



IUCN’s response to the Post-2020 Global Biodiversity Framework discussion paper: Part 2 - Target formulations and topics

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This is IUCN’s response to Notification 2019-008 Part 2. Here we present specific comments on target formulations and topics under the headings specified in the Annex to CBD/POST2020/PREP/1/INF/1 from (a) ‘Species’ to (i) ‘Protected Areas’.

They are presented under these headings rather than individual target headings because the issues addressed cut across the scope of the current targets. The order of the comments in no way suggests a hierarchy of importance. IUCN’s response to issues and questions for discussion stated in CBD/POST2020/PREP/1/1 (IUCN’s response to Notification 2019-008 Part 1) is contained in a separate document.

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POST-2020 TARGET CONSIDERATIONS AND TOPICS

Introduction: Biodiversity

"Biological diversity" – or biodiversity – as defined by the Convention on Biological Diversity (CBD) means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

It is very important that this definition is borne in mind for the post-2020 global biodiversity framework which should ensure the conservation of all three components of biodiversity. Ecosystem services are delivered through all three levels of biodiversity. Species are fundamental components of the ecosystems that we rely on to live, in a way that we are only just beginning to understand. Genetic diversity is essential for all species to thrive and to adapt to changing environments. We assume that the definition embraces ecological, species, and genetic pattern and processes.

a) Species

1. **Aichi Target 12** is, appropriately, framed as an outcome target; Post-2020 it is suggested that this target be one of three key outcome targets framed to achieve the 2030 Mission.
2. Commitment and action to halt extinctions, halt and reverse declines of abundance of species in general and recovery of populations of threatened species are all essential.
3. The most significant threats to threatened species are intensive agriculture (including non-timber crop farming and livestock farming), unsustainable logging, hunting and trapping, changes in water quality, river flows and inundation as well as riparian habitat change (for freshwater species) and invasive alien species. These threats are addressed by **Aichi Targets 5, 7 and 9**, for which progress has also been slow.
4. Halting extinctions and improving the status of threatened species will require effective action addressing these direct pressures in combination with targeted site-based conservation and action for those species that need specific additional conservation interventions.
5. Conservation of key biodiversity areas through protected and conserved areas, and promoting targeted action for threatened species all need to integrate expected impacts of climate change. Interventions to prevent extinctions and recover threatened species will also require actions to help species adapt to climate change.
6. The illegal wildlife trade, and unsustainable hunting and trapping of terrestrial animals as well as unsustainable use of all species (in all realms) is a major threat that is only tangentially referred to in the Aichi targets; addressing unsustainable harvest is limited to the aquatic environment (**Aichi Target 6**). It is addressed by Sustainable Development Goal 15.7 (for 2030) and needs to be incorporated into the post-2020 global biodiversity framework. (Synergies with CITES are relevant here)
7. A strong commitment to assess the extinction risk of species is important; this is delivered through The IUCN Red List of Threatened Species™. Extinctions themselves are difficult to detect and there are often time lags before it can be confirmed that the last individual of a species has died.

