**Guidelines and template for the review of the draft monitoring framework for the post-2020 global biodiversity framework**

## Background

1. The second meeting of the Open-ended Working Group[[1]](#footnote-1) on the Post-2020 Global Biodiversity Framework invited the Subsidiary Body on Scientific, Technical and Technological Advice at its twenty-fourth meeting to, among other things, carry out a scientific and technical review of the updated goals and targets, and related indicators and baselines, of the draft global biodiversity framework. Under agenda item 3 the Subsidiary Body will consider this issue.
2. Tables 1 and 2, presents a draft monitoring framework for the 2050 Goals and the 2030 targets respectively. These tables are being made available for the purposes of peer review. In both tables’ interim formulations of the proposed 2050 goals and milestones and the 2030 targets are provided for context. Review comments are not being sought on these parts of the post-2020 global biodiversity framework at this time. Column A of the tables provides draft components of the goals and targets. Columns B and C of the tables provide draft monitoring elements and indicators to be used at the global level to monitor progress in the implementation of the post-2020 global biodiversity framework. Further column D provides information on the period baseline data is available for the indicator and on the frequency that the indicator is updated where known. Review comments are being sought on columns A, B, C and D only.

## II. Submitting Comments

1. To ensure that your comments are given due consideration, please send them by e-mail to secretariat@cbd.int, at your earliest convenience but **no later than 25 July 2020**
2. When submitting comments, please adhere to the following guidelines as much as possible:
	1. Please provide all comments in writing and in an MS Word or similar document format using the table provided below.
	2. Please provide full contact information for the individual/Government/organization submitting the comments.
	3. Please avoid commenting on issues related to grammar, spelling, or punctuation, unless it affects the overall meaning of the text, as the document will be edited as the final draft is prepared.
	4. To facilitate the revision process please be as specific as possible in your comments. In areas where you feel additional or alternative text or information is required, please suggest, if possible, what this text may look like or what should be included.
	5. If you refer to additional sources of information, please include these with your comments when possible or provide a complete reference or hyperlink.
	6. Please focus your comments on columns A (monitoring elements), B (indicators) and C (Indicator baseline year and frequency of updates) of the tables 1 and 2.
	7. If you are suggestion the inclusion of additional indicators please provide information on if the indicator is currently operational, the organization supporting its development, its baseline (i.e. the year data is first available) and how frequently the indicator is updated (i.e. monthly, yearly, every two years etc.).
	8. All review comments will be posted on the webpage[[2]](#footnote-2) for the post-2020 global biodiversity framework in the interests of transparency
3. Should you have any questions regarding the review process, please contact secretariat@cbd.int.

***III. Template for Comments***

1. Please use the review template below when providing comments.
2. The complete draft of the monitoring framework has been released in a portable document format (PDF). For tables 1, 2 and 3 column letters and row numbers have been provided as well as page numbers. Please use these as a reference as illustrated in the table below. General comments can be included in the table by referring to Page 0 and Line 0.

**TEMPLATE FOR COMMENTS**

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| --- |
| **Review comments on the draft monitoring framework for the post-2020 global biodiversity framework** |
| *Contact information* |
| **Surname:** | Paul Mayer, Dirk Neumann, Stephanie Carson & Libby Ellwood |
| **Given Name:** | Legislation & Regulation Committee (DN & SC), Collections and the Biodiversity Crisis Committee (LE) of SPNHC, represented by its current president, Paul Mayer  |
| **Government** (if applicable)**:**  |  |
| **Organization:** | Society for the Preservation of Natural History Collections (SPNHC), represented by its current president, Paul Mayer, C/O Field Museum Chicago, IL (USA) |
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| ***General Comments*** |
| The Society for the Preservation of Natural History Collections (SPNHC) is an international society with members from 30 countries spanning six continents whose mission is to improve the preservation, conservation and management of natural history collections and the biological objects stored in them to ensure their continuing value to scientific research, education, and society. Even though currently it is officially based in the US, SPNHC members are engaged in the preservation of Natural History specimens around the world and our international and collaborative partnerships with organisations span geopolitical boundaries. Our research adds to the scientific basis and expertise for many of the goals and targets of the post-2020 GBF, we are engaged in capacity building, training and research collaborations with scientists worldwide and welcome the opportunity to comment on the monitoring framework for the post-2020 global biodiversity framework to support the work of the SBSTTA-24 to improve the present draft monitoring framework for the 2050 Goals and the 2030 targets.The introduction of the