Submission of the Wildlife Conservation Society (WCS) in response to Notification 2020-045, "Peer review of draft documents for the twenty-fourth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA 24)."

Part 1. Priority messages from WCS to CBD Parties going into SBSTTA-24

- WCS has the following general comments on the Draft Monitoring Framework (the '0.5 Draft'):

    - Two challenges face Parties as they evaluate this monitoring framework: 1) baselines are often not specified or vary between indicators, and 2) there are a very high number of indicators for some goals and targets. One way to solve these problems would be for SBSTTA to identify a small number of 'headline indicators' that: a) evaluate multiple components of goals or targets; b) are globally relevant, but can be dis-aggregated to relevant scales; and c) will be updated regularly. Shared baselines can be identified for these indicators.
    - Another way to reduce redundancy and the number of indicators would be focusing on outcome (state) indicators for goals, and output (process) indicators for targets. For example, component A6 at the Goal level is focused on process indicators (establishment of area-based measures) rather than the outcomes of those tools. Our submission contains additional comments on this.
    - For further reflection on many issues addressed in our submission, please see the Information Document prepared for SBSTTA-24 that contains the technical input of a group of experts, including WCS scientists, convened by the Earth Commission (see CBD/SBSTTA/24/INF/9).

- WCS supports the inclusion of a goal and target focused on natural ecosystem conservation, though would prefer the ecosystem goal to be separate from the species conservation goal. We recognize that some Parties have indicated that they prefer only 3 Goals, to align with the 3 Objectives of the Convention. Nevertheless, it would be clearer to separate these goals. With that said:

    - The terms "net gain" and "no net loss" do not appear in the '0.5 draft.' The word "increases" is used for ecosystem extent, integrity and connectivity in Goal A, but the application of "increases," and any reporting guidelines, must be clarified. WCS recommends a return to a goal of "net gain" of all three attributes of natural ecosystems. This returns to a holistic view of ecosystem loss *and* restoration, whereas "increases" could be interpreted more narrowly.
    - Ecosystem integrity and connectivity are related, but not the same concept. We recommend that ecosystem integrity and connectivity be two separate monitoring components.

- Recent, rapid advances in technology are making it possible for new global indicators that go beyond measuring the extent of ecosystems to illustrate changes in ecosystem quality in response to human pressures. As such indicators have only recently become available, they are not yet formally adopted by international fora (although they are peer-reviewed). With this in mind, we recommend the inclusion of the following indicators (see table to identify relevant components and gaps):

    - The **Human Footprint (HFP) Index** (see Venter et al. 2016) is a spatially explicit, cumulative index of eight key human pressures on natural ecosystems that is quantified through both remotely sensed and survey data. It is not currently included in the Draft Monitoring Framework; however, it is included in the BIP Information Document. It will be updated from 2020 annually.
    - The **Ecosystem Intactness Index (EII)** (see Beyer et al. 2019) measures the relative integrity, or intactness, of the world's terrestrial ecosystems using global datasets on anthropogenic pressures. It is currently included in the Draft Monitoring Framework (under another name). This indicator is applicable to a larger number of components/elements (see table), and could be considered as a "headline indicator." We strongly recommend its retention as an indicator. It will be updated from 2020 annually.
    - The **Forest Landscape Integrity Index (FLII)** (see Grantham et al. 2020, currently undergoing peer review) is the first globally-consistent, continuous measure of forest condition as determined by degree of anthropogenic modification. It is not yet included in the Draft

Monitoring Framework; however, it is included in the BIP Information Document. It is also applicable to a large number of components and elements. It was not available until this year, and is scientifically rigorous and uses the latest available data; WCS strongly recommends its inclusion as an indicator. It will be updated from 2020 annually.

o The International Coral Reef Initiative and its more than 40 government and 40 civil society members - representing a large number of coral reef countries and experts - have agreed by consensus to recommend a suite of indicators for inclusion in the Draft Monitoring Framework elements on coral reefs, including (but not limited to): **Live Coral Cover, Reef Fish Abundance & Biomass, Fleshy Algae Cover & Cover of Key Benthic Groups, Structural Complexity.** The full suite is included in the BIP Information Document. We strongly recommend their inclusion as indicators for relevant targets.

Indicator	Components	Baseline	BIP Doc.
Human Footprint Index (HFP)	A1, 1.2, 1.3, 1.5, 2.4, 7.1	2020	Y
Ecosystem Intactness Index (EII)	A2, 1.2, 1.3, 1.5, 2.4, 7.1	2020	Y
Forest Landscape Integrity Index (FLII)	A2, 1.2, 1.3, 1.5, 2.4, 7.1	2020	Y
Live Coral Cover	A2, 1.2	2020	Y
Reef Fish Abundance & Biomass	A2, 1.2	2021	Y
Fleshy Algae Cover & Cover of Key Benthic Groups	A2, 1.2	2020	Y
Coral Reef Structural Complexity	A2, 1.2	TBD	Y

Part 2. WCS peer review comments on the Draft Monitoring Framework (using the template)

Key:
Comment that addresses the language of 0.5 draft goals and targets
Add new   Delete existing   Amend existing

Review comments on the draft monitoring framework for the post-2020 global biodiversity framework				
Contact information				
Surname:	Lieberman			
Given Name:	Susan			
Government (if applicable)**:**	N/A			
Organization:	Wildlife Conservation Society (WCS)			
Address:	2300 Southern Boulevard			
City:	Bronx, NY10460			
Country:	U.S.			
E-mail:	slieberman@wcs.org			
Comments				
Table	**Page**	**Column letter**	**Row number**	**Comment**
0	**0**	**0**	**0**	*General Comment:* We acknowledge a proliferation of indicators, particularly for conservation goals and targets. It is critical to identify and