8. Post-2020, more focus is needed for species conservation planning. Formal action plans, developed from species conservation assessments, represent a compilation of all the measures necessary to bring about the recovery of a species.
9. Recovering threatened species and achieving progress towards extinction risk targets takes time and so setting milestones may be useful. At the national level the objective should be to develop a species conservation action plan for all threatened species requiring targeted site-based conservation action.
10. The Red List Index is an essential metric for assessing genuine changes in the extinction risk of species. The IUCN Red List currently provides assessments of extinction risk for more than 98,500 species. An increasing number of taxonomic groups have been comprehensively assessed more than once, and are therefore suitable for incorporation into the Red List Index. Resourcing such assessments and reassessments remains challenging but essential.
11. IUCN stresses that, on the whole, species conservation has a positive impact. We need to do more, and scale up. Conservation work carried out in response to Target 12 may not have been registered because of the necessarily high level of the target. Although unknown numbers of species extinctions have occurred since 2010, it is also true that many have been prevented due to diligent conservation efforts.
12. It is useful to assess the counterfactual scenario to determine the likelihood that a species would have gone extinct in the absence of conservation efforts. IUCN is therefore currently developing a 'Green List' approach to species conservation which will offer a standardised framework for doing this. Our aim is to be able to indicate extinctions prevented and improvements in species status.
13. The IUCN Red List reflects changes in the status of a species as a whole, so large improvements are needed before progress is registered. The 'Green List' approach, currently under development, aims to assess changes in status across separate parts of the species range, and is therefore more fine-tuned to reflect positive changes which have resulted from local conservation efforts within shorter time frames. This will assist monitoring and reporting and be especially valuable to donors. The Green List counterfactual will also identify cases where conservation actions have prevented deteriorations in status.
14. To most people, species and extinctions have considerable public resonance, and a species conservation focus should be a pivotal component of any future plan to address biodiversity loss.
15. **The Global Strategy for Plant Conservation (GSPC):** Adopted in 2002, this strategy and its 16 targets is due to 'finish' in 2020. The Strategy has galvanised tens of thousands of individuals and hundreds of institutions to work to contribute to the Aichi Targets and the SDGs. Given the importance of plants for the delivery and support of ecosystem services, and the ongoing threats to many species, the contents of the GSPC need to be demonstrably carried forward in the post-2020 global biodiversity framework, particularly as the Strategy is not well represented in the current Strategic Plan or SDGs.
16. The Global Partnership for Plant Conservation (GPPC) has developed suggestions for a possible post-2020 GSPC, updating both the existing GSPC Targets (2010-2020) and linking them with the Aichi Targets and the SDGs. Such new post-2020 GSPC targets could be nested within the post-2020 global biodiversity framework, as contributors to high level outcome targets on species, genes and ecosystems. A suggested structure for updated GSPC targets is available from the GPPC and

includes SMART targets, supported by indicators, in all areas of the Strategy. Such an approach would ensure the continued commitment and effective contribution of the plant conservation community to the post-2020 global biodiversity framework.

b) Ecosystems and habitats

1. The biggest driver of biodiversity loss is habitat destruction (addressed by current **Aichi Target 5**). This should be re-phrased as an outcome target in the post-2020 global biodiversity framework. The specific mention of “forests” has made Target 5 a “forest” target. Post-2020 the target should emphasise the need to stop the degradation and loss of all natural habitats. The ecological integrity of all remaining primary ecosystems (wild areas) of the world should be maintained, further fragmentation avoided, and ecological connections restored where areas have been fragmented.
2. Nature-based Solutions for Societal Challenges (NbS) aim to meet societal needs such as human health, disaster risk reduction, climate change adaptation and mitigation, food and water security through the use of ecosystem services. However, every solution must maintain or enhance the biodiversity and species conservation efforts if it is to be truly nature-based – not to do so would undermine the very foundations of the solution in question. Ecosystem restoration is essential to deliver NbS for biodiversity and human wellbeing.
3. IUCN’s analysis suggests that NbS solutions including restoring forests and trees at scale, such as that of the Bonn Challenge - 350 million hectares of deforested and degraded land under restoration by 2030, could sequester 1.7 GtCO₂e per year – closing the “emission gap” by approximately 13%. Similarly, up to two thirds of the energy and height of a coastal storm wave can be reduced by a 100-metre-wide belt of mangroves.
4. The **Decade on Ecosystem Restoration 2021 – 2030** is an opportunity to leverage the IUCN-defined and CBD-adopted Ecosystem Approach for a global call for restoration and, in particular, to widely promote the role of ecosystems as the foundation of NbS. Mobilizing restoration *at scale* across terrestrial, freshwater, marine and coastal ecosystems in urban and rural areas, through prompting political will, generating a civil society movement for restoration action, sourcing investments and funding, enhancing capacities for restoration worldwide and catalyzing the largest scientific research coalitions for The Decade offers an unmatched opportunity to reinforce ecosystem restoration as a delivery mechanism for the Post-2020 Biodiversity Framework and the driving force for achieving the 2030 Mission of “bending the curve”.
5. Ecosystems safeguard biodiversity and provide societal services for food security, health, water security, disaster risk reduction, adapting to climate change. There is a need for improved quantification of the risks faced by ecosystems. The developing global typology of ecosystems, being developed as the backbone of the Red List of Ecosystems, will facilitate assessment of the risks linked to spatial distribution and the functionality of ecosystems. It will also identify the most appropriate conservation actions.
6. It is fundamental to protect other areas that are not (as yet) subject to formal conservation measures for the maintenance of essential ecosystem services, such as carbon sequestration and storage and provision of water, and protection of the species within freshwater ecosystems that secure the function and services provided by those ecosystems.

