Services provided by ecosystems
2. Date of metadata update
March 2026
3. Goals and Targets addressed
3a. Goal
Goal B: Biodiversity is sustainably used and managed and nature's contributions to people, including ecosystem functions and services, are valued, maintained and enhanced, with those currently in decline being restored, supporting the achievement of sustainable development for the benefit of present and future generations by 2050.



SEEA-related Indicators
for the Kunming-Montreal Global Biodiversity Framework

ADVANCED DRAFT: Compilation Guidelines for GBF Headline Indicator B.1 Services provided by ecosystems

This advanced draft of the Compilation Guidelines has been prepared for information for the twenty-eighth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-28) of the Convention on Biological Diversity (CBD). The Guidelines are being developed by the United Nations Statistics Division, with the support of an expert group convened under the auspices of the Technical Committee on SEEA Ecosystem Accounting of the United Nations Committee of Experts on Environmental-Economic Accounting (UNCEE). Their development has also been informed by an [Expert Group Meeting on SEEA-related Indicators for the Kunming-Montreal Global Biodiversity Framework \(GBF\)](#), held in February 2026. Following a final Expert Group Meeting scheduled for November 2026, a revised version of the Guidelines will be made available for public consultation.

This version of the guidelines was produced in July 2026 and is available as part of the portfolio of 'other documents' on the [SBSTTA-28 webpages](#) and the "[SEEA-related Indicators for the Global Biodiversity Framework](#)" project website. It is being circulated for information purposes only, and has not been finalised, endorsed, or released for public consultation.



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[SEEA-related GBF indicators:](#)
[Project progress | System of Environmental Economic Accounting](#)

and enhance nature's contributions to people, including ecosystem functions of air, water, and climate, soil health, pollination and reduction of disease from natural hazards and disasters, through nature-based solutions and/or for the benefit of all people and nature.

ices are critical for the wellbeing of people and make important contributions. Examples include harvested wild species, pollination of crops, water purification by water quality, climate regulation by sequestering carbon dioxide, influencing weather patterns, nature-based recreation and many more. Conserving, managing ecosystems and biodiversity is fundamental to maintaining and enhancing ecosystem

aims to track trends in the provision of ecosystem services, responding to the state of ecosystem services should be "*maintained and enhanced, with those currently declining*". The index is intended to show whether the provision of ecosystem services is increasing, stable or decreasing, as well as the rate of these increases or decreases. SEEA-related headline indicators for Goal A (A.1 Red List of ecosystems and A2 Ecosystems), indicator B.1 provides insight into changes in the state and trends of ecosystem services they provide.

Change in ecosystem services has the potential to be disaggregated in several different categories of ecosystem service and by ecosystem type. As described, ecosystem services can be divided at a broad level into provisioning, regulating, and supporting services, often with differing directions of change. Three sub-indices, one for each broad category of services, will illuminate these differences. Combined with information from the SEEA, disaggregation of the overall index by ecosystem type could provide valuable information on the contribution of different ecosystem types to ecosystem service provision, observation, management and restoration efforts to enhance ecosystem service

Primary purpose of monitoring and reporting on headline indicators is to support the implementation of the goals and targets of the Kunming-Montreal Global Biodiversity Framework, the indicator is designed to enable countries to select ecosystem services that are important and policy relevant to be included in the indicator, based on guidelines for selection, documentation and supporting compilation guidelines. The indicator also reflects the state of global relevance and that will be included in the indicator by all countries. Disaggregation of the indicator will provide a view of global progress towards