				adopt "headline" indicators, particularly for those conservation goals, that meet the following criteria: a) evaluate multiple components of goals or targets; b) are globally relevant, but can be dis-aggregated to relevant scales; and c) will be updated regularly. We propose and strongly recommend some examples within this document that are specific to goals and targets, and include: **Human Footprint (HFP) index:** A globally standardized, cumulative measure of anthropogenic impacts on natural ecosystems. Relevant to components A1, 1.2, 1.3, 1.5, 2.4, 7.1. **Ecosystem Intactness Index (EII):** A globally standardized measure of the relative integrity, or intactness, of the world's terrestrial ecosystems using global datasets on anthropogenic pressures. Relevant to components A1, 1.2, 1.3, 1.5, 2.4, 7.1. **Forest Landscape Integrity Index (FLII):** globally-consistent, continuous measure of forest condition as determined by degree of anthropogenic modification. Relevant to components A1, 1.2, 1.3, 1.5, 2.4, 7.1.
0	**0**	**0**	**0**	*General comment:* We recognize that Parties would like to see an equitable balance of goals and targets that address the three objectives of the Convention. We note that having separate goals on ecosystem conservation and species conservation would make more sense, so as to not combine too many elements (and therefore indicators). Therefore, we recommend disaggregating Goal A. This relates to the Goals as articulated, but also the organization of their components in Column A.
1	**2**	**X**	**1-28**	*Comment on Goal A:* We appreciate that the dimensions of ecosystem health – extent, integrity and connectivity -- are well represented at the goal level in Goal A. However, there is no clear baseline for the ecosystem conservation milestones, and no clarification as to whether this is absolute or net loss or gain, and (as mentioned above) whether this applies to all constituent parts of the goal (extent, integrity, connectivity). Noting the concerns above, this could create loopholes through which Parties could report progress without successfully conserving ecosystems. Furthermore, the concept of no loss of highest integrity is not included under component A6 on protection of critical

ecosystems, but process-oriented indicators like designation of protected areas are. This is despite the inclusion of a component on the state of intact/wilderness areas in Target 1. An indicator on intact/wilderness areas is far better placed here than area-based conservation measures as a policy measure.

We find that Goal A, by asking only for a reduction in the number of species that are threatened, will be accepting further declines in conservation status of some species, including potential extinction. We would ask how Parties plan to decide which species will be conserved and which will not, and we do not recommend a triage system at all. A more ambitious component to this Goal might be articulated as, *"No further species losses, and improvement of the conservation status of [X%] of species."*

We would therefore propose the following revision to Goal A: *"_Net gain of at least [X%] in_ the area, connectivity and integrity of natural ecosystems ~~increased by at least [X%],~~ _resulting in no further species losses, and improvement of the conservation status of [X%]._ ~~of species supporting healthy and resilient populations of all species while reducing the number of species that are threatened by [X%] and maintaining genetic diversity."~~*

Lastly, Goal A contains numeric figures in the Goal itself, while other Goals only contain numbers/figures in the milestones. Some standardization may be in the interest of Parties.

1	2	A	1-28	*Comment on components A1 and A2:*
				We concur that it is important to consider ecosystem extent, integrity and connectivity as part of any ecosystem goal post-2020. However, the division of these three attributes into components A1 and A2 presents two issues:
				● By separating extent from integrity and connectivity, we risk Parties continuing to neglect the critical importance of ecosystem integrity by only selecting those indicators that address extent. ● By combining integrity and connectivity, we complicate the issue by mixing indicators that can measure different things.
				Ecosystem integrity and connectivity are related in some, but not all circumstances. Whether in terrestrial or marine ecosystems, we strongly recommend that these two concepts should be separated (and both retained, along with extent).
				Recommendation: Amend existing component A2 "Ecosystem integrity and connectivity (terrestrial,

				freshwater and marine ecosystems)" by splitting it into two components, one on ecosystem integrity and one on connectivity. The language changes "ecosystem integrity and connectivity" in component A2 to "fragmentation and quality of" ecosystems in the monitoring elements. We agree that monitoring elements should divide indicators by ecosystem, but we would recommend that this language be better aligned. **Recommendation: Amend existing elements under component A2** by replacing "fragmentation and quality," in all five instances (Table 1, Row 15, 17-28) with "integrity and connectivity."
1	2	C	1-7, 13-14	*Comment on component A1:* The **Human Footprint (HFP) Index** (see <u>Venter et al. 2016)</u>, is globally standardized, cumulative measure of anthropogenic impacts on natural ecosystems. Noting its broad applicability across all terrestrial ecosystem types, and its applicability to both Goal A and Target 1, we recommend that the HFP be used as a "headline indicator." See first comment in this table for more information. **Recommendation: Add new indicator** "Human Footprint (HFP) Index" for existing elements "Trends in area of forest ecosystems," "Trends in area of other terrestrial ecosystems," "Trends in area of mangroves," and "Trends in areas of wetlands" (T1, R1-7, 13-14).
1	2	C	3	*Comment on row 3:* The existing indicator "Biodiversity Habitat Index" measures the loss of species diversity. We would propose looking for alternative, more up-to-date tools that use remote sensing and standardized methods to map the extent of ecosystems. The BHI could be relocated to the species focused element in component A3 or A4. **Recommendation: Delete existing indicator** "Biodiversity Habitat Index (BHI)" (T1, R3) from the existing element "Trends in area of other terrestrial ecosystems."
1	2	C	8	*Comment on row 8:* The existing indicator "Live coral cover" (T1, R8) is a measure of coral reef ecosystem integrity, rather than its extent. We therefore recommend moving this indicator into component A2.

