

Submission of GEO BON on possible targets, indicators and baseline in relation to the development of the post-2020 Global Biodiversity Framework

In response to Notifications SCBD/OES/DC/KM/88539 and SCBD/OES/DC/AC/88568, and after consultation with the members of its Policy Task Force, the Group on Earth Observations Biodiversity Observation Network (GEO BON) hereby submits its recommendations on potential targets and indicators in relation to the development of the post-2020 Global Biodiversity Framework.

I. BIODIVERSITY MONITORING AS AN IMPLEMENTATION SUPPORT MECHANISM FOR THE POST-2020 GLOBAL BIODIVERSITY FRAMEWORK

1. Repeated, long-term biodiversity observations are crucial to detect and understand changes in biodiversity and ecosystem services and for assessing current and future policy options through scenarios and models. Without a significant increase in the global investment in biodiversity monitoring, existing observation gaps will remain and continue to impair our ability to track the progress towards the new targets (both national and global) and inform and evaluate effective and timely implementation of conservation policy goals.
2. GEO BON further notes that "regular monitoring, evaluation and feedback of the progress towards the attainment of all elements of the framework, including the actions taken, their effectiveness, and resulting changes in biological, social and economic conditions;" is one of the key experiences identified for the success of the implementation of the future global biodiversity framework (CBD/WG2020/2/3 - 8(g)). Analysis of the Aichi Biodiversity Targets showed a strong positive relation between target progress and the level at which a target was measurable. Therefore, new targets need to be developed with measurability in mind in order to ensure that their key elements are quantifiable and that data can be sustainably generated to underpin fit-for-purpose indicators for evaluating these targets.
3. In response to previous calls from the CBD for views on the post-2020 Global Biodiversity Framework, GEO BON called on and offered technical and scientific support to the Parties of the CBD to significantly step up their efforts on the collection, analysis and delivery of marine, freshwater and terrestrial biodiversity observations to advance the world towards the 2050 Vision for Biodiversity.
4. GEO BON now recommends that "***the monitoring of biodiversity across the freshwater, marine and terrestrial realm, and across the dimensions of biodiversity, from genes to ecosystems***" be specifically listed as one of the "implementation support mechanisms" for effective implementation of the framework listed in the current zero draft (CBD/WG2020/2/3 section E.13).

5. The zero draft of the post-2020 global biodiversity framework and appendix (CBD/WG2020/2/3 and CBD/WG2020/2/3/Add.1) effectively list a potential target to "promote education and the generation, sharing and use of knowledge relating to biodiversity [...]" (draft 2030 target 18). However, in its current form, such a target is likely to fall short on the generation of required biodiversity information as it does not explicitly address the need for repeated and long-term biodiversity observations, across realms and dimensions of biodiversity and does not highlight the need for Parties to establish the national infrastructure needed to acquire, mobilize and analyze such data.
6. GEO BON suggests the following re-wording of draft target 18: "Promote education and the generation, sharing and use of **publicly available data and** knowledge relating to **freshwater, marine and terrestrial** biodiversity, **for genes, species and ecosystems and**, in the case of traditional knowledge **or citizen science**, innovations and practices of indigenous and local communities with their free, prior and informed consent, ensuring by 2030 that all decision makers have **public** access to reliable and up to date information for the effective management of biodiversity **to enable the implementation of the Global Biodiversity Framework**".
7. GEO BON also suggests to consider SMART sub-components of the target, for instance: "by 2030, Parties of the CBD have established sustainable and operational biodiversity monitoring systems [that covers all relevant realms and levels of organization of biodiversity] and the data that they produce is Findable, Accessible, Interoperable and Reusable".
8. In addition to "change in the rate of generation and access of biodiversity information available" in CBD/WG2020/2/3/Add.1, the draft 2030 target 18 should also consider the following elements for monitoring:
 - a. Increase in the spatial, temporal and taxonomic coverage of the monitoring programs operated nationally
 - b. Increase in the amount of information on biodiversity that is made FAIR (Findable, Accessible, Interoperable and Reusable), in the case of traditional knowledge of indigenous and local communities with their free, prior and informed consent.
 - c. Increase in the number of biodiversity monitoring programs involving citizen scientists, indigenous and local communities.
9. GEO BON also notes that all the suggested indicators listed for Target 18 in CBD/WG2020/2/3/Add.1, while relevant, are considering biodiversity strictly at the species level, and do not consider the source and availability of biodiversity information. GEO BON hence encourages the OEWG to also consider the following global and national indicators:
 - a. Number of Parties that have established sustainable and operational biodiversity monitoring programs and networks.
 - b. Proportion of the country's area that is being covered by a biodiversity monitoring program.
 - c. Proportion of ecosystems or habitat types being monitored and assessed.

