**Review Comment Template for the document on indicators for the draft goals and targets of the post-2020 global biodiversity framework**

**Table 1. Indicators for monitoring elements of the draft goals (with example entries)**

| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
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| **Components of the draft Goals**  **(copy/paste text from** [**CBD/SBSTTA-24/post-2020-monitoring.en.pdf**](https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf)**)** | **Goal Monitoring Elements**  **(copy/paste text from** [**CBD/SBSTTA-24/post-2020-monitoring.en.pdf**](https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf)**)** | **Indicator name** | **Responsible Institution for the indicator** | **Available today (X) or under active development (Y)** | **Date of availability for indicator in development (Year)** | **Year of last update (e.g. 2019)** | **Time series and frequency of updates (e.g. 1985-2019, annually)** | **Methodology available for national use (Y/N)** | **Global indicator can be disaggregated for national use (Y/N)** | **National data aggregated to form global indicator (Y/N)** | **Used in GBO-4 (Y/N)** | **SDG indicator (Y/N)** | **Indicator used to measure other MEAs or processes (e.g. Ramsar Convention, IPBES, CMS)** | **Comments** |
| GA2.  Ecosystem integrity and connectivity (terrestrial, freshwater and marine ecosystems) | Trends in ecosystem connectivity (through migratory species abundance) | Living Planet Index (LPI) | ZSL/WWF | X |  | 2020 | 1970-2020, available every 2 years | Y | Y | N | Y | N | CMS, Ramsar, IPBES | As suggested by the Gandhinagar Declaration [www.cms.int/sites/default/files/document/cms\_cop13\_res.13.1\_gandhinagar-declaration\_e.pdf](http://www.cms.int/sites/default/files/document/cms_cop13_res.13.1_gandhinagar-declaration_e.pdf) |
| GA2.  Ecosystem integrity and connectivity (terrestrial, freshwater and marine ecosystems) | Trends in ecosystem connectivity (through conservation status of migratory birds) | Wild Bird Index (WBI) | RSPB & BirdLife International | X | N/A | 2019 | 1968, annual | Y | Y | Y | Y | N | CMS |
| GA2.  Ecosystem integrity and connectivity (terrestrial, freshwater and marine ecosystems) | Trends in ecosystem connectivity (through conservation status of migratory species) | Red List Index | IUCN & BirdLife International | X |  | 2020 | 1993,  annually | Y | Y | N | Y | Y  SDG  indicator  15.5.1 | CMS, IPBES,  Ramsar |

**Table 2. Indicators for monitoring elements of the draft targets (with example entries)**

| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
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| **Components of the draft Targets**  **(copy/paste text from** [**CBD/SBSTTA-24/post-2020-monitoring.en.pdf**](https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf)**)** | **Target Monitoring Elements**  **(copy/paste text from** [**CBD/SBSTTA-24/post-2020-monitoring.en.pdf**](https://www.cbd.int/sbstta/sbstta-24/post2020-monitoring-en.pdf)**)** | **Indicator name** | **Responsible Institution for the indicator** | **Available today (X) or under active development (Y)** | **Date of availability for indicator in development (Year)** | **Year of last update (e.g. 2019)** | **Time series and frequency of updates (e.g. 1985-2019, annually)** | **Methodology available for national use (Y/N)** | **Global indicator can be disaggregated for national use (Y/N)** | **National data aggregated to form global indicator (Y/N)** | **Used in GBO-4 (Y/N)** | **SDG indicator (Y/N)** | **Indicator used to measure other MEAs or processes (e.g. Ramsar Convention, IPBES, CMS)** | **Comments** |
| T1.5. Maintenance  and restoration of  connectivity of  natural  ecosystems | Trends in ecosystem connectivity (through migratory species abundance) | Living Planet Index (LPI) | ZSL/WWF | X |  | 2020 | 1970-2020, available every 2 years | Y | Y | N | Y | N | CMS, Ramsar, IPBES | As suggested by the Gandhinagar Declaration [www.cms.int/sites/default/files/document/cms\_cop13\_res.13.1\_gandhinagar-declaration\_e.pdf](http://www.cms.int/sites/default/files/document/cms_cop13_res.13.1_gandhinagar-declaration_e.pdf) |
| T1.5. Maintenance  and restoration of  connectivity of  natural  ecosystems | Trends in ecosystem connectivity (through conservation status of migratory birds) | Wild Bird Index (WBI) | RSPB & BirdLife International | X | N/A | 2019 | 1968, annual | Y | Y | Y | Y | N | CMS |
| T4.1. Harvest is legal, sustainable and safe for human health and  biodiversity | Trends in proportion of biological resources Harvested legally | Trends in implementation of measures designed to minimize impacts of fisheries and hunting on migratory species, their habitats and their migratory routes | CMS | Y |  |  | available every 3 years | N | Y | Y | N | N | CMS | See Strategic Plan for Migratory Species ([www.cms.int/en/document/strategic-plan-migratory-species-2015-2023-4](http://www.cms.int/en/document/strategic-plan-migratory-species-2015-2023-4)) |
| T19.2. Promotion  of awareness of  values of  biodiversity | Trends in  awareness  of | Levels of engagement in World Migratory Bird Day and similar events | CMS | Y |  |  | annually | Y | N | Y | N | N | CMS | See Strategic Plan for Migratory Species ([www.cms.int/en/document/strategic-plan-migratory-species-2015-2023-4](http://www.cms.int/en/document/strategic-plan-migratory-species-2015-2023-4)) |

