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System of
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System of Environmental-Economic Accounting 2012–-Experimental Ecosystem Accounting

Working paper on the SEEA EEA indicators
Input to the draft Chapter 12

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Disclaimer:
This paper has been prepared as part of the work on the SEEA EEA Revision coordinated by the United Nations Statistics Division. The views expressed in this paper do not necessarily represent the views of the United Nations.

I. Introduction

1. A clear understanding of the environment-economy nexus is critical for a wide range of today's policy questions and global policy initiatives, including the 2030 Agenda for Sustainable Development, Post-2020 Global Biodiversity Framework, Paris Agreement and more. However, today's policy questions require an understanding of the relationship between the environment and economy that goes beyond information on individual environmental assets (e.g. timber, energy etc.). More and more, policy makers beginning to define sustainability in ways that also incorporate ecosystems and the services they provide to humanity
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2. By applying a systems approach to bring together different disciplines (e.g. economics, statistics, ecology and environmental science), ecosystem accounting organizes physical and monetary data on ecosystems that have common scope, definitions and classifications. In turn, this systems approach underlies the ability of ecosystem accounts to produce consistent, coherent and policy-relevant indicators and aggregates that speak to an understanding of the role ecosystems play in our economy, and by extension, our wellbeing.

3. The present document details how information from ecosystem accounts can be organized and integrated to provide policy-relevant indicators and aggregates. In particular, it will provide an overview of aggregates and indicators that can be derived from the accounts, including national accounts aggregates and adjusted measures. How to derive apex indicators and use a dashboard approach will also be discussed.

4.   In addition, this chapter will review how ecosystem accounts can contribute to both conceptual indicator frameworks (e.g. DSPIR) and global monitoring frameworks (e.g. SDGs, post-2020 global biodiversity framework), at both global and national scales. In particular, the chapter will cover potential headline indicators that can be derived from extent, condition, service and asset accounts. Using thematic ecosystem accounts to derive indicators on biodiversity, protected areas and oceans will also be discussed.
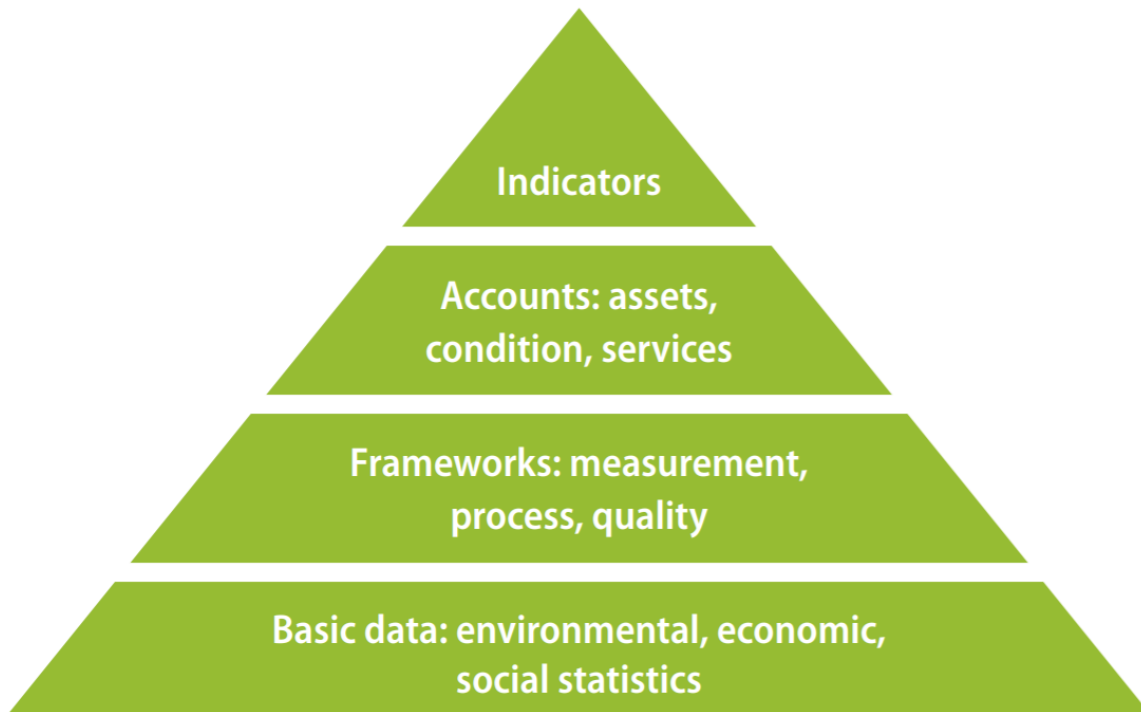
II. Indicator frameworks and the SEEA EEA