				We support the inclusion of the existing indicator "Global coral reef extent" (T1, R9). **Recommendation: Move existing indicator "Live coral cover" (T1, R8) into existing component "Fragmentation and quality of coral reef ecosystems" (T1, R23-25).**
1	2	D	12	*Comment on row 12:* The existing indicator "Cumulative human impacts on marine ecosystems" has a 2005 baseline, and is out-of-date. However, there is a more recent update from 2015 (see Halpern et al. 2015). We also recommend that this product is updated to be stratified by broad ecosystem types, given its utility across marine ecosystems. **Recommendation: Amend baseline for existing indicator "Cumulative human impacts on marine ecosystems" (T1, R12) to 2015.**
1	2-3	C	15-21	*Comment on component A2:* The **Ecosystem Intactness Index (EII)** is a product managed by WCS and partners and measures the relative integrity, or intactness, of natural terrestrial ecosystems by using global datasets on anthropogenic pressures that cause a loss in area or quality of terrestrial ecosystems, including through their connectivity, degradation and fragmentation. The index can be disaggregated to national or ecoregional scales to identify progress towards national or global ecosystem conservation objectives on natural ecosystem/habitat loss, degradation and fragmentation. The EII has been peer-reviewed (see Beyer et al. 2019) and is currently included within the draft monitoring framework under another name (table 2, line 23). As noted in the UNEP-WCMC/BIP Secretariat Information Document, the current baseline is 2013, but it is now being updated for 2020, and will be updated annually thereafter concurrent with updates to the Human Footprint index. Noting its broad applicability across all terrestrial ecosystem types, and its applicability to both Goal A and Target 1, we strongly recommend that the EII be used as a "headline indicator." See first entry in this table for more information. **Recommendation: Add new indicator "Ecosystem Intactness Index (EII)" for existing elements "Trends in fragmentation and quality of forest ecosystems," "Trends in fragmentation and quality of dry and sub-humid lands, grasslands, and other terrestrial ecosystems" and "Trends in fragmentation and quality of mangroves" (T1, R15-22).**

1	2	C	15	*Comment on row 15:* There is currently an indicator gap under element "Trends in fragmentation and quality of forest ecosystems" under component A2. The **Forest Landscape Integrity Index (FLII)** is the first globally-consistent, continuous (non-binary) measure of forest condition as determined by degree of anthropogenic modification. The index integrates data on a) forest extent, b) localized or direct anthropogenic pressures on forests, c) anthropogenic pressures based on proximity to direct pressures, and d) anthropogenic alteration of forest connectivity, and is presented as a map that is available at a 300-meter resolution. The index can be scaled to jurisdictional or ecologically relevant boundaries, and used as an indicator for many global goals and targets that concern the integrity of forest ecosystems. The FLII is undergoing peer-review at this time (see Grantham et al. 2020). As noted in the UNEP-WCMC/BIP Secretariat Information Document, the current baseline is 2019, but it will be updated in 2020 and annually through 2030. See first entry in this table for more information. **Strong Recommendation: Add new indicator "Forest Landscape Integrity Index" to fill the existing gap for element "Trends in fragmentation and quality of forest ecosystems" (T1, R15).**
1	2	C	16	*Comment on element "Trends in farmland biodiversity and sustainability of agricultural land":* Goal A is addressing <u>natural</u> ecosystems. Agricultural land is not a natural ecosystem (inherent to its definition is modification for human use), and we therefore content that the existing element: "Trends in farmland biodiversity and sustainability of agricultural land" is not suitable to measure progress towards this Goal. **Recommendation: Delete existing element "Trends in farmland biodiversity and sustainability of agricultural land" (T1, R16).**
1	3	C	21	*Comment on row 21:* The Biodiversity Intactness Index (BII) models the estimated response of one key aspect of ecosystem structure (abundance of species). It therefore has high applicability to questions relating to the structure aspect, insofar as it is found to have good statistical performance, but because it focuses on one

				element it is less relevant to broader questions that relate to ecosystem integrity as a whole. It also has uneven accuracy across the globe. The underlying model does include a human pressure index that could potentially form a proxy for ecosystem integrity as a whole, and hence might function as a broad indicator of ecosystem integrity in its own right, but the index used appears less sophisticated than some other available indices of human pressure and would require careful comparative assessment. **Recommendation: Delete existing indicator "Biodiversity Intactness Index" (T1, R21) or move to another component/element focused specifically on species.**
1	3	C	22	*Comment on row 22:* The existing indicator "Continuous global mangrove forest cover" is probably a better assessment of mangrove ecosystem extent, and should therefore be only in component A1. **Recommendation: Delete existing indicator "Continuous Global Mangrove Forest Cover" (T1, R22) from element "Trends in area of mangroves" (T1, R22)**
1	3	B	23-24	*Comment on element "Trends in fragmentation and quality of coral reefs" in component A2:* The International Coral Reef Initiative (ICRI), including its 40 government members, have recommended that CBD Parties adopt a suite of coral reef-related indicators. More information is available here. ICRI has recommended the priority inclusion of two new, peer-reviewed indicators to capture coral reef integrity: "Reef fish abundance and biomass" and "Fleshy algae cover and cover of key benthic groups." **Recommendation: Add new indicators "Reef fish abundance and biomass" and "Fleshy algae cover and cover of key benthic groups" as two new rows (after row 24) under element "Trends in fragmentation and quality of coral reefs" (T1, R23-24).**
1	3	C	29	*Comment on row 29:* The existing indicator "Number of species extinctions (birds and mammals)" should also consider extirpation at the local or national level, which is a key indicator of conservation across a species' range and can be reported by range States through national reporting.

				Recommendation: Amend existing indicator, "Number of species extinctions (birds and mammals)" (T1, R29) to read "Number of species extinctions or local extirpations"
1	3	C	31	*Comment on row 31:* The IUCN Green Status of Species will eventually provide another indicator for recovery of species, including a subset of pollinator species. Further information will be made available to Parties leading up to SBSTTA-24. **Recommendation: Consider the inclusion of IUCN Green Status of Species as a complement to existing indicators.**
1	3	C	32	*Comment on row 32:* The IUCN Green Status of Species will eventually provide another indicator for recovery of species. Further information will be made available to Parties leading up to SBSTTA-24. **Recommendation: Consider the inclusion of IUCN Green Status of Species as a complement to existing indicators.**
1	3	C	34-36	*Comment on element "Trends in species abundance":* It should be made clear that non-native or invasive species are not included in this monitoring element. **Recommendation: Amend existing element, "Trend in species abundance" (T1, R34-35) to read "Trend in native species abundance."** The existing indicator "Living Planet Index (LPI)" is currently in row 34 to measure against the existing element "Trends in species abundance." However, it may be more useful to focus on umbrella species or those that perform critical ecological roles such as pollinators. The IUCN Green Status of Species will eventually provide an indicator for recovery of species, including a subset of pollinator species. Further information will be made available to Parties leading up to SBSTTA-24. Additionally, fish biomass can be used as a proxy indicator for species abundance. **Recommendation: Add new indicator "Total Fish Biomass" as two new rows (after row 34) under element "Trends in species abundance" (T1, R34-36). Consider the inclusion of IUCN Green Status of Species as a complement to existing indicators.**

