



Headline Indicators

WWF Feedback • Open-ended Working Group 3
August 2021

WWF feedback on Headline Indicators for the post-2020 global biodiversity framework CBD/WG2020/3/3/Add.1

Key messages:

In the table below WWF submits a number of proposals for additional or alternative headline indicators for consideration. Whilst we understand the need to keep the number of headline indicators to a minimum, we believe that the following indicators are essential to address gaps in the monitoring framework and to support the comprehensive measuring of progress towards goals and targets:

- **Connectivity (Goal A and targets 2 and 3):** WWF is concerned that the absence of a headline indicator in the monitoring framework to measure connectivity constitutes a major gap. A composite, meta-indicator, '*trends in ecosystem and habitat fragmentation*', could contribute to filling this gap.
- **Species abundance (Goal A):** to ensure a holistic measurement of trends in species abundance, the **Living Planet Index (LPI)** should be included to complement the other proposed headline indicators for Goal A. The LPI is in use already and can be implemented with minimum (extra) effort.
- **Ecosystem conversion (Milestone A.1, target 10, target 15 and others):** this is an important indicator to measure the extent of global conversion of natural ecosystems. It is currently under development and will soon be available. It would capture progress on multiple goals and targets.
- **Financial sector compliance (target 14):** given the significant role of the finance sector as an indirect driver of biodiversity loss, it is crucial to measure whether financial institutions and businesses are being required to account for dependencies, impacts and risks associated with biodiversity loss. e.g. through measuring:
 - 1) the number of countries that have implemented regulatory requirements, or
 - 2) the number of Central Banks, Public Development Banks, and Commercial Banks integrating biodiversity-related financial risks into capital and solvency requirements
- **Sustainable diets (target 16):** WWF recommends an additional headline indicator for target 16, to monitor dietary shifts which can dramatically benefit both human health and biodiversity.

The indicators we propose are able to be readily implemented with the minimum of effort. In the case where an indicator is not yet ready, it is currently under development or can be developed soon.

WWF would also like to emphasise the importance of **disaggregating data** to better understand whether the **rights of IPLCs** are being secured and upheld, and whether the benefits of nature's contributions to people are being **equitably shared** by IPLCs and other vulnerable groups. To this end we have made suggestions for a number of proposed indicators to be further disaggregated.

These and additional proposals are elaborated and explained in the table below.

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
<p>Goal A. The integrity of all ecosystems is enhanced, with an increase of at least 15% in the area, connectivity and integrity of natural ecosystems, supporting healthy and resilient populations of all species, the rate of extinctions has been reduced at least tenfold, and the risk of species extinctions across all taxonomic and functional groups, is halved, and genetic diversity of wild and domesticated species is safeguarded, with at least 90% of genetic diversity within all species maintained.</p>	<p>A.0.1 Extent of selected natural and modified ecosystems (i.e. forest, savannahs and grasslands, wetlands, mangroves, saltmarshes, coral reef, seagrass, macroalgae and intertidal habitats)</p>	<p>By terrestrial and marine ecosystem types By mountains</p>		<p>UN System of Environmental-Economic Accounting (SEEA): https://seea.un.org/ecosystem-accounting Ecosystem types based on IUCN categories</p>	<p>Near ready**</p>	<p>Regarding indicator A.0.1, the ‘extent’ of ecosystems will not provide any indication of the ‘integrity’ or ‘connectivity’ of ecosystems.</p> <p>The crucial importance of ecological connectivity was enshrined in April in UN General Assembly Resolution 75/271, and is well reflected in the GBF, specifically referenced in Goal A, Target 2 and Target 3. However there is not yet a Headline Indicator anywhere in the framework that addresses connectivity which is a major gap. WWF concurs with the proposal for headline indicator for Goal A submitted by the Convention on Migratory Species (CMS) :</p> <ul style="list-style-type: none"> • “Trends in ecosystem and habitat fragmentation” <p>This would be a composite meta-indicator incorporating the various indices of ecosystem and habitat fragmentation which have already been proposed as complementary indicators for Goal A, namely Trends in mangrove forest fragmentation, the Forest Fragmentation Index, Relative Magnitude of Fragmentation, the River Fragmentation Index, the Dendritic Connectivity Index and the Connectivity Status Index. Emerging indicators in development such as the Protected Area Isolation Index could also be important for consideration (preprint link forthcoming.)</p> <p>If there continues to be no headline indicator on ecosystem integrity, we suggest it be picked up as a priority in the complementary indicator set. There are existing datasets on ecosystem integrity, eg here for forests.</p>

