

**Comments received during the external review of the Second Order Draft (SOD) chapters and for the First Order Draft Summary for Policy Makers (SPM) of the IPBES assessment of the sustainable use of wild species.
The review period was from 15th April to 27th June 2021.**

Nb	Reviewer Name (Last, First)	Chapter (1-6; SPM)	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comments / Feedback	Responses to the comments
1	Barbieri, Marco	General	0	0	0	0	An aspect that the assessment does not seem to consider in any significant detail is the one of migratory species that are subjected to different governance systems and regimes within their migration cycle and migratory range. The peculiarity of migratory species in relation to use is that the same individual animals constitute a shared resource among different countries and communities. Their use, besides having to be sustainable in the long term, has also to ensure an equitable sharing of	Thank you for your comment. While we lacked the relevant expertise to cover significantly issues associated to the sustainable use of migratory species, several chapters discuss their specificities, and the role CMS plays to promote sustainable use. This is discussed principally in chapter 4, sections 4.2.2.2.1 and 4.2.3.2.2 and in chapter 6, sections 6.4.1.1 and 6.4.2.1.
2	de Jager, Riaan	General	0	0	0	0	the assessment is set to become a valuable, respected reference to advocate for the sustainable use of wild species. The assessment is predominantly based on data and scenarios from before the onset of the Covid-19 pandemic. Those pre-Covid models and statistics do not hold currently. the security of the sustainable use of wild species based on old models of international ecotourism, given that conservation funding has collapsed locally and across much of Africa in the face of the Covid-19	Thank you for your comment. Covid-pandemic has been mentioned in several parts of the report. This is indeed a key event that has affected the use of wild species, as climate change or other environmental hazards, which are covered especially in chapter 4 and chapter 5.
3	Freyer, Daniela	General	0	0			general comment: I would like to express concerns about the apparent bias of the document: The large amount of information and references available and documenting the large scale over-exploitation of wild species for commercial use (and accompanying detrimental effects on ecosystems) have mostly been ignored in this review; I had provided relevant references on some issues related to wildlife trade when reviewing the FOD, however I note these have not been included in the	Thank you for your comment. Please note that the aim of this assessment is not to evaluate the status of wild species worldwide, nor to exhaustively document the impacts of human uses on wild populations or the various biotic and abiotic components of the ecosystems that they inhabit, as this has already been done by IPBES global assessment (2019) or by IUCN (2019). Instead, the core of this assessment is to evaluate sustainability through the lens of different practices and uses. This has been now clearly stated at the end of the introduction (section 1.1).
4	Freyer, Daniela	General	0	0			the report is often unbalanced - in terms of ignoring information and references on the negative impact that extractive use has on wild species and the selective focus / emphasis on certain issues. For example, subsistence use (hunting/collecting/gathering) is treated at the same level as use of species for commercial purposes, although the latter often has much larger impact (serving a much larger number of consumers; commercially driven etc.). While some issues are dealt with	Thank you for your comment. Please note that the aim of this assessment is not to evaluate the status of wild species worldwide, nor to exhaustively document the impacts of human uses on wild populations or the various biotic and abiotic components of the ecosystems that they inhabit, as this has already been done by IPBES global assessment (2019) or by IUCN (2019). Instead, the core of this assessment is to evaluate sustainability through the lens of different practices and uses. This has been now clearly stated at the end of the introduction (section 1.1).
5	Gallagher, Louise	General	0	0	0	0	I think there is an inconsistency in the order and the names of the drivers explored between chapter 4 and 5, i.e. social and sociological.	Thank you for your comment. We harmonized the use of terms for "social drivers".
6	Germany	General	0	0	0	0	General comment: We realized that there are numerous editorial issues and we expect these to be addressed before the next version is available. We have highlighted some aspects below.	Thank you for your comment. The chapters and summary for policymakers were proofread and edited to fix typos and other editorial issues.
7	Jones, Victoria	General	0	0	0	0	I have not been able to read all chapters but it would be good to ensure there is consideration of what is known of the interplay between gender and sustainable use. For which types of sustainable use are women the key users and for which men. Does gender have any influence on the way people approach sustainability of their use. What involvement do children have and who do they learn patterns of use from? For example in Europe, the Caucasus, the Mediterranean, Arabian peninsular, bird	Thank you for your comment. Gender is indeed of key importance to understand the sustainability of some uses of wild species and this has been clearly reflected, especially in chapter 3 (section 3.3.2.2), in chapter 4 (sections 4.2.2 and 4.2.3) and chapter 6 (section 6.5.2.11). Children and youth involvement in the sustainable use of wild species is discussed in many sections of Chapter 3, related to specific practices and uses.
8	Lerambert, Adeline	General	0	0			It is very concerning that the report contains multiple cases of misrepresentations of the references associated with them. Suggest that all references are carefully fact checked.	Thank you for your comment. References have been carefully checked.

9	Lerambert, Adeline	General	0	0			The document should aim to develop a clear definition of what is meant by 'sustainable use', and make it clear that, in respect of most current uses of wildlife, the definition represents an ambition rather than a current reality. Such a definition should have an ecological and biological basis, rather than a socioeconomic basis, and should recognise that the sustainability of any one form of use should be considered in the context of the overall drivers of biodiversity decline, and utilisation of the species concerned is difficult to envisage how the concept of sustainable use' can apply to what might be, overall, a diminishing resource.	Thank you for your comment. The way "sustainable use" is defined for this report is given in section 1.3.1 of chapter 1, while chapter 2 extensively reflects how the concept of sustainable use has evolved through time and how it has been conceptualized among different practices, cultures and (local to global) policies.
10	Lerambert, Adeline	General	0	0			There remains too much focus on sustainable use as a tool for short-term human benefit. The value of nature and ecosystems services need to be incorporated – such services rely on ecosystem integrity. See Pagiola, Stefano & Callicott, J.B. & Groot, Rudolf & Hassan, Rashid. (2003). Concepts of ecosystem value and valuation approaches. https://www.researchgate.net/publication/40128671_Concepts_of_ecos	Thank you for your comment. The concepts of ecosystems values and valuation is the aim of a new IPBES assessment, the Value assessment. Furthermore, these concepts are also discussed in this report, especially in chapter 1 sections 1.2, 1.3.4 and 1.4.
11	Lerambert, Adeline	General	0	0			Sustainable use in the report is couched as a progressive wildlife management approach, but fails to truly recognise the value biodiversity and ecosystem services in their own right. Further, sustainable use definitions should incorporate human and animal health and welfare elements. For instance, the illegal wild meat trade is a threat to biodiversity as well as public health under the One Health framework. There are, however, human well-being issues connected to illegal activities – and possibly to poverty situations too – as well as animal welfare issues in terms of how wild meat animals are captured and slaughtered that are rarely addressed. Complementing One Health with One Welfare will help to expose and address these types of issues. While the importance of local communities and indigenous peoples and their practices is rightly emphasised in this report, it should not be implied that such practices can automatically be assumed to be ecologically sustainable use. Many traditional and cultural uses of wildlife, that may have been historically sustainable, have expanded significantly into widespread commercial practices, and stimulated additional ones, with the commodification of the wildlife or products	Thank you for your comment. We do not think that this report can be restricted to a progressive wildlife management approach. The conceptualization of sustainable use was extensively documented and presented in chapters 1 and 2. We further added a section on the conceptualization of nature, which advocates for an inclusion of human activities and humanity in the ecosystems; an inclusion that would respect the other living organisms and the environmental commons (see section 1.3.4). About animal welfare, this was not identified in the scoping report of this assessment (see annex IV to decision IPBES-5/1) and was therefore not addressed in this report, albeit we believe that this important topic would deserve a dedicated assessment.
12	Lerambert, Adeline	General	0	0			While the importance of local communities and indigenous peoples and their practices is rightly emphasised in this report, it should not be implied that such practices can automatically be assumed to be ecologically sustainable use. Many traditional and cultural uses of wildlife, that may have been historically sustainable, have expanded significantly into widespread commercial practices, and stimulated additional ones, with the commodification of the wildlife or products	Thank you for your comment. This has been stressed now more clearly in chapter 1 and in other chapters as well.
13	Lerambert, Adeline	General	0	0			The assessment should also take into consideration increasing references in international and national fora to the rights of nature (such as in Ecuador's Constitution), and the need to consider animals as sentient beings (such as in the EU Treaty of Lisbon, and the Animal Welfare (Sentience) Bill currently making its way through the UK Parliament).	Thank you for your comment. Multiple values and conceptualizations of nature is the aim of another IPBES assessment, the Value assessment. We included a point on this issue in chapter 1, section 1.3.4. About animal welfare, this was not identified in the scoping report of this assessment (see annex IV to decision IPBES-5/1) and was therefore not addressed in this report, albeit we believe that this important topic would deserve a dedicated assessment.
14	Lindsay, Keith	General	0	0	0	0	General feedback	Thank you for your comment, but we can see no connection between the highlighted text and the comment, so we are unable to respond appropriately.
15	Lippai, Christine	General	0	0	0	0	Check that mainstreaming is mentioned in the document - this has been advocated in the southern africa context (and also applied across the globe), where biodiversity and ecosystem management have been mainstreamed into other sectoral policy making entities, to ensure that environmental and social (amongst others) concerns are integrated into eg Ministries/Departments of Justice, Transport, Rural Development, Finance, etc sectors	Thank you for your comment. This is an important point and it is addressed in Chapter 6.

16	Mikiko, Hagiwara	General	0	0	0	0	I do not have time to give a thorough review of the entire document, but I have looked at least at the Executive Summaries of each chapter and at some materials in more depth. The report appears thorough, clear, and well-grounded in fact and evidence. I particularly appreciate the emphasis on Indigenous ways of understanding the use of wild species, and the need to base policies on Indigenous understanding as well as others ways of seeing nature.	Thank you for your comment. The positive feedback is greatly appreciated by the authors.
17	Mikiko, Hagiwara	General	0	0	0	0	As noted in previous comments, context is essential. I realize this assessment focuses on sustainable use, but some discussion of habitat loss and other threats to wild species is essential, to put sustainable use in context. And the two are not separate. Industrial fisheries, for example, are a major factor in habitat loss in the ocean and consequent losses to biodiversity. To assign these losses to "unsustainable use" implies that the problem is the harvest of the target species, rather than	Thank you for your comment. Please note that the aim of this assessment is not to evaluate the status of wild species worldwide, nor to exhaustively document the impacts of human uses on wild populations or the various biotic and abiotic components of the ecosystems that they inhabit, as this has already been done by IPBES global assessment (2019) or by IUCN (2019). Instead, the core of this assessment is to evaluate sustainability through the lens of different practices and uses. This has been now clearly stated at the end of the introduction (section 1.1).
18	Mulà, Anna	General	0	0	0	0	I totally agree with this statement. Animal welfare is important for the adequate and sustainable management of species conservation policies. The lack of animal welfare is detrimental for sustainable use of wildlife. Wild animals in captivity (and during their capture in the wild) faces many animal welfare problems that need to be address by a specific assessment. For instance, the concern of CITES about animal welfare is an evidence since numerous references included in the text of the	Thank you for your comment. Animal welfare was not identified in the scoping report of this assessment (see annex IV to decision IPBES-5/1) and was therefore, not addressed in this report, albeit we believe that this important topic would deserve a dedicated assessment.
19	Mulà, Anna	General	0	0	0	0	We ask IPBES to hold a special workshop on animal welfare and conservation and provide a report.	Thank you for your comment. Animal welfare was not identified in the scoping report of this assessment (see annex IV to decision IPBES-5/1) and was therefore, not addressed in this report, albeit we believe that this important topic would deserve a dedicated assessment.
20	Orenstein, Ronald	General	0	0	0	0	In general, I have serious problems with the approach in many parts of this study to reviewing the literature. Today there are excellent cross-journal scientific search services, including Google Scholar, that perform across-the-board searches through a wide range of scientific journals. There should therefore have been no need to restrict searches to a selected number of journals. By doing so, the review has become less a survey of the current state of scientific knowledge on the issues addressed then a sort of public opinion survey to see what scientists publishing in a few major journals find interesting. As a result, many highly informative papers have been overlooked, and the conclusions drawn are based on a biased and incomplete review. I have cited a number of additional papers in these comments, but I think that this review cannot be considered sufficiently complete until a much broader range of scientific journals has been examined and their contents taken into account.	Thank you for your comment. IPBES follows a systematic review approach for the largest part of its work, though an assessment at the science-policy interface needs adaptation to the strict protocol of a systematic review, given its breadth and its policy-support orientation. Each literature search was defined by the chapters and the experts, and the methodology followed is now available in data management reports referenced in each chapters and publicly available, so that similar reviews can be conducted, amended and updated for those willing to do so. Google Scholar and Scopus were the tools most widely used to perform the reviews, and this is specified in the data management reports. In order to integrate all knowledge systems, the author team can also bring additional sources of knowledge on board, including indigenous and local knowledge through specific processes established by IPBES. Given the time and human resources available, the team did its best to have as thorough as possible a review of existing knowledge, but we thank all reviewers who provided further expertise and resources on the content that was prepared and that allowed us to complement and improve the assessment. Note that our literature cut off date for this assessment was April 2021.