post-2020 GBF goals and targets aims to measure contributions to increase the knowledge of biodiversity and their sustainable use and to maximise their support for implementation of the Convention around the world. We welcome this opportunity which – among other items – puts a focus to scientific contributions, non-monetary benefit sharing and engagement in capacity building, education, training and scientific collaboration within the context of the CBD and beyond. The introduction of the proposed goals and targets will increase the visibility the engagement for these goals of the CBD, SDGs and post-2020 GBF, which broadly overlap. The efforts to increase the knowledge on biodiversity, habitats and their functions and ecosystem-services undoubtedly need to be intensified. The Nagoya Protocol aimed to stimulate this by fostering scientific collaborations and benefit sharing. Instead, existing diversity of access regulations in CBD, NP and non-NP/CBD countries combined with the perception of many countries that ‘barely no benefits were delivered’ lead to frustrations in biodiversity-rich countries but also among scientists engaged in biodiversity research. The post-2020 GBF has the potential to heal some of these obvious deficiencies and frustrations through the introduction of indicators and parameters that are designed to objectively measure the desired and necessary progress, to slow down biodiversity loss and to increase the scientific capacities and expertise to understand, sustainably use and conserve global biodiversity. However, there is also the risk that imprecise or improper indicators could perpetuate or even lead to new frustration, which would be unfortunate.The submission of the Society for the Preservation of Natural History Collections (SPNHC) has been developed jointly with the CETAF submission, but received different comments and differs in details. Both stakeholders, SPNHC and CETAF, agree to the same general comments. |
| The time-scale for goals A & B of the post-2020 GBF currently are not precisely defined and partly ambiguous. Irrespective of the proposed cut-off points and baselines such as *pre-human disturbance, pre-industrial*, *IPEBES 1970* or more recent baselines like *CBD-adoption* or just“*2000*” (cf. point 5 in *Information Document prepared for SBSTTA24 by UNEP-WCMC in collaboration with the Biodiversity Indicators Partnership*), any measure on “trends in biodiversity”, species abundance and species occurrence has to reflect change in species composition and occurrence over time. It is obvious to us, that a well-defined, relevant and broadly accepted baseline is needed to set the context within which trends for individual indicator can be evaluated. This is essential for measuring of the desired goal or target outcome. The current draft lacks reference to specimen-based data of natural history collections and similar ex-situ facilities. Without proper specimen-based data, any measure on “trends in biodiversity”, species abundance and species occurrence will give misleading baselines. We believe that our contributions are key and have high relevancy not only for the post-2020 GBF, but also for all three objectives of the CBD and specifically for SDG 14&15, and would appreciate their consideration by SBSTTA-24. |
| The Nagoya Protocol distinguishes between monetary and non-monetary benefit sharing, as the modes of access and utilisation in commercial and non-commercial user sectors differ and consequently monetary and non-monetary are supposed to deliver different kinds of benefits. We would appreciate a more refined approach that would reflect the differences of commercial and non-commercial access as well as monetary and non-monetary benefits sharing contributions, especially in Goal C and associated targets (e.g. 1, 6, C, 74-76 or 2, 24, C, 149), even though collecting relevant data on non- monetary Benefit Sharing may pose challenges. Nevertheless, non-monetary benefits are essential not only for the post-2020 GFB, but also for SDGs and the CBD. Realised progress on AICHI Targets indicates that engagement in capacity building, training and research collaborations in biodiversity research has to be intensified. We are concerned that non-monetary benefit sharing is rated as “nice to have” by some, which seems unfortunate, as most of the currently generated benefits are of non-monetary nature and shared largely unnoticed. |
| The role, need and relevancy of non-monetary benefits for capacity building and the role of research infrastructures to sustain these achievements resulting from those benefits for the development of endogenous research capacities enabling countries to identify, understand, monitor and manage their own biodiversity, has been highlighted in section III in Annex 1 of the report of ‘DSI’ AHTEG (CBD/DSI/AHTEG/2020/1/7). We agree to all items mentioned in this section and contribute to them actively, e.g. through close scientific collaboration with researchers from countries that wish to develop own expertise.Required assessments and programmes in the post-2020 GBF process requires experts and respective academic expertise, which was previously reflected with the indicator “new jobs created” under goal 5 and target 11 in the zero draft version (CBD/WG2020/2/3/Add.1). We propose to include this element again which has been omitted and to put a specific focus on bachelor, master & PhD degrees under target T19.3. *Promotion of biodiversity in education*.The backbones of capacity building are international research collaborations or internships and project-related work and the commitment and engagement of scientists from multiple countries to work together and to share scientific expertise and scientific results. Collaborations, which are specifically directed to contribute to all three objectives of the CBD, are stimulated by simplified measures under Art. 8a NP and selected countries already implemented such simplified measures. In our view, it would be beneficial if the post-2020 GBF indicators would highlight this engagement for the CBD and SDGs by including a parameter not only measuring increased access under Art. 8c NP, but also access under Art. 8a (see comments below 1/6/C/72 and 2/22/C/140). |