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/ validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
	A.0.2 Species Habitat Index	By species group		GEOBON: https://geobon.org/ebvs/indicators/ (Measures connectivity and integrity of habitats)	Existing, 2001 to present**	The Living Planet Index should be included as an indicator for Goal A (was included in previous iterations of headline indicators). The LPI combines population trend data for 20,811 monitored populations of 4,392 vertebrate species globally, and thus is an extremely useful global index for assessing progress towards Goal A.
	A.0.3 Red list index	By species group	SDG (15.5.1)	SDG: IUCN: https://www.iucnredlist.org/	Existing, data from 1996 to present	
	A.0.4 The proportion of populations within species with a genetically effective population size > 500	By species group		GEOBON, see: https://www.sciencedirect.com/science/article/pii/S0006320720307126	Near ready**	WWF supports this indicator.
Goal 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.	B.0.1 National environmental economic accounts of ecosystem services*	By ecosystem type and type of service		UN System of Environmental Economic Accounting: https://seea.un.org/ecosystem-accounting . This indicator would be measured in physical and monetary terms and links with the concept of a Gross Ecosystem Product.	Near ready**	This is a very important goal for the framework, and there is a need for additional headline indicators to measure it properly. The proposed headline indicator measures ecosystems in physical and monetary terms, but says nothing about other contributions, and beneficiaries, and how these accounts are integrated in development plans. It will be important to also disaggregate the proposed indicator by not only by ecosystem type and type of service, but also by the user or beneficiaries of these services, to measure the equitable distribution of natures contributions to people, especially to IPLCs and most vulnerable.

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
						<p>This also helps to better understand the link between the post-2020 GBF and the SDGs. WWF also believes that an additional milestone for Goal B is necessary in order to ensure that sustainable production and consumption is strongly promoted by the post-2020 GBF. We propose:</p> <ul style="list-style-type: none"> • Goal B milestone: halve the footprint of production and consumption. <p>The headline indicator proposed for target 16 could also be used to measure whether production and consumption are well within safe planetary boundaries: 16.0.2, Material footprint per capita, can also serve this purpose.</p> <p>In addition, in order to adequately measure progress on proposed milestone B.1, there is a need assess progress toward ensuring that all relevant public and private decisions are informed by and take fully into account nature and its contributions and support the achievement of a nature-positive world and the fulfillment of the right to a safe, clean, healthy and sustainable environment for all. We note that the proposed headline indicator for target 14 would measure public sector decisions, and the proposed headline indicator for target 15 would measure private sector decisions.</p>
Goal C. The benefits from the utilization of genetic resources are shared fairly and equitably, with a	C.0.1 Monetary benefits received from utilization of genetic resources as a	Tbd		CBD: An estimate of monetary benefits would fill a key	Needs developed**	This indicator should be disaggregated by: - Sex/gender, and

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
substantial increase in both monetary and non-monetary benefits shared, including for the conservation and sustainable use of biodiversity.	result of an ABS agreement, including traditional knowledge*			knowledge gap; however, additional coordination would be required.		- Monetary benefits accruing to holders of traditional knowledge
	C.0.2 Number of research and development products from an ABS agreement*	Tbd		CBD: An estimate of monetary benefits would fill a key knowledge gap; however, additional coordination would be required.	Needs developed**	A critical question for the development of this indicator is how to measure whether benefits are shared fairly and equitably, to ensure that holders of traditional knowledge (men and women) and genetic resources are the main beneficiaries of monetary benefits from research and products developed etc
Goal D. The gap between available financial and other means of implementation, and those necessary to achieve the 2050 Vision, is closed.	D.0.1 Funding for implementation of the global biodiversity framework*	By funding source		CBD: To be collected through National Biodiversity Finance Plans	Needs developed through national biodiversity finance plans	<p>In order to holistically address the gap between what is needed to achieve the 2050 vision and what is available, Goal D and it's milestones will not only need to cover increasing financing and other means of implementation, it will also need to include reducing public and private financial flows that are harmful to biodiversity.</p> <p>Public and private financial flows refer both to incentives, including subsidies, as well as financial flows in the finance sector.</p> <p>We propose to specify and expand the indicators to monitor the finance gap:</p> <ul style="list-style-type: none"> • Financing for the implementation of the global biodiversity framework from all sources (OECD and national reporting) • Number of countries having made and implemented comprehensive regulatory and policy reforms to align public and