7. The successor to **Aichi Target 14** could also reflect a) the ecosystem services delivered by biodiversity to maintaining human health, and b) the ecosystem services delivered through the maintenance of soil biodiversity.
8. Investing in the conservation, restoration and sustainable use of ecosystems needs to be recognised and included within economic growth strategies of Governments.
9. **Inland waters (INF/CBD/COP/14/45):** Water services are essential for sustaining all communities on the planet, and source catchments must be conserved to ensure the continued provision of those benefits. Far more emphasis needs to be placed on the importance of conserving freshwater biodiversity post-2020, given that a sustainable future depends upon targeted actions for conservation of inland waters. As much as 75% of the world's inland wetlands (rivers, lakes, springs, and other freshwater ecosystems) may have been lost during the 20th century, less than 40% of large rivers remain free flowing, and approximately one-third of the freshwater species assessed by The IUCN Red List of Threatened Species are threatened with extinction.
10. The current approach to conserving inland waters biodiversity is falling far short. SDG 6.6 calls for an ambitious target to "protect and restore water-related ecosystems" by 2020. In 2018, a High Level Panel on Water convened by the UN Secretary-General and the President of the World Bank Group urged greater collective action to address the growing water crisis.
11. Often perceived as components of the lands in which they are embedded, inland waters conservation targets have been combined with terrestrial targets (e.g. Aichi Target 11). This lumping obscures the distinct threats that inland waters face; inland waters should be explicit where specific environments are named throughout. The post-2020 target for ecosystems should ensure retention of freshwater ecosystems along with protection of their threatened species and genetic diversity, and given the integrated nature of freshwater ecosystems and the ecosystem services that sustain human livelihoods, also address minimum requirements to achieve basic human rights to water
12. A target for the retention of freshwater ecosystems could be considered. At a minimum it should include protection of all threatened species, and given the integrated nature of freshwater ecosystems and the ecosystem services that sustain human livelihoods, also address minimum requirements to achieve basic human rights to water.
13. Post-2020 targets must avoid the current trend of viewing the conservation of inland water ecosystems principally in terms of delivery of water. Clearer links must be made between SDG goals 6, 14 and 15 in the revision of targets for post-2020. The conservation of inland water ecosystems should be addressed in all relevant targets to sustain life and consequently provide human water security.
14. **Marine and coastal biodiversity:** The importance of marine ecosystems has long been underestimated. Research has only recently advanced to a stage where we understand the critical contributions these ecosystems make towards food, habitable land, weather and livelihoods as well as climate change mitigation and adaptation.
15. The post-2020 framework must explicitly include the protection, conservation and sustainable use of all marine and coastal ecosystems in all relevant targets.
16. Consideration must be given to the need to build the resilience of the marine and coastal realm to help combat and adapt to global climate change. Improved resilience will come from better management of urbanized coastal, deep seabed, deep water column and pelagic areas. Other threats such as pollution (plastic waste and other

marine debris) needs to be addressed. In such cases the “tap on land will need to be closed”.

17. More attention needs to be given to ecosystems that connect land and sea (the interface zone) e.g. mangroves, seagrass, saltmarsh, kelp, coral and major riverine zones.
18. **Soil biodiversity:** Soil biodiversity plays a fundamental role in the carbon, nitrogen and water cycles – influencing food production, water cycles, climate change mitigation and many other ecosystem services. All forms of sustainable agriculture—agroforestry, zero tillage, management of natural pastures etc.—work by protecting this soil biodiversity and capturing the multiple benefits that this generates. Soil biodiversity is the key to unlocking the multiple economic and environmental benefits.
19. Soil biodiversity is of particular importance for maintaining soil fertility and moisture and therefore in determining agricultural productivity, but many agricultural practices deplete soil biodiversity (unsustainable land management practices, soil erosion and other land degradation processes).
20. FAO has estimated that globally we have on average only 60 harvests left before the world’s soil is depleted. Globally, soil biodiversity has been estimated to contribute between US\$ 1.5 and 13 trillion annually to the value of ecosystems services. Yet despite its global importance, soil biodiversity is often neglected in public policy. Between one quarter and one third of all land worldwide is estimated to be degraded, resulting in lower agricultural production, disrupted water cycles, and release of sequestered greenhouse gases.