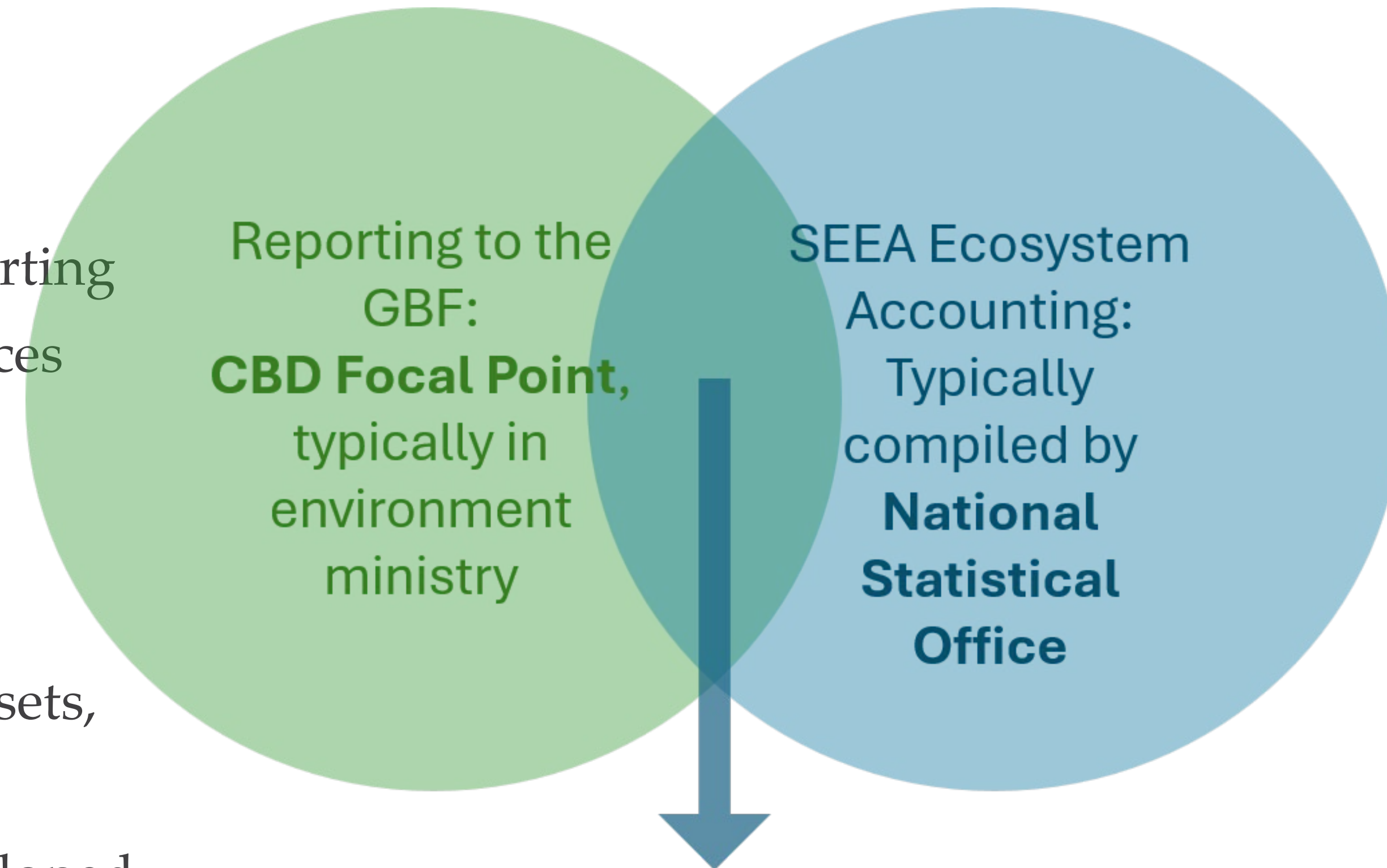
[Updated metadata for the headline indicators for the Kunming-Montreal Global Biodiversity Framework](#)

B.1 Compilation Guidelines – Stepwise approach

PART A	1. Introduction	What this document is, who it's for, how it's structured
	2. Context and rationale	Rationale in relation to Goal B and Target 11; Suite of ecosystem-related HIs; Accounting approach to indicators; Interpreting Indicator B.1
	3. Concepts and definitions	Ecosystem; Ecosystem services (ES); ES flows; Ecosystem type (ET); Ecosystem condition; Natural ETs; Anthropogenic ETs
	4. Classifications	Reference list of ecosystem services in SEEA EA; National ecosystem classifications; Global Ecosystem Typology
PART B	5. Step 0. Preparation	High-level institutional guidance
	6. Step 1. Deciding on measurement scope	Two-stage approach to prioritising and selecting ES for inclusion in the indicator
	7. Step 2. Collecting & organising datasets	National datasets on ecosystem services; National ecosystem map; Global datasets as an interim option; Attributing ES flows to ETs; Dealing with sustainability of ES flows.
	8. Step 3. Compiling accounts	Three scenarios regarding existence of ecosystem extent accounts; Basic and interim options for preliminary accounts
	9. Step 4. Deriving the indicator	Aggregating ES flows to derive the indicator; Disaggregating the indicator
	10. Step 5. Reporting on the indicator	GBF reference period, national baseline, reporting years; Reporting items