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
						private financial flows with biodiversity (National reporting)
	D.0.2 Indicator on national biodiversity planning processes and means of implementation*	Tbd		CBD: To be collected through national reporting to capture gaps in alignment with the GBF, mainstreaming and means of implementation.	Needs developed would be collected via self-assessment in national reports.	It is important for this indicator to capture whether Parties are utilizing a whole-of-society and whole-of-government approach to planning and implementing NBSAPs and other biodiversity related actions. National reporting templates should be designed to collect information on how well these important approaches are being applied.
Target 1. Ensure that all land and sea areas globally are under integrated biodiversity-inclusive spatial planning addressing land- and sea-use change, retaining existing intact and wilderness areas.	1.0.1 Percentage of land and seas covered by spatial plans that integrate biodiversity*	By terrestrial and marine ecosystem type		CBD: Collected through national reporting and would link with SDG 6.5.1, 14.2.1 and 15.2.1.	Needs developed would be collected via self-assessment in national reports	<p>This indicator needs to ensure that all ecosystems of biodiversity interest are adequately managed by planning - coastal ecosystems are often much more heavily fragmented than others.</p> <p>WWF suggests re-wording proposed indicator 1.0.1 to:</p> <ul style="list-style-type: none"> Percentage of land and seas covered by spatial plans that integrate biodiversity prioritise biodiversity in decision making and take an ecosystem-based approach* <p>Given the crucial role of spatial planning in the maintenance of ecological connectivity, the headline indicator proposed for Goal A would also be relevant to assess progress towards this Target. We also support the proposal by CMS that indicators for this target should assess the drivers and policies that make biodiversity-inclusive</p>

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/ validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
						<p>spatial planning possible, and CMS's proposals for the following headline indicators:</p> <ul style="list-style-type: none"> • “Number of National Biodiversity Strategies and Action Plans including provisions for improving ecological connectivity in spatial planning”; • “Number of national laws, regulations, and policies promoting ecological connectivity in spatial planning”; • “Number of international projects promoting ecological connectivity in spatial planning”.
Target 2. Ensure that at least 20% of degraded freshwater, marine and terrestrial ecosystems are under restoration, ensuring connectivity among them and focusing on priority ecosystems.	2.0.1 Percentage of degraded or converted ecosystems that are under restoration	By ecosystem type	FAO through the Decade on Ecosystem Restoration	Task Force on Monitoring in support of the United Nations Decade on Ecosystem Restoration: 2021-2030 http://www.fao.org/in-action/forest-landscape-restoration-mechanism/resources/detail/es/c/1315004/	Near ready (INF paper from the Task Force)	<p>Suggest this indicator focuses more clearly on measuring the biodiversity impact of the restoration. WWF proposes to reword indicator 2.0.1 to:</p> <ul style="list-style-type: none"> • Percentage of degraded or converted ecosystems that are under restoration where native biodiversity has been effectively restored <p>Furthermore, as noted above, there is no headline indicator in this framework yet on connectivity. WWF supports the proposal of CMS for this headline indicator for T2:</p> <ul style="list-style-type: none"> • Trends in removal or modification of obstacles that impede the movement of species or the flow of natural processes.