- d. Number of Parties with up to date checklists of introduced and invasive species, enabled via the Global Register of Introduced and Invasive Species (GRIIS) (*indicator to be considered for Target 3 as well*).
 - e. Proportion of the biodiversity observations generated that is made publicly available.
 - f. Proportion of the national indicators being generated by data collected by the national biodiversity observation network.
 - g. Proportion of a country's plant and animal species that have genetic data (*indicator to be considered for Goal 3 as well*).
 - h. Number of monitoring protocols and identification guides made publicly available.
10. Related to the previous point #9, we recommend that work commence soon after the adoption of the Global Biodiversity Framework to identify key global datasets that can be generated from local, national and global observation efforts that should be formally assigned as key to supporting specific targets. This will ensure clear commitments to sustained data generation for ensuring effective tracking of the new biodiversity targets.
11. GEO BON has endorsed several coordinated thematic Biodiversity Observation Networks focusing on best practices for the monitoring of marine (MBON), freshwater (FWBON) and soil (soil BON) biodiversity. The thematic BONs stand ready to provide the technical and scientific support needed to produce key biodiversity datasets in those realms.
12. An increased investment in global biodiversity monitoring will also be instrumental to track progress towards a target on reducing the impact caused by Invasive and Alien Species (currently listed under Target 3 in CBD/WG2020/2/3/Add.1). Parties are hence encouraged to start collecting alien species occurrence and impact data, for specific pathways and more broadly in the country. Guidelines for how countries may feasibly start or further develop such monitoring programs for Invasive Alien Species have been developed (see for instance <http://bit.ly/383m2tL>). An indicator related to country level monitoring of IAS is necessary to be able to evaluate progress against these target elements.
13. GEO BON finally notes that the establishment of national biodiversity monitoring systems will support the objective of responsibility and transparency of the post-2020 framework (CBD/WG2020/2/3 section G.16), by providing the necessary data for periodic reporting and indicator production.

II. ON THE MONITORING AND SAFEGUARDING OF GENETIC DIVERSITY

14. GEO BON observes and supports the inclusion of genetic diversity within species as a long-term Goal 3 for the new framework. Genetic composition is also considered by GEO BON as a key element of biodiversity to monitor. The inclusion in the CBD framework at this level recognizes the significant role of genetic diversity for species survival, resilient and diverse ecosystems, and stable agriculture, forestry and fisheries.

15. However, we also note that the current suggested elements of the goal for monitoring, as listed in Appendix 1 in CBD/WG2020/2/3/Add.1 are focusing on crops, breeds and wild relatives. We recommend that the elements of Goal 3 should explicitly recognize the societal, economic and ecological importance of the genetic diversity of all species, not just agricultural and commercial species. We suggest the following rewording of Goal 3 to "Genetic diversity is maintained or enhanced on average by 2030, and for [90%] of species **contributing to forestry, agriculture or fisheries, and [X%] of all wild species** by 2050". When possible, the goal and corresponding indicators should emphasize the genetic diversity of "self-sustaining populations in all habitats in terrestrial and aquatic realms."

16. Considering that indicators are still lacking for all species we call for rapid development and testing of such indicators that can track genetic diversity change in wild populations

III. ON INDICATORS OF BIODIVERSITY CHANGE DERIVED FROM ESSENTIAL BIODIVERSITY VARIABLES

17. GEO BON welcomes the inclusion of the Global Biodiversity Change Indicators derived from Essential Biodiversity Variables and being developed by its partners in the list of suggested indicators in CBD/WG2020/2/3/Add.1: Species Habitat Index, Biodiversity Habitat Index, Species Protection Index, Biodiversity Intactness Index, Protected Area Representativeness and Connectedness, Species Status Information Index and Global Ecosystem Restoration Index. GEO BON and partners will continue their work to develop biodiversity change indicators derived from Essential Biodiversity Variables that can efficiently track progress towards the goals and targets of the post-2020 global biodiversity framework.

IV. ON MEETING PEOPLE'S NEEDS AND THE MONITORING OF NATURE'S CONTRIBUTION TO PEOPLE

18. Regarding draft Target 9, "Enhance nature-based solutions contributing, by 2030, to clean water provision for at least [XXX million] people", we suggest that the element of the target for monitoring should explicitly mention "**natural bodies of water**" and suggest the following indicator for both Target 9 and Goal 4: "**proportion of natural bodies of water of good quality**". We also suggest that the element of the target for monitoring should specify that the access to freshwater should be affordable for all and recommend the following rewording: "Change in the number of people with access to sufficient **and affordable** amounts or quality freshwater".

19. Further on draft Target 9, indicators of the actual implementation of Nature Based Solutions are missing, and suggest the addition of, for instance, "**Surface area of reed beds implemented for water filtration and purification**".