| Indicators in the current draft version repeatedly refer to the “Red list index” in table 1& 2 to assess the current state of biodiversity, but for some items this might not be a suited parameter to deliver comprehensive data, especially IUCN Red Lists are often available only for regions (e.g. in Africa) and their completeness (or incompleteness) differs for respective organismal groups. For example, there are large gaps for invertebrates and fungi, but also in biodiversity-rich countries where it is difficult to evaluate and maintain comprehensive species lists for all biota. Moreover, even if national Red Lists have been established, not all necessarily follow IUCN criteria and the global lack of taxonomic expertise for specific taxonomic groups has been highlighted repeatedly (cf. CBD decisions to overcome the Taxonomic Impediment). As a result, there would be huge challenges even in industrialised countries to assess the number of extinctions or to evaluate the conservation status of many insect species based on the Red List Index (Component A.3). |
| From our experience, access and benefit sharing are not exclusively agreed in PIC and MAT but in a huge variety of contractual agreements ranging from collaboration agreements between research institutions, research permits, export permits containing MAT, etc. Because of the diversity and heterogeneity of agreements, it might be useful to measure the number of cases where access was agreed instead of (exclusively) referring to PIC and MAT documents as in the current draft version, which may or may not cover the actual number of access cases in respective countries. |
| ***Specific Comments*** |
| **Table** | **Page** | **Column letter** | **Row number** | **Comment** |
| 1 | 2 | A | 1-50 | Components A1 & A2 refer to ‘natural ecosystems’ and ‘ecosystem integrity’ respectively; most subsequent indicators however are metrics on habitat quality. While ecosystems usually maintain some sort of equilibrium, it may be on a lower, degraded level with less species or lower ecosystem-services. Biodiversity loss is closely correlated with habitat loss and loss of habitat quality. Thus is might be worth rephrasing “A1. Increased extent **and quality** of natural **habitats** (terrestrial …” and “A2. **Habitat** integrity and connectivity …” respectively. Programmes aiming to improve the situation usually also have a specific focus to improve habitat quality rather than ecosystem quality and the metrics and indicators usually are designed correspondingly (cf. EU Water Framework directive, RAMSAR R-METT Tracking tool, etc.).  |
| 1 | 3 | A | 34 | We suggest a slight rewording of this target: **A4. *Increase the knowledge on species and population structures*.** Besides the views of the CETAF submission, it remains unclear if ‘*health*’, should be measured by population growth or abundance for example of potential vectors or parasites interfering or minimising the health of organisms. A specific indicator that would be a suitable metric for ‘health’ is currently not included, and – referring to the suggested indicators LPI and SHI – it is unclear if the *‘Trend of species abundance’* (monitoring element) should encompass population growth and/or increase in the population of health relevant organisms, or if ‘health’ relates to survival, fitness and adaptability of affected organisms. Rephrasing of this component would also be helpful for connection with Component T5.1 under target 5 and AICHI Target 9 (inferences on potential invasive species are difficult without profound knowledge on species and their dispersal). |
| 1 | 3 | C | 34-35 | We suggest **adjustment of the indicator** ‘*Trends in species abundance*’ should refer to the described diversity on Earth more closely. Additionally to the CETAF submission, we suggest [*ITIS*](https://www.itis.gov/) as additional data platform and follow and share the reasoning and rationale expressed by CETAF. |
| 1 | 4 | B | 36 | The exact meaning of ‘Trends in the diversity of wild species’ is unclear to us – is this referring to increased/decreased (genetic) diversity within species, i.e. linked with rapid dispersal (e.g. of invasive species) or fragmentation and subsequent isolation of species and/or anthropogenic-driven selection & dispersal (cultivated crop / livestock), or to differences observed within populations of the same species (e.g. gradient of temperature-adapted caddisflies in the same mountain stream)? Depending on what should be monitored, specifically tailored indicators would be useful here, e.g. to address crop diversity (cf. ITPGRFA, CIAT/Crop Trust), Forest Diversity (e.g. [EUFORGEN](http://www.euforgen.org/)) or genetic diversity of organisms found in the wild (cf. sequence uploads to INSDC or BOLD and similar data sources); cf. to specific comment to 1/4/A/36 below. |