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
<p>Target 3. Ensure that at least 30% globally of land areas and of sea areas, especially areas of particular importance for biodiversity and its contributions to people, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.</p>	<p>3.0.1 Coverage of Protected areas and OECMS (by effectiveness)</p>	<p>By ecosystem type By key biodiversity area By effectiveness category (PAME) By mountains</p>	<p>SDG (14.2.1, 15.1.2 and 15.4.1)</p>	<p>SDG: Protected Planet: https://www.protectedplanet.net/en</p>	<p>Existing, PA data from pre-1970 to present, OECM data under compilation (WDPA)</p>	<p>We propose to amend indicator 3.0.1 as such:</p> <ul style="list-style-type: none"> • <i>Coverage of Protected areas and OECMS (by effectiveness, equity and Key Biodiversity Areas).</i> <p>While this headline indicator is suggested to be disaggregated by KBAs we believe KBAs should be explicitly put in the indicator together with effectiveness and equity as it is crucial to make as explicit as possible the importance of any new protected or conserved areas being in the most important sites for biodiversity. If protected-area growth from 2004 to 2014 had been more strategically targeted, >30 times more species would have been protected for the same area or the same cost as the actual expansion (Ventor 2017). The indicator should also be disaggregated by governance types, to enable measurement of the IPLC land/waters category. IUCN governance assessments of protected areas can be used as the methodological basis.</p> <p>As a data set for management effectiveness, we suggest using the Global Database on Protected Area Management Effectiveness (GD-PAME), which is the most comprehensive global database of management effectiveness assessments for protected areas.</p> <p>There is currently no headline indicator in the entire framework on connectivity, which represents a significant gap. An emerging indicator in development, the Protected Area Isolation Index,</p>

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
						could be a promising headline indicator for this Target (preprint link forthcoming.)
Target 4. Ensure active management actions to enable the recovery and conservation of species and the genetic diversity of wild and domesticated species, including through ex situ conservation, and effectively manage human-wildlife interactions to avoid or reduce human-wildlife conflict.	4.0.1 Proportion of species populations that are affected by human wildlife conflict			IUCN SSC Human-Wildlife Conflict Task Force: https://www.hwctf.org/	Near ready, 2020/21**	<p>There is not yet a headline indicator covering the main thrust of the Target - Species Recovery. WWF proposes this headline indicator:</p> <ul style="list-style-type: none"> • Status and trend of species for which recovery actions are required. <p>This indicator could be derived from the IUCN Red List of Threatened Species. Species which require recovery actions can be determined based on this methodology.</p> <p>WWF also proposes a composite Human Wildlife Conflict Index as an indicator. Such an index is already under development, and would combine the severity, frequency and magnitude of conflict incidents across 3 dimensions, human, economic and wildlife. Use of an Index such as this by Parties would enable the consistent compilation of data that would allow for progress on this Target to be measured over time across multiple levels – from an individual landscape, aggregated to national, regional and global levels. More information here.</p>
	4.0.2 Number of plant genetic resources for food and agriculture secured in medium or long-term conservation facilities		SDG (2.5.1a)	SDG: FAO: http://www.fao.org/sustainable-development-goals/indicators/251a/en/ (currently captures plants but there is work	Existing, 2000 to present	<p>WWF recommends that text for proposed indicator 4.0.2 be amended to:</p> <ul style="list-style-type: none"> • Number of plant genetic and animal resources for food and agriculture secured in medium or long-term conservation facilities.

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
				on livestock under 2.5.1b which is under way)		The role of IPLCs in in situ conservation is very important, and in order to ensure that the focus is not only on ex situ conservation, SDG indicator 2.5.2 should also be included ("Proportion of local breeds classified as being at risk of extinction"). An alternative to SDG 2.5.2 could be to use the Index of Agrobiodiversity, which we propose as a headline indicator for target 10.
Target 5. Ensure that the harvesting, trade and use of wild species is sustainable, legal, and safe for human health.	5.0.1 Proportion of wildlife that is harvested legally and sustainably*	By species group By use: domestic or traded		CBD: This indicator would fill a knowledge gap but would require additional research and development.	Needs developed	The proposed indicator 5.0.1 would be complex to develop. We propose a headline indicator which would reflect the range of overexploitation types that this target would need to cover: Status and trend of species threatened by (i) intentional use, (ii) unintentional effects. This indicator could be derived from the IUCN Red List of Threatened Species. WWF notes that the traditional or customary use by IPLCs for their food security also needs to be highlighted and protected here. Therefore the indicator should also be disaggregated by customary sustainable use.
	5.0.2 Proportion of fish stocks within biologically sustainable levels	By type of fish	SDG (14.4.1)	SDG: FAO: http://www.fao.org/sustainable-development-goals/indicators/1441/en/	Existing, data from 1970 to present	