Step 0: Preparation

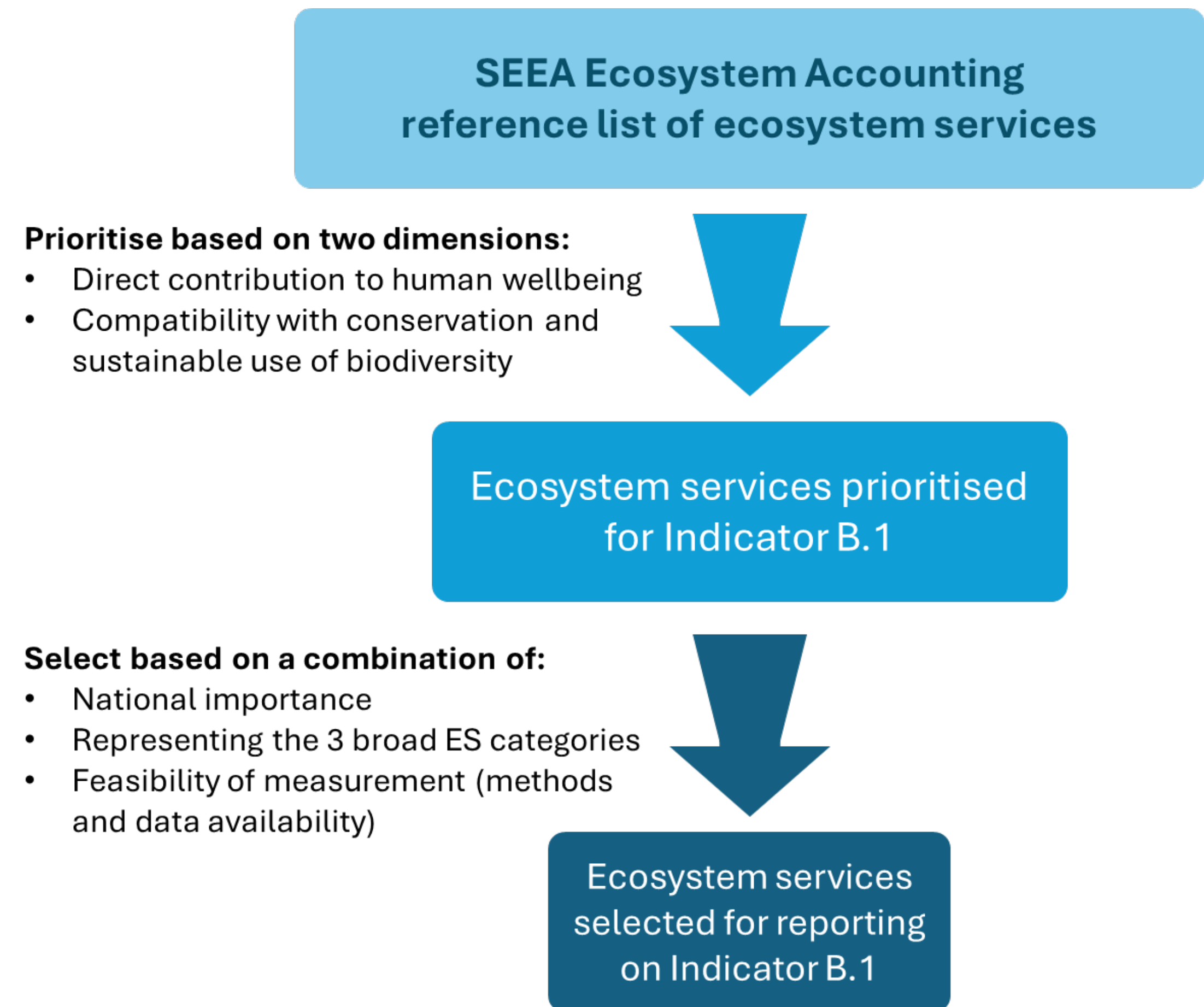
- Convene key institutions and experts that will contribute to compilation of B.1:
 - > CBD Focal Point responsible for national reporting
 - > Specialists in ecosystem assessment and services measurement and mapping
 - > Custodians of key datasets
 - > Environmental accounting experts
- National self-assessment to identify available datasets, capacity and gaps
- Identify any key datasets that will need to be developed or improved
- Establish the institutional arrangements and technical team

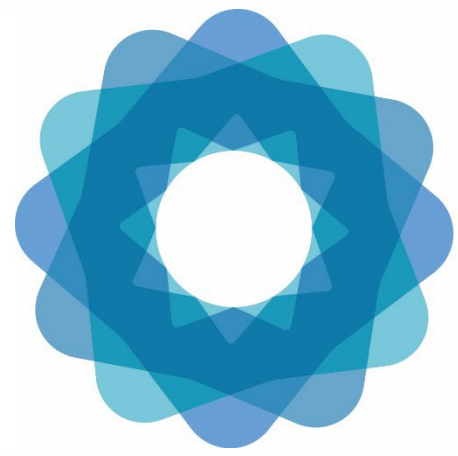


Collaborative delivery of GBF Indicators A.2 and B.1, working with relevant partners across institutions

Step 1: Operationalizing the measurement scope of the indicator

- Selecting the ecosystem services to include in the indicator.
- SEEA Ecosystem Accounting reference list of ecosystem services used for selecting ecosystem services.
- Ecosystem services that are not consistent with the rationale should not be selected.
- Global Climate Regulation Service should be selected.
- At least 5 ecosystem services should be selected in total.
- Provisioning, regulating and cultural ecosystem services should all be represented.