21	Orenstein, Ronald	General	0	0	0	0	<p>I was unfortunately unable to look at all sections of the review in the time allotted. However, having looked in detail at the first three chapters and the majority of Chapter 4, I would like to make some general observations in addition to the specific comments given above. There are many cases in which I found myself in disagreement with the conclusions reached. However, that is not my chief concern about a document which is supposed to be scientifically and academically sound enough to serve as a basis for policy decisions across a broad range of multilateral environmental agreements.</p> <p>I am much more disturbed by the failure of the document, in many places, to demonstrate either a firm grasp of the relevant literature or an understanding of the issues involved. My comments above should demonstrate that a substantial number of highly relevant studies, particularly from more recent literature, have been overlooked, conclusions have been drawn based on studies that are now seriously out of date, and in a few places where I was able to check the references cited have been misquoted and do not support the points being made in the text. In many parts of the document, it appears that whoever was conducting the review had no first-hand knowledge of the subject involved, and were therefore unable to recognize important gaps in the research being done or to fully understanding the import of the literature that they did refer to. Many of the references cited were not even listed in the chapter bibliographies. For example, anyone with a knowledge of ethnobotany would have recognized it immediately that a map used to</p>	<p>Thank you for your comment. IPBES follows a systematic review approach for the largest part of its work, though an assessment at the science-policy interface needs adaptation to the strict protocol of a systematic review, given its breadth and its policy-support orientation. Each literature search was defined by the chapters and the experts, and the methodology followed is now available in data management reports referenced in each chapters and publicly available.</p> <p>The section on CITES in chapter 4 was reworked significantly.</p> <p>We worked on improving consistency in style and editing across chapters, but note that this assessment is the result of three years of work by more than 80 experts, whose names and affiliations are available at: https://ipbes.net/sustainable-use-experts-2018</p>
22	Perez Gil, Ramon	General	0	0	0		<p>Please refer to Mexico's Biodiversity Commission web page, www.conabio.gob.mx There is a wealth of valuable information there.</p>	<p>Thank you for your comment. We could not refer your comment to specific parts of the assessment, but note that CONABIO was used as a main source for several case studies in Chapter 6.</p>
23	Perez Gil, Ramon	General	0	0	0	0	<p>My comments for other chapters were included in the documents sent by the Mexican Commission on Biodiversity CONABIO, for we held discussions and sent comments also.</p>	<p>Well noted. We thank you for your valuable review.</p>
24	Rosenberg, Andrew	General	0	0	0	0	<p>Overall, I think this draft is solid.</p> <p>I recommend a more even treatment about the impacts of climate change. Some chapters say little or nothing, some go into detail. But of course it is not only that the climate is warming but that our environment is no longer (statistically) stationary. That has huge implications for all chapters as virtually all wild species distributions, ranges and productivity are being affected, as well as the human communities that rely on these</p>	<p>Thank you for the positive feedback. Please note that the aim of this assessment is not to evaluate the status of wild species worldwide, nor to exhaustively document the impacts of human uses on wild populations or the various biotic and abiotic components of the ecosystems that they inhabit, as this has already been done by IPBES global assessment (2019) or by IUCN (2019). Instead, the core of this assessment is to evaluate sustainability through the lens of different practices and uses. This has been now clearly stated at the end of the introduction (Chapter 1, section 1.1).</p>
25	Shizuka Hashimoto	General	0				<p>The format of the executive summary placed at the beginning of the chapter should be made more consistent. The executive summary of chapter 3 must be a good example for the other chapters with confidence terms included in the key messages. I presume it is high time to present the confidence term to maintain the coherence between SPM and the executive summary.</p>	<p>Thanks for the comment. We paid attention to this issue in the final version of the assessment.</p>
26	Shizuka Hashimoto	General	0				<p>"NCP" is used infrequently and ecosystem services are used across the chapters. To be more precise, Ch. 1 and 3 used NCP frequently along with ecosystem services but NCP seldom appears in the other chapters, which does not look appropriate. The similar point is applied to the use of good quality of life: human well-being is more frequently used.</p>	<p>Thank you for your comment. We improved consistency of the wording of the assessment with IPBES conceptual framework.</p>

27	Smith, Zak	General	0	0	0	0	Numerous reports, including many issued by IPBES (the most recent being the workshop report on climate change and biodiversity), conclude that transformative change—a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values—is needed to address the biodiversity crisis and its drivers, including the direct exploitation of species. I urge the authors of this report to think about what transformative change means in the	Thanks for this interesting comment. The objectives of this assessment have been examined and listed by IPBES a few years before the release of the global assessment and are documented in the scoping document. Nonetheless, some of the points raised by the reviewer are now tackled by chapter 5 which aims at examining the pathways to transformative change in sustainable use of wild species to achieve targets under the Sustainable Development Goals and the Convention on Biological Diversity.
28	Smith, Zak	General	0	0	0	0	This Second Order Draft of the IPBES assessment of the sustainable use of wild species rightfully notes the current importance of use of wild species to people for a variety of reasons, but fails to grapple with whether trends in such use can continue in the long term. The IPBES Global Assessment Report concludes that direct exploitation of organisms is the first or second leading driver of biodiversity loss (depending on the ecosystem). Thus, there is a tension between the	Thank you for your comment. We do hope that the revisions and the completion of the final draft of this report address most of the points raised by the reviewer, especially trends in use in chapter 3, drivers of sustainability of use in chapter 4 and futures of use in chapter 5 and 6.
29	United States of America	General	0	0	0	0	A thorough peer review of this assessment is not possible. Reviewers can only hope to flag bits and pieces of concerns, but a real critique is prohibited by the approach. The text is expansive and can't be reviewed by single reader (and it seems unlikely individual authors could fully review and connect the strands). This is a barrier to having confidence in and using the material. Shorter chapters will also improve the chances that the report will be used after publication, since people are unlikely to	Thank you for your comment. Authors have tried to be as concise as possible, but the objectives of this assessment (i.e., all types of uses of wild terrestrial and aquatic animals and plants worldwide) make it difficult to be concise if we want to reflect the numerous different situations. There is indeed a high heterogeneity worldwide in the use of wild species because of differences in the uses, the socio-ecological contexts, the spatial contexts and the temporality in various drivers.
30	United States of America	General	0	0	0	0	The formatting of the chapter executive summaries is inconsistent. It would be helpful if they are formatted like the SPM, with key messages linked to where underlying supporting chapter text is found.	Thanks for the comment. We paid attention to this issue in the final version of the assessment.
31	White, Michael	General	0	0	0	0	Well done!	Thank you for your comment. The positive feedback is greatly appreciated by the authors.
32	Burgess, Neil	1	0	0			This seems a good overall opening chapter to the assessment. No doubt more could be added, but its already long and I would suggest targeted editing down rather than adding more material	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
33	Empeaire, Laure	1	0	0	0	0	The chapter seems to me to be extremely comprehensive and rich in terms of definitions. My comments are mainly on wording issues in order to give a better visibility to the IPLC actors' points of view. Two substantive comments in line 52 and 54. One regret, that of the formulation of the eight categories of use which, both in terms of semantics and definition of its contours, seems to need further study. However, reworking them should have repercussions on their	We appreciate the reviewer's many excellent comments on the chapter.
34	Empeaire, Laure	1	0	0	0	0	Last comment : the absolute preeminence of english scientific bibliography and the absence of IPLC bibliographic production	Thank you for your comment. We acknowledge these limitations in this assessment, in particular, and the IPBES corpus, as a whole. IPBES is seeking ways to make improvements in both regards in its future work.

35	Fontana, Isabella	1	0	0	0	0	There should be definitions for "domestic species" and "non-domestic species", considering that the terms "domesticated" and "wild" would be referred to individual or population conditions instead of categories of species.	Thank you for your comment. There is a large section in Chapter 1 about the definition of wild species (section 1.3.2) that tackled these issues.
36	Fontana, Isabella	1	0	0	0	0	Policy makers, generally, do not know all species than can survive without human intervention. Therefore, there should be a list of plant and animal species that IPBES (or the CBD) consider domestic for international reference.	Thank you for your comment. Such a list could be indeed of interest, but it is out of the scope of this assessment
37	Singh, Baljinder	1	0	0			I do not know whether it is feasible, at this stage of the draft preparation process, to incorporate relevant new literature. Perhaps a special addendum can be used as a means of accommodating new information. Here are several very recent reports & research papers that might be worthwhile including: State of the Arctic Terrestrial Biodiversity report, published by the Arctic Council's Conservation of Arctic Flora and Fauna (Caff) working group.	Thank you for your comment. This is indeed a very interesting report on the Arctic terrestrial biodiversity, but note that the aim of this assessment is not to evaluate the status of wild species worldwide, nor to exhaustively document the impacts of human uses on wild populations or the various biotic and abiotic components of the ecosystems that they inhabit, as this has already been done by the global assessment (IPBES 2019) or by IUCN (2019). Instead, the core of this assessment is to evaluate sustainability through the lens of different practices and uses. This is now clearly stated at the end of the introduction (Chapter 1, section 1.1).
38	Singh, Baljinder	1	0	0			I did not notice any information on bat guano harvesting (apologies if I missed it). This remains an important aspect of agriculture in many parts of the world because bat guano (& also, to a lesser degree seabird guano) is a very rich source of phosphorus, potassium, calcium & magnesium, making it a potent natural biofertilizer. We should address the sustainability of these practices given that agricultural workers, as well as livestock & food products, could all be at greater risk of exposure to	Thank you for your comment. Bat guano harvesting is mentioned in Chapter 4 (section 4.2.2.3), in Box 4.7 about Bat conservation in the Philippines and New Zealand.
39	Wells, Geoff	1	0	0	0	0	Although included in the glossary chapter, across the whole report the only substantive mentions of 'dry' or 'arid' ecosystems are under the land degradation section in 4.2.1.3, while savannas are only mentioned in lists alongside other ecosystems in the sections on rangelands (section 4.2.1.5.5), urbanisation (4.2.3.3.4), trade (4.2.4.3.1). While dry woodlands may fall under the IPBES 'forest' definition, a	Thank you for your comment. Chapter 3 on the status and trends heavily re-worked on the logging section and addressed your point.
40	Belgium	1	1	18	1	18	Between both paragraphs, it would be good to insert a paragraph stressing the fact that wild use in a sustainable way can be a solution in conservation. Using this in conservation raises ownership of conservation, which is key to success of conservation. The conservation and ownership parts are not clear in the executive summary, nor in the whole document.	Thank you for your comment. This is indeed important, but this is tackled by chapter 6; chapter 1 sets the scene, organises the structure, the terminology and definitions to be applied to all chapters.
41	Benedict, Michael	1	1		2		Executive Summary: Captures in a positive manner the uses of Wild Species by indigenous peoples.	Thank you for your comment. This does not seem to require a change of the text.
42	Benedict, Michael	1	1	1	67	1901	This chapter covers completely the indigenous uses of wild species that are used for food, medicine, and cultural values. As a Native American I identified with the discussion on wild species uses and how users manage the natural world. As a forester I also see how TEK should be a source of information that may answer and assist with professional managers. This chapter also provides, in my opinion a very thorough look into understanding indigenous cultural uses.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.

43	de Jager, Riaan	1	1	18	1	20	Overexploitation of wild species is a key driver of biodiversity decline, the illegal exploitation driven mostly by greed is not addressed in the document .(Thank you for your comment. While overexploitation and unsustainable use were covered by IPBES global assessment (2019), the sustainable use assessment discusses the conditions for sustainable use. There are illegal uses that are sustainable and legal uses that are not. This is discussed in more details in Chapter 4, section 4.2.2.2.1 and, on legal and illegal trade more specifically, in section 4.2.4.3.1. This is also discussed across Chapter 6.
44	de Jager, Riaan	1	1	1	81	2450	No reference is made to indigenous conservation/Biodiversity protection practices . Not referring to Spiritual practices, Ceremonies or songs and dances	Thank you for your comment. As stressed by several reviewers, this chapter and the whole report cover quite extensively the use of wild species made by indigenous people and a large set of references is given. For instance section 1.4 of this chapter is strongly focused on this topic and spiritual practice, ceremony or song and dance are explicitly mentioned (see eg. Box 1.3 and 1.5).
45	Demissew, Sebsebe	1	1	10	1	11	Current understanding of nature's contributions to people through wild species use is limited but there are many dispersed sources of information. The first part of the Key message is clear, the second part is not clear enough for me. Could this be improved?	Thanks for the comment, the paragraph has been rewritten, especially the second part.
							Highlight the importance of indigenous and local knowledge systems being included and recognized in the current assessment.	Thank you for your comment. The text has been revised, with reference indigenous and local knowledge systems added.
	Salazar, Alejandra (Mexico)		1	1	11	1	17	
46	Empeiraire, Laure	1	1	16	1	17	for both conservation and development--> for resources conservation, cultural identities and human wellbeing.	Thank you for your comment, the text was updated.
47	Empeiraire, Laure	1	1	25	1	26	awareness of climate crisis or rights of indigenous... --> awareness of climate crisis and rights of indigenous ...	Thank you for your comment, the text was updated.
48	European Commission - Joint submission	1	1	1	1	1	Please add an introduction to the document to guide the readers.	Thank you for your comment. A first paragraph has now been added at the beginning of the executive summary to clearly define the scope of this assessment and thus to better guide the reader.
49	Griffin, Cy	1	1	27	1	38	Good text. Perhaps it is possible to give a more general conclusion here rather than just referring to notable examples and noteworthy cases of positive contribution of land managed by indigenous peoples and local communities. The IPBES global assessment shows that trends in land degradation have been less severe or avoided in areas held or managed by Indigenous Peoples and Local Communities. These areas can be characterized as being subject to sustainable use.	Thank you for your comment. Text has been added to the key message about indigenous peoples and local communities.