c) Genetic diversity

1. This is the only target to specifically address within-species genetic diversity and receives little attention despite its critical importance.
2. The current wording of **Aichi Target 13** places a strong emphasis on the conservation of genetic diversity in cultivated plants and domesticated animals, compared to wild species. Although some attention is directed towards ‘wild relatives’ and ‘socio-economically’ and ‘culturally valuable species’, the species description largely omits wild species that comprise the vast majority of genetic diversity on the planet. While conservation of genetic diversity within those species emphasised in the target is certainly important, IUCN stresses the need to expand the target and refocus it on the conservation of genetic diversity in wild species, living in natural populations.
3. Many species are not currently recognised as socio-economically or culturally valuable, but their genetic health is of crucial importance to ecosystem function and human prosperity. Wild species are the genetic ancestors of all cultivated crops and domestic animals. While the importance of wild relatives is acknowledged in the current wording, this does not allow for novel domestication or alternative use that exploits natural genetic diversity across wild species.
4. By definition, the loss of genetic diversity within a species is almost complete prior to species extinction. Target 13 is therefore extremely important in not only the conservation of biodiversity but in enabling the level and trajectory of the status of biodiversity to be measured and managed.
5. Methods for evaluating and monitoring genetic diversity in crops and domestic species are not applicable to natural populations.

6. Recent work in IUCN SSC has started to address the implementation of Target 13 for wild species in two ways. First, a method to evaluate population genetic diversity across a wide range of wild taxa, including those of socio-economic and cultural value, has been developed in Scotland, for worldwide application. This approach does not require the production of molecular genetic data, but instead generates a report enabling a comparison of the status, threats, management and long-term risk to genetic diversity among species and countries, over time.
7. A second longer-term approach would be to use genomic data that allows direct measurement and trend monitoring of comparable genetic diversity measures. Such methods are under active consideration within the global conservation genetics community and would be equally applicable under this target to livestock and crop populations.
8. While advocating that wild species should be given much more prominence in Target 13, the importance of maintaining a common framework for Target 13 implementation is also clear. A more explicit framework for implementing Target 13 would enable the CBD to unite wild species, agricultural species and forest genetic resources, including *in situ* and *ex situ* populations, into a cohesive system for measurement, monitoring and future management of genetic diversity.
9. Against a backdrop of climate change, habitat alteration, anthropogenic movement and elevated disease transmission, species lacking genetic diversity will be less able to respond, adapt and survive.
10. There will be a need to ensure that ocean, land, and freshwater environments are represented sufficiently across the post-2020 global biodiversity framework.

d) Direct pressures on biodiversity (successor to current Strategic Goal B)

1. Post-2020 **Aichi Target 6** should be expanded to cover sustainable/legal use of biodiversity more broadly (terrestrial as well as marine and freshwater), and include demand reduction. The scope should embrace 'declining species' as well as 'depleted species'. Specify that the focus is beyond species level - on stocks/populations of species.
2. The successor of this target should embrace unsustainable use and its means of implementation should include advice on ensuring sustainable use/harvests. It should include the illegal wildlife trade, relevant to all realms and across all species.
3. In the marine realm there should be reference to the need to address Illegal, Unreported and Unregulated (IUU) fishing and the need to eliminate destructive gears and methods, especially bottom trawling.
4. Post 2020 the elements of **Aichi Target 7** should be made more focussed and specific. The term 'sustainably' needs to be defined.
5. Marine-based aquaculture must be managed to ensure there are no negative impacts to inland freshwater biodiversity, with particular reference to migratory species. The sourcing of animal and aquaculture feed is of deep concern, since so much is marine-based. (e.g. >3kg of wild marine protein (animals) to produce 1 kg of farmed fish).
6. See comments on soil biodiversity above.