**Discussion session – Which ecosystem
Services would you select for your country and
why?**

(Use the SEEA EA Reference List, next slide)



SEEA EA Reference List of Ecosystem services – B1

- Provisioning:
 - > Biomass
 - Crop Provisioning
 - Grazed biomass
 - Livestock
 - Aquaculture
 - Wood
 - Wild fish + other
 - Wild animals, plants + other
 - > Genetic material
 - > Water supply
- Regulating and maintenance services
 - > Global climate regulation
 - > Rainfall pattern
 - > Local (micro and meso) climate regulation
 - > Air filtration
 - > Soil quality regulation
 - > Soil and sediment retention
 - > Solid waste remediation
 - > Water purification
 - > Water flow regulation
 - > Flood control
 - > Storm mitigation
 - > Noise attenuation
 - > Pollination
 - > Biological control
 - > Nursery population & habitat maintenance
- Cultural:
 - > Recreation-related
 - > Visual amenity
 - > Education, scientific and research
 - > Spiritual, artistic and symbolic services

Step 2: Collecting and organizing key datasets

1. Nationally comprehensive datasets on ecosystem service flows for those services selected for the indicator:
 - > Including supply from all relevant ecosystem types
 - > Measured in biophysical terms.
2. A national ecosystem map representing the distribution of all ecosystem types present in the country, to which the supply of ecosystem services can be linked (See Compilation Guidelines for A.2)
 - National datasets on ecosystem services:
 - > Represent actual supply and use of the ecosystem service (i.e. the match between supply and use).
 - > Include at least 2 timepoints, for 2020 (or 2011 to 2020) and at 1 more recent timepoint
 - > Nationally comprehensive
 - > Preferably attributed to the ecosystem types supplying the services
 - > Preferably spatially explicit
 - > Preferably attributed to economic users.