Roles and functions of SEEA EEA indicators

5. A statistical indicator is the representation of statistical data for a specified time, place or any other relevant characteristic, corrected for at least one dimension (usually size) so as to allow for meaningful comparisons. It is a summary measure related to a key issue or phenomenon and derived from a series of observed facts. Indicators can be used to reveal relative positions or show positive or negative change. Indicators are usually a direct input into national and global policies. In strategic policy fields they are important for setting targets and monitoring their achievement. By themselves, indicators do not necessarily contain all aspects of development or change, but they hugely contribute to explaining them. They allow comparisons over time between, for instance, countries and regions, and in this way assist in gathering 'evidence' for decision making *(Eurostat glossary).*

6. Aggregates are statistics for related categories can be grouped together or aggregated in order to provide a broader picture. Thus, an aggregate is the combination of related categories, usually within a common branch of a hierarchy, to provide information at a broader level to that at which detailed observations are taken. The aggregating is usually not done by simple addition, but taking account of the relative importance of the different categories, using weights *(Eurostat glossary)*. In the SEEA EEA, an example of aggregates is the overall ecosystem condition index, which builds directly on the condition indicator account to record the aggregation of ecosystem condition indicators within an ET and across different ET.

7. Statistical indicators and aggregates can serve many purposes, depending on the scale at which they are applied, the target audience, and the quality of the underlying data. This document will collectively refer both as indicators. Indicators derived from the SEEA EEA are useful tools for tracking progress with regards to ecosystems and biodiversity and for mainstreaming these issues into public policy. In doing so, these indicators can help promote the sustainable use of ecosystems and ecosystem services.

8. The target audience of SEEA EEA indicators usually comprise decision and policy makers in business and government, non-governmental organizations, environmental economists, ecologists, academia and the general public. Thus, it is important that any indicators derived from the SEEA EEA are consistent, coherent, and accurately synthesize the underlying data, but are also understandable and meaningful to non-statisticians. SEEA EEA indicators must therefore strike a balance between being statistically accurate versus straightforward and user-friendly. Indicators derived from the SEEA EEA should therefore be seen as summary measures which are fit-for-purpose and are embedded within larger information systems (e.g., accounting frameworks, databases, monitoring systems and models).

9. The relationship between different types of information within the context of the SEEA EEA is shown in figure 12.1. The base of the pyramid comprises a full range of basic statistics and data from various sources including surveys, scientific measurements, administrative entities and censuses. Generally, those data are collected for several purposes and all utilize different scopes, frequencies, definitions and classifications.

Figure 1 Information pyramid

10. The role of accounting frameworks, and specifically the SEEA EEA in this case, is to integrate those data to provide a coherent and unified understanding of ecosystems and their relationship to the economy. This means that compilers of SEEA EEA accounts must reconcile and merge data from disparate sources, taking into account differences in scope, frequency, definition and classification, as appropriate. Once the data have been integrated within a single framework, indicators can be derived that provide insights into the changes in composition or structure of the specific concept of interest, changes in relationships between ecosystem stocks and flows, and other features, taking advantage of underlying relationships between the accounts (e.g., between ecosystem extent and condition accounts, core and thematic accounts, etc). Just as a myriad of indicators such as GDP, national saving and national wealth all emerge from a single national accounts framework, so too can a wide range of indicators be derived from the SEEA EEA. Moreover, the use of an accounting framework such as the SEEA EEA provides significant benefits to the resulting indicators. While indicators can be sourced directly from basic statistics, using an accounting framework necessitates reconciling and harmonizing the underlying data, which results in coherent and consistent indicators. Further, the alignment of the SEEA EEA with the SNA facilitates a consistency between economic and environmental information which ensures the robustness of the indicators sourced from accounts.