1	3	C	34	*Comment on row 34:* The IUCN Green Status of Species will eventually provide another indicator for recovery of species, including a subset of pollinator species. Further information will be made available to Parties leading up to SBSTTA-24. **Recommendation: Consider the inclusion of IUCN Green Status of Species as a complement to existing indicators.**
1	4	B	36	*Comment on element "Trends in the diversity of wild species":* It is unclear what role this monitoring element will play in component A5 on genetic diversity. It may be more appropriately placed in the species conservation components (e.g. component A3). If this is about genetic diversity, there may be a way to create an index from EDGE species, as they represent a concentration of genetic diversity.
1	4	B	37-39	*Comment on element "Trends in the diversity of cultivated plants, farmed and domesticated animals":* We contend that this element and its indicators do not belong in a Goal focusing on the conservation of natural ecosystems and species; they are misplaced here. **Recommendation: Delete existing element "Trends in the diversity of cultivated plans, farmed and domesticated animals" (T1, R37-39).**
1	4	C	40	*Comment on row 40:* The IUCN Green Status of Species will eventually provide another indicator for recovery of species. Further information will be made available to Parties leading up to SBSTTA-24. **Recommendation: Consider the inclusion of IUCN Green Status of Species as a complement to existing indicators.**
1	4	A	42-50	*Comment on component A6:* There is some logical inconsistency in the placement of monitoring component A6, "Protection of critical ecosystems," or at least the indicators used to measure it. At the goal level, indicators should measure <u>outcomes</u>, such as changes in the state of ecosystems or conservation status of species. The indicators included under component A5 measure certain actions, such as the designation of protected areas as reported by Parties. This is not an effective measure of

<table>
<tr><td colspan="6">progress towards the Goal, as we know that designation of area-based measures without good implementation, i.e. 'paper parks' can provide a misleading view of conservation outcomes. Rather, the focus should be on measurements of the extent and integrity of identified critical natural ecosystems through the indicators in components A1 or A2, and if there is to be another component on critical ecosystems, it should focus on the retention of intact or wilderness areas as currently included in Target 1. (Component T1.3).

Recommendation: Amend component A6, "Protection of critical ecosystems" (T1, R42-50) to read "Retention of critical and/or intact ecosystems," and replace indicators focusing on protection of areas with indicators focusing on the state of natural ecosystems (see comments on components A1 and A2, as well as T1.2, T1.3 and T1.5.</td></tr>
<tr>
<td>1</td>
<td>5</td>
<td>X</td>
<td>51-71</td>
<td>

Comment on Goal B:

The language of the goal and its 2030 milestones and the monitoring components (B1-B3 in Column A) are not clearly mapped. For example, climate is not mentioned in the goal or milestones, but nutrition is.

Furthermore, the connections in both Goal B and in Target 7 to nationally determined contributions under the Paris Agreement have been lost. While we understand concern about the mandates of different conventions, there are ways to set measurable targets for nature-based solutions to climate change (e.g. proportion of mitigation target, rather than magnitude, in NDCs supported by nature-based solutions)

We further note that the language in Goal B no longer connects to disaster risk reduction under the Sendai Framework, which has repercussions in terms of not being able to influence aid and development organizations who lean towards hard infrastructure investments to reduce risk and improve resilience.

While nature will continue to underpin food security, unsustainable consumption of wildlife has already resulted in overexploitation of species and deterioration of their conservation status. We therefore believe that discussions of nutrition and food security must be nuanced and framed by both sustainability and human rights.

We note that nature is already contributing to these benefits for millions (if not billions) of people. The Goal may need to be framed around protecting and/or securing those benefits for the billions who already receive them.
</td>
</tr>
</table>

				We note that it may be helpful to set disclosure targets, rather than just reference disclosure.
1	5	A	51-63	*Comment on component B1 "Nature's regulating contributions including climate regulation, disaster prevention and other":* Several of these indicators do not speak to the core question of level of contribution to people. One alternative way to approach this more directly for some services (e.g. watersheds) would be to estimate the % of people who have the ecosystems they depend upon largely under protection or sustainable management.
1	5	C	51	*Comment on row 51:* The existing indicator in row 51, "Number of certified forest areas under sustainable management with verified impacts on habitat conservation/ restoration," will measure the absolute extent of harvested area, thereby incentivizing the increase in forests opened up to use. This creates a perverse incentive. The indicator here should measure the proportion of forests subject to sustainable use regimes that have achieved certification. Additionally, the Bonn Challenge has indicators that could be used for the restoration portion of this element. **Recommendation: Delete existing indicator "Number of certified forest areas under sustainable management with verified impacts on habitat conservation/ restoration," (T1, R51) and/or replace with a new indicator focused on the "Proportion of production forests certified to be under sustainable management."**
1	5	C	56	*Comment on row 56:* This is a poor indicator for the intended outcome, for the same reasons described above. The existing element "Trends in regulation of climate," would be better measured by the proportion of forests and other high carbon systems under effective protection or sustainable management."
1	6	B	65	*Comment on monitoring element "Trends in the provision of food and feed from biodiversity":* The monitoring element, "Trends in the provision of food and feed from biodiversity" measures the absolute increase in provision, with no regard to sustainability. Unsustainable increases in offtake of animals for wild meat could contribute to this monitoring element while undermining progress