7. Post 2020 **Aichi Target 8** on pollution should be linked to the Strategic Approach to International Chemicals Management (SAICM), a policy framework to foster the sound management of chemicals; and also to addressing plastics and other pollutants.
8. **Aichi Target 9** on invasive alien species (IAS) needs quantitative elements that are both ambitious but attainable, and set within the broader 2050 timeframe.
9. The objective of a new 2030 target should be to reduce the rate of introductions of alien species, reduce the impacts from currently established IAS, and mitigate impacts from alien species that have the potential to become invasive due to climate change.
10. While current Aichi Target 9 focuses on the prioritisation of species for management, and of pathways of introduction for prevention, the 2030 target needs to incorporate the prioritisation of vulnerable areas in order to achieve the greatest conservation benefits. These vulnerable areas are sites that are important for the persistence of biodiversity and sensitive and susceptible to the impacts from IAS, and include islands, protected areas, and Key Biodiversity Areas.
11. The 2030 target should focus on IAS that cause, or have the potential to cause, significant impacts on such areas, which can now be identified using existing assessment schemes, such as the Environmental Impact Classification of Alien Taxa (EICAT), and the Socio-economic Impact Classification of Alien Taxa (SEICAT) developed by the IUCN ISSG (as requested by Parties to the CBD).
12. **Aichi Target 10** is interpreted as having a focus on coral reefs despite that fact that it includes 'other vulnerable ecosystems'. Post-2020 the wording should be strengthened.

e) Indirect pressures on biodiversity (successor to current Strategic Goal A)

1. **Aichi Target 1** aims for understanding, awareness and appreciation of the diverse values of biodiversity to increase the willingness of individuals to make the necessary changes and actions, and create the "political will" for governments to act.
2. The successor to Aichi Target 1 should not only address increased awareness but also increased connectedness of people from all walks of life with nature in order to inspire significantly-enhanced, broad-based public and cross-sectoral action on biodiversity conservation (the aspiration of #NatureForAll).
3. While they remain critically important, efforts to increase awareness and understanding of biodiversity and its values, and of actions that can be taken, are not enough. A shift in behaviour will require moving from awareness to action if we are to create the transformational change necessary.
4. The need for raising awareness goes beyond "people" and "values". All relevant stakeholders, including people, countries, and businesses, need to be aware of not only the values but also the basic contributions and importance of nature to human livelihoods and wellbeing (and the steps they can take to conserve and use biodiversity sustainably).
5. Concepts related to building awareness and inspiring conservation action should be a component of other goals and targets. For example, a renewed ecological restoration target should refer to public awareness benefits of opportunities for increasing connectedness with nature through engagement in ecological restoration activities (e.g., tree planting; stream rehabilitation, etc.).

6. Given the concentration of people in cities, it would also be valuable to highlight urban issues in this Target post-2020. This could be linked to science based targets.
7. The successor for **Aichi Target 2** on biodiversity values and national accounting needs to call for Natural Capital Accounting following agreed international standards to be applied by all local, sub-national and national governments and by all large businesses (e.g. \$100 million turnover, 2000 employees), and used to measure, report, and reduce impacts on nature throughout the value chains and through changes to government policy.
8. The current **Aichi Target 3** has not elicited the necessary response, perhaps because it demands significant change across political sectors. Encouraging positive incentives and removing harmful incentives are hugely important steps in reducing pressures on biodiversity.
9. Target 3 is also very general and hard to report against. A post-2020 target should include a broader definition of subsidies, and be more specific, listing “identification” of subsidies in the target. This is because there are so many: they differ greatly by country and sectors, and all subsidies are not known (e.g. those associated with trade policies such as tariffs, or standards and regulations). Therefore “identification” of harmful subsidies harmful to biodiversity could be brought into the scope of the target (e.g. “incentives, including subsidies, harmful to biodiversity are *identified*, eliminated phased out or reformed...”). A clear timetable for promotion or elimination should be provided.
10. Positive incentives that could help support biodiversity conservation and should be encouraged include Payment for Ecosystem Services (PES) schemes; biodiversity certification programs; solar, wind and small scale hydropower technology; pesticide reduction strategies and sustainable agricultural intensification; and support for a range of nature-based solutions including carbon capture in vegetation and soils.
11. Harmful incentives to remove include: support for fossil fuels; clearance of native vegetation; intensive livestock raising units; blanket pesticide and fertilizer subsidies that encourage wasteful use; and farming practices that exacerbate soil erosion, salinization and loss of soil carbon.
12. Subsidies for fishing at levels that exceed agreed sustainable harvest should be removed (a link should be made to SDG 14.6 which addresses the need to prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing).
13. For freshwater the scope of the target should include reference to the perverse impact of using subsidies for hydropower (perceived as ‘green energy’), irrigation, water abstraction, wetland drainage and unsustainable fisheries.
14. The successor to Target 3 should also reflect the importance of land tenure arrangements in providing incentives for biodiversity conservation.
15. The successor to **Aichi Target 4** on sustainable production and consumption needs to be linked closely with the implementation of SDG12 *Ensure sustainable consumption and production patterns*. Increased engagement with UNEA is a good way forward to tackle this target.