50	Harrington, Alexandra	1	1	13	1	13	Query the use of "vulnerable peoples" in this paragraph, as the other references are to indigenous and local communities and the vulnerable terminology has a different, often broader, implication.	Thank you for your comment. The text revised to create one key message about vulnerable peoples and another about indigenous peoples and local communities.
51	Harrington, Alexandra	1	1	26	1	26	Consider adding a reference to the current pandemic and zoonotic disease potentials to the list of reasons that these issues are generating attention.	Thank you for your comment. As the origins of the COVID 19 are still uncertain and remain currently debated, we decided not to make any clear reference to this zoonotic disease in Chapter 1. Note, however, that links between zoonotic diseases, biodiversity decline and uses are covered by chapter 4 and have further been subject to a special IPBES report published a year ago.
54	Hoffmann, Mike	1	1	20	1	21	The clause "This decline is substantial as, for instance, indicated by the 20 IUCN Red List, which recorded more than 32,000 species as being threatened with extinction" could be misconstrued as suggesting this is due to over-exploitation, due to the bold text at start of paragraph. Best to provide a qualifier at end "e.g. with extinction from all threats". Note it is much clearer on lines 71-79 of the introduction.	Thank you for your comment. The text was updated.
55	Kosse, Rachel	1	1	4	1	4	Are "cooking and sterilizing water" the only two types of energy use that depend on forests? I think heating is at least one example of another energy use that is relevant. Could the list read: "food, medicine, clothing and energy," to include energy generally?	Thank you for your comment. The end of this sentence has been removed
56	Kosse, Rachel	1	1	49	1	49	Is there a difference between "use of wild species" and "wild species uses"? It is not clear from the glossary and the phrases seem to be used interchangeably.	Thank you for your comment. Indeed, both expressions were used interchangeably. For clarity we now use preferentially throughout the report the expression "use of wild species".
57	Lendo, Carmela Isabel Nunez	1	1		1		"2.Comments" tab instead of "3. Comments" tab	Thank you for your comment, but we can see no connection between the highlighted text and the comment, so we are unable to respond appropriately.
58	Mahoney, Shane	1	1	13	1	13	Consider changing to "vulnerable and rural"	Thank you for your comment. This broader significance is intentional and we prefer not to update the text.
59	Mahoney, Shane	1	1	16	1	17	Consider changing to "conservation, development, and human wellbeing"	Thank you for your comment. Text has been revised.

60	Mahoney, Shane	1	1	24	1	26	While the concept of "livelihoods" is implied in rights of indigenous peoples and local communities, it would be good to have this included more explicitly.	Thank you for your comment. "Livelihoods" has been added to the sentence.
61	Mahoney, Shane	1	1	27	1	38	There are also examples, the historical North American circumstance, for example, of successful efforts to restore populations of over-exploited wild species to assure their long-term sustainable use at large-scale through conservation and management practices initiated by groups outside IPLCs, i.e. hunters in North America. I'm not sure this is effectively captured in this paragraph.	Thank you for your comment. Text has been revised to avoid any implication that successful restoration efforts are confined to indigenous peoples and local communities.
62	Miller, Carly	1	1	27	1	28	While it is true that human use of wild species is not always destructive, when assessing levels of destructiveness one must take into account the impact not only on wild species populations but on the wild animals themselves. The Cambridge Declaration on Consciousness in non-human animals, which is backed by over 2,500 studies, recognizes that animals (wild animals) are sentient beings that experience pain and discomfort. Therefore, ignoring the impact of sustainable use on individual animals	Thank you for your comment. This aspect is out the scope of the present of assessment. The aim of this assessment is not to evaluate the status of wild species worldwide, nor to exhaustively document the impacts of human uses on wild populations or the various biotic and abiotic components of the ecosystems that they inhabit, as this has already been done by the global assessment (IPBES 2019) or by IUCN (2019). Instead, the core of this assessment is to evaluate sustainability through the lens of different practices and uses.
63	Muir, Giulia	1	1	3	1	3	1.5 billion figure - circulating for some time...can we do better (i.e. more accurate)? Provide a range, for example? We are struggling with the same data challenges at FAO....e.g. entomophagy alone is said to be practiced by some 2 billion (http://www.fao.org/3/i3253e/i3253e.pdf), and most of this is wild. State of AG&biodiversity report provides some information on FREQUENCY of consumption, which could be an interesting angle to report on:	Thank you for your comment. We appreciate the references provided by the reviewer and have revised the text.
64	Muir, Giulia	1	1	27	1	38	suggest to at least note Covid and subsequent bans on "wildlife", demonizing of foraged foods...it is cyclical and same happened with other infectious diseases e.g.Ebola.	Thank you for your comment. This interesting and important consideration is covered in Chapter 4.
65	Orenstein, Ronald	1	1	25	1	26	In addition, the role of criminal elements in the wildlife trade can contribute to social disruption, political destabilisation and governance issues. Please consult Kideghesho, J. R. (2016). Reversing the trend of wildlife crime in Tanzania: challenges and opportunities. In Biodiversity and Conservation (Vol. 25, Issue 3, pp. 427–449). Springer Netherlands. https://doi.org/10.1007/s10531-016-1069-y ; Kassa, S., Costa, J., Baez, C., & July, C. (2019). Corruption and wildlife trafficking: exploring drivers,	Thank you for your comment. This is addressed in Chapter 4 on drivers of (un)sustainable use.
66	Orenstein, Ronald	1	1	31	1	32	There are also notable examples of the reverse, especially following social changes in communities including growth in population, influx of newcomers and decline in traditional practices. Please consult Jones, J. P. G., Andriamarovololona, M. M., & Hockley, N. (2008). The Importance of Taboos and Social Norms to Conservation in Madagascar. Conservation Biology, 22(4), 976–986. internal-pdf://jones08-4026519820/jones08.PDF ; Dzvimbo, M.A., Monga, M., Magijani, F., 2018. The dilemma on	Thank you for your comment. Text has been added to the key message about indigenous peoples and local communities to note conditions that lead to unsustainable uses.
67	Smith, Zak	1	1	18	1	19	The word "key" in the first sentence should be replaced with "leading." Direct exploitation of organisms is the leading driver of biodiversity decline in marine ecosystems and the second leading driver in terrestrial ecosystems (see IPBES Global Assessment Report). This framing downplays the significant role direct exploitation plays, especially in marine ecosystems.	Thank you for your comment. We prefer to keep "key", because this sentence covers all types (terrestrial and aquatic) ecosystems. If the global assessment indeed showed that exploitation is the leading driver for the marine realm, this is not the case for the terrestrial realm for which the main driver is land use and degradation.

68	Smith, Zak	1	1	20	1	23	This should use the IPBES Global Assessment finding that a million species are threatened with extinction, many within decades. Highlighting the IUCN number alone is misleading re the scale and scope of globally threatened species. If the 32,000 number is used it should be contextualized against the number of species not assessed by IUCN (e.g., IUCN assessed x number and found 32,000 threatened with extinction but has not assessed approximately x species).	Thanks for the comment, this sentence of this paragraph was rewritten.
69	Smith, Zak	1	1	23	1	26	This should also include increasing attention to the fact that research shows that species decline can negatively impact an ecosystems ability to sequester carbon and provide other ecosystem services. See, e.g., Oswald J. Schmitz, Christopher C. Wilmers, Shawn J. Leroux, Christopher E. Doughty, Trisha B. Atwood, Mauro Galetti, Andrew B. Davies, Scott J. Goetz, Animals and the zoogeochemistry of the carbon cycle. Science 07 Dec 2018; Oswald J. Schmitz and Shawn J. Leroux, Food Webs and	Thank you for your comment. The assessment does not include the contribution of wild species to regulating ecosystem services (e.g., pollination, carbon sequestration) or contributions to people through indirect uses, such as grazing for livestock. The rationale for this narrow focus is (i) that it is consistent with the policy issues raised in the scoping report; (ii) past global, regional and thematic IPBES assessments have already assessed other ecosystem services and natures contributions to people; and (iii) the concepts, principles and evidence relating to the direct use of wild species represent a significant issue that needs to be assessed in its own right.
70	United States of America	1	1	28	1	31	This sentence should be deleted. "The case has been made" does not imply that this is well supported, and thus should not appear in the executive summary unless there is strong scientific consensus.	Thank you for your comment. This phrase has been removed.
71	United States of America	1	1	49	1	54	Suggest moving this message below the definitions, otherwise the difference between (ii) and (iii) is unclear.	Thanks for the comment, these two paragraphs are now merged for clarification.
72	Webb, Grahame	1	1	21			".... 32,000 species as being threatened with extinction" really overstates the Red List process. A more precise statement would be ".... 32,000 species in which threats of biological extinction cannot be ignored". Even some "critically endangered" species are well buffered against biological extinction (eg Reference at the end of this comment). Some commercial fished species (eg sharks) that meet decline criteria for vulnerable, endangered, critically endangered species, may become commercially	Thanks for the comment, this sentence of this paragraph was rewritten.
73	Webb, Grahame	1	1	32			A strong case for koala abundance being linked to Aboriginal burning has been made recently. Jurkis, V. 2017a Ecological history of the koala and implications for management. Wildlife Research 44, 471-83. Doi.org/10.1071/WR17032. Jurkis, V. 2017b. Mooted extinction of koalas at Eden: improving the information base. Wildlife Research 44, 449-52. Doi.org/10.1071/WR16171.	Thank you for your comment. Since we focus here on the direct use of wild species by people, the reference is out of the scope of this assessment.
74	Welch, James R.	1	1	3	1	4	Reorder "(animals, fungi, plants)" according to general importance: "(plants, animals, fungi)"	Thank you for your comment. Judgement as to relative importance varies depending upon the criterion applied. Consequently, we have chosen to list them in alphabetical order.
75	Welch, James R.	1	1	7	1	8	Correct grammar: "...plant species have medicinal or aromatic uses..."	Thank you for your comment. Paragraph modified and this section has been removed

76	Welch, James R.	1	1	8	1	8	A global total of what? Specify whether these numbers (300,000-400,000) represent all wild harvested plants or what.	Thank you for your comment. Paragraph modified and this section has been removed
77	Welch, James R.	1	1	15	1	15	Change "sustainability" to "sustainable use"	Thank you for your comment. This was changed.
82	Burgess, Neil	1	2	21			See paper pre-print from IUCN and others on impacts of use on red list species. This may provide updates. Here https://www.biorxiv.org/content/10.1101/2020.11.04.367763v2	Thank you for your comment. This was cited in other chapters of the assessment.
83	Demissew, Sebsebe	1	2	52	2	53	(b) sustainable use of wild species is an avenue for realizing conservation and development goals. Could this be improved as "(b) sustainable use of wild species is an avenue for maintaining biodiversity and consequently realizing conservation and development goals"	Thanks for the comment. We see the point raised by the reviewer. While, we do not disagree about the fact that sustainable can help in maintaining biodiversity, it is also true that the absence use will do it as well. Therefore, to avoid any misunderstanding or potential debate, we prefer to only mention the conservation and development possibilities in this sentence.
84	Emperaire, Laure	1	2	50	2	50	(ii) the activities and practices undertaken --> (ii) the knowledges , activities, and practices undertaken	Thanks for the comment, but clarity, we prefer to only mention the term "practices" in this paragraph.
85	Koskela, Jarkko	1	2	61			Here, "timber" should be replaced with "wood" and use the term "wood harvesting". While large part of harvested wood will end up being processed to a forest product called timber (or sawn-timber), wood is also used for many other products. Furthermore, it is confusing that in this chapter and the whole assessment, "timber" is used as a synonym for both wood and forests; this leaves it to the reader to conclude which one is referred to in a given sentence. This approach is not in line with the	Thank you for your comment. Actually, timber harvesting has been replaced by logging in this table and the whole report.
86	Lerambert, Adeline	1	2	60	2	62	Non-extractive 'uses' should also include recognition of the value of wildlife to the mitigation of climate change through, for example, carbon sequestration, and the (potential) 'use' of this mechanism to generate value and provide resources for local communities. See for example https://www.imf.org/external/pubs/ft/fandd/2020/09/how-african-	Thank you for your comment. The assessment does not include the contribution of wild species to regulating ecosystem services (e.g., pollination, carbon sequestration) or contributions to people through indirect uses, such as grazing for livestock. The rationale for this narrow focus is (i) that it is consistent with the policy issues raised in the scoping report; (ii) past global, regional and thematic IPBES assessments have already assessed other ecosystem services and nature's contributions to people; and (iii) the concepts, principles and evidence relating to the direct use of wild species represent a significant issue that needs to be assessed in its own right.
87	Mahoney, Shane	1	2	48	2	48	Consider changing to "conservation, development, and human wellbeing"	Thank you for your comment. Text has been revised.