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/ validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
Target 6. Manage pathways for the introduction of invasive alien species, preventing, or reducing their rate of introduction and establishment by at least 50%, and control or eradicate invasive alien species to eliminate or reduce their impacts, focusing on priority species and priority sites.	6.0.1 Rate of invasive alien species spread	By pathway		GEOBON: https://geobon.org/ebvs/working-groups/species-populations/ebv-for-invasion-monitoring/	Near ready will be 1980 forward**	
Target 7. Reduce pollution from all sources to levels that are not harmful to biodiversity, ecosystem functions or human health, including by reducing nutrients lost to the environment by at least half, and pesticides by at least two thirds and eliminating the discharge of plastic waste.	7.0.1 Index of coastal eutrophication potential (excess nitrogen and phosphate loading, exported from national boundaries)	By water body type	SDG (14.1.1a)	SDG: UNEP: https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-14	Existing, data from 2010 to present	The headline indicators should measure other pollutants including noise and light.
	7.0.2 Plastic debris density	By location (beach, floating, sea column, sea floor)	SDG (14.1.1.b)	SDG: UNEP: https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-14	Existing on beach litter, from 2020	

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/ validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
	7.0.3 Pesticide use per area of cropland	By pesticide type	FAO	FAO: http://www.fao.org/faostat/en/#data/EP/visualize	Existing, data from 1990 to present	
Target 8. Minimize the impact of climate change on biodiversity, contribute to mitigation and adaptation through ecosystem-based approaches, contributing at least 10 GtCO ₂ e per year to global mitigation efforts, and ensure that all mitigation and adaptation efforts avoid negative impacts on biodiversity.	8.0.1 National green-house gas inventories from land use and land use change			IPCC: https://www.ipcc-nggip.iges.or.jp/public/2019rf/index.html	Near ready	This indicator is missing the marine/coastal components and only monitors GHG from land.
Target 9. Ensure benefits, including nutrition, food security, medicines, and livelihoods for people especially for the most vulnerable through sustainable management of wild terrestrial, freshwater and marine species and protecting customary sustainable use by indigenous peoples and local communities.	9.0.1 National environmental-economic accounts of benefits from the use of wild species			SEEA: https://seea.un.org/ecosystem-accounting (disaggregation of accounting information from Goal B)	Near ready **	WWF suggest that the proposed indicator 9.0.1 be disaggregated by sex/gender and by urban/rural. The headline indicator is not measuring benefits received by people, especially the most vulnerable, nor is it in any way linked to CSU. We would like to point to the following indicators from the CBD CSU Plan of Action for consideration as an headline indicator: <ul style="list-style-type: none"> Indicator: Parties recognize and support, and indigenous and local communities develop community protocols and other mechanisms, as appropriate, that affirm traditional knowledge and customary sustainable use of biological diversity OR

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/ validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
						<ul style="list-style-type: none"> Indicator: Customary sustainable use of biological diversity adopted by Parties, with the full and effective participation of indigenous and local communities, into NBSAPs <p>These would be collected through national reports.</p>
Target 10. Ensure all areas under agriculture, aquaculture and forestry are managed sustainably, in particular through the conservation and sustainable use of biodiversity, increasing the productivity and resilience of these production systems.	10.0.1 Proportion of agricultural area under productive and sustainable agricultureIU'm		SDG (2.4.1)	SDG: FAO: http://www.fao.org/sustainable-development-goals/indicators/241/en/ (Measures sustainable agriculture as a percentage of total agricultural area)	Near ready through SDG process	<p>We support the proposed indicator 10.0.1, and suggest that it be disaggregated by type of tenure if possible.</p> <p>WWF believes that the GBF should encompass transformation of the entire food system. Sustainable production should include applying agroecology to agriculture. Soil health, food waste and loss, and sustainable diets also need to be addressed.</p> <p>As an additional headline indicator for target 10 WWF suggests:</p> <ul style="list-style-type: none"> Index of agrobiodiversity <p>This will also be a useful measure for milestone A.3.</p> <p>We also note that the headline indicator we propose for target 15, which measures ecosystem conversion due to land use change, will also be valuable to monitor progress against this target.</p>