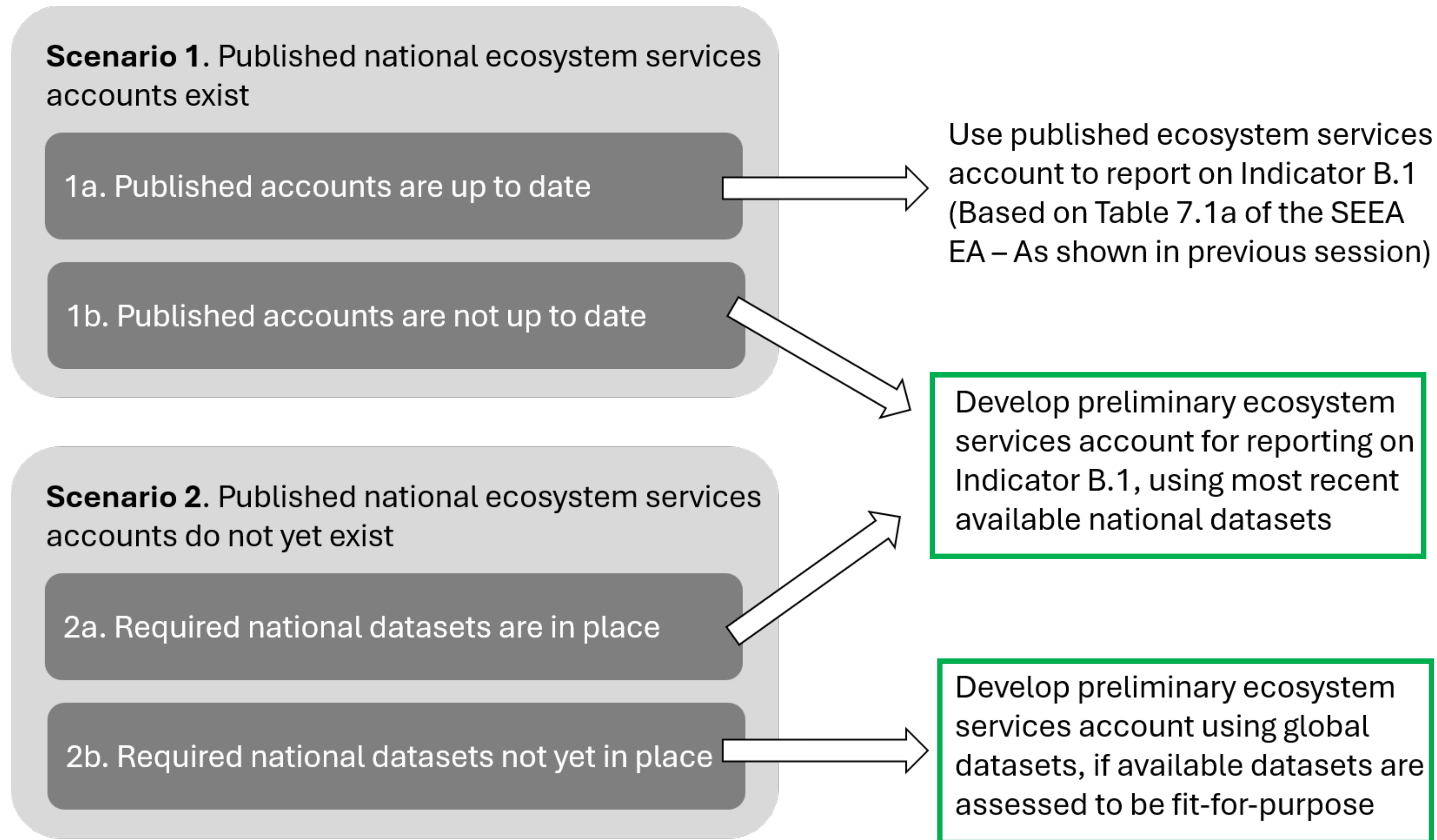
Global datasets as an interim option

- When insufficient national data on ecosystem services :
 - > Initiate process of developing national datasets for B.1 reporting.
 - > Consider use of global datasets or models as an interim alternative.
 - > Hybrid options should be evaluated, using national data in global models or national models using global data
 - > Use national datasets for some ecosystem services and global datasets others
- Global platforms that may provide useful models and/or datasets on ecosystem services:
 - > [ARIES for SEEA platform](#). Including new modules for grazed biomass provisioning, global climate regulation services, coastal protection services and nature-based tourism.
 - > [InVEST models](#) and tools,
 - > [Co\\$ting Nature](#), which focuses on 18 ecosystem services from natural environments,
 - > Models and tools that have been developed for Europe as part of the [INCA Platform](#).

Attributing ecosystem service flows to ecosystem types

- Ecosystem services accounts attribute the supply of services to ecosystem types.
- Services may be linked to ecosystem types by:
 - > **Using national ecosystem maps as inputs to ecosystem service models** - enabling direct attribution of services to ecosystem types.
 - > **Conceptual association based on ecological characteristics** - identifying which ecosystem types can plausibly provide a given service
 - > **Spatial overlay of ecosystem service datasets with a national ecosystem map** – allowing spatial data on ecosystem services to be linked to location of different ecosystem types. Conceptual associations help exclude implausible combinations.

Step 3: Compiling the accounts



A country can compile and report on Indicator B.1 from the starting point of either of these scenarios, i.e. even if it does not yet have formally published national ecosystem extent accounts.

A preliminary ecosystem extent account should use the table structure in SEEA EA OR the basic or interim options shown on the next slide.

Basic and interim options for a preliminary account

- Basic ecosystem service supply account:
 - > Information on the supply of ecosystem services by different ecosystem types (no information on users).
 - > Should be produced for at least 2 years.
- Interim / minimum table option:
 - > Total quantity of each ecosystem service supplied (no information about ecosystem types or users).
 - > At least two time points needed to calculate the indicator.

Supply of Ecosystem Services (2020)	Temperate Woodlands (T4.4)	Intertidal forests and shrublands (MFT1.2)	Deciduous Temperate Forest (T2.2)	Total supply in 2020
Grazed Biomass (Tonnes)	10,000	-	500	10,500
Wild Fish Provisioning	-	2,500	-	2,500
Global Climate Regulation Service (Tonnes C)	1,500	1,000	20,000	22,500
Coastal Protection (People protected)	-	1,500	-	1,500
Nature-based Tourism (International Visitors)	-	2,000	3,000	5,000

Supply of Ecosystem Services	2020	2026
Grazed Biomass (Tonnes)	10,500	15,750
Wild Fish Provisioning (Tonnes)	2,500	3,750
Global Climate Regulation Service (Tonnes C)	22,500	13,500
Coastal Protection (People protected)	1,500	900
Nature-based Tourism (International Visitors)	5,000	6,250