| 1 | 4 | A | 36 | Proposed for the monitoring element *‘Trends in the diversity of wild species’* the **new indicator** “***Completeness of the world’s species catalogue*.”** Proposed data sources should include [GBIF](https://www.gbif.org/), [INSDC](https://ibol.org/about/ibol-consortium/), [BOLD](http://www.boldsystems.org/) records. Baseline: 1970 – annually.**Rationale**: SPNHC fully endorse the reasoning expressed by CETAF. Information, knowledge and data on species are fundamental for all areas of the CBD, the post-2020 Framework and SDG targets 14 & 15. This has repeatedly been acknowledged by CBD-decisions to overcome the taxonomic impediment. Because of the overwhelming majority of organisms on Earth, this indicator would be crucial to set the baseline for global data on biodiversity. NBSAPs and National Biodiversity reports usually rely and would benefit from these data as well, as proper biodiversity assessments in many countries still need to be carried out. This data would have high relevancy for Monitoring elements in T5.2 and for T19.1 & T19.3. |
| 1 | 4 | A | 42-50 | It might be worth considering to move this component up to A3 and to number subsequent components accordingly. **Rationale**: Currently, components and monitoring elements referring to ‘ecosystems’ occur at different places under goal A. If the intention is to have different metrics on habitats (see our comment on 1/2/A/1-50 above) and ecosystems, this could be useful, if all metrics should cover either habitats or ‘ecosystems’, it might be worth consolidating them at the beginning of goal A. |
| 1 | 6 | C | 72 | We propose the **new indicator** “***NP-parties have implemented simplified measures on access for non-commercial research purposes under Art. 8a*.”** Proposed data sources: NFPs; Baseline: 2014 – annually.**Rationale**: Research supporting all three goals of the CBD, SDG 14&15 and AICHI Targets 9 & 19 strongly depends on access to biological material in CBD countries, however [access has slowed down since 2014](https://link.springer.com/article/10.1007/s13127-017-0347-1). Simplified access under Art 8a for non-commercial research is a strong stimulus to promote research and capacity building in this sector (see also general comment and section III in [CBD/DSI/AHTEG/2020/1/7](https://www.cbd.int/meetings/DSI-AHTEG-2020-01)).  |
| 1 | 6 | C | 74-76 | We endorse and strongly propose separation of monetary and non-monetary elements in the indicators for components C1 and C2 as suggested in the CETAF submission of views. |
| 1 | 6 | C | 74 | It will be difficult to measure *‘Trends in the benefits from the access to genetic resources shared’* because benefit sharing is agreed on different levels with Providing Countries (e.g. in PIC, MAT, PIC&MAT, in separate agreements, collaboration agreements, etc.). Consequently, data – if readily available anyway – will be dispersed and heterogeneous. We suggest **developing an alternative indicator** that measures realised research collaborations, capacity building and structural expansion of capacities of relevant research infrastructures on a national level instead. In this respect, it might be worth evaluating the tools [BIOFIN](https://www.biodiversityfinance.net/index.php/history) offers; it works on principles agreed by CBD parties during COP 10 in Nagoya and involved assessments for the CBD Strategic Plan for Biodiversity 2011-2020 and Biodiversity related activities and requires an initial evaluation of the baseline situation to develop specific programmes and actions, i.e. it includes measures and metrics that were already agreed upon by CBD parties. However, these metrics are currently designed for a basic assessment and would need to be developed further to measure “progress”. |
| 1 | 6 | D | 77-80 | BIOFIN also seems useful for elements under component D.1, and available BIOFIN tools might be worth evaluating in this context. |
| 1 | 6 | C | 75b | We suggests as **new suitable indicator** for the proposed new monitoring element ‘*Trends in the non-commercial utilisation of genetic resources’* to measure ***“The increase to* *access to scientific information relevant to conservation and sustainable use of biological diversity, including biological inventories and taxonomic studies*.”** Proposed data sources: e.g. INSDC databases or BOLD systems; Baseline: 2014 – annually. **Rationale**: We share the views of CETAF and want to emphasise the relevancy and importance access to scientific information has not only for T.18 6 T.19, but also for all four goals of the post-2020 GBF, SDGs and the CBD.  |
| 1 | 6 | C | 76 | We suggest as **suitable new indicator** for the new monitoring element *‘Trends in the non-monetary benefits from the access to genetic resources shared’* to measure “***The increase in institutional and professional relationships that can arise from an access and benefit-sharing agreement and subsequent collaborative activities*.”** Proposed data sources: National Research data bases; Baseline 2014 – annually. **Rationale**: We endorse the introduction of this proposed new indicator, share the views of CETAF, and want to add the relevancy of this new indicator for our non-North American and non-European SPNHC members. The need for increased collaboration and capacity building especially with partners from the global south has been highlighted and stressed by our research colleagues during the Special Symposium on Natural History Collections in Latin America during the virtual SPNHC conference this year (Session 4, [Youtube](https://www.youtube.com/watch?v=ek5IqLtqM0o&feature=youtu.be)) . |
| 1 | 7 | C | 79 | We propose for monitoring element *‘Trends in the mobilization of financial resources from private sector’* as **new indicator** to measure ***“The*** ***specific programmes established under BIOFIN with outcome-oriented results.”*** Baseline: 2018 – annually. Proposed data sources: BIOFIN. **Rationale**: BIOFIN metrics (pre- and post-project) are based on OECD standards and are already closely aligned with SDG goals 14 and 15. |