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/ validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
	10.0.2 Progress towards sustainable forest management (Proportion of forest area under a long-term forest management plan)		SDG (15.2.1)	SDG: FAO: https://unstats.un.org/sdgs/metadata/?Text&Goal=15&Target (Measures sustainable forest as a percentage of total forest area)	Near ready through SDG process	There should be an additional indicator to cover aquaculture which is not included under the two proposed indicators.
Target 11. Maintain and enhance nature's contributions to regulation of air quality, quality and quantity of water, and protection from hazards and extreme events for all people	11.0.1 National environmental-economic accounts of regulation of air quality, quality and quantity of water, and protection from hazards and extreme events for all people, from ecosystems			SEEA: https://seea.un.org/ecosystem-accounting (disaggregation of accounting information from Goal B)	Near ready**	
Target 12. Increase the area of, access to, and benefits from green and blue spaces, for human health and well-being in urban areas and other densely populated areas.	12.0.1 Average share of the built-up area of cities that is green/blue space for public use for all		SDG (11.7.1)	SDG: UN-Habitat: https://urban-data-guo-un-habitat.hub.arcgis.com/documents/metadata-on-sdg-indicator-11-7-1/explore	Existing, data from 2020	The indicator needs to ensure that such public space is managed to maximise its biodiversity potential.
Target 13. Implement measures at global level and in all countries to facilitate access to genetic resources and to ensure the fair and equitable sharing of benefits arising from the use of genetic resources and, as relevant, of associated traditional	13.0.1 Indicators of operational legislative, administrative or policy frameworks which ensure fair and equitable sharing of benefits, including those based on PIC and MAT*	Tbd		CBD: This index would need to be developed to capture all ABS mechanisms in a coherent way.	Needs developed**	The index to be developed should include indicators on: <ul style="list-style-type: none"> Percentage of benefits shared to IPLC and other custodian groups

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
knowledge, including through mutually agreed terms and prior and informed consent.						<ul style="list-style-type: none"> No. of IPLC and other groups involved/engaged in ABS regimes as either providers or recipients. Types of benefit-sharing (monetary/non-monetary) included in agreements.
Target 14. Fully integrate biodiversity values into policies, regulations, planning, development processes, poverty reduction strategies, accounts, and assessments of environmental impacts at all levels of government and across all sectors of the economy, ensuring that all activities and financial flows are aligned with biodiversity values.	14.0.1 Extent to which national targets for integrating 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		Existing in CBD National Reports and used for SDG 15.9.1a	SDG: CBD: https://unstats.un.org/sdgs/metadata/?Text=&Goal=15&Target=15.9	Existing, data from 2015 to present	<p>WWF welcomes the reference in this target to aligning financial flows with biodiversity values. However, specific measures for the finance sector and the role of financial institutions remains a gap.</p> <p>We believe that the post-2020 GBF should include a separate target to address (public and private) financial flows in the finance sector by defining regulatory measures taken by governments, as well as specific actions to be taken by financial institutions. To monitor the transformation of the finance sector, we suggest either of the following headline indicators:</p> <ul style="list-style-type: none"> Number of countries that have implemented regulatory requirements (e.g. taxonomies, disclosure requirements) for the financial sector to measure, assess, disclose, and account for risks, dependencies and impacts associated with biodiversity loss <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> Number of Central Banks, Public Development Banks, and Commercial Banks integrating biodiversity-related

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
						financial risks into capital and solvency requirements
	14.0.2 Integration of biodiversity into national accounting and reporting systems, defined as implementation of the System of Environmental-Economic Accounting		SDG 15.9.1b	SDG: UNSD: https://unstats.un.org/sdgs/metadata/?Text=&Goal=15&Target=15.9	Existing, data from 2015 to present	WWF supports this headline indicator.
Target 15. All businesses (public and private, large, medium and small) assess and report on their dependencies and impacts on biodiversity, from local to global, and progressively reduce negative impacts, by at least half and increase positive impacts, reducing biodiversity-related risks to businesses and moving towards the full sustainability of extraction and production practices, sourcing and supply chains, and use and disposal.	15.0.1 Dependencies and impacts of businesses on biodiversity	By industrial classification		CBD: Would need to be developed, but could be based on corporate sustainability reporting under SDG 12.6.1 and methodological work by TFND, IPBES, etc. https://unstats.un.org/sdgs/metadata/?Text=&Goal=12&Target=12.6	Needs developed	<p>WWF notes that for the proposed indicator 15.0.1, any self-reporting on corporate sustainability would, at a minimum, need to be verified. We propose an alternative below.</p> <p>In order to encourage businesses to adopt sustainable practices, governments should require the development and implementation of sectoral plans of action for relevant sectors - to undertake just transitions to become nature positive by 2030. This should be done in partnership with industry, businesses and all stakeholders. WWF proposes an alternative indicator to 15.0.1:</p> <ul style="list-style-type: none"> • # of sector-specific and inclusive plans of action for just transitions in sectors including: food and agriculture; forestry; fisheries; infrastructure and energy; extractives; and manufacturing, developed and implemented. Data source: national reports.

