Participate in WG2020-3

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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.

Objective:

Addresses all three levels of biodiversity: ecosystems, species and genetic diversity.

- *Ecosystem diversity:* The area, connectivity and integrity of ecosystems are essential for the protection of species and genetic diversity, ecosystem functioning and for the continued provision of ecosystem services. This will need to be achieved by avoiding further loss of natural ecosystems, where possible, and by reducing current rates of loss. It will further require restoring both converted and degraded ecosystems. Models, scenarios and other studies suggest that an increase in the area of natural ecosystems of the order of 10 to 15 per cent, globally, across all terrestrial ecosystem types, by 2050 may be feasible[1].
- *Species diversity:* Maintaining, or, where possible, restoring, the diversity of species and ensuring that populations of species are healthy is indispensable to the achievement of the 2050 Vision. Further, conserving species diversity and abund1ance is essential for the integrity of ecosystems and contributes to the conservation of genetic diversity. Currently, the global species extinction rate is at least tens to hundreds of times higher than the average over the past 10 million years, and the rate is increasing. About 1 million species (or 13 per cent) are currently threatened with extinction, although the extinction risk varies significantly across taxa[2]. It will be necessary to reduce both the extinction rate and the extinction risk (a tenfold reduction is proposed, given that a zero rate is unrealistic and would not account for extinctions due to natural reasons), as well as to maintain or improve the population abundances and the geographical extent of all species.
- *Genetic diversity:* Genetic diversity is critical for the long-term stability, adaptability and resilience of biodiversity, both at the species and ecosystem levels, and also supports the continued provision of Nature's contributions to people[3]. It is important to safeguard the genetic diversity of both wild, domesticated and other farmed or cultured species. In addition to action to address issues related to the direct drivers of biodiversity loss, species-specific management interventions are critical for the conservation of genetic diversity of many threatened species. The aim is to improve, or at least maintain current levels of genetic diversity by 2030 (maintaining 90% of genetic diversity is proposed), and progressively increase the diversity, abundance and distribution of populations of species thereafter, towards 2050.

Milestones	***Component***	***Indicators (Headline in bold)***
Milestone A.1 Net gain in the area, connectivity and integrity of natural systems of at least 5 per cent. **Milestone A.2** The increase in the extinction rate is halted or reversed, and the extinction risk is reduced by at least 10 per cent, with a decrease in the proportion of species that are threatened, and the abundance and distribution of populations of species is enhanced or at least maintained. **Milestone A.3** Genetic diversity of wild and domesticated species is safeguarded, with an increase in the proportion of species that have at least 90 per cent of their genetic diversity maintained.	A.1 Area of natural ecosystems A.2 Connectivity of natural ecosystems A.3 Integrity of natural ecosystems A.4 Abundance and distribution of populations of species A.5 Species extinction rate A.6 Species extinction risk A.7 Proportion of species that are threatened A.8 Maintenance of genetic diversity	**A.0.1 Extent of selected natural ecosystems (forest, savannahs and grasslands, wetlands, mangroves, saltmarshes, coral reef, seagrass, macro algae and intertidal habitats)** **A.0.2 Species Habitat Index** **A.0.3 Red list index** **A.0.4 The proportion of populations maintained within species with genetically effective population size >500** A.2.1 CMS connectivity indicator (CMS) A.3.1 Ecosystem Integrity Index A.4.1 Species status information index (GEOBON) A.8.1 Proportion of populations maintained within species (GEOBON)

Further explanation of target elements
Extinction rate – Actions to reduce the extinction rate would reduce the number of species threatened with extinction and improve the status of threatened species. Scenarios suggest that it would be feasible to reduce the proportion of species threatened with extinction in the wild by 2030 and aim to reduce extinction risk across all species by 2050[4].
Linkages
Objectives of the CBD – conservation of biological diversity
Drivers of biodiversity loss – land/sea use change, direct exploitation, climate change, pollution, invasive species
GBF targets – all targets
Sustainable Development Goals Goal 6: Ensure availability and sustainable management of water and sanitation for all Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
GBO-5 pathways Sustainable freshwater transition; land and forests transition; sustainable fisheries and oceans transition; biodiversity-inclusive one health transition

Click here to for more information on the First draft of the post-2020 global biodiversity framework

[1] For example, see Leclère et al. (2020). Bending the curve of terrestrial biodiversity needs an integrated strategy. *Nature*. 585, 551–556 https://doi.org/10.1038/s41586-020-2705-y. Strassburg et al (2020). Global priority areas for ecosystem restoration. *Nature* 586:724–729. https://doi.org/10.1038/s41586-020-2784-9.

[2] IPBES (2019). *Global Assessment Report on Biodiversity and Ecosystem Services*. IPBES Secretariat, Bonn, Germany. https://ipbes.net/global-assessment.

[3] Des Roches et al (2021). Conserving intraspecific variation for nature's contributions to people. Nature Ecology and Evolution. https://doi.org/10.1038/s41559-021-01403-5; Stange et al (2021). The importance of genomic variation for biodiversity, ecosystems and people. Nature Reviews Genetics 22, 89–105. https://doi.org/10.1038/s41576-020-00288-7

[4] For example, see Hannah, et al (2020), 30% land conservation and climate action reduces tropical extinction risk by more than 50%. *Ecography*, 43: 943-953. https://doi.org/10.1111/ecog.05166.