| 1 | 7 | B/C | 81-84 | There is some overlap with *‘Trends in monetary and non-monetary benefits from access to genetic resources shared’* in line 76. While monitoring elements under C.2 theoretically would allow bilateral referencing of shared benefits with specific countries despite all obvious practical challenges, it seems nearly impossible to establish any process-oriented measuring on bilateral level under D2. **Rationale**: We follow and endorse the reasoning of CETAF |
| 1 | 7 | B/C | 85 | A **new suitable indicator** for *‘Trends in access to relevant technologies’* could be to measure ***“The uploads per country”*** and ***“Number of users downloading open access data such as sequence information uploaded to INSDC databases per country.”*** Proposed data source: Databases e. g. INSDC databases or BOLD systems; Baseline: 2014 – annually. **Rationale**: The [combined scoping Study 2&3 on DSI in public and private databases and DSI traceability](https://www.cbd.int/abs/DSI-peer/Study-Traceability-databases.pdf) demonstrated that new technologies are used by scientists globally. User statistics of BOLD systems indicate that molecular data uploaded an available in freely available in databases in the public domain are widely used especially in Providing Countries. For example, there are 1052 Brazilian, 448 South African and 400 Colombian users registered on BOLD, but only 723 German, 592 French or 169 Belgian users. An increase in country specific users numbers would indirectly indicate that more scientists know how to use e.g. molecular technologies. |
| 2 | 9 | C | 25 | The Global Coral Reef Monitoring Network (GCRMN), a programme funded by UNEP, apparently already has developed specific metrics for monitoring that could be used or could offer useful reference for SBSTTA-24 to develop a suitable indicator. The GCRMN developed several manuals (e.g. on socioeconomic coral reef management), that could be useful for A2 monitoring element *‘Trends in fragmentation and quality of coral reefs’*, T1.2. indicator *´Trends in extent and rate of change of coral reefs’* (currently includes only “Red List Index (coral species)” & “Live coral cover”) and T11.2 indicator *´Trends in contributions to human health and well-being from coral reefs’* |
| 2 | 12 | C | 53 | See general comments on Red List Index above. |
| 2 | 14 | C | 71 | This monitoring element relates to AICHI Target 9 and is closely linked with AICHI target 19, components A4 & A5 under Goal A (see comments on 1/3/C/34-35 & 1/4/A/36) and with SDGs 14 & 15. Identification of *invasive alien species* has broad overlap with identification of species in general and depends on respective taxonomic expertise. However, there are often only a few or even a single taxonomic experts worldwide, thus it might be worth linking this indicator closely with components A4 & A5 under Goal A. Because of lack of expertise, there would also be close connections to D.2 and D.3 and T.19.For a potential indicator it might be worth to try mapping lists of invasives globally (e.g. <http://www.iucngisd.org/gisd/100_worst.php> or <http://www.iucngisd.org/gisd/>) or at national level (e.g. through the list generated by GBIF on the CBD country pages, where this is present) with BOLD species contents.  |
| 2 | 15 | B | 71 | T[**r**]ends in the impact of invasive alien species |
| 2 | 19 | B | 114-116 | We propose changing the monitoring element ‘*Trends in terrestrial wild species of fauna used for food and medicine*’ to ‘*Trends in terrestrial wild species of* ***flora and*** *fauna used for food and medicine*’. **Rationale**: The monitoring element ‘exclusively speaks of ***fauna***, but is supposed to measure animal *and plants* by using the indicator ‘Number of **plant** and animal genetic resources for food and agriculture secured in medium or long term conservation facilities (SDG indicator 2.5.1)’. We suggest to check the document globally to avoid similar glitches elsewhere. |
| 2 | 20 | B | 122-123 | We propose changing the monitoring element ‘*Trends in genetic diversity of cultivated plants and of wild relatives*’ to ‘*Trends in genetic diversity of cultivated plants and farmed* ***animals*** *and of wild relatives*’. **Rationale**: The monitoring element ‘exclusively speaks of ***plants***, but is supposed to measure *animals and* plants by using the indicator ‘Number of plant ***and animal*** genetic resources for food and agriculture secured in either medium- or long-term conservation facilities (SDG indicator 2.5.1)’. We suggest to check the document globally to avoid similar glitches elsewhere. |
| 2 | 22 | C | 140 | We proposed a **new indicator**: ***“NP-parties have implemented simplified measures on access for non-commercial research purposes under Art. 8a*.*”*** Proposed data sources: NFPs. Baseline: 2014 – annually. **Rationale**: It is not intuitively clear why access under Art. 8c NP should be recorded separately from access under Art. 8a NP. Research directed towards the goals of the CBD, SDG 14&15 and AICHI Targets 9 & 19 strongly depends on access to biological material in CBD countries. Research collaborations with scientists form Provider Countries directly benefit from simplified measures, especially collaborations directed towards AICHI Targets 9 & 19 and serving post-2020 components A4 & A5 under Goal A. Measuring simplified access under Art 8a would thus be a strong stimulus to promote research and capacity building in this sector (see also section III in [CBD/DSI/AHTEG/2020/1/7](https://www.cbd.int/meetings/DSI-AHTEG-2020-01)).  |