88	Muir, Giulia	1	2	57	2	59	wild species definitions...always a tough one! As we know this is a continuum, there are varying degrees of management. Some species might have been "managed" but can still survive subsequently without human intervention. See Muir et al table pg 112 if it helps: Wild = unintended biological resources obtained from gathering...perhaps could fine tune your definition eg. Wild species refers to populations of any species that have not been MANAGED to any degree or domesticated	Thank you for your comment. The definition of wild species, including those nuances, is thoroughly discussed in section 1.3.1 of this chapter.
89	Orenstein, Ronald	1	2	46	2	48	This is only true if sustainability is clearly defined and is measurable, if the degree to which the use actually is sustainable is properly assessed, and if fail-safe mechanisms exist to prevent use from becoming unsustainable in future. Please consult Arcus Foundation, 2015. State of the Apes 2015: Industrial Agriculture and Ape Conservation. Cambridge, UK: Cambridge University Press.	Thank you for your comment. These conditions of sustainability are discussed throughout the report (from chapter 1 to 6).
90	Orenstein, Ronald	1	2	50	2	51	The effect of utilisation on other aspects of the species' environment, including ecosystem services, should also be considered (eg nest trees, pollinator and seed disperser relationships etc.). Please consult Valencia-Aguilar, A., Cortés-Gómez, A. M., & Ruiz-Agudelo, C. A. (2013). Ecosystem services provided by amphibians and reptiles in Neotropical ecosystems. International Journal of Biodiversity Science, Ecosystem Services and Management, 9(3), 257–272.	Thank you for your comment. The assessment does not include the contribution of wild species to regulating ecosystem services (e.g., pollination, carbon sequestration) or contributions to people through indirect uses, such as grazing for livestock. The rationale for this narrow focus is (i) that it is consistent with the policy issues raised in the scoping report; (ii) past global, regional and thematic IPBES assessments have already assessed other ecosystem services and nature's contributions to people; and (iii) the concepts, principles and evidence relating to the direct use of wild species represent a significant issue that needs to be assessed in its own right.
91	Orenstein, Ronald	1	2	60	2	62	The division into extractive and non-extractive is simplistic and ignores ecosystem effects including disturbance, which can occur for both extractive and non-extractive uses, plus the effect on other species in an ecosystem by use of the selected species. Extractive can cover both lethal and non-lethal practices; examples of the latter include harvesting honey or tree sap. A better measure should be the extent of the impact on the species concerned rather than the nature of the action (ethical	Thank you for your comment. The scoping document for this assessment directs it to address consumptive and non-consumptive uses. Given its subject matter, that language has been changed to extractive and non-extractive (see 1.3.4; The practices panel). We acknowledge the reviewer's other important points in this comment. These considerations are addressed in Chapters 3 and 4.
92	Siroski, Pablo	1	2	43			In the sentence..."They depend on the nature and scale of use". I would not say it depends on the scale, I think it is an incorrect term when referring to levels of use... it can be at very high scale and not cause damage and be sustainable... and at low scale, cause damage and be unsustainable.	Thank you for your comment. This text has been removed.
93	Stewart, Davyth	1	2	60	2	62	Non-extractive practices include a wider range of 'uses' than observing, including the important role that wildlife plays in maintaining natural ecosystems - thereby providing ecosystem services (clean air, water and mitigation of climate change). The practice of allowing wildlife to move unhindered through their natural environment maintains the the health of ecosystems and helps with carbon sequestration. See for example https://www.imf.org/external/pubs/ft/fandd/2020/09/how-african-	Thank you for your comment. The assessment does not include the contribution of wild species to regulating ecosystem services (e.g., pollination, carbon sequestration) or contributions to people through indirect uses, such as grazing for livestock. The rationale for this narrow focus is (i) that it is consistent with the policy issues raised in the scoping report; (ii) past global, regional and thematic IPBES assessments have already assessed other ecosystem services and nature's contributions to people; and (iii) the concepts, principles and evidence relating to the direct use of wild species represent a significant issue that needs to be assessed in its own right.
94	Webb, Grahame	1	2	66			Perhaps ... "Sustainable use is the goal of diverse management systems that"	Thanks for the comment, the sentence was modified.
95	Welch, James R.	1	2	60	2	61	Something is wrong with "terrestrial animal harvesting that includes hunting and timber harvesting" - timber is not a kind of animal.	Thank you for your comment. A comma was missing, thus creating this confusing statement. This is now fixed.

96	Welch, James R.	1	2	61	2	61	Include "a": ...and a non-extractive one..."	Thank you for your comment. The text was updated.
99	Belgium	1	3	112	3	3	What is a bit missing is that whole economical sectors would suffer from a decline in wild animals. The economic aspect is missing, while the narrative is gliding to the poor communities. In fact, the rich economies are over-harvesting the oceans, and they should be pointed at. It is too "easy" to just concentrate on poor communities, who actually suffer from overfishing by rich nations. Idem for timber.	Thank you for your comment. The text was modified to reflect this point.
100	Emperaire, Laure	1	3	112	3	112	Poor and marginalised communities --> This assertion needs to be formulate in a more inclusive way --> Vulnerable and marginalised populations (local communities, autochtonous peoples, old people, women, young people ...)	Thank you for your comment. The text was modified to reflect this point.
101	Fokam, Eric B.	1	3	20	3	20	consider use of "...cleaning water..." versus "...strilizing water..."	Thank you for your comment. We modified the sentence and now only mention use for energy, more generally.
102	Koskela, Jarkko	1	3	108			Replace "wild forests" with "natural forests"; in the same sentence, does "timber" refer to "wood" in general or to "sawn-timber" specifically?	Thank you for your comment. The text was updated according to the comment to increase clarity.
103	Lendo, Carmela Isabel Nunez	1	3	82	3	84	Missing CLIMATE CRISIS (anthropogenic carbon emissions linked to species extinction, Román-Palacios, Cristian, and John J. Wiens. "Recent responses to climate change reveal the drivers of species extinction and survival." Proceedings of the National Academy of Sciences 117.8 (2020): 4211-4217. / Cahill, Abigail E., et al. "How does climate change cause extinction?." Proceedings of the Royal Society B: Biological Sciences 280.1750 (2013): 20121890.) -> indirect drivers that can alter ecosystem	Thank you for your comment. The reference to climate change was added using one reference provided by the reviewer.
104	Lerambert, Adeline	1	3	102	4	121	Impacts of illegal wildlife trade, estimated by the World Bank to cost the global economy between \$1-2 trillion per annum, on the social and economic well-being of local communities, as well as on biodiversity, should also be recognised. https://blogs.worldbank.org/voices/real-costs-illegal-logging-fishing-and-wildlife-trade-1-trillion-2-trillion-year	Thank you for your comment. The reference is now included in Chapter 4, section 4.2.4.3.1 which discusses trade issues in detail.
105	Mikiko, Hagiwara	1	3	94	3	96	This statement, that direct exploitation is the most serious driver of biodiversity loss in marine ecosystems and the second-most in terrestrial and freshwater ecosystems, should be expanded to provide more context for this assessment as a whole. The Introduction does explain the purpose of this assessment, but only in a very roundabout way that will be difficult for most readers to pick up. The Introduction spends several pages discussing the problem of unsustainable use and such, before	Thank you for your comment. We added text at the end of section 1.1 to address the comment of the reviewer.

106	Muir, Giulia	1	3	105	3	107	60-90% of trade in medicinal and aromatic plants is thought to be from the wild. Interesting to note that for some businesses associated with for instance the FAirWild Standard (e.g. Pukka, Banyan Botanicals,), they noted that they look specifically for wild collected ingredients because of superior therapeutic properties, and hence a part of their risk-management strategies are to ensure sustained supply through careful monitoring/resource assessment (personal communication);	We thank the reviewer for the valuable information and references. Text and reference for the 60-90% figure have been added. Chapter 3, Sect. We regret that personal
107	Smith, Zak	1	3	79	3	81	This should use the IPBES Global Assessment finding that a million species are threatened with extinction, many within decades. It's important to use communication tools that are accessible to various audiences. Merely noting an "unprecedented rate of species extinction" is less impactful than the finding that a million species are threatened with extinction.	Thank you for your comment. Number are given at the beginning of the sentence, when stressing that 28% of the species assessed to date as being threatened with extinction.
108	Smith, Zak	1	3	81	3	83	While this sentence is technically accurate, it serves to minimize the larger role played by direct exploitation of organisms in biodiversity's decline, implying that overexploitation is just as serious as biological invasions. A report on sustainable use should highlight the outside role direct exploitation of organisms has on biodiversity's decline (the leading driver in marine ecosystems and the second leading driver in terrestrial ecosystems). I realize this point is made later in the report (e.g., the next	Thank you for your comment. The key role of overexploitation is clearly stated in the following paragraph: "Direct exploitation by humans has been identified as the most serious driver of biodiversity loss in marine ecosystems and as the second most important driver in terrestrial and freshwater ecosystems".
109	Smith, Zak	1	3	84	3	87	This should also include increasing attention to the fact that research shows that species decline can negatively impact an ecosystems ability to sequester carbon and provide other ecosystem services. See, e.g., Oswald J. Schmitz, Christopher C. Wilmers, Shawn J. Leroux, Christopher E. Doughty, Trisha B. Atwood, Mauro Galetti, Andrew B. Davies, Scott J. Goetz, Animals and the zoogeochemistry of the carbon cycle. Science 07 Dec 2018; Oswald J. Schmitz and Shawn J. Leroux, Food Webs and	Thank you for your comment. While it raises an important issue, it is out of the scope of the IPBES assessment of the sustainable use of wild species (see updated text at the end of section 1.1).
110	Stewart, Davyth	1	3	102	4	121	The value of environmental crime (including illegal trade in wildlife, fish and timber) is valued between USD 52-151 billion a year (see INTERPOL Environmental Security Programme https://www.interpol.int/Crimes/Environmental-crime). However, when the full impacts of illegal trade in wildlife and timber, including impact on ecosystem services, is accounted for, the total cost is estimated by the World Bank to cost the global economy between \$1-2 trillion per annum,	Thank you for your comment and the reference provided. It is now included in Chapter 4, section 4.2.4.3.1 where trade is discussed in length, including illegal trade.
111	Vadrot, Alice	1	3	136	3	156	Governments are currently negotiating a new treaty for the protection and sustainable use of marine biodiversity in areas beyond national jurisdiction (BBNJ Treaty: for an overview over the negotiations please see Tessnow-von Wysocki, Ina. and Vadrot, Alice B.M 2020. The Voice of Science on Marine Biodiversity Negotiations: A Systematic Literature Review. Frontiers in Marine Science 7: 614282.) Areas beyond national jurisdiction constitute 70% of the ocean and it may be important to	Thank you for your comment. The negotiations of this new treaty are discussed in Chapter 6, section 6.4.1.1.
112	Vukeya, Judith Vutivi	1	3	71	3	71	the word erosion can be replaced by a more fitting word like destruction	Thank you for your comment. This sentence was rewritten.
113	Webb, Grahame	1	3	71			Of wild species "abundance and distribution are defining features of ..."	Thank you for your comment. This sentence was rewritten.

114	Webb, Grahame	1	3	88			“There is consistent and substantial evidence that unregulated use of many wild species has occurred at rates that are unsustainable – that exceed the populations’ capacity to recover”	Thank you for your comment. This text was updated.
115	Webb, Grahame	1	3	98			That “many” current policies ...	Thank you for your comment. The text was updated accordingly.
116	Webb, Grahame	1	3	99			There is an urgent need to identify policies favouring ongoing unsustainable use, upscale them to overcome the problem, or adopt alternative approaches to ongoing uses of wild species that remain unsustainable” Am mindful that many successful programs achieving sustainable use were implemented after serious declines due to unregulated and unsustainable use were demonstrated. This is really fundamental to CITES.	Thank you for your comment. This text was updated.
117	Webb, Grahame	1	3	108			Insert “plant species” after 400,000.	Thank you for your comment. This text was updated.
118	Welch, James R.	1	3	72	3	72	Need something before “human wellbeing.” I suggest “...and the reduction in human wellbeing...”	Thank you for your comment. This sentence was rewritten.
119	Welch, James R.	1	3	90	3	90	Eliminate “from”: “(both plants and animals)”	Thank you for your comment. The text was updated accordingly.
120	Welch, James R.	1	3	92	3	92	Need comma after “Worm et al., 2009)”	Thank you for your comment. The typo is now fixed.
121	Welch, James R.	1	3	99	3	99	Eliminate “those”: “...identify policies that...”	Thank you for your comment. The text was updated accordingly.