11. The approach of the SEEA enables countries to adopt an integrated approach to develop sets of indicators to support the implementation, monitoring and reporting of the sustainable development agenda as well as the post-2020 global biodiversity framework. The United Nations Statistical Commission at its 51ˢᵗ Session in March 2020 "*welcomed the background document on interlinkages …… and stressed the importance of the System of Environmental Economic Accounting for monitoring the Goals*"[1]. At the same session it "*stressed the importance of the SEEA Experimental Ecosystem Accounting in supplying a common measurement framework for the post-2020 global biodiversity framework and related indicators that are currently being negotiated and are expected to be adopted at the fifteenth meeting of the Conference of Parties to the Convention on Biological Diversity*"[2] .

Post-2020 Global Biodiversity Framework

12. As the Strategic Plan for Biodiversity 2011-2020 is reaching its end in 2020, negotiations are underway for the creation of a new global biodiversity framework under the auspices of the Convention on Biological Diversity (CBD). It is expected that 15th meeting of the Conference of the Parties (COP 15) to the CBD will adopt at its next session the post 2020 global biodiversity framework (GBF)as well as a monitoring framework, which includes a set of indicators.

13. The post-2020 global biodiversity framework builds on the Strategic Plan for Biodiversity 2011-2020 and sets out an ambitious plan to implement broad-based action to bring about a transformation in society's relationship with biodiversity and to ensure that, by 2050, the shared vision of living in harmony with nature is fulfilled. The framework has four long-term goals for 2050 related to the 2050 Vision for Biodiversity. Each of these goals has an associated outcome for 2030. The framework also has 20 action-oriented targets for 2030 which will contribute to the outcome-oriented goals for 2030 and 2050. Under each goals and targets, there are a set of components and monitoring elements to be monitored in assessing progress towards them.

14. The SEEA is well-positioned to support the post-2020 global biodiversity framework as it focuses on measuring ecosystems diversity, their extent, condition and services generated while also helps make the case for protecting and conserving biodiversity by providing a full picture of its connection to the economy. In particular, the information generated by the SEEA can be used to inform biodiversity policies in an integrated and holistic manner and develop indicators for monitoring progress toward the biodiversity target. It also play an important role in streamlining reporting requirement by countries through the adoption of a common framework.

15. The draft monitoring framework for the 2050 Goals and the 2030 targets was available for peer review. A preliminary analysis undertaken by the United Nations Statistics Division indicates the that SEEA

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[1] E/2020/24, E/CN.3/2020/37, 51/101, para (g)
[2] E/2020/24, E/CN.3/2020/37, 51/110, para (c)

can be used as an integrated framework to potentially monitor the proposed components and monitoring elements in the draft framework, as follows:

    a. 11 out of 14 components and 42 out of 56 monitoring elements of the 2050 Goals.

    b. 37 out of 68 components and 75 out of 154 monitoring elements of the 2030 Targets

16. The SEEA can also be used as the underlying methodology to derive 42 proposed indicators in the draft monitoring framework. In addition, another 32 proposed indicators are aligned with the SEEA framework. The analysis highlighted the followings:

    a. Goal A and Targets 1 & 2, which monitor the size of the ecosystems and protected areas, can be fully informed by the SEEA ecosystem extent accounts

    b. Goal B and Target 4, 7, 8, 10, 11 & 12 which aim at monitoring nature of contribution to people and benefits from ecosystem and biodiversity, and their sustainable use, can be informed by the SEEA ecosystem services accounts. Currently the post-2020 framework exists indicators gaps in this area, and UNSD believe that statistics and aggregates coming from SEEA Ecosystem services accounts can fill these gaps.

    c. Goal D and Target 6, 15, 17 & 18, which are related to the economic impact on biodiversity and biodiversity finance, can be informed by the material flows accounts and environmental activities accounts of the SEEA Central Framework.

    d. A set of proposed indicators in the draft framework that measure the state and quality of ecosystem and biodiversity can be integrated into the ecosystem condition accounts of the SEEA, which allows the integration of such information into broader measures of sustainability.

17. Table 1.1 and 1.2 proposed a list of headline indicators for a selected set of 2050 Goals and 2030 Targets, which can be compiled by SEEA and are potentially available via global database.