| 2 | 22 | C | 141 | We propose to adjust the text of this indicator to “*Total number of* ***approved access requests*** *to genetic resources.”* **Rationale:**This indicator surely will be difficult to quantify, because of the huge diversity of ‘permits’ covering & addressing ‘access’ on quite different level within or outside of PIC and/or MAT (see general comments). If the intention is that this measure should be a process-oriented indictor, it might be worth considering collecting data on ‘granted access requests’ from National Focal Points rather than ‘issued permits’. |
| 2 | 24 | A | 146 | We propose changing of the wording of the target ‘T12.2. Benefit shared from the use of genetic resources’ to ‘T12.2. Benefit shared from the ***utilisation*** of genetic resources’. **Rationale**: We follow the reasoning in the CETAF submission. |
| 2 | 24 | B | 146 | We propose inclusion of a **new monitoring element**: “***Availability of scientific information that promotes and encourages the conservation and sustainable use of biological diversity, including biological inventories and taxonomic studies.”*** The suggested text reflects Art. 8a NP (i.e. create conditions to promote and encourage). Data source: Key databases (inter alia INSDC, GBIF, BOLD, BHL, Catalogue of Life) might be asked to facilitate measures by allowing review of data downloads / use by country. INSDC already allows such analysis. Baseline: 2014 – annually. **Rationale**: We endorse the introduction of this proposed new indicator, share the views of CETAF, and want to add the relevancy of this new indicator for our non-North American and non-European SPNHC members. The importance of scientific knowledge, especially for biodiversity-rich countries to understand and preserve their biodiversity, has been highlighted and stressed by our South American research colleagues in the Special Symposium on Natural History Collections in Latin America during the virtual SPNHC conference this year (Session 4, [Youtube](https://www.youtube.com/watch?v=ek5IqLtqM0o&feature=youtu.be)) |
| 2 | 24 | C | 146 | We propose as **new suitable indicator** for monitoring element *‘Trends in the benefits from the access to genetic resources shared*’ to measure ***“Increases in collaboration, cooperation and professional relationships arising from access and benefit-sharing agreements and subsequent collaborative activities.”*** Suitable data sources: Increased number of joint authorships, annual increase of national research funding programmes directed to CBD / SDG targets such as regional EU-ECOFAC programmes, major research programmes like H3Africa, BIOTA-Africa, IndoBioSys), specific funding schemes (e.g. Programme Advocating Women Scientists), direct scholarships (e.g. DAAD, Humboldt grants but also grants from Providing Countries to support travels of own scientists abroad), programmes realised under the GTI of the SCBD, but also bilateral reports to CNAs of provider countries that could be included in national reporting to the SCBD. Baseline: 2018 – annually. **Rationale:** “*Evolving these further could be an anticipated game changer*.” We fully endorse the introduction of this proposed new indicator and absolutely share the views of CETAF. We want to emphasise the importance of this indicator for our non-North American and non-European SPNHC members. The need to deepen and increase collaboration and capacity building has been reiterated throughout our virtual annual meeting this year by colleagues around the world. This point was specifically highlighted in the Special Symposium on Natural History Collections in Latin America by our South American colleagues during Session 4 ([Youtube](https://www.youtube.com/watch?v=ek5IqLtqM0o&feature=youtu.be)) of the virtual SPNHC conference this year. |
| 2 | 24 | C | 149 | It is not clear to us, if the indicator *‘Estimated % of monetary and non- monetary benefits directed towards conservation and sustainable use of biodiversity’* relates to Benefit Sharing under the NP or the CBD. The indicator seems helpful as it would underline contributions to the first two objectives of the CBD. Moreover, as currently phrased the indicator implies monetary and non-monetary benefits sharing would be interchangeable and would meet the same ‘expectations’. This seems to be unhelpful, especially since it remains entirely unclear what ‘*Estimated % of … non-monetary benefits*’ could entail (see general comments on monetary and non-monetary benefit sharing). This perception is confirmed by repeated expression of some negotiators that non-monetary benefit sharing is “nice to have” but without real value. This is even more unfortunate, since non-monetary benefit sharing delivers most of the benefits that are currently shared unnoticed (also see general comments). We suggest splitting of this indicator and to record monetary and non-monetary contributions separately. |
| 2 | 24 | C | 149a | No indicator provided, proposed as **new indicator** **“*Realised monetary benefits and other financial contributions directed towards conservation and sustainable use of biodiversity*.”** Potential data source: Financial contributions realised under BIOFIN, EU-ECOFAC and similar programmes (pre- and post-project metrics which are clearly directed towards biodiversity or conversation), which are also closely aligned with SDG goals 14 and 15.Baseline: 2018 – annually. |
| 2 | 24 | C | 149b | No indicator provided, we propose as **new indicator** **“*Non-monetary benefit sharing contributing to the understanding, conservation and sustainable use of biodiversity*.”** Potential data source: Pre- and post-project metrics of projects linked with NBSAPs collected on national level, Strategic Biodiversity Plans and related monitoring programmes, increased data pools for country specific information on AICHI Targets 9 & 19, IUCN Red List assessments, etc. Baseline: 2018 – annually. |