				towards the Convention's objectives. This creates a perverse incentive that will harm conservation and human health. **Recommendation: Delete existing monitoring element** **"Trends in the provision of food and feed from biodiversity" (T1, R65).**
1	6	X	72-76	*Comments on Goal C:* We are very concerned that the term "traditional knowledge" has been removed at the Goal level. This is a core concern for Indigenous Peoples and Local Communities around the world. Though it is included in Target 12, we urge Parties to reflect the importance of traditional knowledge in the language of the Goal.
2	8-9	X	1-34	*Comments on Target 1:* We are very concerned that this Target is less ambitious than its predecessor in the zero draft of the global biodiversity framework. First, a significant proportion of the planet is under some sort of spatial planning and/or management. However, spatial planning does not always incorporate and prioritize biodiversity, ecosystems, climate, etc. By 2030, **100% of the planet** should be under multi-sectoral spatial management plans that specifically integrate and prioritize biodiversity. This is one of the only ways to effectively mainstream biodiversity (see comments on Target 13). We propose the following amendments to the draft Target 1: *"By 2030, [50%] 100% of land and sea areas globally are under multi-sectoral, biodiversity-inclusive spatial planning addressing land/sea use change, retaining most of the existing intact and wilderness areas, and enabling the restoration of the extent and integrity of allow to restore [X%] of degraded freshwater, marine and terrestrial natural ecosystems and connectivity among them."*
2	8	B	1-2	*Comment on element "Trends in area under spatial land-use plans":* Indicators for the existing element "Trends in area under spatial land-use plans" focus on terrestrial and freshwater ecosystems, which may mean that the monitoring element "Trends in area under spatial land-use plans" should be specified. However, critically, neither of the indicators in line 1 or 2 measure a full extent of terrestrial areas under spatial planning that meet the criteria outlined in the target. This is a significant

				indicator gap. One solution is to use other means, such as the number or proportion of countries that have identified and incorporated Key Biodiversity Areas in national spatial plans (which could be compiled by the KBA Partnership) (or other areas critical for the persistence of biodiversity). If countries assess KBAs nationally across multiple taxonomic groups and ecosystems and incorporate them in national spatial plans this will contribute greatly to achieving several of the CBD targets and goals. **Recommendation: Amend existing element "Trends in area under spatial land-use plans" (T2, R1-2) to refer specifically to terrestrial and freshwater ecosystems. Add new indicators in this element focused on comprehensive terrestrial/freshwater spatial plans, or "Number of countries that have used the Key Biodiversity Areas Global Standard to comprehensively identify and incorporate KBAs into spatial planning."**
2	8	C	1	*Comment on row 1:* The indicator in row 1, "Proportion of transboundary basin area with an operational arrangement for water cooperation (SDG indicator 6.5.2)" fits better under the element "Trends in the area under integrated water resources management" (T2, R5). **Recommendation: Move existing indicator "Proportion of transboundary basin area with an operational arrangement for water cooperation (SDG indicator 6.5.2)" to element "Trends in the area under integrated water resources management" (T2, CB, R5).**
2	8	C	2	*Comment on row 2:* The existing indicator "Number of countries using ecosystem-based approaches to managing marine areas (SDG indicator 14.2.1) is better suited to the monitoring element on marine spatial planning below. **Recommendation: Move existing indicator ""Number of countries using ecosystem-based approaches to managing marine areas (SDG indicator 14.2.1)" (T2, R2) to both elements "Trends in area under integrated coastal zone management" (T2, R3) and "Trends in area under marine spatial planning" (T2, R4).**
2	8-9	A-D	6-22	*Comment on component T1.2:* As a general comment, there is significant redundancy between those elements and indicators included in component T1.2 "Prevention of reduction and fragmentation of natural

				habitats due to land/sea use change" with those in components A2 and A2 in table 1. To reduce complexity, it would be preferable to retain the outcome-oriented measurements of ecosystem extent, integrity and connectivity to the goal level (in components A1 and A2), while focusing on action/output indicators in the targets (for Target 1, this would be successful creation and adoption of spatial plans, for Target 2 the establishment of protected areas and other area-based conservation measures). However, some of the outcomes currently included at the Target 1 level (most notably "*retaining most of the existing intact and wilderness areas")* would need to be reflected at the Goal A level, with indicators proposed below. **Recommendation: Add new indicators "Human Footprint (HFP) Index" and "Ecosystem Intactness Index (EII)" under each of the elements: "Trends in extent and rate of change of forest ecosystems," "Trends in extent and rate of change of dry and sub-humid lands," "Trends in extent and rate of change of other terrestrial ecosystems," and "Trend in extent and rate of change of mangroves" (T2, R6-10, 12). Add new indicator "Forest Landscape Integrity Index (FLII)" under the element "Trends in extent and rate of change of forest ecosystems" (T2, R6-7).**
2	9	C	13-14	*Comment on element "Trends in extent and rate of change of coral reefs":* The International Coral Reef Initiative (ICRI), including its 40 government members, have recommended that CBD Parties adopt a suite of coral reef-related indicators. More information is available here. ICRI has recommended the priority inclusion of two new indicators to capture coral reef integrity: "Reef fish abundance and biomass" and "Fleshy algae cover and cover of key benthic groups." **Recommendation: Add new indicators "Reef fish abundance and biomass" and "Fleshy algae cover and cover of key benthic groups" as two new rows (after 24) under element "Trends in extent and rate of change of coral reefs."**
2	9	C	23	*Comment on line 23:* The inclusion of the indicator "Ecoregion Intactness Index" (T2, R23) under component T1.3 "Priority retention of intact / wilderness areas," is a welcome addition, though it needs clarification.

				The relevant indicator is correctly named the "**Ecosystem Intactness Index (EII)**," which is relevant at a 1-kilometre resolution and can be used at ecoregional or jurisdictional (e.g. national) scales. [Note: for full description, see above.] This will need to be amended using the information in the UNEP-WCMC/BIP Information Document, including the baseline of 2013 or 2020 (baseline will be updated). There are also indicators specific to certain ecosystem types. For example, the Forest Landscape Integrity Index (FLII) We note that this is terrestrial only, and a marine complement, for example "Cumulative human pressures on marine ecosystems," or other measures in development, may be needed. But generally speaking, this pertains to the WCS comment on component T1.2, which states that these are outcome/state-based indicators rather than action-oriented indicators that track progress on things like spatial planning or establishment of protected areas. Variations can be measured, such as the proportion of high integrity or intact areas captured in spatial plans or under area-based management (the latter being more relevant to Target 2, below). **Recommendations:** *Existing component and elements:* **Amend existing indicator** "Ecoregion Intactness Index" to read "Ecosystem Intactness Index (EII)" for existing element "Trends in extent of intact / wilderness ecosystems" (T2, R23). **Add new indicators** "Human Footprint (HFP) Index" and "Forest Landscape Integrity Index (FLII)" under element "Trends in extent of intact / wilderness ecosystems" after row 23. *With proposed changes:* **Amend existing element** "Trends in extent of intact / wilderness ecosystems" to "Incorporation of intact/wilderness ecosystems into spatial plans" in Target 1, and **add a new element** "protection of intact/wilderness ecosystems" as a new monitoring element in Target 2. **Add new element** "Trends in extent of intact/wilderness ecosystems in component A1.
2	10	B	30-34	*Comment on component T1.5:* We note that the indicators for the element "Trends in habitat connectivity" under component T1.5 are mostly focused on species, connectivity of protected areas, etc. As this monitoring element is focused on the connectivity of habitats more broadly, ecosystem-wide indicators of integrity and