f) Enabling actions for biodiversity (successor to current Strategic Goal E)

1. The SDGs provide an enabling framework for mainstreaming biodiversity and ecosystem services across scales and sectors.
2. As mentioned above each target post-2020 should be supported by a rationale and by a means of implementation. Here we suggest using the approach taken in the SDGs which include, under each goal, clear supporting targets. This could be a good model for the post-2020 targets.
3. Achievement of biodiversity outcomes should be supported by targets for the benefits (to people and nature) of conserving biodiversity (Goals D; successors to Targets 14 - 16) and enabling targets (Goal E; successors to Targets 11 & 17 - 20).
4. The successor to **Aichi Target 19** on science and knowledge should make clearer the knowledge base required for implementation of targets and the development of indicators. The crucial role of the maintenance of data systems such as the IUCN Red List of Threatened Species, Red List of Ecosystems, World Database of Key Biodiversity Areas, and World Database of Protected Areas cannot be overemphasised here, as the information they contain cannot be amassed and/or replicated. Mechanisms to finance critical science and knowledge products are also essential.
5. Artificial Intelligence (AI) may need to be specifically addressed to encourage biodiversity positive applications and avoid some (unintended or otherwise) consequences of this rapidly evolving technology.

g) Resource mobilization for the post-2020 global biodiversity framework (successor to current Strategic Goal E)

1. In addition to calling for increasing public funding from Governments, a global call for voluntary financial contributions for the implementation of the framework to the private and philanthropy sector should be part of a resource mobilisation strategy for the post-2020 global biodiversity framework.

h) Benefits from biodiversity (successor to current Strategic Goal D)

1. Ecosystems services delivered through the maintenance of soil biodiversity could be addressed in the successor to **Aichi Targets 14 and 15**;
2. It is fundamental to protect other areas that are not (as yet) subject to formal conservation measures for the maintenance of essential ecosystem services, such as carbon sequestration and storage provision of water, and storm and flood protection.
3. Investing in the conservation, restoration and sustainable use of ecosystems needs to be recognised and included within economic growth strategies of Governments.
4. It is necessary to articulate a transformative agenda for integrated health and biodiversity policy in a post-2020 framework towards SDG3 on Health and Well-Being.
5. However, it should be noted that SDG3 currently does not make the requisite health-biodiversity link clear or measureable.
6. Thus the successor to **Aichi Target 14** should more clearly reflect ecosystem services delivered by biodiversity to maintaining human health. Such an agenda should be fully

mainstreamed: the mutual integration of biodiversity into health policy and health into biodiversity policy.