Table 1: Proposed headline indicators for the 2050 Goals

Goal	SEEA Indicators
A. The area, connectivity and integrity of natural ecosystems increased by at least [X%] supporting healthy and resilient populations of all species while reducing the number of species that are threatened by [X%] and maintaining genetic diversity	Extent of selected natural ecosystems (forest, savanahas and grasslands, wetlands, mangroves, saltmarshes, coral reef, seagrass) (Link to SDG 6.6.1, 11.3.1, 15.1.1)
	Biomass of selected natural ecosystems (forest, savannahs and grasslands, wetlands, mangroves, saltmarshes, coral reef, seagrass)
B. Nature's contributions to people have been valued, maintained or enhanced through conservation and sustainable use, supporting the global development agenda for the benefit of all people	The economic value added of all ecosystem services generated (Gross Ecosystem Product)
	Tonnes of carbon retained- (captured and stored/trend in the carbon sequestrated) in natural ecosystem

D. Means of implementation is available to achieve all goals and targets the Framework	Government expenditure on protection of ecosystem, biodiversity and landscape

Table 2:Proposed headline indicators for the 2030 Targets

Target	SEEA Indicators
1. By 2030, [50%] of land and sea areas globally are under spatial planning addressing land/sea use change, retaining most of the existing intact and wilderness areas, and allow to restore [X%] of degraded freshwater, marine and terrestrial natural ecosystems and connectivity among them	Proportion of land that is degraded over total land area (SDG 15.3.1)
2. By 2030, protect and conserve through well connected and effective system of protected areas and other effective area-based conservation measures at least 30% of the planet with the focus on areas particularly important for biodiversity	Coverage of terrestrial protected areas (Link to SDG 15.1.2 and 15.4.1)
	Coverage of protected areas in relation to marine areas (SDG 14.5.1)
4. By 2030, ensure that the harvesting, trade and use of wild species of fauna and flora, is legal, at sustainable levels and safe.	Proportion of fish caught within biologically sustainable levels (Link to SDG 14.4.1)
6. By 2030, reduce pollution from all sources, including reducing excess nutrients [by x%], biocides [by x%], plastic waste [by x%] to levels that are not harmful to biodiversity and ecosystem functions and human health	Proportion of bodies of water with good ambient water quality (SDG 6.3.2)
	Hazardous waste generated per capita (SDG 12.4.2a)
7. By 2030, increase contributions to climate change mitigation adaption and disaster risk reduction from nature-based solutions and ecosystems based approached, ensuring resilience and minimising any negative impacts on biodiversity	Tonnes of carbon retained (captured and stored/trend in the carbon sequestrated) in natural ecosystem
	Number of properties/ area of coast protected (coastal protection services) by nature ecosystem.
9. By 2030, support the productivity, sustainability and resilience of biodiversity in agricultural and other managed ecosystems through conservation and sustainable use of such ecosystems, reducing productivity gaps by at least [50%].	Increase yield of crops from pollination
10. By 2030, ensure that, nature based solutions and ecosystem approach contribute to regulation of air quality, hazards and extreme events and quality and quantity of water for at least [XXX million] people.	Tonnes of nitrogen and phosphorus removed from wastewater
	Tonnes of airborne pollutants captured by natural ecosystem

11. By 2030, increase benefits from biodiversity and green/blue spaces for human health and well-being, including the proportion of people with access to such spaces by at least [100%], especially for urban dwellers	Share of green spaces over of the built-up area of cities (Link to SDG 11.7.1)
13. By 2030, integrate biodiversity values into policies, regulations, planning, development processes, poverty reduction strategies and accounts at all levels, ensuring that biodiversity values are mainstreamed across all sectors and integrated into assessments of environmental impacts	Integration of biodiversity into national accounting and reporting systems, defined as implementation of the System of Environmental Economic Accounting (SDG 15.9.1b)
15. By 2030, eliminate unsustainable consumption patterns, ensuring people everywhere understand and appreciate the value of biodiversity, make responsible choices commensurate with 2050 biodiversity vision, taking into account individual and national cultural and socioeconomic condition	Material footprint per capita (SDG 8.4.1, 12.2.1)
	Domestic material consumption per capita (SDG 8.4.1, 12.2.1)

Sustainable Development Goals

18. The 2030 Agenda for Sustainable Development was adopted by all United Nations Member States in 2015. It is built around 17 Sustainable Development Goals (SDGs) and 169 targets that represent an ambitious plan for achieving sustainable development and serves as the basis for countries to shape their national policies and priorities. At the heart of the agenda is the recognition that true development must combine economic growth and poverty alleviation with strategies that improve health and education, reduce inequality, while addressing climate change and protecting nature. Thus, the interlinked nature of the SDGs calls for an integrated approach to policy decisions. As the international statistical standard for measuring the environment and its relationship with the economy, the SEEA is well positioned to support integrated policies based on a better understanding of the interactions and trade-offs between the environment and economy.