				connectivity should be included. This is another opportunity to use the EII and FLII. **Recommendation: Add new indicators "Ecosystem Intactness Index (EII)" and "Forest Landscape Integrity Index (FLII)" for existing element "Trends in habitat connectivity" (T2, R30-34).**
2	10-12	0	35-52	*Comment on Target 2:* The inclusion of a target to protect or conserve 30% of the planet is welcomed. Parties will understandably require some clarification on the obligations implied by this commitment. At the same time, Parties will implement according to national priorities and legal frameworks, and an evolving international regime for use of the oceans (e.g. BBNJ negotiations). This draft target would benefit from the following clarifications: ● It would need to clarify that this target is to cover 30% of land/freshwater areas and 30% of marine areas within area-based conservation measures (as the ocean is 70% of the planet). ● It should be clarified that this is a shared target for all Parties to cover 30% of the global ocean, i.e. not for each Party to necessarily cover 30% of its waters or EEZ. ● The adopted definition of OECMs should be clarified so there is a clear understanding of which types of areas will count towards this target. ● Ideally, this target will include language that indicates Parties should count areas that prohibit industrial extraction or use. ● Effective management and effective conservation (i.e. outcomes) are as critical to any target as an ambitious spatial figure. Finally, we propose that the word <u>effective</u> come before the word "conserve," such that Target 2 would read, *"By 2030, protect and <u>effectively</u> conserve, through well connected and effective system of protected areas and other effective area-based conservation measures, at least 30% of the planet with the focus on areas particularly important for biodiversity."*
2	11	C	39	*Comment on row 39:* We support the inclusion of the indicator of protected area coverage of KBAs. Subsets of this indicator are official indicators for SDGs 14 and 15 - specifically indicators 14.5.1; 15.1.2 and 15.4.1. This indicator is reported by BirdLife International, IUCN and UNEP-WCMC on behalf of the KBA

2	11-12	C	46-48	*Comment on element "Trends in in management effectiveness":* If component T2.4 is looking at the effective management of area-based conservation measures, we recommend using indicators that actually measure the anthropogenic degradation or destruction of those habitats. This would complement, but go beyond, measurements of management inputs (e.g. funding or other means of implementation) to look at whether efforts are successful. Similar indicators to look at outcomes are provided for Goal A and Target 1, but could be used here as well. **Recommendation: Add new indicators "Human Footprint (HFP) index," "Ecosystem Intactness Index (EII)" and "Forest Landscape Integrity Index (FLII)" for existing element "Trends in management effectiveness" (T2, R46-48).**
2	12-13	B	46-48, 51	*Comment on monitoring elements "Effective management and equitable governance of the system of protected areas and other effective area-based conservation measures" and "Increased protection and conservation effectiveness":* In addition to the indicators in the comment above, which can help measure the outcomes for terrestrial/coastal protected areas and OECMs, there may be some indicators at the international level that are applicable to both terrestrial and marine ecosystems for a subset of area-based measures. For example, trends in the list of natural World Heritage sites, both in designation and condition, can tell us about the levels of increased protection provided and the effectiveness of conservation efforts.
2	12	C	48	*Comment on row 48:* The existing indicator "Number of certified forest areas under sustainable management with verified impacts on biodiversity conservation" measures the absolute number of forest areas/ecosystems that are in sustainable use regimes, and as such is more suited to placement under another target (i.e. not one on protected areas and OECMs). This indicator does not belong here. **Recommendation: Delete existing indicator "Number of certified forest areas under sustainable management with verified impacts on biodiversity conservation" (T2, R48).**
2	12	A	51	*Comment on component T2.6:*

(continued from previous row at top of page:) Partnership, based on analysis of data in the World Database of KBAs and the World Database on Protected Areas.

				This component, Increased protection and conservation effectiveness," is somewhat redundant with T2.4, "Effective management and equitable governance of. These two components should be merged.
2	12	X	53-55	*Comments on Target 3:* The introduction of a "species action target" is a welcome development in this draft monitoring framework. We note that Indigenous Peoples and Local Communities and their wellbeing and food security is closely connected with biodiversity and the landscapes/seascapes it comprises. Any development of this target will need to take this fact into account. We note that there are two very critical, but not very related, components to this target: 1) developing and implementing management actions for species (which could use the conservation status on the Red List and Green Status of Species as outcome indicators), and 2) the mitigation of human wildlife conflict (for which indicators are not available at a global level).
2	12	C	54	*Comment on element "Trends in species recovery programmes":* Two potential indicators for this monitoring element could be the IUCN Green Status of Species and changes in conservation status on the IUCN Red List of Species. The IUCN Green Status of Species will eventually provide another indicator for recovery of species, including a subset of pollinator species. Further information will be made available to Parties leading up to SBSTTA-24. **Recommendation: Consider the inclusion of "Red List of Species" and "IUCN Green Status of Species" for existing element "Trends in species recovery programmes" (T2, R54).**
2	12-13	X	56-66	*Comments on Target 4:* The inclusion of a target focused on legal, sustainable and safe use is a critical component of this framework. However, its articulation and lack of indicators (e.g. for sustainability) leaves important gaps to be defined by Parties in how it will be implemented. We propose the following amendments to the draft target:

				• Replace "harvest" with offtake or exploitation, as harvest is not the best term in reference to wildlife. • Include "or below" after "at" in the target to ensure that the target is not to reach maximum sustainable yield and Parties may choose to restrict offtake, use or trade below what is biologically sustainable. We suggest that the target would read: *"By 2030, ensure that the exploitation ~~harvesting~~, trade and use of wild species of fauna and flora, is legal, at or below sustainable levels, and safe."* Terms such as "harvest," "sustainable," and "safe" need to be collectively defined or indicators carefully chosen to make this Target effective. In particular, the term "safe" is not defined; does it pertain to safe for wildlife, for human health, for ecosystems, or something else? It would be preferable to design elements, targets, and indicators that relate directly to zoonotic disease threats.
2	12-13	A	56	*Comments on T4.1:* Many of the comments on Target 4 (see above) apply to component T4.1, particularly the use of the terms "harvest," "sustainable" and "safe."
2	13	A	61-63	*Comments on T4.2:* Indicators used by CITES, including those being developed for the Strategic Vision 2020-2030, should be adopted here. They provide an incomplete picture, as they deal with only CITES-listed species and international trade, but they are readily available indicators that many governments are reporting on already. These could include, for example, the proportion of CITES Parties in Category 1 of the National Legislation Project or subject to trade suspensions, which would serve as an effective proxy for the legality of trade. Other indicators could be developed, such as changes in the conservation status of CITES-listed species, or something on the effectiveness of non-detriment findings in ensuring the sustainability of trade. As above, the term "safe" must be defined and clarified.
2	13	B	58	*Comment on element "Trends in proportion of biological resources harvested within the established harvest limits":* The conservation status of commercially exploited aquatic species should also be an indicator, either here or at the Goal level (or both). **Recommendation: Add new indicator** "Red List of Species (Commercially Exploited Aquatic Species)" for existing

				element **"Trends in proportion of biological resources harvested within the established harvest limits" (T2, R58).**
2	13	B	59	*Comment on element "Trends in proportion of biological resources harvested though sustainable harvest practices":* This monitoring element is not clear – is the goal to focus on the proportion of harvest that is done in a sustainable way? How will this be measured? This also seems to say that it is acceptable that some biological resources are exploited unsustainably.
2	14	X	67-80	*Comments on Target 5:* The inclusion of a target on invasive alien species is welcome. We support language on control of IAS pathways, and would like to add in language on protection of native species and control of nonnative species. that the terms "where possible" and the 50% reduction make this target unambitious. We propose the following amendments in line with these comments: *"By 2030, manage, and ~~where possible~~ control, pathways for the introduction of IAS, achieving [50%] reduction in the rate of new introductions <u>from [X] baseline</u>, and eradicate, control and manage IAS, <u>particularly nonnative IAS</u>, to eliminate or reduce their impacts, ~~including in at least [50%] of priority sites~~."*
2	15	X	81-96	*Comments on Target 6:* It will be critical for CBD to provide guidance on what constitutes levels that are harmful for biodiversity. Otherwise it will be difficult to measure collectively.
2	16	B	93	*Comment on element "Trends in levels of pollution from noise":* There is an extensive body of peer-reviewed research about the impacts of increasing levels of underwater anthropogenic noise pollution on marine biodiversity, and in particular cetaceans (see e.g. Southall et al. 2019, Erbe et al. 2019). It has also been recognized by UN Member States as a threat to marine biodiversity (see A/RES/74/19). We therefore welcome the inclusion of a monitoring element on noise pollution. Led by co-chairs Drs. Brandon Southall and Doug Nowacek, WCS is one of the founding members of the Global Alliance for Managing Ocean Noise (GAMEON), a multi-disciplinary international partnership that brings together governments and intergovernmental organizations, as well as industry, academia

				and non-governmental organizations, to undertake research and develop technology to monitor and mitigate impacts of ocean noise. This group was launched as part of a voluntary commitment to the UN Ocean Conference in 2017, with progress recorded in October 2019, and is well placed to identify practical global indicators for a monitoring element related to ocean noise. There are two types of indicators that may be useful with respect to underwater anthropogenic noise pollution: ● Indicators on the levels of noise pollution: This information is not yet collected and aggregated at a global scale, but is likely easier to monitor through, for example, use of new technologies in ship production or through in situ monitoring of ocean noise levels aggregated to regional scales. However, these will serve as proxy indicators for the impacts of noise on marine biodiversity (and whether we are reducing those impacts). Acoustic datasets are being collected by a large number of researchers and agencies globally. These datasets could be aggregated and analyzed to examine global trends in underwater noise levels, but the resources, coordination and mechanisms to accomplish this require further work. ● Indicators on the impacts of noise pollution on marine biodiversity: Setting a target for noise levels (and potential reductions over time by sector or geographical area) or measuring the impacts of noise on marine biodiversity can complement efforts to document ocean noise levels. However, given the range of potential impacts from ocean noise and wider coordination, geographic coverage or some other means of assessment of systematic monitoring at national/regional scales and potential impacts on a subset of species may be best form of indicators until greater resources are available for global coordination Additional recommendations will be provided in advance of SBSTTA-24 to propose indicators for row 93. **Recommendation: Amend existing element "Trends in levels of pollution from noise" to read "Trends in the levels of noise pollution and impacts on biodiversity."**
2	16-18	X		*Comment on Target 7:* The inclusion of a target addressing climate change mitigation, adaptation and disaster risk reduction is welcome. However, the vagueness of this target relative to those that were in the zero draft, including focusing on the term "increase" with no measure amount or baseline, sets a very low bar for