7. Conservation of biodiversity and ecosystem services can contribute towards greater peace and human security by mitigating the drivers of conflict and displacement of people it causes. For example, poor governance, scarcity, and unequal distribution of natural resources is a common connection between nature and conflict. Natural resources have also provided income to help finance many conflicts, contributing not only to their onset but also to lengthening them. The role of biodiversity conservation in supporting peace and security could be noted, for example, in the successor to Aichi **Target 14** by adding “peace and security” to the list of human benefits supported by biodiversity.
8. Through the successor to **Aichi Target 15** there is an urgent need to massively scale up restoration of all ecosystems: forests, grasslands, croplands, wetlands, peatlands, savannahs and other terrestrial and inland water ecosystems, marine and coastal ecosystems and, as appropriate, urban environments.
9. Restoration can bring about the recovery of degraded, fragmented, damaged and destroyed ecosystems resulting in improved ecological functionality. Ecosystem restoration generates outcomes directed to reverse species decline and prevent extinction of species (see section B).
10. Restoration is currently a poorly defined term, and within a forestry context can be interpreted along a spectrum - from the implementation of simple monoculture plantations of non-native species, to the practice of regenerating forest to its former pre-degraded natural condition.
11. The potential for biodiversity gains from landscape and ecosystem restoration is vast, including enhancements of biodiversity in productive landscapes through activities such as agroforestry, forest management and enrichment planting, coupled with actions to restore degraded areas that are critical for threatened species.
12. Post-2020 there is a need to recognize the strong and positive opportunities associated with accelerating Forest Landscape Restoration, but focus must be shifted from quick fixes (possibly in response to global targets) by simply (and temporarily) capturing carbon in plantation monocultures and associated systems, to more holistic forestry practices, that better integrate human development and biodiversity needs.
13. The Bonn Challenge Barometer of Progress, a tracking protocol developed by IUCN in consultation with Bonn Challenge members, tracks how pledges are being converted into implementation. To date, 56 countries have pledged to restore over 168 million hectares. These pledges have created momentum that now needs to be followed through with action.
14. The opportunities for 'blue carbon'/biodiversity linkages through maintenance and/or restoration % of mangroves, seagrasses, kelp beds should be highlighted.
15. Nature and culture could be addressed in the successor to Aichi Targets 14 and 15.

i) Protected areas and other effective area-based conservation measures (successor to current Strategic Goal E)

1. The importance of the fundamental role of protected and conserved areas as effective area-based measures for the conservation of biodiversity and the provision of benefits for people and planet should be reiterated.

2. The current **Aichi Target 11** aspires to a sound vision for governance and management of area-based conservation outcomes at both site and system scales. It has elicited a sustained response by governments through the designation of new areas for protection to address identified gaps and priorities, and for the enhancement of the effectiveness of this protection. It has also stimulated the identification and recognition of areas that are de facto conserved by non-state actors (see below). It has resulted in quantified positive conservation outcomes for species, genes and ecosystems when compared to the counterfactuals of non-intervention. A global standard such as the IUCN Green List of Protected and Conserved Areas Standard sets the bar for measuring performance and trends in performance, as well as diagnosing the requirements for developing implementation capacity.
3. A crucial step in the definition of a successor to Target 11 will be a thorough assessment of progress made in all of the dimensions of the Target, including through expansion of protected and conserved areas (and commitments for such expansion), what has worked well and where improvements can be made. Such an assessment is already underway, informed by 6th National Reports.
4. IUCN supports increasing ambition on land and sea for *in situ* conservation: in addition to those areas conserved in systems of protected areas, we must retain or restore the remaining natural or near-natural ecosystems over the planet's terrestrial, marine, and freshwater surface, in order to retain life on earth and all essential ecosystem services.
5. We reiterate that quality as well as quantity is critical. Achieving conservation targets will require numerous tools, including among others: effectively managed and carefully located protected and conserved areas (including covering Key Biodiversity Areas, EBSAs and other relevant national approaches); other effective area-based conservation measures (OECMs); enhanced ecological connectivity; *ex situ* conservation; sustainable use and harvest; invasive species management; climate change response; and pollution control. Each will need their own targets for effectiveness, and encompass conservation areas and measures governed and managed by many different rights-holders and stakeholders.
6. A future target for ensuring the conservation of Key Biodiversity Areas will need to include the following: The value of all sites of global significance for biodiversity, including key biodiversity areas, is documented, retained, and restored through protected areas and other area-based conservation measures.
7. Other elements of the target that concern protected area quality, e.g. management effectiveness and effective governance and equity will require more attention, supported by strategic capacity development, since they have been poorly addressed and reported in the current Strategic Plan.
8. World Heritage Sites are examples of conservation success; a litmus test for our global conservation efforts. It is therefore of great concern that in 2017, only 64% of natural World Heritage sites have a positive outlook for achieving their objectives, and threats from invasive species, climate change, and adverse impacts from tourism and recreation are growing. There is an urgent need to address this and improve the conservation status of World Heritage Sites, as an integral part of the post-2020 framework.
9. One other important effect of Aichi Target 11 was to stimulate the process to define "other effective area-based conservation measures" (OECMs), more usefully referred to as "conserved areas". Post-2020, it will be of crucial importance to identify and recognize appropriately those areas that are already conserved through the actions of indigenous peoples and local communities, as well as private actors, and those areas

that will be established that meet the definition of OECMs agreed at COP14. OECMs are, and can continue to complement protected areas to deliver greater ecological representativeness, improved connectivity and social equity across protected and conserved area systems. Care will be needed to ensure that these remain or become 'effective'.