122	Welch, James R.	1	3	107	3	107	A global total of what? Specify whether these numbers (300,000-400,000) represent all wild harvested plants or what.	This sentence was modified and the reference to 300,000-400,000 plants was removed.
128	China	1	4	137	4	139	In classical Chinese philosophical work, it was proposed 'Trees are logged by time' and 'Birds and beasts are hunted by time' that is telling people to utilize natural resources conforming to the life cycle of creatures to guarantee the sustainability of both provider and beneficiary. Cited: https://doi.org/10.1093/nsr/nwaa265	Thanks for the reference which has been added to a new section of Chapter 1 (section 1.3.3) about the conceptualization of nature.
129	Demissew, Sebsebe	1	4	68	4	70	According to Eimear Nic Lughadha. (2020) (https://doi.org/10.1002/ppp3.10146)..... While previous work estimated one in five (Brummitt, Bachman, Aletrari, et al., 2015) or 10%–62% (RBG Kew, 2016) of plant species are at risk of extinction, our predictions suggest that almost two in five known plant species may be threatened with extinction".	Thanks for the reference, but the introduction remains general and will only keep a reference to the whole number of threatened species (including plants, animals and fungi).
130	Empeaire, Laure	1	4	117	4	117	Russell et al., 2013). --> (to emphasize the imaterial use of wild resources) The link with wild biodiversity (from species to landscapes) also reveals attachments and connections with ancestors and refers to a holistic conception of the environment. These ...	Thank you for your comment. The current sentence covers this aspect from our viewpoint.
131	Empeaire, Laure	1	4	128	4	128	Many knowledges , customs and practices	Thank you for your comment. The text was updated accordingly.
132	Empeaire, Laure	1	4	140	4	140	(Bazeley, 1921; R. C. Hoffmann, 2005). + Bépoix, S., & Richard, H. (Eds.). (2019). La forêt au Moyen-Âge. Paris: Les Belles Lettres.	Thank you for your comment. As the point is made with the two other references we did not add it.
133	Korwin, Marie	1	4	146	4	148	CITES aims to prevent the over-exploitation of certain species of wild fauna and flora through international trade. Sustainable use is not an objective of the Convention. The objective of the Convention should not be misrepresented.	Thank you for your comment. Reference to CITES was removed from this sentence.
134	Orenstein, Ronald	1	4	113	4	115	This is only true if local peoples receive an equitable share of the benefits accruing and/or if use does not affect their ability to use the species and its environment in traditional ways. See Dzvimbo et al. (2018).	Thank you for your comment. The important question of equitability of the benefits is tackled later in the report, see chapter 6.

135	Orenstein, Ronald	1	4	146	4	148	The purpose of CITES is not to "ensure more sustainable harvest and trade in wild species" but "the protection of certain species of wild fauna and flora against over-exploitation through international trade" (CITES, Preamble). CITES says nothing about ensuring or promoting trade.	Thank you for your comment. Reference to CITES was removed from this sentence.
136	Smith, Zak	1	4	117	4	119	Phrases like these "culture of caring" and "species depend on human use for their survival" may be true in limited circumstances, but within the larger context of direct exploitation these types of examples should properly be seen as outliers. The overwhelming evidence on the direct exploitatin of species suggest that there is no culture of caring and that hardly any species depend on human use for their survival. Bringing these issues into this topic clouds the assessment of sustainable use and	Thank you for your comment. This sentence was removed to avoid misinterpretation.
137	Smith, Zak	1	4	119	4	121	This statement goes to far. Yes, we should determine and enhance the sustainability of wild species to conserve biodiveristy and contribute to human wellbeing. But it also says we should enhance the social and conservation benefits of uses of wild species to conserve biodiversity and contribute to human wellbeing. It doesn't seem like policymakers should be engaged in trying to promote the social and conservation benefits ot uses of wild species. That seems to be putting a thumb on the scale in	Thank you for your comment. The text was updated accordingly.
138	Stewart, Davyth	1	4	146	4	148	CITES aims to prevent the over-exploitation of certain species of wild fauna and flora through international trade. Sustainable use is not an objective of the Convention. The objective of the Convention should be more accurately represented.	Thank you for your comment. Reference to CITES was removed from this sentence.
139	Vadrot, Alice	1	4	158	4	163	Maybe add the World Ocean Assessment I and II (link to WOII: https://www.un.org/regularprocess/woa2launch)	Thank you for your comment. The World Ocean Assessment is indeed a key UN report, but which embraces much broader topics than the use of marine wild species.
140	Webb, Grahame	1	4	115			insert "economic and social" development.	Thank you for your comment. The sentence was rewritten.
141	Webb, Grahame	1	4	137			Replace "for" with "favouring" ... whether uses are sustained (over time) can only be demonstrated unequivocally in hindsight. Was the harvest kept going over time and were adverse impacts within acceptable levels.	Thank you for your comment. The text was updated accordingly.
142	Webb, Grahame	1	4	152			Are these the "UN" Sustainable Development Goals? If so then they are specific and should be identified as such here and below.	Thank you for your comment. We specified that those are indeed the Sustainable development goals adopted by the United Nations when they occur for the first time in a section.

143	White, Michael	1	4	152	5	154	In fact none of the 20 Aichi targets were (fully) achieved by 2020	Thank you for your comment. This does not seem to require a change of the text.
144	Bliss, Cebuan	1	5	174	5	179	Well-being and needs of biodiversity itself also to be taken into account. Narrative at the moment almost entirely anthropocentric	Thank you for your comment. This sentence, as previous one, focuses on management of uses of wild species and conflicts between parties and how to better handle it.
145	Ebora, Juan B.	1	5	63	5	65	Uses can be categorized into a) direct or consumptive use and b) indirect or non-consumptive use	Thank you for your comment. We appreciate the reviewer's observation. However, for purposes of this assessment, we have found it more meaningful to think in terms of extractive and non-extractive uses as higher level categories (see Section 1.2.2). Further, to fully understand the social-ecological systems of (sustainable) uses of wild species we find it essential to look below these higher level categories to the specific uses to which wild species are put.
146	Guillemain, Matthieu	1	5	172	5	173	also and importantly there can be divergent views on whether harvest is mostly additive or compensatory to natural mortality, hence is an issue or not (e.g. Williams et al. 2002. Analysis and management of animal populations. Academic Press)	Thank you for your comment. The text was updated accordingly.
148	Kosse, Rachel	1	5	188	5	188	There seems to be a typo: "examining scenarios for the future and, critically" the line ends with critically and does not make sense. Is is part of the next line?	Thank you for your comment. The text was revised.
149	Lendo, Carmela Isabel Nunez	1	5	164	5	167	Missing wildlife illegal trafficking, hence lack of willingness to report because this activity is illegal / Missing illegal fishing where class size for aquatic organisms is not respected (e.g. sea cucumber populations in the Philippines are declining very rapidly because of the huge demand for this species in the China market. This demand pushes local fishermen to harvest small sea cucumber that have not reach sexual maturity despite being illegal to fish lower class sizes - Choo, Poh-Sze. "The Philippines: a	Thank you for your comment. Illegal practices and trade were added to this sentence.
150	Miller, Carly	1	5	158	5	179	This paragraph should also refer to the need to consider the precautionary principle when making policy decisions.	Thank you for your comment. The text was updated accordingly.
151	Orenstein, Ronald	1	5	171	5	174	Differences over practices such as whaling and trophy hunting are not only about sustainability but about the ethics of the practices involved.	Thank you for your comment. Whaling and trophy hunting are here given as examples of where strong conflicts between parties occur.

152	Siroski, Pablo	1	5	169			A couple of examples of reptiles use: Nossal K, Livingston DG, Aust P, Bozzola M, Kasterine A, Ngo Viet C, Nguyen V, Thai T, Natusch DJD (2016) The impact of the python skin trade on livelihoods in Viet Nam. International Trade Centre, Geneva, Switzerland. Abensperg-Traun, M., Roe, D. and O'Criodain, C., eds. (2011). CITES and CBNRM. Proceedings of an international symposium on "The relevance of CBNRM	Thanks for the references, but they look a bit out of the scope of this paragraph.
153	Webb, Grahame	1	5	165			Not subject to monitoring, may be technically difficult to monitor using standard protocols,	Thank you for your comment. The text was updated accordingly.
154	Webb, Grahame	1	5	166			Technical and data limitations ...	Thank you for your comment. The text was updated accordingly.
155	Webb, Grahame	1	5	173			Sometimes "lead" to	Thank you for your comment. The text was updated accordingly.
156	Welch, James R.	1	5	176	5	176	Human wellbeing cannot be "lost". I suggest "...and reduction of human wellbeing..."	Thank you for your comment. The sentence mentioned a "further loss", which is different.
157	Welch, James R.	1	5	184	5	193	Suggest using bulets and semicolons at the end of each item, per list at lines 271-276.	Thank you for your comment. The text was updated accordingly.
160	White, Michael	1	5	154	5	157	Some governments will use Covid-19 pandemic as an excuse not to honour their SDG commitments	Thank you for your comment. While this is possible, we can hardly anticipate at this point and there is no evidence that we can assess on that matter.
161	Aebischer, Nicholas	1	6	203	6	203	Suggest "and" is better than "and/or".	Thank you for your comment. This was corrected as suggested.

162	Empeaire, Laure	1	6	205	6	205	---> the knowledges , means and practices	Thank you for the comment. Text in the figure was modified to emphasize that the report recognizes the plurality of knowledges.
163	Orenstein, Ronald	1	6	203	6	204	This text fails to include ecosystem services, including those that may affect other species that may be used (eg pollinators and seed dispersers). The same is true of the figure at the top of p. 7.	Thank you for your comment. The assessment does not include the contribution of wild species to regulating ecosystem services (e.g., pollination, carbon sequestration) or contributions to people through indirect uses, such as grazing for livestock. The rationale for this narrow focus is (i) that it is consistent with the policy issues raised in the scoping report; (ii) past global, regional and thematic IPBES assessments have already assessed other ecosystem services and natures contributions to people; and (iii) the concepts, principles and evidence relating to the direct use of wild species represent a significant issue that needs to be assessed in its own right.
164	Pekarik, Cynthia	1	6	203	6	204	The goods and services derived from the species can also include income. I suggest adding it.	Thank you for your comment. Many of the goods and services listed may be traded and they may provide a source of income, as explained in item (iv). Therefore, "income" was not included as a type of goods.
165	Shin, Thant	1	6	194	6	195	There should be considered possible consequences in finding solutions for sustainable use of wild species assessment, and there should be Integrated Structural, Narrative, and Solution-Focused Approach.	Thank you for your comment. The commented sentence has been deleted.
166	Welch, James R.	1	6	201	6	201	Instead of "crossing", I suggest "intersection" or "nexus"	Thank you for your comment. The word crossing was replaced as suggested.
167	Welch, James R.	1	6	200	6	212	It seems to me that this list is missing a key component, which is the intensity of use or scale of extraction. The five items listed do not cover whether impacts are small- or large-scale (or somewhere in between), which is a major factor in all sustainability equations (although this aspect is mentioned on p. 7).	Thank you for your comment. New text added to mention the diversity of scales here even though the question of scale and intensity of use is further discussed in the following paragraphs.
168	Welch, James R.	1	6	201	6	201	Instead of "crossing", I suggest "intersection" or "nexus"	duplicated
170	Empeaire, Laure	1	7	Fig.1.1.	7	Fig. 1.1	The topic Mediating factors does not let space for the plurality of local governance, knowledge and innovation. All the factors must be expressed in an unic way, more realistic in plural (governance systems, knowledges and innovations). This modification would allow a better coherence with figure 1.2 which calls upon the scientific register as well as the local registers	Thank you for the comment. All terms included in the Mediating factors box are indeed intended to be inclusive of plural forms. To make it clearer we have followed the suggestion and used "governance systems" and "knowledges".

171	Germany	1	7	213	7	214	"Social" drivers do not feature in the red box of Figure 1.1. Kindly consider either adding "social" drivers or replacing "demographic" accordingly, so as to be aligned to the six categories of drivers contained in chapter 4.	Thank you for pointing to one inconsistency in the categories of Drivers between Fig. 1.1 and Chapter 4. The Drivers box text will be replaced by "Social & Ecological" instead of unpacking the social categories.
172	Germany	1	7	213	7	214	Does gender belong to "mediating factors"? If so, kindly consider including gender in respective box of Figure 1.1.	Thank you for your comment. Gender is considered to be a component of "customs & beliefs" (which determine normative standards about roles in relation to wild species use) and demographics (age and gender structure of human populations). We preferred not to separate out gender to give it a similar treatment to other factors such as race.
173	Orenstein, Ronald	1	7	220	7	222	This text does not consider uses involving maintaining animals in captivity or semicaptivity or otherwise controlling their behaviour, or propagating wild plants.	Thank you for your comment. The use of species maintained in captivity and uses that involve the propagation of plants are out of the scope of this assessment as explained in section 1.3.1 on the definition of "wild species".
174	Pekarik, Cynthia	1	7	229	7	234	The example described here relates to fisheries is a good example. However, you could add a line noting that the same principles of scale with respect to operations and governance would apply to other sectors.	Thank you for your comment. A sentence was added to emphasize that similar dependencies would apply in other practices in addition to fisheries.
175	Siroski, Pablo	1	7	235		239	It would be good to mention another important kind of use like skins, meat, etc.	Thank you for your comment. The examples that were provided correspond to the use of parts and products without involving the killing of animals or plants. Examples of extractive uses involving the killing of animals and plants were added in response to the comment.
176	Vadrot, Alice	1	7	213			Comment on Figure 1.1. Maybe replacing "Distribution of benefits" with "Distribution of costs and benefits" or "Distribution of NCPs" would be more appropriate as extractive practices may be beneficial for some, but come with costs and losses for others.	Thank you for the comment. While we agree that there are costs and benefits associated with uses of wild species the figure emphasizes the distribution of benefits as contributions to the Sustainable Development Goals
177	Welch, James R.	1	7	218	7	219	"their interactions with them" is an awkward phrasing that does not clearly designate who they and them are. I suggest replacing this phrase with "other kinds of interactions".	Thank you for your comment. The sentence was modified as suggested.
178	Welch, James R.	1	7	221	7	221	Suggest ending this sentence about the five categories with "while recognizing that some practices do not fit neatly into this classification system."	Thanks for the suggestion. The following sentence was edited for clarity.