				achievement. As noted in our comments on Goal B, this is a critical moment to see the climate and biodiversity regimes operate well together, and there are ways to frame the goals and targets to avoid mandate issues. One missing element in this target, and its components, elements and indicators, is the concept of carbon/land sinks. It will be critical to address not only those emissions projected from deforestation, but different actions to safeguard carbon sinks such as intact forests. Finally, the use of the term "minimize" in the draft target is unambitious – it should be replaced with "prevent" or "avoid" to truly halt the negative impacts of climate change.
2	16-18	C	97-102	*Comment on element "Trends in carbon stocks in different ecosystems":* Although there is currently an indicator gap here, direct remote-sensed measures of forest carbon exist and can be used. As a complement to these measures, we suggest the tools mentioned previously that measure the integrity of carbon rich ecosystems such as tropical forests. This is a proven proxy of carbon storage (see Watson et al. 2018). **Recommendation: Add new indicators "Human Footprint (HFP) index," "Ecosystem Intactness Index (EII)" and "Forest Landscape Integrity Index (FLII)" as new rows under existing element "Trends in carbon stocks in different ecosystems" (T2, R97).**
2	17	C	101	*Comment on line 101:* We note that the existing indicator "Number of least developed countries and small island developing States with nationally determined contributions, long-term strategies, national adaptation plans, strategies as reported in adaptation communications and national communications (SDG indicator 13.b.1)" is focused on LDCs and SIDS. This will not capture all countries. This is an indicator gap.
2	18-20	X	103-116	*Comment on Target 8:* Indicators for this target should focus on delivery of benefits to human beings, rather than levels of harvest and trade (which are better suited to Target 5). This target is not very measurable. There is little consideration on equity as to who receives these benefits and how. Potential revisions to the wording: *"By 2030, ensure benefits, including nutrition, food security, livelihoods, health and wellbeing, for people, especially for the most vulnerable*

				through <u>protection and</u> sustainable management of wild species of fauna and flora <u>and natural ecosystems</u>."
2	**19**	**C**	**110**	*Comment on row 110:* In addition to the existing indicator, which focuses on albatrosses and petrels, the inclusion of aquatic animals such as cetaceans, marine turtles, and sharks and rays will be important indicator species for bycatch. The Red List Index status for those taxa could be relevant as well.
2	**19**	**B**	**114**	*Comment on element "Trends in terrestrial wild species of fauna used for food and medicine":* The pet trade plays a critical role in demand for and use of biodiversity, and should be reflected in this element. We also note that this element is ambiguous. The focus should be on decreases in the use of terrestrial wild animals used for food and medicine, as a benefit to both biodiversity and health. Indicators should focus on declines, not increases. **Recommendation: Amend existing element "Trends in terrestrial wild species of fauna used for food and medicine" to include pet trade.**
2	**19**	**C**	**114-116**	*Comment on element "Trends in terrestrial wild species of fauna used for food and medicine":* Component T8.2, "Sustainable management of terrestrial wild species of fauna and flora" makes sense, but the monitoring element for row 114-116 focus on benefits to people and not on the sustainability of management. The logic from this target to component to element to indicators is very weak. **Recommendation: Delete existing indicators for monitoring element "Trends in terrestrial wild species of fauna used for food and medicine" (T2, R114-116).**
2	**20**	**C**	**121**	*Comment on row 121:* The <u>IUCN Green Status of Species</u> will eventually provide another indicator for recovery of species, including pollinators It is still under development, and further information may be available to Parties prior to SBSTTA24 and/or OEWG-3. **Recommendation: Consider the inclusion of IUCN Green Status of Species as a complement to existing indicators.**
2	**20**	**C**	**124**	*Comment on row 24:*

				We note a gap for monitoring element "Trends in production of aquaculture under sustainable practices," and believe that FAO may be well placed to provide an indicator here.
2	20	A	125	*Comment on component T9.3:* Component T9.3, "Sustainable management of all types of forests" would indicate that all forests should be sustainably managed (which normally implies some level of forestry or extraction. However, there will be many forest areas (e.g. highly intact forests, current protected forests, Indigenous forests) that should not be managed for this purpose. **Recommendation: Amend existing component T9.3 to read, "Sustainable management of all production forests."**
2	22-23	X	132-139	*Comments on Target 11:* We welcome a target that includes reference to green and blue spaces, and increasing access to it. We also believe it should go beyond access – we will need to increase the overall amount of it at a global scale. However, as phrased, the nuance in this target may be lost, we want to be clear, including through translation, that such access would be effectively managed for low- or no-impact recreational use and not lead to indirect impacts and loss of nature.
2	22	B	134-137	*Comment on element "Trends in contributions to human health and well-being from forest ecosystems" and similar:* These elements should focus on Indigenous Peoples and Local Communities, and not all people (the majority of whom live in urban environments).
2	25-27	X	152-161	*Comments on Target 13:* The inclusion of a target focused on mainstreaming biodiversity into relevant economic sectors is hugely important. We note with concern that mainstreaming is more fundamental than to "integrate" (the term currently used), and requires making biodiversity a prime consideration rather than being only additional or supplemental. The role of the mitigation hierarchy in this respect is critical – it is critical to focus on biodiversity at the outset during planning processes to avoid negative impacts on biodiversity rather than focus on the mitigation or remediation options available after activities negatively impact the environment. As part of this, the language on impact assessments no longer includes strategic environmental assessments (SEAs), which are a critical tool to mainstream biodiversity. Project-specific environmental impact assessments (EIAs) are too limited in

				scope to successfully conserve biodiversity at national, regional or global scales. This Target is highly relevant to Target 1 on spatial planning, and significant thought should be given on the linkages and common indicators between these targets.
2	27-30	X	180-193	*Comments on Target 17:* A target on incentives and subsidies is one of the most critical in the post-2020 framework, and an area in which Party governments must take the lead. This is not to say that these issues are not complex and will not require some careful implementation at the national level. However, leaving them unresolved will undermine the achievement of every other target in the framework. The target as currently drafted is unambitious and will not lead to transformative change. For example, repurposing or reforming subsidies offers ambiguity in terms of a policy response, and the bracketed percentages do not make it clear what will be measured (i.e. will it be the magnitude of impacts, the financial amounts of the subsidies, etc.). The Aichi Targets and the zero draft of this framework were stronger and we strongly recommend reversion to previous targets with smarter indicators and a dedicated program of work post-2020 to eliminate all harmful subsidies.
2	30-31	A	180-189	*Comment on component T15.1:* An additional element that fits into this component is a focus on reduction of wildlife consumption in urban/peri-urban areas, where alternative options are available (with indicators on food security, alternative food sources for food insecure communities, and a reduction in wildlife consumption in urban/peri-urban areas).
2	36-38	X	226-238	*Comments on Target 19:* We are very concerned that there are no longer any FPIC protections for traditional or local knowledge from IPLCs. This is critical and should be put back in to the current draft.