10. Concerted efforts to improve functional and spatial connectivity across systems of protected and conserved areas are required where necessary to develop ecological networks and mitigate fragmentation. Such connectivity will also enhance conservation outcomes and the ability of biodiversity to adapt to climate change.
11. On site conservation targets, we note two key IUCN Resolutions from 2016. One encourages Parties to the CBD to consider a new process for developing post-2020 targets to increase the percentage of highly protected marine areas highly protected to 30% by 2030. A second Resolution invites governments to use Key Biodiversity Areas to support the identification of sites for establishing new and expanding existing protected areas and OECMs.
12. The percentage elements of the current Aichi Target 11 have positively stimulated the establishment of many new Protected Areas. Post-2020 there is a need to place far more emphasis on the effectiveness of protected areas for achieving conservation outcomes, to ensure that protected and conserved areas achieve ecological representation, are protecting all areas of particular importance for biodiversity and ecosystem services, and are demonstrably equitable, and are yielding social outcomes.
13. For post-2020 we suggest a minimum target of N% of the total land surface should be conserved as Protected Areas and Conserved areas (OECMs), achieved in particular by recognising the de facto conservation efforts of Indigenous Peoples and Local Communities, and private actors, rather than simply trying to expand the conservation estate. This percentage should emerge bottom-up from analysis of site conservation targets within each country that are sufficient to achieve the global mission and ultimately vision.
14. In addition to this minimum target, there is a need to ensure that other areas in the production landscape and seascape that are essential for achieving conservation outcomes and for maintaining essential ecosystem functions achieve a sufficient level of protection and stewardship.
15. It will be essential to ensure the conservation of Key Biodiversity Areas and other sites of global significance for biodiversity. The value of all key biodiversity areas and other sites of global significance for biodiversity should be documented and retained through protected areas and other effective area-based conservation measures.
16. The rationale for identifying and protecting all areas of importance for biodiversity is provided by the recent paper by Visconti et al. (2019) Science <https://science.sciencemag.org/content/early/2019/04/10/science.aav6886>.
17. Areas of importance for the provision of ecosystems services are addressed under (h) Target 14.
18. In practice, there has to be a level of protection and conservation for all natural ecosystems, i.e. a "whole earth" approach, despite varying levels of use, including in highly populated urban settlements, across the production landscape and finally in systems of protected and conserved areas. A possible "rule of thumb" could be:

‘Three Global Conditions for Biodiversity Conservation’:

- (c.10% of land) Highly populated developed areas with significant agricultural and commercial forestry areas. Area-based conservation should focus on conservation (including connectivity) and restoration of remaining areas. Intensive agriculture and forestry should be managed in ways that support the ecosystem services essential to productivity (e.g. conservation of pollinators). This category includes urban areas, which require bespoke biodiversity conservation strategies.
- (c. 60% of land) Open landscapes with low human population densities and grazing, fishing and some resource extraction and with large existing or potential protected and conserved areas: Here the objective is to develop protected "ecologically representative and well-connected systems of protected areas and OECMs, integrated into the wider landscape and seascape". Ecological representation and areas of particular importance for biodiversity should be a focus. Ecological restoration is particularly important, especially to ensure connectivity for migratory species.
- (c. 30% of land) Large areas with a high level of ecosystem integrity (wilderness), with very low population densities. Here the objective should be to protect (retain) and conserve the entire natural system (all wild native species and ecological processes) as it is now. Infrastructure such as roads should be minimized, and industrial development should be exceptional. Indigenous People and Local Communities play a significant role in the custodianship of such areas. In addition to in situ conservation, this condition protects global-scale ecological processes including carbon sequestration, regional hydrology, and large-scale meteorological patterns.