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/ validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
						<p>An additional headline indicator for this target should measure global conversion of natural ecosystems, to ensure that all supply chains are deforestation and conversion free, starting immediately:</p> <ul style="list-style-type: none"> Extent of natural vegetation in terrestrial ecosystems (forest, savannahs and grasslands, wetlands, woodlands, mangroves, peatlands, saltmarshes), converted due to soft commodity production - ha per year” (indicator is under development - WWF is currently in the process of analysing available datasets to inform this indicator. Example: https://plataforma.amazonia.mapbiomas.org/)
Target 16. Ensure that people are encouraged and enabled to make responsible choices and have access to relevant information and alternatives, taking into account cultural preferences, to reduce by at least half the waste and, where relevant the overconsumption, of food and other materials.	16.0.1 Food waste index		SDG (12.3.1b)	SDG : UNEP : https://www.unep.org/tinkeatsave/about/sdg-123-food-waste-index	Near ready through the SDG process	<p>WWF welcomes the addition of the Food waste index as a headline indicator.</p> <p>We suggest an additional headline indicator to monitor progress on sustainable diets:</p> <ul style="list-style-type: none"> Sample food consumption survey data per country OR Global Volume of animal feed per capita (already collected by FAO) or, land footprint per kg protein

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/ validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
	16.0.2 Material footprint per capita	By type of material, by country.	SDG (8.4.1,12.2.1)	SDG: UNEP : https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-12-1	Existing, data from 1970 to present	WWF supports the inclusion of this headline indicator. There is a high degree of global material consumption inequality. For some regions in the world, material consumption should actually increase, while being decreased in high-income countries. For this reason, it should be made possible to also disaggregate this headline indicator by country and by income group .
Target 17. Establish, strengthen capacity for, and implement measures in all countries to prevent, manage or control potential adverse impacts of biotechnology on biodiversity and human health, reducing the risk of these impacts.	17.0.1 Indicator of measures in place to prevent, manage and control potential adverse impacts of biotechnology on biodiversity taking into account human health*			CBD: This index would need to be developed.	Needs developed	
Target 18. Redirect, repurpose, reform or eliminate incentives harmful for biodiversity, in a just and equitable way, reducing them by at least 500 billion per year, including all of the most harmful subsidies, and ensure that incentives, including public and private economic and regulatory incentives, are either positive or neutral for biodiversity.	18.0.1 Value of subsidies and other incentives harmful to biodiversity, that are redirected, repurposed or eliminated.	By type of instrument	OECD	Based on OECD methodology https://www.oecd.org/fr/tad/environmentallyharmfulsubsidieschallenge/sforreform.htm	Existing, data from 1990s	WWF welcomes the addition of this headline indicator.

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
Target 19. Increase financial resources from all sources to at least 200 billion per year, including new, additional and effective financial resources, increasing by at least 10 billion per year international financial flows to developing countries, leveraging private finance, and increasing domestic resource mobilization, taking into account national biodiversity finance planning, and strengthen capacity-building and technology transfer and scientific cooperation, to meet the needs for implementing the post-2020 global biodiversity framework implementation, commensurate with the ambition of the goals and targets of the framework.	19.0.1 Official development assistance for biodiversity	By type of expenditure	SDG (15.a.1)	SDG: OECD: https://unstats.un.org/sdgs/metadata/?Text=&Goal=15&Target=15.a	Existing data, 1950 - present	
	19.0.2 Public expenditure and private expenditure on conservation and sustainable use of biodiversity and ecosystems			Existing methodologies and research by the CBD, BIOFIN and SEEA. Data can be collected through national biodiversity finance plans.	Needs developed	