179	Welch, James R.	1	7	222	7	222	Regarding the phrase "...obviously associated with one." it would be clearer to specify either "with just one" or "with any specific one".	Thank you for your comment. The sentences was edited for clarity.
183	White, Michael	1	7	213	7	214	Figure 1.1 is very good	Thank you very much for this positive feedback.
184	Aebischer,Nicholas	1	8	258	8	259	The idea of wildlife use as a tool for conservation applies widely, and was expressed already in 1991 in relation to hunting pheasants in the UK: Robertson, P.A. (1991). Wise use and conservation. Gibier Faune Sauvage 8: 379-388.	Thank you for the comment. The text was slightly modified to emphasize the emphasis on other goals linked to sustainable use but that go beyond conserving the productivity of the resource. References provided are general.
185	Empeaire, Laure	1	8	237	8	237	The current formulation (watching, identifying, photographing) suggests interactions with external actors, but this intangible use also concerns local actors. So the suggestion --> (watching, identifying, photographing but also appreciating, thinking, interacting, giving meaning, assigning a function ...).	Thank you for your comment. As explained in Section 1.3 the intention of the SUA in the case of non-extractive uses is to focus primarily on those practices that involve interactions with wild species, such as watching and photographing.
186	Lendo, Carmela Isabel Nunez	1	8	254	8	257	Not only benefits to future generations but also maintaining the healthy ecosystem functioning -> The sustainable use of wild species can be viewed as one possible outcome of this system, where the desired outcome would be to ensure that the wild species (or population) is not used beyond its capacity to regenerate and provide benefits to future generations.	Thank you for your comment. The text was modified for consistency with a definition provided in section 1.3, which mentions integrity of ecosystem function.
187	Lerambert, Adeline	1	8	237	8	240	Non-extractive uses might also include the generation of value from, for example, the carbon sequestration 'services' provided by some species of wild animals and plants. See for example https://www.imf.org/external/pubs/ft/fandd/2020/09/how-african-elephants-fight-climate-change-ralph-chami.htm	Thank you for your comment. The assessment does not include the contribution of wild species to regulating ecosystem services (e.g., pollination, carbon sequestration) or contributions to people through indirect uses, such as grazing for livestock. The rationale for this narrow focus is (i) that it is consistent with the policy issues raised in the scoping report; (ii) past global, regional and thematic IPBES assessments have already assessed other ecosystem services and nature's contributions to people; and (iii) the concepts, principles and evidence relating to the direct use of wild species represent a significant issue that needs to be assessed in its own right.
188	Lerambert, Adeline	1	8	254	8	260	The ambition should account for the identified need for transformative change to restore and protect nature, as identified in the IPBES 2019 Global Assessment Report. Sustainability is therefore insufficient - the ambition should be to reduce exploitation to the point where species and biodiversity can recover.	Thank you for your comment. The text was modified for consistency with the definition provided in section 1.3, which mentions integrity of ecosystem function.
189	Orenstein, Ronald	1	8	236	8	240	See comment 8 above. "Non-extractive" uses can end up harming wild species if not properly conducted; hence the need for such things as whale-watching guidelines. Please consult Stamation, K. A., Croft, D. B., Shaughnessy, P. D., Waples, K. A., & Briggs, S. V. (2010). Behavioral responses of humpback whales (<i>Megaptera novaeangliae</i>) to whale-watching vessels on the southeastern coast of Australia. <i>Marine Mammal Science</i> , 26(1), 98–122. https://doi.org/10.1111/j.1748-	Thank you for your comment. A sentence was added to acknowledge that non-extractive uses can have negative impacts on species and their ecosystems if not properly conducted. The potential harmful effects of non-extractive practices, and especially whale-watching, are discussed fairly extensively in Chapter 6, along with policy instruments and tools that are available to mitigate those impacts and support the sustainability of the practice.

190	Stewart, Davyth	1	8	237	8	240	The non-extractive uses of wildlife, includes not only that directly involve human interaction (such as observing) but also indirect benefits from recognizing the role that wildlife plays in maintaining a healthy ecosystem - which in turn generates value such as carbon sequestration 'services' provided by some species of wild animals and plants. See for example https://www.imf.org/external/pubs/ft/fandd/2020/09/how-african-elephants-fight-climate-change-ralph-chami.htm	Thank you for your comment. The assessment does not include the contribution of wild species to regulating ecosystem services (e.g., pollination, carbon sequestration) or contributions to people through indirect uses, such as grazing for livestock. The rationale for this narrow focus is (i) that it is consistent with the policy issues raised in the scoping report; (ii) past global, regional and thematic IPBES assessments have already assessed other ecosystem services and nature contributions to people; and (iii) the concepts, principles and evidence relating to the direct use of wild species represent a significant issue that needs to be assessed in its own right.
191	Vadrot, Alice	1	8	246			Ostrom is not the only one that has pointed to complex social ecological systems, maybe adding one or two additional sources might be good. E.g. Berkes, Fikret; Folke, Carl (1998). Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience. Cambridge University Press. Berkes, F.; Colding, J.; Folke, C. (2008). Navigating Social-Ecological Systems: Building Resilience for Complexity and Change. Cambridge	Thank you for your comment. Berkes et al., 1998 was added.
192	Vadrot, Alice	1	8	254			Comment on drivers: What about legal drivers? Or is this part of political?	Thank you for your comment. Indeed, legal drivers are encompassed in the political drivers (see chapter 4).
193	Webb, Grahame	1	8	241		242	The distinction here should in both cases be related to biomass or abundance. The small harvest refers to total biomass, but the large ones to "tons" ... which may be major or minor depending on total biomass. Arguably the most fundamental issue driving the sustainable/unsustainable use is the proportion of the total population subject to use. Many species are used in trivial amounts much less than 0.05% of total biomass. Harvesting is automatically going to be	Thanks for the comment. New text was added to distinguish the amount extracted relative to the total population size from the actual scale of the operation (as in artisanal extraction versus industrial extraction) as both are important in the analysis of sustainability and the suitability of different regulatory schemes.
194	Diaz, Sandra	1	9	290			fig. 1.2 Legend: please note that in this version of the figure, there are two grays: one delimiting the central panel, and that of the background. May be the background of the figure could be done white, or the overarching rectangle in other colour, to avoid confusion.	Thank you for your comment. The figure was updated accordingly.
195	Griffin, Cy	1	9	280	9	282	It is pertinent to discuss complexity of "use" as a driver. Extractive industries which only take or remove biological resources are different from sustainable use practices which are grounded in management systems with the objective to conserve the resource in the long term.	Thank you for your comment. The definition of 'sustainable use', as well as different conceptualizations of it, is handled in section 1.3.2 and chapter 2. In particular, chapter 2 deals with the complexity of "use" as a driver related to the sustainable use of wild species.
196	Hurley, Patrick	1	9	288	1	294	I applaud and thank the authors for creating such a wonderful diagram that seeks to include diverse knowledge systems in this way--one that is respectful of and, it appears, true to the process of feedback undertaken for this purpose.	Thank you for the positive feedback.
197	Shin, Thant	1	9	289	9	289	Figure 1.2 - There should be Local, National, REGIONAL, and Global for the interacting across spatial scales.	Thank you for your comment. "Regional" has multiple meanings, depending upon context. We suspect the commenter here refers to regions as understood in the United Nation context. Given that the arrow on the right of the figure represents a continuum from local to global, this sense of "regional" is implied in the current figure.

198	Ebora, Juan B.	1	7	213	10	213	Figure 1.1 purple box (Practices) should reflect clearly the two categories (Extractive and Non-Extractive Practices) with examples in bullets under.	Thank you for your comment. The categories included in the Practices box are defined in section 1.3.3 and classified as suggested by the reviewer in Figure 1.5. Figure 1.1 was revised and does not list the practices anymore.
199	Guimaraes, Ellen	1	7	214	10	216	Figure 1.1. Please, provide the source of the Figure if not produced by the assessment	Thank you for your comment. The figure was produced by the authors of chapter 1 for the purpose of this assessment.
200	Siroski, Pablo	1	10	324		337	Dangerous predators or conflictive animals, like crocodiles, elephants, etc.; have different perceptions from local people than developed societies. People living with these animals comes at a high cost for them. In some cases, local people have learnt to live alongside these animals and they have been harvesting different species for generations as part of their culture, tradition, and important part of their livelihood, either because they use them for personal consumption or to generate income	Thank you for making this point. It does not seem to require changes to the text.
201	Webb, Grahame	1	10	328			Insert "direct and tangible" before contributions. For many of the world's people, these are very different from the "indirect" and "intangible" values are often poorly understood and make limited sense to many Indigenous people needing food today.	Thank you for this suggested change. We have included it in the new version.
202	White, Michael	1	10	331	10	336	Good, because 'benefit' was often construed to mean dollars	Thank you for your comment. We appreciate the affirmation.
203	Harrington, Alexandra	1	11	343	11	343	Add "e.g.," at the beginning of the "(living in harmony..)" text for consistency with format of other listed examples.	Thank you for your comment. We appreciate the copy editing catch.
205	Webb, Grahame	1	11	339			It seems important that "and context-specific" be inserted after "highly diverse".	Thank you for this suggestion. We have chosen not to include it, as we feel that this is covered by referring to the cultural roots and geographical application of the visions, concepts and indicators.
206	Webb, Grahame	1	11	368			Seems different peoples "value" wildlife for different reasons, that are inextricably linked to the local "context" within people and wildlife interact.	Thank you for making this point. It does not seem to require changes to the text.

207	Welch, James R.	1	11	367	11	367	Ref. (1.4), specify if this is a Figure, Supplementary Material, etc.	Thank you for your comment. We appreciate this copy editing catch.
209	White, Michael	1	11	367	12	380	Good! I agree with all of this. I often explain it as: 'give more than you take'	Thank you for your comment. We appreciate this affirmation.
210	Benedict, Michael	1	12	401	12	405	Great point. Is there room for examples of indigenous peoples managing populations by age and size classes that contribute to increasing populations? NOTE: I spoke with Mr. Benedict and he says "sex" was an error and it should be "size".	Thank you for your comment, there are several examples through the assessment.
211	Emperaire, Laure	1	12	412	12	412	...to the role of institutions and governance systems, including formal and informal systems. What would informal means? Not inscribed in a system of rights recognized by a state? This notion of formal and informal should be defined. Local systems, whether it is access to land or education among other areas, are, from a local perspective, fully formal ; as indicated in line 415, these systems are based on socially shared rules. It's important to underline the diversity of possibilities of local rights systems. ---> Special attention is given, among indirect drivers, to the role of institutions and governance systems, especially with regard to the local and indigenous diversity of land access and tenure systems.	Thank you for this comment. We have changed "informal" to "customary".
212	Guimaraes, Ellen	1	9	290	12	294	Figure 1.2. Please, provide the license to the figure if CC0 or CC-BY	Thank you for this suggestion. It is being addressed assessment wide.
213	Mahoney, Shane	1	12	402	12	402	It is important to qualify this statement; change to "some hunters".	We appreciate this important point and have made the suggested change.
214	Welch, James R.	1	12	387	12	387	I am not sure "under human control" captures the idea, since invasive species and pollution (for example) are definitely out of our control. I suggest replacing "under human control" with "results of human actions".	Thank you for this suggested change. We have included it in the new version.