19. Progress toward the 17 goals and 169 targets of the 2030 Agenda are monitored through 244 indicators, entailing the collection of substantial amounts of data. The UN Statistical Commission (UNSC) has encouraged the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs), the body tasked with developing and implementing the global indicator framework for the 2030 Agenda, to consider existing standards and frameworks that can improve SDG monitoring, including the SEEA. Recently, the CBD Secretariat, UN Environment and the UN Statistics Division brought a proposal on upgrading the status of Indicator 15.9.1 to the tenth meeting of the IAEG-SDGs, where the group agreed to the proposal and reclassified the indicator from Tier III to Tier II.

20. The systems approach of the SEEA make it an ideal framework for directly measuring several SDG indicators and provide supplemental information for numerous others. The United Nations Commission of Experts on Environmental-Economic Accounting (UNCEEA) has spent considerable effort to align the SEEA framework with the SDGs and currently 40 indicators for nine Sustainable Development Goals can be evaluated using SEEA data. Out of the 40 indicators, the UNEP-WCMC & UNSD (2019)

assessment of linkages between global indicators and the SEEA, identified a list of 21 indicators, as shown in table 3, that have full alignment with the SEEA, where the SEEA has obvious potential to provide all, or most, of the information required to calculate the indicator or when the indicator clearly represents an input data for an accounting item of interest

Table 3: SDG indicators that have full alignment with the SEEA

SDG indicators
6.3.1 - Proportion of wastewater safely treated
6.3.2 - Proportion of bodies of water with good ambient water quality
6.4.1 - Change in water-use efficiency over time
6.4.2 - Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
6.6.1 - Change in the extent of water-related ecosystems over time
8.9.1 - Tourism direct GDP as a proportion of total GDP and in growth rate
11.3.1 Ratio of land consumption rate to population growth rate
11.7.1 Average share of built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities
14.1.1 - Index of coastal eutrophication and floating plastic debris density
14.3.1 Average marine acidity (pH) measured at agreed suite of representative sampling stations
14.4.1 - Proportion of fish stocks within biologically sustainable levels
14.5.1 - Coverage of protected areas in relation to marine areas
14.7.1 - Sustainable fisheries as a proportion of GDP in small island developing States, least developed countries and all countries
15.1.1 - Forest area as a proportion of total land area
15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
15.2.1 - Progress towards sustainable forest management
15.3.1 - Proportion of land that is degraded over total land area
15.4.1 - Coverage by protected areas of important sites for mountain biodiversity
15.4.2- Mountain Green Cover Index
15.5.1 - Red List Index
15.9.1 - Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020

III.   Potential key Aggregates and indicators from the core accounts

21. Information from ecosystem accounts can be organized and integrated to provide policy-relevant indicators and aggregates. This section provides an overview of aggregates and indicators that can be derived from the core accounts and some of the thematic accounts. It also highlights the relevant indicators in the SDGs and the post-2020 global biodiversity framework that can be directly derived from each of the core and thematic accounts

Ecosystem extent account

22. The ecosystem extent account describes the extent of the various ecosystem types presented in an accounting area and how the extent changes within the accounting period. Ecosystem types in the SEEA are based on the IUCN Global Ecosystem typology.

Table 4: Headline indicators on ecosystem extent

Extent indicators	Spatial unit	Disaggregation	Unit of measurement
Percentage of area unchanged (opening stock – reduction), by ecosystem type	Ecosystem accounting area	Ecosystem type	Hectares; % of opening
Percentage of area changed (additions + reductions), by ecosystem type	Ecosystem accounting area	Ecosystem type	Hectares; % of opening
Percentage of ecosystem accounting area covered by natural ecosystem types	Ecosystem accounting area	Ecosystem type	Hectares; % of opening

Table 5: SDG and post-2020 GBF indicators on ecosystem extent

Ecosystem extent indicators	SDG	post-2020 GBF
Change in the extent of water-related ecosystems over time	SDG 6.6.1	Goal A
Forest area as a proportion of total land area	SDG 15.1.1	Goal A
Proportion of land that is degraded over total land area (sub-indicator on land cover and land cover changes)	SDG 15.3.1	Target 0
Extent of selected natural ecosystems (forest, savanahas and grasslands, wetlands, mangroves, saltmarshes, coral reef, seagrass, macroalgae and intertidal habitats)		Goal A