Step 4: Deriving the indicator from the account

- Aggregate Ecosystem Services Index based on trends in ecosystem service flows.
- Combining trends in services measured in different units that cannot be directly aggregated
- Biophysical measures for each ecosystem service converted to a proportional change relative to a baseline year (e.g., flows in 2026 relative to 2020)

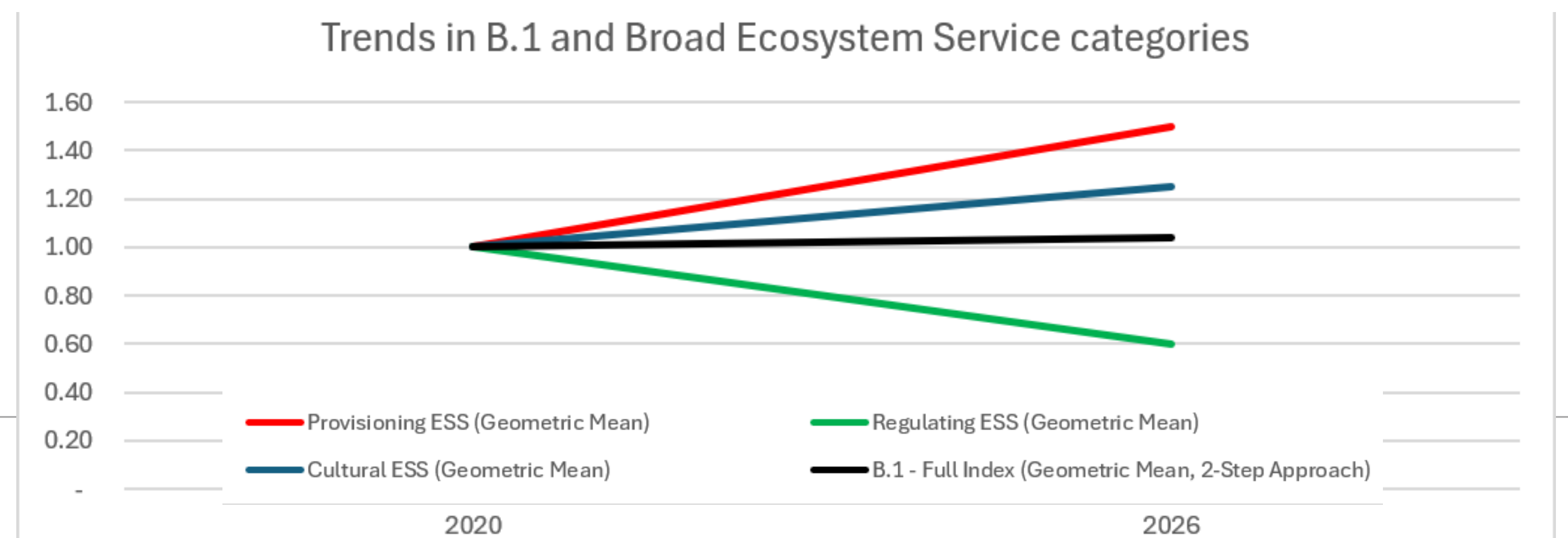
Supply of Ecosystem Services	2020	2026
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Global Climate Regulation Service (Tonnes C)	22,500	13,500
Coastal Protection (People protected)	1,500	900
Nature-based Tourism (International Visitors)	5,000	6,250

Realative Supply of Ecosystem Services	2020	2026
Grazed Biomass (Relative to 2020)	1.00	1.50
Wild Fish Provisioning (Relative to 2020)	1.00	1.50
Global Climate Regulation Service (Relative to 2020)	1.00	0.60
Coastal Protection (Relative to 2020)	1.00	0.60
Nature-based Tourism (Relative to 2020)	1.00	1.25

Step 4: Deriving the indicator from the account

- Two-step aggregation (or geometric mean averaging) process is recommended
 - Calculate the Geometric Mean of the proportionate changes in the supply of all selected ecosystem services within each of the broad category (i.e., provisioning, regulating and cultural services sub-indices).
 - Calculate the Aggregate Ecosystem Services Index (i.e., Indicator B.1) as the geometric mean of the three sub-indices

Realative Supply of Ecosystem Services	2020	2026
Grazed Biomass (Relative to 2020)	1.00	1.50
Wild Fish Provisioning (Relative to 2020)	1.00	1.50
Global Climate Regulation Service (Relative to 2020)	1.00	0.60
Coastal Protection (Relative to 2020)	1.00	0.60
Nature-based Tourism (Relative to 2020)	1.00	1.25
Index for B.1 and ESS category sub-indices	2020	2026
Provisioning ESS (Geometric Mean)	1.00	1.50
Regulating ESS (Geometric Mean)	1.00	0.60
Cultural ESS (Geometric Mean)	1.00	1.25
B.1 - Full Index (Geometric Mean, 2-Step Approach)	1.00	1.04