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| **General Comments** | |
| **Page** | **Comment** |
| 4 | It is inevitable that gaps will remain for some time in the availability of suitable indicators with global data for some of the goals and targets in the Global Biodiversity Framework. In such cases it should be possible to make at least some assessments using other sources. The Convention on Migratory Species has considered this issue in relation to assessment of progress in implementing the Strategic Plan for Migratory Species 2015-2023 (<https://www.cms.int/en/document/strategic-plan-migratory-species-2015-2023-4>), and has provided for two ways of addressing it.  First, the indicator identified for assessing progress towards a particular target in the Plan is defined in a number of cases as “National Report data”; and relevant specific questions have accordingly been included in the format for National Reports (submitted by Parties to each COP) to generate the requisite information. Second, for targets without any other available indicators, where capacity for continuous regular data production does not exist and where no other solution is available for the time being, it is anticipated to use occasional “one-off” studies to fill the gap.  Similar approaches may be worth considering for any parts of the Global Biodiversity Framework where a similar lack of other options persists for a while. |
| 15 and 51 | There is no specific indicator for forest fragmentation. Some such indicators have been developed for specific studies at national level (e.g. USA, Paraguay, India), and the European Joint Research Centre has assisted FAO with a forest fragmentation indicator for its recent State of the World’s Forests report (see <https://ec.europa.eu/jrc/en/publication/fao-state-world-s-forests-forest-fragmentation> ). It should therefore be possible to build on these methodologies to produce a general indicator (forest fragmentation index) for wider use. |
| 15 and 51 | The various ecosystems mentioned in the suggested monitoring elements for “trends in fragmentation” currently do not mention rivers. Although strictly speaking rivers are included in the definition of “inland wetlands”, the suggested indicators in column C for inland wetlands (rows 27-28) will not address fragmentation. Methods for assessing river fragmentation (and the corollary, “free flowing rivers”), such as a Dendritic Connectivity Index and a River Fragmentation Index, have however been used by the World Resources Institute, the European Environment Agency and others – see for example <https://www.grida.no/resources/5633> , <https://www.nature.com/articles/s41586-019-1111-9?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosscience&stream=science> , <https://onlinelibrary.wiley.com/doi/full/10.1002/rra.3386> and <https://iopscience.iop.org/article/10.1088/1748-9326/10/1/015001/meta> . This can be especially important for migratory fish species. |
| 15 | For the monitoring element “Trends in fragmentation and quality of dry and sub-humid lands, grasslands, and other terrestrial ecosystems”, it would be valuable to develop a new indicator addressing trends in the length of barrier infrastructures that are modified to reduce fragmentation of ecosystems, in the functional sense of the migratory movements of their constituent animals (such modifications including for example removal of fences and construction of underpasses). |
| 39 | For its application to biodiversity more generally, it would be worth exploring the scope to adapt the SDG “water cooperation” indicator mentioned here to address the proportion of trans-frontier zones over which formal biodiversity-related cooperation arrangements exist. In the context of Target 1.1 this would have particular relevance to coherent spatial planning for shared ecosystems of importance for migratory species. |
| 51 | In relation to the element of component T.1.5 that relates to restoration of connectivity, it would be valuable to develop a new indicator addressing trends in the length of barrier infrastructures that are modified to restore natural ecosystem connectivity, in the functional sense of the migratory movements of the ecosystem’s constituent animals (such modifications including for example removal of fences and construction of underpasses). (See also comment on Goal A above – page 15). |
| 60 | Component T.2.5 and the accompanying monitoring element in column B are highly important. As with T.1.5 above there is a need to develop other indicators here to address the functional aspects of ecological connectivity. The two existing indicators mentioned (“PARC-Connectedness” and “ProtConn”) address aspects of habitat connectedness, but they do not go far into “ecological connectivity” as the latter has now been defined (see comment on Table 2 rows 6-22 above); in particular by not addressing connectivity between non-contiguous areas (for example those that are protected or conserved as part of an ecological network for migratory species). Concepts of “network coherence” (as espoused for example by the Convention on Migratory Species) are likely to offer an important contribution to the thinking required. |
| 64 | Indicators developed to address the monitoring element “Trends in measures ensuring safe harvesting operations” will need to ensure that “safe harvesting” is assessed not only in terms of safety for the target organisms, but also for the unintentional mortality or bycatch of non-target organisms. In fact some parts of an indicator suite for this element could conceivably focus specifically on the bycatch aspect. |
| 72 | For the monitoring element “Trends in levels of pollution from lead” it is important to specific the trends in levels of use of lead in ammunition and fishing weights. A possible indicator supported by the Convention on Migratory Species would be “Number of countries phasing out lead in ammunition and fishing weights” |
| 73 | It is suggested to consider an additional monitoring element “Trends in levels of use of veterinary pharmaceuticals harmful to wildlife”. These include the non-steroidal anti-inflammatory drug (NSAID) which have the potential of causing the extinction of certain species of birds e.g. vultures. A possible indicator supported by the Convention on Migratory Species would be “Number of countries that close loopholes for the use of pharmaceuticals products on livestock directed at humans” |
| 75 | For the monitoring element “Trends in sustainable fisheries management”, in addition to the indicators listed, it could be worth investigating the scope for developing indicators specifically addressing bycatch, conceivably drawing both on trends in monitored levels of the bycatch itself and on trends in the application of relevant mitigation measures. (This would complement the assessment of monitoring element “Trends in population and extinction risk in bycatch species – see above). |
| 75 | A determined effort needs to be made to expand the capability of the RLI and LPI disaggregations mentioned here, to cover other bycatch-prone taxonomic groups beyond the ones that are currently covered. |