Ecosystem condition account

23. The ecosystem condition account record data on the state and functioning of ecosystem area within an ecosystem accounting area using a combination of relevant variables and indicators. The selected variables and indicators reflect changes over time in the key characteristics of each ecosystem type. Ecosystem condition accounts are compiled in physical terms. Ecosystem condition indexes and sub-indexes are composite indicators that are aggregated from (simple) ecosystem condition indicators. The use of compatible reference levels (e.g. through a common reference condition) underpins the aggregation process.

Table 6: Headline indicators on ecosystem condition

Ecosystem condition indicators	Further description	Spatial unit	Disaggregation	Unit of measurement
Overall ecosystem condition index		Ecosystem accounting area	Ecosystem type, ecosystem condition classes	Index (between 0 and 1)
Overall ecosystem condition index		Ecosystem type	Ecosystem condition classes	Index (between 0 and 1)
Physical state indicator	Overall physical state characteristics per ecosystem type (including characteristics on soil structure, water availability)	Ecosystem type	Ecosystem condition sub-classes	Index
Chemical state indicator	Overall chemical state characteristics per ecosystem type (including characteristics on soil nutrient levels, water quality, air pollutant concentrations)	Ecosystem type	Ecosystem condition sub-classes	Index
Compositional state indicator	Overall compositional state characteristics per ecosystem type (including characteristics on species diversity)	Ecosystem type	Ecosystem condition sub-classes	Index
Structural state indicator	Overall compositional state characteristics per ecosystem type (including characteristics on vegetation, biomass, food chains)	Ecosystem type	Ecosystem condition sub-classes	Index

	Overall functional state characteristics per ecosystem type (including characteristics on ecosystem process, disturbances regimes)	Ecosystem type	Ecosystem condition sub-classes	Index
Functional state indicator				
Landscape indicator	Overall characteristics on landscape (including landscape diversity, connectivity fragmentation, embedded semi-natural elements in farmland)	Ecosystem accounting area	Ecosystem condition sub-classes	Index
Seascape indicator	Overall characteristics on seascape (including seascape diversity)	Ecosystem accounting area	Ecosystem condition sub-classes	Index

Table 7: SDG and post-2020 GBF indicators on ecosystem condition

Ecosystem condition indicators	SDG	Post-2020 GBF
Proportion of bodies of water with good ambient water quality	SDG 6.3.2	Target 6
14.1.1 - Index of coastal eutrophication and floating plastic debris density	SDG 14.1.1	Target 6
Proportion of land that is degraded over total land area (sub-indicator on land productivity based on net primary productivity)	SDG 15.3.1	Target 9
Mountain Green Cover Index	SDG 15.4.2	
Red List Index	SDG 15.5.1	Goal A
Biomass of selected natural ecosystems (forest, savanahas and grasslands, wetlands, mangroves, saltmarshes, coral reef, select fish and marine invertabrate species, seagrass, macroalgae and intertidal habitats)		Goal A
Living planet index		Goal A

Physical ecosystem services flow account

24. The physical ecosystem services flow accounts describe the ecosystem services generated by ecosystem asset in volume term. Each of the various ecosystem services classified as provisioning, regulating and maintenance, and cultural services.

Table 8: Headline indicators on physical ecosystem services flows

Physical ecosystem services flow indicators	Further description	Spatial unit	Disaggregation	Unit of measurement
Amount of biomass generated	Biomass provisioning services	Ecosystem accounting area	Ecosystem type	Tonnes
Gross tonnes of crop biomass harvested – e.g., wheat (proxy measure)	Crop provisioning services	Ecosystem accounting area	Ecosystem type	Tonnes
Gross tonnes of timber biomass harvested – e.g., wheat (proxy measure)	Timber provisioning services	Ecosystem accounting area	Ecosystem type	Tonnes/Cubic metres
Fish caught within biologically sustainable levels	Fishery provisioning services	Ecosystem accounting area	species	Tonnes
Water abstracted for use by household and industry	water supply services	Ecosystem accounting area	Ecosystem type	Cubic metres
Tonnes of carbon retained (captured and stored/trend in the carbon sequestrated)	Global climate regulation services	Ecosystem accounting area	Ecosystem type	Tonnes
Tonnes of airborne pollutants captured (e.g.,PM10; PM2.5)	Air filtration services	Ecosystem accounting area	Ecosystem type; type of pollutant	Tonnes
Tonnes of waterbourne pollutants removed (e.g.,Chemical oxygen demand) from wasterwater	Water purification services	Ecosystem accounting area	Ecosystem type, type of pollutant	Tonnes
Number of properties/ km of coast protected; change in degree of risk	Flood mitigation services	Ecosystem accounting area	Ecosystem type	Count/km
Increase yield of crops from pollination	Crop pollination services	Agricultural ecosystem		crop harvested per unit of land
Number of visits	Recreation-related services	Ecosystem accounting area	Ecosystem type	Count