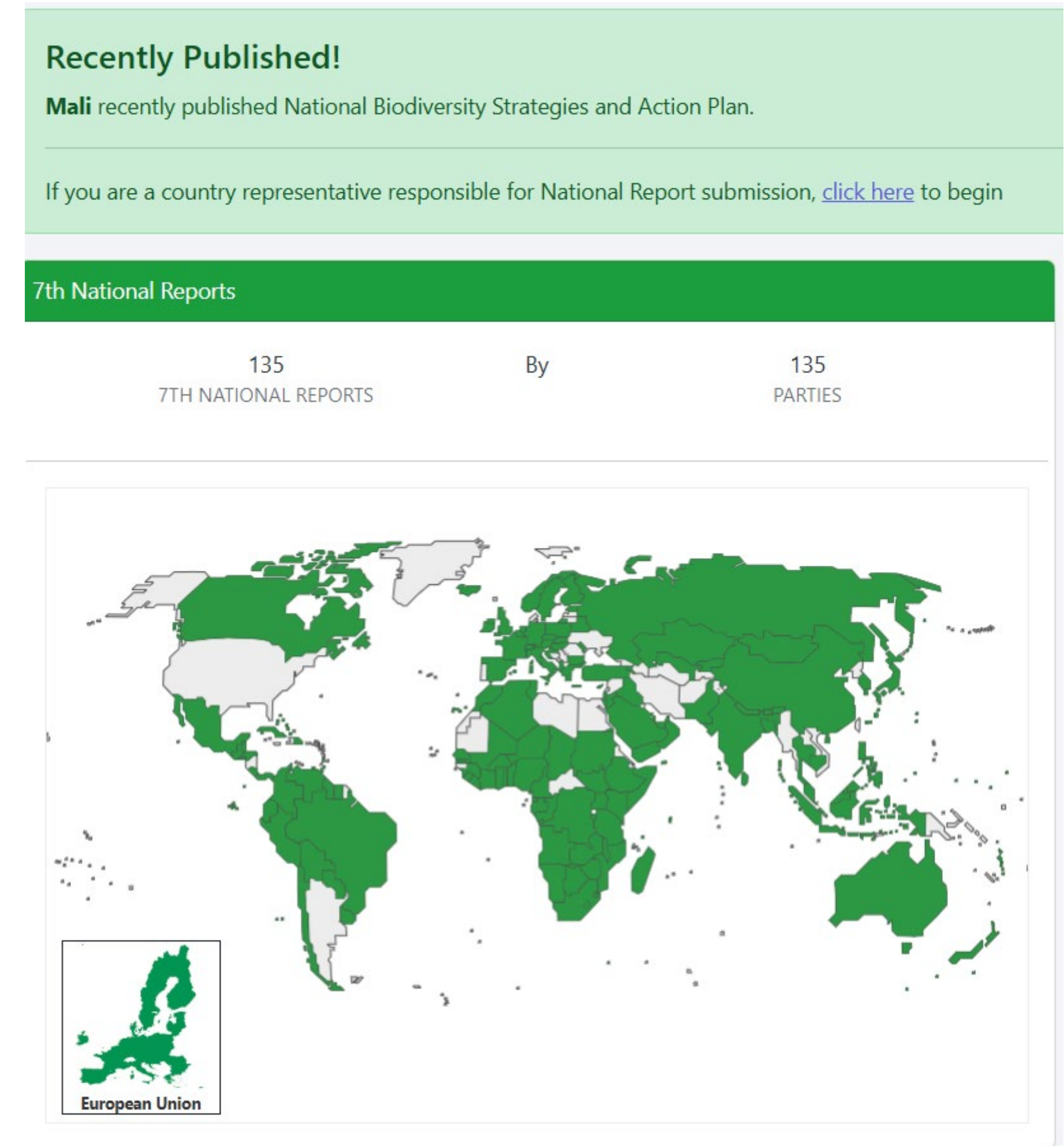


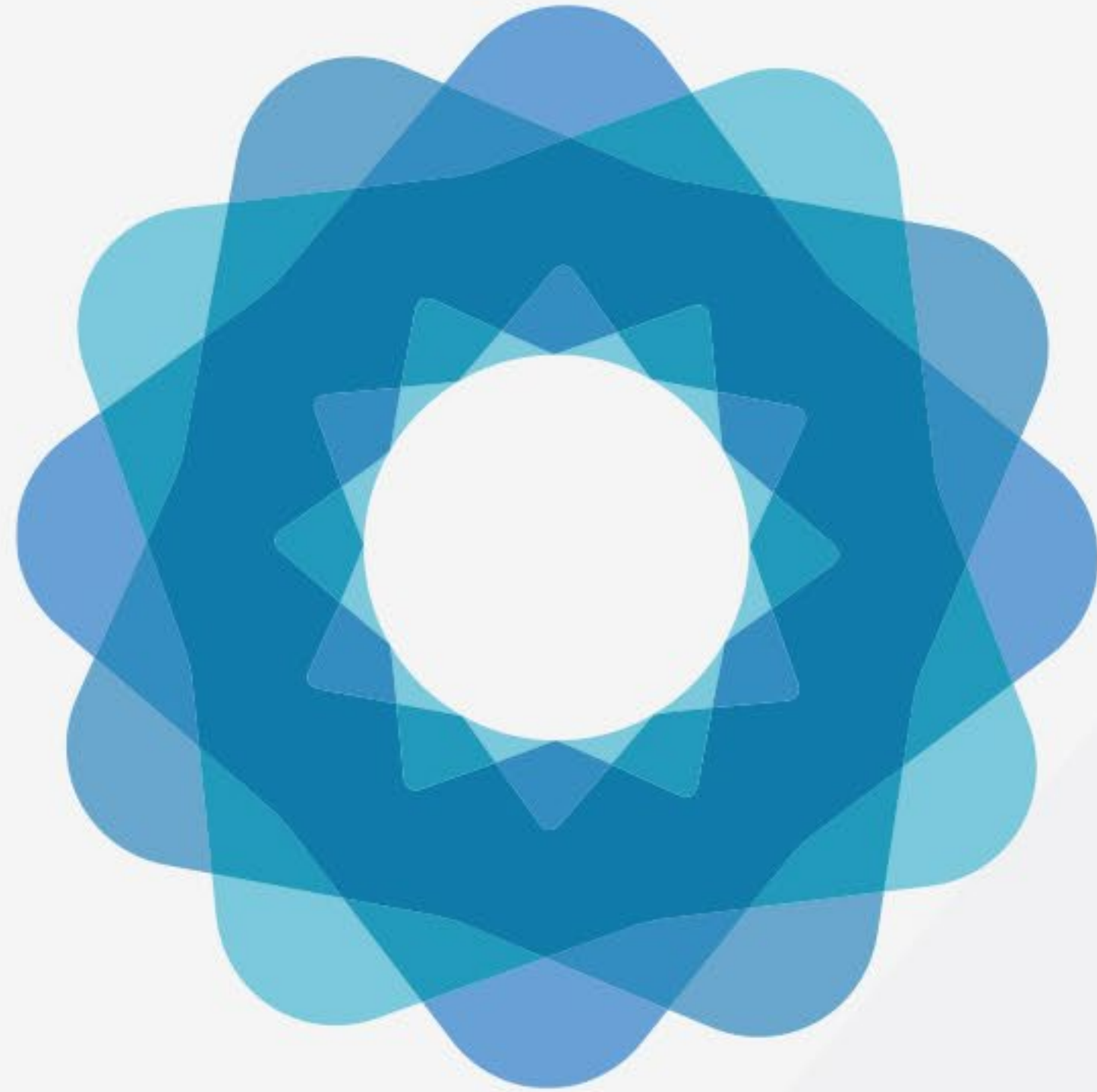
Requested Dissaggregations for Indicator A.2

- By broad category of ecosystem service
 - > Disaggregation by the three broad categories of ecosystem services, i.e. provisioning, regulating, cultural.
 - > Built into the two-stage process of deriving the indicator
 - > Reveals trade-offs between the flows of ecosystem services across these broad categories
- By realm, biome and ecosystem functional group
 - > Preferred option is to disaggregate the indicator by ecosystem functional group (GET level 3)
 - > Second-best disaggregate by biome (GET level 2), third-best by realm (GET level 1).
- By indigenous and traditional territories
 - > Requires respect for national legal frameworks and informed consent and participation of the communities involved
 - > Requires reliable spatial boundaries for indigenous and traditional territories.

Step 5: Reporting on the indicator

- Part of countries' National Reports via [CBD Online Reporting Tool](#)
- Countries should report absolute values in biophysical units for each ecosystem service they have included in the indicator.
- Countries are encouraged to report values for:
 - > All years for which they have ecosystem services measurement data.
 - > At least one year within the GBF reference period (2011-2020).
 - > More recent years (as many as possible).





System of Environmental Economic Accounting