<i>Proposed goal or target</i>	<i>Proposed indicators</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/ validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation</i>	<i>WWF feedback</i>
Target 20. Ensure that relevant knowledge, including the traditional knowledge, innovations and practices of indigenous and local communities with their free, prior, and informed consent, guides decision making for the effective management of biodiversity, enabling monitoring, and by promoting awareness, education and research.	20.0.1 Indicator on biodiversity information and monitoring, including traditional knowledge, for management*			To be developed with GEOBON, IIFB and others to capture biodiversity observation systems and traditional knowledge. This indicator would aim to capture different elements of data and knowledge availability and access.	Needs developed**	It should be ensured that this indicator measures biodiversity information and traditional knowledge integration in decision-making . The indicator should be disaggregated: - By sex/gender - By traditional knowledge holders We also suggest exploring whether linguistic diversity could be used as a proxy for the status of traditional knowledge, innovation and practices (See UNESCO).
Target 21. Ensure equitable and effective participation in decision-making related to biodiversity by indigenous peoples and local communities, and respect their rights over lands, territories and resources, as well as by women and girls, and youth.	21.0.2 Land tenure in the traditional territories of indigenous peoples and local communities	By sex By IPLC status By type of tenure	SDG 1.4.2 and 5.a.1	SDG: World Bank and UN-Habitat: https://www.worldbank.org/en/programs/lrms/land-tenure	Near ready (existing survey collection from World Bank and UN-Habitat)	Indicator should be phrased consistently with SDG indicators 1.4.2 and 5.a.1.
	21.0.1 Degree to which indigenous peoples and local communities, women and girls as well as youth participate in decision-making related to biodiversity.*	By sex/gender		Data on engagement of stakeholders is already included in NBSAPs and national reports. This would be based on self-reporting.	Needs developed	

Additional Comments on Component and Complementary Indicators

In addition to our comments on headline indicators, WWF would like to offer some proposals and commentary on component and complementary indicators, which are relevant to our proposals/comments on headline indicators.

<i>Proposed goal or target</i>	<i>Proposed indicators¹⁾</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation²⁾</i>	<i>WWF feedback</i>
Goal A. The integrity of all ecosystems is enhanced, with an increase of at least 15% in the area, connectivity and integrity of natural ecosystems, supporting healthy and resilient populations of all species, the rate of extinctions has been reduced at least tenfold, and the risk of species extinctions across all taxonomic and functional groups, is halved, and genetic diversity of wild and domesticated species is safeguarded, with at least 90% of genetic diversity within all species maintained.	A.0.1 Extent of selected natural and modified ecosystems (i.e. forest, savannahs and grasslands, wetlands, mangroves, saltmarshes, coral reef, seagrass, macroalgae and intertidal habitats)	By terrestrial and marine ecosystem types By mountains		UN System of Environmental-Economic Accounting (SEEA): https://seea.un.org/ecosystem-accounting Ecosystem types based on IUCN categories	Near ready**	We would like to propose as a complementary indicator for this target: <ul style="list-style-type: none"> Extent of natural vegetation in terrestrial ecosystems (forest, savannahs and grasslands, wetlands, woodlands, mangroves, peatlands, saltmarshes), converted due to soft commodity production - ha per year” (indicator is under development. Example: https://plataforma.amazonia.mapbiomas.org/) We also propose this as a headline indicator for target 15.
Target 1. Ensure that all land and sea areas globally are under integrated biodiversity-inclusive spatial planning addressing land- and sea-use change, retaining	1.0.1 Percentage of land and seas covered by spatial plans that integrate biodiversity*	By terrestrial and marine ecosystem type		CBD: Collected through national reporting and would link with SDG 6.5.1, 14.2.1 and 15.2.1.	Needs developed would be collected via self-assessment in	WWF has previously referenced indicators to be considered as component/complementary indicators for this target: <ul style="list-style-type: none"> Proportion of transboundary basin area with an operational arrangement

<i>Proposed goal or target</i>	<i>Proposed indicators^[1]</i>	<i>Proposed disaggregation</i>	<i>Existing national reporting/validation process</i>	<i>Methodological basis</i>	<i>Global data set for national disaggregation^[2]</i>	<i>WWF feedback</i>
existing intact and wilderness areas.					national reports	<p>for water cooperation (SDG indicator 6.5.2)</p> <ul style="list-style-type: none"> • Number of countries using ecosystem-based approaches to managing marine areas (SDG indicator 14.2.1) where we suggested also adding a reference to competent organisations in addition to countries, to cover all marine areas and regions. • Degree of integrated water resources management (SDG indicator 6.5.1)

For more information

Dr Lin LI
Director, Global Policy and Advocacy
linli@wwfint.org