215	Welch, James R.	1	12	387	12	387	I am not sure "under human control" captures the idea, since invasive species and pollution (for example) are definitely out of our control. I suggest replacing "under human control" with "results of human actions".	We appreciate the reviewer's comment and have revised the text.
216	Orenstein, Ronald	1	13	446	13	447	Why are there no initial questions about what sustainability actually means, both locally and in a broader ecosystem or global context, and at what spatial and temporal scales it is meant to be defined? (I am aware #8 comes close to this, but I am thinking in a broad definitional sense).	Thank you for your comment. The questions listed here were given to the expert group as part of the scoping report approved by IPBES Plenary. The points raised by the reviewer are covered under question 1 here, and are addressed throughout chapter 2 and, in chapter 1, specifically in sections 1.3.2 and 1.3.3.
217	Diaz, Sandra	1	11	364	15	380	While very rich and valuable, it seems that the discussions on the IPBES CF in the context of this assessment were based on a misconception or an incomplete understanding of the elements in the original CF. "People contributions to nature" as defined here are fully captured in the link between "nature" and "NCP" in the original CF. The term might be not ideal and the arrow, without further reference to the explanatory text, might be seen as unidirectional (the curved arrows in the CF should be interpreted as part of a "wheel" not as unidirectional necessarily), but the fact that NCP are co-produced between people and nature and that reciprocity, care, and mutual obligations are fully captured in this link, and the fact that other actors see this link as purely unidirectional, from a passive stock to a human demand, therefore accommodating different worldviews, is explicit in the Diaz et al. 2018 original NCP paper and in the expanded description in Ch. 1 of the Global Assessment which seems to have been used by the authors of this report). This was an important product from the original CF workshops and also the several consultations with IPLC made by the Global Assessment. The "drivers" are only one aspect of people's links with nature. Human actions on nature can be exerted via the drivers "loop" and via the NCP-PCN "loop" at the same time. So, in summary, people's contributions to nature is one way, one possible unpacking, of the nature-people continuum between nature and human quality of life depicted in very general terms in the original CF. There is a recent paper by Hill et al. in One Earth that goes further in clarifying this. In other words, we fully support the idea of PNC, but see it as part of the multidirectional link between nature, people and QoL, not as a new, separate element in the CF. Figure 1.6 in this report seems to be in more or less broad agreement	We appreciate the reviewer's comment and have revised 1.1.2 to clarify that our intent here is not to reopen discussions about the conceptual framework. Rather, it is limited to unpacking the Direct drivers element for purposes of the sustainable use assessment. We have reviewed Hill et al 2021 and understand that people's contributions to nature are meant to be implicit in the nature's contributions to people element. However, participants in ILK dialogues for this assessment were emphatic that they did not perceive the concept of people's contributions to nature anywhere in the conceptual framework and, that in the case of sustainable use of wild species, it is essential for this concept (people's contributions to nature) to be explicit. Accordingly, we have honored the input from ILK dialogues by following the example of the Global Assessment, with its addition of inclusive language to enhance understanding by all parties and stakeholders.
218	Burgess, Neil	1	12	381			There are useful papers on mapping threats and pressures just out that would be relevant here. See this one that is published https://www.nature.com/articles/s41559-021-01432-0?utm_source=other&utm_medium=other&utm_content=null&utm_campaign=JRCN_1_DDO1_CN_NatureRJ_article_paid_XMOL	Thank you for this suggestion. We have chosen not to include it in the text, as it does not seem to add significant meaning to the section.
219	Fokam, Eric B.	1	15	460	16	512	Could this loop be also represented graphically/diagrammatically? It would gain a lot from some form of visuals!	Thank you for your suggestion, however we decided to not represent it graphically.

220	Fontana, Isabella	1	15	516	15	522	Even though the complex context of the definition of wild species was described in section 1.3.1, the definition of wild species is still confusing because it mixes up categories of species (domestic vs non-domestic) with the individual or population condition (domesticated vs wild).	Thank you for your comment. We have revised the text in the last version of the chapter and we hope that it is now clearer.
221	Germany	1	15	494	15	494	Please delete blank before period.	Thank you for your comment. The typo was fixed.
222	Harrington, Alexandra	1	15	494	15	494	Remove space between "sustainable use ."	Thank you for your comment. The typo was fixed.
224	Empeaire, Laure	1	16	529	16	529	through the practices of fishing, gathering, terrestrial... ---> through the diversity of practices of fishing, gathering, terrestrial ...	Thanks for this suggested change of wording. We did not incorporate it since the diversity of practices is discussed thoroughly in section 1.3.3.
225	Welch, James R.	1	16	548	16	554	End each list item with semicolon, per list at lines 271-276.	Thank you for your comment. The typo is now fixed.
227	Empeaire, Laure	1	17	617	17	617	The Cruz Garcia publication refers to Mestizo (migrants) population not indigenous. ---> local communities in the Amazon	Thank you for your comment. The text has been modified.
228	Koskela, Jarkko	1	17	588	17	589	It would be more appropriate to say that only genetic diversity leads to into adaptation; also referring to phenotypic diversity represents duplication as it is the underlying genetic diversity of phenotypic diversity that is relevant here.	Thank you for your comment. The text has been revised as suggested.
229	Kosse, Rachel	1	17	572	17	572	The end parenthesis is missing on coffee	Thank you for your comment. The typo is now fixed.

230	Muir, Giulia	1	17	584	19	637	Indeed binary separation does not exist, but for the purposes of gathering statistics, precise definitions and "separations" are necessary. There will never be a perfect "line" however we can learn from fisheries, for example, which provides a useful "separation" between different types of fisheries (fish catch, enhanced capture, aquaculture). See Muir et al 2020 for a similar break up with plants (wild - semi-wild - managed - farmed/cropped) ...to be improved but I think we need to move in this	Thank you for your comment. The section was revised based on the comments and we feel that your point was addressed.
231	Orenstein, Ronald	1	17	584	17	597	Another aspect of this relates to human demand. There is a continuum from situations in which the wild population is preferred because it is seen to have qualities or 'virtues' lost in captivity or domestication (Please consult Gray, T. N. E., Hughes, A. C., Laurance, W. F., Long, B., Lynam, A. J., O'Kelly, H., Ripple, W. J., Seng, T., Scotson, L., & Wilkinson, N. M. (2018). The wildlife snaring crisis: an insidious and pervasive threat to biodiversity in Southeast Asia. <i>Biodiversity and Conservation</i> , 27(4),	Thank you for your comment. The section was revised based on the comments and we feel that your point was addressed.
232	Welch, James R.	1	17	571	17	571	I'm not sure the dog/wolf example is a good one since there is no clear consensus as to whether the dog is <i>Canis lupus familiaris</i> or <i>Canis familiaris</i> .	Thank you for your comment, we have removed this example.
233	Welch, James R.	1	17	579	17	580	Bad link. Replace.	Thank you for your comment. We updated the citation.
236	Germany	1	18	495	18	496	Please consider aligning the herein referred "main drivers" to the drivers/six categories of drivers contained in chapter 4, while complementing accordingly or changing the drivers exemplified as per brackets on p.18 in lines 495-496.	Thank you for your comment. We updated the text accordingly.
237	Germany	1	18	503	18	503	How does the herein referred "transformative change" relate to the IPBES assessment on "transformative change" (in preparation/at scoping stage)?	Thank you for your comment. We use the definition of transformative change that was provided by IPBES global assessment on biodiversity and ecosystem services (see glossary). This same definition is the starting point for IPBES assessment on transformative change. The assessment on transformative change will be able to build on the outcomes of this assessment of the sustainable use of wild species.
238	Lendo, Carmela Isabel Nunez	1	18	622	18	622	There is a worldwide trend to restore natural ecosystems: rearing corals in nurseries, planting trees, seeding native plants, etc. Not sure if there is a term for this - Rinkevich, Baruch. "Conservation of coral reefs through active restoration measures: recent approaches and last decade progress." <i>Environmental Science & Technology</i> 39.12 (2005): 4333-4342. Nakamura, Keigo, Klement Tockner, and Kunihiko Amano. "River and wetland restoration: lessons from Japan." <i>BioScience</i> 56.5 (2006): 419-	Thank you for your comment. This can be related to semi-wild or restoration-friendly cultivation. This process, and how it relates to the sustainability of specific uses, is described in Chapter 3. See for example sections 3.3.2.8.4 and 3.3.5.2.3.
239	Webb, Grahame	1	18	625			Some traits selected over multigenerations as a consequence of human intervention make it more difficult to meet human needs. An example is "wariness". In areas occupied by Aboriginal people "forever", where freshwater crocodiles were hunted, they are highly wary from the time they hatch. In areas where there was no Aboriginal occupation historically (food was limiting), the same species exhibits virtually no wariness (Webb, G.J.W. (1985). Survey of a pristine population of	Thank you for your comment. While the comment applies to selection of anti-hunting responses in wild animals, this is not what we are referring to here which is specific to selection of traits by humans to meet human needs.

240	Webb, Grahame	1	18	625			Similarly, should this be the extent to which populations are disbursed or concentrated, through human intervention? The lack of traditional burning and hunting appears to have resulted in some species (koalas)(same references in comment line 32) becoming very abundant, whereas other species, that cannot move easily through the dense understory of grasses and shrubs (perhaps emus) have become rare.	Thank you for your comment. The section was revised based on the comments and we feel that your point was addressed.
241	Empeiraire, Laure	1	19	Fig. 1.3	19	Fig. 1.3	Fig. 1.3. On the Human mediated distribution axis the position of Captive (intensive breeding) should be behind that of Captive and not in front.	Thank you for your comment. The figure was modified and does not distinguish anymore captive from captive breeding.
242	Empeiraire, Laure	1	19	656	19	656	The diversity of the representations of what is wild, species or resources, is so wide that we can expand the formulation.terminology refers to wild species as 'gifts' ---> terminology refers to wild species or resources as 'gifts' but also as objects of mediation between entities, specific to each cosmology, which belong to the forest or other environment, and humans.	Thank you for your comment. We appreciate the comment but have chosen to not revise the text for the following reasons: (i) the assessment focus is on species and participants in the ILK dialogues objected to the term 'resources' in relationship to other-than-human beings, and (ii) the more nuanced points regarding relationships
243	Germany	1	19	632	19	632	poor quality of figure 1.3. Please improve its resolution.	Thank you for your comment. The figure was edited in high quality by a professional for the final version of the chapter.
244	Koskela, Jarkko	1	19	646	19	647	See above comment	Thank you for your comment. The text has been revised as suggested.
245	Rosenberg, Andrew	1	19	641	19	641	The term "use" is here. Is it defined? A primary concern for the public and policy makers is 'use' as in harvest but also in loss of range, habitat, and productive capacity I believe. Impacts of factors such as climate change are a primary concern. Are those considered "use".	Thank you for your comment. Please refer to section 1.3.3 and the text describing the practices panel.
246	Siroski, Pablo	1	19	641			"intensive" is not a proper word. Intensive meaning does not mean detrimental. I suggest to replace by "excessive".	Thank you for your comment. We replaced "intensive" by "unsustainable" instead, to better match the wording of the scoping document.
247	Webb, Grahame	1	19	641			Of "many" wild populations. Some populations, for example water monitors and reticulated pythons have sustained wild harvests for 80+ years (species in which urbanisation and conversion of land to agriculture has benefitted them). Kangaroo populations have greatly expanded relative to the time of first settlement as a consequence of agriculture and the provision of water for stock.	Thank you for your comment. We changed the wording of this sentence and the suggested change is not necessary anymore.

248	Benedict, Michael	1	20	689	20	693	Suggest another reference in regards to indigenous view of "wilderness" as "moving into other parts of their home." Communities as both Ecological and Social Entities in Native American Thought, Raymond Pierotti, January 1997	Thank you for this suggestion. We have chosen not to add the reference to the text as there are many references that could be made and we have already restricted the number to those we consider most central.
249	Empeaire, Laure	1	20	682	20	682	Haraway, 2003; Latour, 1993, 2004; Palmer, 2011). + Maris, V. (2018). <i>La part sauvage du monde</i> . Paris: Seuil.	Thank you for this suggested reference. We have included it in the new version.
250	Orenstein, Ronald	1	20	692	21	696	Surely the view of nature referred to here is no longer widely held by professionals in the field (noting that the references cited range from 1949 to 1996)? There is a risk that continuing to ascribe this viewpoint to 'western' conservationists politicizes it and turns it into an undeserved ad hominem attack on scientists, advocates and organisations operating today (equivalent to calling anyone who raises an objection to a particular use of an animal an 'animal rights advocate' as a way of dismissing their concerns). This text should be updated to reflect current realities and understandings.	Thank you for this comment. The lines in question describes the historical background of current debates about wildness and wilderness. The next paragraph describes recent developments related to this debate, in particular related to the concept of 'the Anthropocene'.
251	Rosenberg, Andrew	1	20	658	20	675	I find this paragraph confusing. Again the definition of "use" comes into play. I understand the assessment is not focusing on the "use" of feral populations. But does that mean their impacts are not considered. I can't really figure that out from the text.	Thank you for your comment. The section was revised based on the comments and we feel that your point was addressed.
252	Webb, Grahame	1	20	655			Environmental pressures including long periods of human hunting.	Thank you for your comment. The section was revised based on the comments and we feel that your point was addressed.
253	White, Michael	1	20	689	21	696	Most indigenous Peoples would not consider their place to be 'wild': it is just the 'world'	Thank you for making this point. It does not seem to require changes to the text.
254	Empeaire, Laure	1	21	704	21	704	+ Sterling, E. J., Filardi, C., Toomey, A., Sigouin, A., Betley, E., Gazit, N., . . . Jupiter, S. D. (2017). Biocultural approaches to well-being and sustainability indicators across scales. <i>Nature Ecology & Evolution</i> , 1(12), 1798-1806. doi:10.1038/s41559-017-0349-6	We thank the reviewer for suggesting this important reference and have added it.
255	Empeaire, Laure	1	21	706	21	706	and their biophysical environments (Levis et al. 2017). + Levis, C., Costa, F. R. C., Bongers, F., Peña-Claros, M., Clement, C., Junqueira, A., . . . ter Steege, H. (2017). Persistent effects of pre-Columbian plant domestication on Amazonian forest composition. <i>Science</i> , 355(6328), 925-931. doi:10.1126/science.aal0157	We thank the reviewer for suggesting this important reference and have added it.