| 2 | 26 | B | 154 | *‘Trends in integration of biodiversity and ecosystem service values into development processes’* are still poorly understood and the actual values and contributions of biodiversity and eco-system services often unclear if considered at all. We therefore suggest adjusting the current wording of this monitoring element to *“****Planned and realised assessments of*** *biodiversity and ecosystem service values* ***and their inclusion*** *into development processes*.*”* *‘Planned and realised assessments’* e.g. as outlined in NBSAPs would immediately be a suitable indicator for the proposed metric. |
| 2 | 27 | A | 159-161 | It would be worth connecting T13.3 more closely with Art. 8a NP (see earlier comments above); currently, these assessments have significantly cooled down because of the diversity of regulatory approaches which make joint international research efforts e.g. on migratory or widely distributed species increasingly difficult. |
| 2 | 35 | A | 212b | We propose the **new component *“Increase in financial resources of key data infrastructures operating in the digital domain*.”** for item T18.2.Proposed **new monitoring element**: ***“Trends in the mobilisation of financial resources to maintain and operate web-based research infrastructures.”*** Proposed **new indicator**: **“*Annual financial contributions allocated granted by public and private sources to sustain web-based research infrastructures operated under FAIR principles*.”** Potential data source: annual budget of data portals such as INSDC, GBIF or BOLD. Baseline: 2014 – annually. **Rationale**: Additionally to the reasoning in the CETAF submission on the importance of sustaining these key infrastructures, we also think that these are essential to respond abruptly to catastrophic events, as the current crisis clearly shows. Discovery of potential vector species and transmission ways requires biodiversity data, but also for restoration, amelioration, or similar measures after flooding or large bush fires (cf. Australia). These data infrastructures and associated digital work environments are fundamental for the implementation of reliable, effective, versatile and efficient conservation tools, as for example many of the indicators listed in this document and monitoring campaigns. Such tools need to be fit for practical application under real-world operating conditions and need to be quickly adjustable, to be able to respond in time to unexpected events and even unknown unknowns.  |
| 2 | 35 | B | 217&218 | Missing indicator could be linked with BIOFIN, which would have required and agreed metrics for measuring. |
| 2 | 36 | B | 219b | We propose asa **new component** for component T18.3 ***“Trends in the financial resources allocated to basic research infrastructures engaged in biodiversity research.”*** Proposed **new monitoring element**: ***“Trends in the mobilization financial resources allocated for the public research sector on national level.”*** **Proposed new** **indicator**: ***“Annual national or federal basic funding for research infrastructures as part of the GDP.”*** Proposed data source: National data on allocated annual funding (cf. suitability of existing BIOFIN and/or OECD-metrics for potential conversion). Baseline: 2014 - annually.**Rationale**: Basic research infrastructures such as universities and more specifically natural history collections and similar ex-situ collections are essential for capacity-building, technology transfer and scientific cooperation and essential to meet the needs for implementing the post2020 global biodiversityFramework. A basic assessment of national research infrastructures which act as facilitators for most post-2020 items that should be monitored, AICHI Targets and SDGs are key elements in the BIOFIN assessment, to which COP parties agreed to. We strongly advocate for the inclusion of this new component because without adequate funding of research infrastructures capacity building efforts and related SDGs cannot be sustained. We endorse the introduction of this proposed new component, share the views of CETAF and want to add the relevancy of this new indicator for our non-North American and non-European SPNHC members. The need for sufficient funding as key infrastructures has been highlighted and stressed by our research colleagues from South America in the Symposium on Natural History Collections in Latin America during the virtual SPNHC conference this year (Session 4, Youtube) See also recommendations for capacity building of the [AHTEG on ‘DSI’](https://www.cbd.int/doc/c/911e/cc8b/de7d7fba3a8374ba4a2fbf53/dsi-ahteg-2020-01-07-en.docx). |
| 2 | 36 | C | 226 | We propose to adjust and expand the current indicator ‘*Growth in Species Occurrence Records Accessible Through GBIF’* to ***“Completeness of the world’s species catalogue.”*** Proposed additional data sources: [Zoological Record](https://clarivate.libguides.com/webofscienceplatform/zr); [Catalogue of Life](http://www.catalogueoflife.org/annual-checklist/2018/info/ac); [International Barcode of Life](https://ibol.org/about/ibol-consortium/), [BOLD](http://www.boldsystems.org/). National Biodiversity reports, AICHI Targets 19 & 9 including monitoring elements in T5.2, SDGs 14 & 15 and last but not least NSBAPs & IUCN Red Listings would depend world species data. Baseline: 1970 – annually. **Rationale**: Even though GBIF is an important biodiversity data aggregator, it is not the only relevant data source. Further, GBIF in general provides *observation data* which are not necessarily equivalent to *occurrence data* as proposed for this indicator. For example, GBIF fails to record newly described species if respective GBIF-partners do not submit respective specimen data to GBIF. As a result, GBIF alone would be an incomplete proxy for *growth in species occurrence*. |