Table 9: SDG and post-2020 GBF indicators on physical ecosystem services flows

Ecosystem services physical indicators	SDG	Post-2020 GBF
Proportion of fish stocks within biologically sustainable levels	SDG 14.4.1	Target 4
Proportion of land that is degraded over total land area (sub-indicator on carbon stocks)	SDG 15.3.1	Target 9
Global Climate regulation services		Goal B

Monetary ecosystem services flow account and ecosystem asset account

25. The monetary ecosystem services flow accounts describe the ecosystem services generated by the ecosystem asset in monetary term. The monetary ecosystem asset account describes the opening and closing monetary value of ecosystem assets over an accounting based on the net present value of the bundles of ecosystem services, under their current use/institutional regime. When compiled for multiple years, the asset account allows to assess the cost of degradation and /or enhancement (e.g. restoration) of ecosystem assets.

Table 10: Headline indicators on monetary ecosystem services flows account and ecosystem asset accounts

Monetary indicators	Further description	Spatial unit	Disaggregation	Unit of measurement
Gross Ecosystem Product (GEP)	The economic value added of all ecosystem services generated	Ecosystem accounting area	Ecosystem type, ecosystem services classes	Local currency
GEP as a percentage of GDP	The economic value added of all ecosystem services generated as a percentage of GDP	Ecosystem accounting area	Ecosystem type	Percentage
Monetary ecosystem asset value		Ecosystem accounting area	Ecosystem type	Local currency
Ecosystem asset value as a percentage of national wealth		Ecosystem accounting area	Ecosystem type	Percentage
Cost of degradation		Ecosystem accounting area	Ecosystem type	Local currency

Table 11: SDG and post-2020 GBF indicators on monetary ecosystem services flows

Ecosystem services monetary indicators	SDG	Post-2020 GBF
Total monetary value of all final ecosystem services (Gross Ecosystem Product)		Goal B

Thematic and expenditure accounts

26. In addition to the core accounts, the thematic accounts on protected area, urban area and biodiversity from the SEEA Ecosystem Accounting as well as the expenditure accounts from the SEEA Central Framework can support the derivation of related headline indicators on ecosystem and biodiversity for SDGs and post-2020 global biodiversity framework.

Table 12: SDG and post-2020 GBF indicators on protected areas

Protected areas indicators	SDG	post-2020 GBF
14.5.1 - Coverage of protected areas in relation to marine areas	SDG 14.5.1	Target 2
15.4.1 - Coverage by protected areas of important sites for mountain biodiversity	SDG 15.4.1	Target 2

Table 13: SDG and post-2020 GBF indicators on urban area

Indicator on urban area	SDG	post-2020 GBF
Average share of built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities	SDG 11.7.1	Target 11

Table 14: SDG and post-2020 GBF indicators on biodiversity

Biodiversity indicators	SDG	post-2020 GBF
Red List Index	SDG 15.5.1	Goal A
Living planet index		Goal A

Table 15: SDG and post-2020 GBF indicators on expenditure for biodiversity and ecosystem protection

Expenditure indicators on biodiversity and ecosystem conservation	SDG	post-2020 GBF
Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems	SDG 15.a.1	Goal D

IV. **Outstanding sections to be drafted**

- *SEEA EEA and global indicator methodological framework (e.g. DSPIR, etc.)*
- *SEEA EEA and the national indicator monitoring framework (e.g. national institutional mechanisms and arrangements for the ongoing compilation of accounts to support national indicator initiative, etc.)*
- *Overview of aggregates and indicators derived from the SEEA EEA*
  - National accounts aggregates/adjusted measures
  - Apex indicators
  - Dashboards approach