| 2 | 36 | C | 226b | We propose the **new indicator** ***“Number of datasets published by ex-situ facilities through data aggregators such as INSDC databases, BOLD or GBIF accessible has increased.”*** Proposed data sources: increased datasets on data platforms such as INSDC, BOLD or BOLD. Baseline: 1970 – annually. **Rationale**: Ex-situ facilities are important aggregators of biodiversity related knowledge and essential infrastructures for associated research and scientists worldwide. Increased accessibility to objects and related information is key not only for many post-2020 goals, targets and indicators, but also for AICHI Targets 19 & 9 and SDGs 14 & 15. |
| 2 | 38 | B | 227b | We propose as a **new monitoring element** ***“Trends in accessibility to ex situ facilities.”*** Proposed **new indicator** ***“Number of specimens accessible in ex-situ facilities has increased.”*** Proposed data sources: Annual increase of specimen records of ex-situ facilities. Baseline: 2014 – annually. **Rationale**: Ex-situ facilities are an important aggregator of biodiversity related knowledge, associated research and for scientists worldwide. Increased accessibility to objects and related information is key not only for many post-2020 goals, targets and indicators, but also for AICHI Targets 19 & 9 and SDGs 14 & 15. |
| 2 | 37 | C | 234 | We propose as **new indicator** ***“Number of bachelor, master & PhD degrees granted in biodiversity relevant research disciplines on national level.”*** Proposed data source: National data on education **Baseline**: 2014 – annually. **Rationale**: Successful degrees are closely linked with functioning basic research infrastructures in academia and associated with ex-situ collections. An increasing number of successful degrees (bachelor, master, PhD) is a good indicator for the promotion of education and availability of required (biodiversity) experts for the monitoring of proposed post-2020 indicators (see general comments and recommendations for capacity building in the [AHTEG report on ‘DSI’](https://www.cbd.int/doc/c/911e/cc8b/de7d7fba3a8374ba4a2fbf53/dsi-ahteg-2020-01-07-en.docx)). |
| 3 |  |  |  | **Proposed New indicator**: *Completeness of the world’s species catalogue*; Relevant Goals and Targets: A, C, 1, 3, 4, 5, 7, 8, 9, 12, 19; Row Number: 36 |
| 3 |  |  |  | **New indicator**: *NP-parties have implemented simplified measures on access for non-commercial research purposes under Art. 8a*.; Relevant Goals and Targets: A, C, 1, 4, 5, 8, 9, 12, 19; Row Number: 72 |
| 3 |  |  |  | **New indicator**: *The increase to access to scientific information relevant to conservation and sustainable use of biological diversity, including biological inventories and taxonomic studies*; Relevant Goals and Targets: A, B, C, D, 1- 5, 8, 9, 12, 13, 17, 19; Row Number: 75 |
| 3 |  |  |  | **Proposed indicator**: specific programmes established under BIOFIN with outcome-oriented results; Relevant Goals and Targets: D, 2, 4, 13, 14, 16, 18, 20; Row Number: 79 |
| 3 |  |  |  | **Proposed new indicator**: *NP-parties have implemented simplified measures on access for non-commercial research purposes under Art. 8a*; Relevant Goals and Targets: A, C, 1, 4, 5, 8, 9, 12, 19; Row Number: 140 |
| 3 |  |  |  | **Proposed indicator**: *Increases in collaboration, cooperation and professional relationships arising from access and benefit-sharing agreements and subsequent collaborative activities*; Relevant Goals and Targets: A, C, D, 1, 4, 5, 9, 12, 19, 20; Row Number: 146 |
| 3 |  |  |  | **New indicator**: *Realised monetary benefits and other financial contributions directed towards conservation and sustainable use of biodiversity*; Relevant Goals and Targets: A, C, D, 2, 3, 4, 9, 12, 14, 18 19, 20; Row Number: 149a |
| 3 |  |  |  | **New indicator**: *Non-monetary benefit sharing contributing to the understanding, conservation and sustainable use of biodiversity*; Relevant Goals and Targets: A, C, D, 1, 3, 4, 8, 9, 12, 19, 20; Row Number: 149b |
| 2 | 35 | A | 212b | **Proposed new indicator**: *Annual financial contributions allocated granted by public and private sources to sustain web-based research infrastructures operated under FAIR principles*; Relevant Goals and Targets: A, C, D, 1, 4, 5, 7, 9, 12, 15, 16, 19, 20; Row Number: 212b |
| 3 |  |  |  | **Proposed new** i**ndicator**: *Annual national or federal basic funding for research infrastructures as part of the GDP*; Relevant Goals and Targets: A, C, D, 1, 4, 5, 8, 9, 12, 15, 16, 18, 19, 20; Row Number: 219 |
| 2 | 36 | C | 226 | **Adjusted indicator:** Completeness of the world’s species catalogue; Relevant Goals and Targets: A, C, D, 1, 3, 4, 5, 7, 8, 9, 12, 19; Row Number: 226 |
| 2 | 36 | C | 226b | **New indicator**: *Number of datasets published by ex-situ facilities through data aggregators such as INSDC databases, BOLD or GBIF accessible has increased*; Relevant Goals and Targets: A, C, D, 1, 3, 4, 5, 7, 8, 9, 12, 19, 20; Row Number: 226 |
|  |  |  |  | Proposed new indicator: *Number of specimens accessible in ex-situ facilities has increased*; Relevant Goals and Targets: A, C,1, 4, 5, 8, 9, 12, 19; Row Number: 227b |
| 2 | 37 | C | 234 | **New monitoring indicator**: *Number of bachelor & master degrees granted in biodiversity relevant research disciplines on national level*; Relevant Goals and Targets: B, D, 2, 4, 8, 9, 10, 12, 13, 14, 15, 19, 20; Row Number: 234 |

*Comments should be sent by e-mail to* *secretariat@cbd.int****no later than 25 July 2020****.*

1. [CBD/WG2020/REC/2/1](https://www.cbd.int/doc/recommendations/wg2020-02/wg2020-02-rec-01-en.pdf) [↑](#footnote-ref-1)
2. <https://www.cbd.int/conferences/post2020> [↑](#footnote-ref-2)