256	Emperaire, Laure	1	21	714	21	714	The area managed by indigenous peoples and local communities coincides 712 with approximately 40% of terrestrial conserved areas, including those with high biodiversity 713 (Garnett et al., 2018). Garnett's article deals only with indigenous land.	We thank the reviewer for catching this and have revised the text.
257	Emperaire, Laure	1	21	721	21	722	Rather, wildness is located on a continuum somewhere between instances in which humans have no current or historical contact with a location (or have no memory of it) and the species in it and intensive interventions with landscapes and the species in them (Ford, 1985).	We thank the reviewer for suggesting this addition and have revised the text.
258	Emperaire, Laure	1	21	729	21	729	While the defining characteristics of wild vary between cultures, ---> While the defining characteristics of wild (when this concept exists) vary between cultures, ...	Thank you for your comment. The text has been revised as suggested.
259	Emperaire, Laure	1	21	734	21	734	they need from humans, or other entities specific to their cosmologies , to reproduce and thrive	We appreciate the reviewer's comment and recognize its validity. However, our focus here is on relationships between humans and wild animals, fungi, and plants.
260	Gadallah, ZuZu	1	21	710	21	712	G. Whitney "From Coastal Wilderness to Fruited Plain: A History of Environmental Change in Temperate North America from 1500 to the Present" 1996, while older, is relevant.	We appreciate the comment. However, the primary focus of the Whitney book is on settlement landscapes, while the text of these lines is about indigenous management of the landscapes of northwestern North America.
261	Germany	1	21	728	21	729	reference should not be in italics, please.	Thank you for your comment. The formatting issue was fixed.
262	Webb, Grahame	1	21	707			Aboriginal people in northern Australia have occupied lands for 65,000 years. They have thus been part of sea level rises of 100-150 m, and great climate change - many traditional lands are now underwater, but still incorporated into their view of traditional lands. These include underwater reefs which were once terrestrial habitats they lived on with names and cultural/spiritual values. So the time scale of occupation is vastly different for some Indigenous people. Although some recent	Thank you for making this point. It does not seem to require changes to the text.
263	Belgium	1	22	Box 1.1.			It might be useful to also say something about the practice of fencing, being a decrease of wildness.	Thank you for your comment. However fencing is out of the scope of this assessment.

264	de Jager, Riaan	1	22	747	22	748	Box 1.1 Case study on challenges with operationalizing the concept of wild species / what if no species were protected ,why are most illegal hunting taking place on protected areas (enclosed areas) opinion none or limited species left outside these areas.	Thank you for your comment.
265	Diaz, Sandra	1	22	633			Figure 1.3. Give examples of each kind.	Thank you for your comment. There are examples in the text.
266	Empeaire, Laure	1	22	741	22	741	The term divine is very connoted in a religious sense.with the divine with all the significance ---> with these others entities with all the significance ...	We thank the reviewer for this observation. The text has been modified accordingly.
267	Germany	1	22	742	22	742	reference should not be in italics, please.	Thank you for your comment. The formatting issue was fixed.
268	Pekarik, Cynthia	1	22	747	23	748	Box 1.1: wildlife ranches or farming practices can be associated with disease issues that can impact wild populations, and/or potentially impact sustainable uses. E.g in North America, chronic wasting disease in cervids was first detected on a game farm.	Thank you for your comment. This is adressed in Chapter 4 on drivers.
269	Empeaire, Laure	1	23	764	23	764	(agriculture, pesticides, production of goods) ---> (agricultural products, pesticides, others goods)	Thank you for your comment. The text was edited accordingly.
270	Harrington, Alexandra	1	23	764	23	764	Add "e.g.," at the beginning of the "(agriculture, .." text for consistency with format of other listed examples.	Thank you for your comment. The text was edited accordingly.
272	Lerambert, Adeline	1	23	748	25	836	[repeating general comment above] The document should aim to develop a clear definition of what is meant by 'sustainable use', and make it clear that, in respect of most current uses of wildlife, the definition represents an ambition rather than a current reality. Such a definition should have an ecological and biological basis, rather than a socioeconomic basis, and should recognise that the sustainability of any one form of use should be considered in the context of the overall drivers	Thank you for your comment. The way "sustainable use" is defined for this report is given in section 1.3.1 of CH1, while CH2 extensively reflects how the concept of sustainable use has evolved through time and how it has been conceptualized among different practices, cultures and (local to global) policies.

273	Mahoney, Shane	1	23	777	23	780	An incredibly important recognition that must be emphasized.	Thank you for your comment. This does not seem to require a change of text here. Note that issues of equity and participation in governance are discussed in detail throughout the chapters of the assessment, including chapters 4 and 6.
274	Miller, Carly	1	23	748	24	817	The definition of sustainable use stands at the heart of this assessment. Without a definition that includes consideration of all crucial aspects, the report itself will not be able to analyze the topic comprehensively. While this report did consider both ecological and social dimensions (lines 780-783), one element was ignored. To be sustainable, wild species uses should ensure the wellbeing of both humans and other species- this is a quote from lines 789-790 of this report, outlining views expressed by	Thank you for your comment. As stressed in section 1.3.2, animal welfare was not identified in the scoping report for this assessment (see annex IV to decision IPBES-5/1) and was therefore, not addressed in this report, albeit we believe that this important topic would deserve a dedicated assessment. For that reason, we prefer not to add any new text around this issue.
275	Orenstein, Ronald	1	23	749	23	751	Reference could be made here to the World Charter for Nature, adopted by the UN General Assembly in 1982 (http://web.tiscali.it/claudiosbragion/Sito/f-principali/f-basso/contenuti/2/convenzioni/worldchartofnature.html). Its Preamble states in part: "Convinced that: (a) Every form of life is unique, warranting respect regardless of its worth to man, and, to accord other organisms such recognition, man must be guided by a moral code of action".	Thank you for your comment. We appreciate the reference to the UN World Charter for Nature and have added text from it.
276	Rosenberg, Andrew	1	23	748	25	836	the points I raised above are because this section on definition of use comes after the discussion of scope and wildness. It would be clearer if, 1) it was clear that the definition of use will be extensive treated, and 2) that public and policy maker concerns are recognized to be encompassed in the definition of use, but not articulated in the way that scientists describe use.	Thank you for your comment. The section was revised based on the comments and we feel that your point was addressed.
277	Stewart, Davyth	1	23	748	25	836	It is recommended that IPBES use this opportunity to develop a clear definition of what is meant by 'sustainable use'. The definition of sustainable use, as contained in the UN Conference on the Human Environment, and as reflected in Conventions such as CITES, that seek to regulate the current uses of wildlife, tend to represent an ambition or target rather than reflecting the current reality of what wildlife use looks like in practice.	Thank you for your comment. This assessment provides a working definition for "sustainable use" in its glossary. One of the main aspects of this assessment is to reaffirm that the sustainability of the use of wild species includes two main components: the ecological component (here the wild species in the ecosystems they inhabit) and the human component. Ignoring one of these two components does not make it possible to understand the enabling conditions of sustainability, as explained and argued by multiple examples throughout this report. In addition, the importance of considering these two components is also linked to the conceptualization of nature that this report strongly supports, i.e. the fact that man is part of the earth
278	Diaz, Sandra	1	24	712			about the human footprint on "wilderness", see new work by Ellis et al. that shows that human influence is both pervasive and ancient: https://www.pnas.org/content/118/17/e2023483118	We thank the reviewer for this suggestion. A sentence citing Ellis et al., 2021 has been added to the paragraph.
279	Orenstein, Ronald	1	24	803	24	803	There may be a point at which sustainable use is no longer possible. I would reword to read "re-adapt, suspend or cease use" to allow for such a possibility, and to confirm that if it is a choice between unsustainable use and non-use the latter should prevail.	Thank you for your comment. Actually the cease of use for a giving time period (whatever it could be, short or long) is included in the point (iii) adapt uses and management. This has been now added.
280	Tucker, Linda	1	24	812	25	836	Whilst this definition makes sense, the fact of the matter is that sustainable use is only truly sustainable in the long term, if it is ecologically sustainable. I.e. if the earth experiences the collapse of ecological systems, there will be no sustainability. Further consideration should therefore be given in this definition to emphasise that, ultimately, sustainability is dependent on ecologically healthy systems, without which there will be no "continuance and flourishing of planetary life and	Thank you for your comment. One of the main aspects of this assessment (and not only this section of CH1) is to reaffirm that the sustainability of the use of wild species includes two main components: the ecological component (here the wild species in the ecosystems they inhabit) and the human component. Ignoring one of these two components does not make it possible to understand the enabling conditions of sustainability, as explained and argued by multiple examples throughout this report. In addition, the importance of considering these two components is also linked to the conceptualization of nature that this report strongly supports, i.e. the fact that man is part of the earth community (nature) and is not separate from it. To explain

281	Webb, Grahame	1	24	796			<p>What complicates these definitions for practical purposes is the attempt to combine the challenges of sustaining a use of wildlife (keeping it going indefinitely), with motherhood statements about some of the major, potential, adverse impacts.</p> <p>--In reality the potential adverse impacts are many, and may be biological, social-cultural, economic – they are also context specific.</p> <p>--Hence sustainable use of wildlife is fundamentally use of wildlife that</p>	<p>Thank you for your comment. As mentioned by the reviewer, the definition sustainable use is indeed related to the way we consider and interact with nature. Therefore, we added a new section in CH1 on the "conceptualization of nature" (see section 1.3.3) that complement of the aspects related to the definition of sustainable use.</p>
282	White, Michael	1	24	790	24	792	Correct	<p>Thank you for your positive feedback.</p>
283	White, Michael	1	24	804	24	805	<p>Absolutely vital. E.g combining an EIA with Social Development means dollars trump ecosystem protection. Stand-alone EIA protects nature</p>	<p>Thank you for your comment. This does not seem to require a change of text.</p>
284	Bliss, Cebuan	1	25	827	25	836	<p>perhaps mention that there are different definitions of animal welfare and that some forms of sustainable use may not promote positive animal welfare</p>	<p>Thank you for your comment. As stressed in this paragraph, animal welfare was not identified in the scoping report for this assessment (see annex IV to decision IPBES-5/1) and was therefore, not addressed in this report, albeit we believe that this important topic would deserve a dedicated assessment. For that reason, we prefer not to add any new text around this issue.</p>
285	Korwin, Marie	1	25	827	25	836	<p>Animal welfare is important to the definition of sustainable use and should be included in the scope of this report. It is important to ensure animal welfare in the implementation of sustainable use policies, not only for ethical reasons, but also because lack of animal welfare can cause significant impacts on the success of sustainable use initiatives. Lack of animal welfare can also lead to the emergence of diseases (when an animal is subject to stress, injury, or sickness, it can inhibit its immune</p>	<p>Thank you for your comment. As stressed in this paragraph, animal welfare was not identified in the scoping report for this assessment (see annex IV to decision IPBES-5/1) and was therefore, not addressed in this report, albeit we believe that this important topic would deserve a dedicated assessment. For that reason, we prefer not to add any new text around this issue.</p>
286	Lerambert, Adeline	1	25	827	25	836	<p>The section addressing animal welfare considerations is welcome. However, animal welfare should be an integral component when both defining and applying sustainable use. The welfare of individual wild animals must be taken into consideration as part of the effort to sustainably conserve entire species. Consideration of wild animal welfare is important on ethical grounds because of the suffering inflicted on wild animals, but it also has considerable implications for the success of any</p>	<p>Thank you for your comment. As stressed in this paragraph, animal welfare was not identified in the scoping report for this assessment (see annex IV to decision IPBES-5/1) and was therefore, not addressed in this report, albeit we believe that this important topic would deserve a dedicated assessment. For that reason, we prefer not to add any new text around this issue.</p>
287	Mulà, Anna	1	25	835	836	25	<p>As the Chapter 3, from line 835 to 836 states that "Animal welfare is increasingly being incorporated into concepts of sustainable use of wild species but it was not identified in the scoping report for the sustainable use assessment (annex IV to decision IPBES-5/1). Nevertheless, this issue would deserve a dedicated assessment".</p>	<p>Thank you for your comment. This does not seem to require a change of text.</p>
288	Orenstein, Ronald	1	25	824	25	826	<p>These considerations may vary depending on the spatial and temporal limits selected. A local use may be sustainable, but may raise demand elsewhere contributing to a globally unsustainable use of the species overall. A use that is sustainable in the short term may have long-term consequences that are damaging to the species and its ecosystem. An extreme example may be the spread of pathogens resulting from trade in one species causing harm to other vulnerable taxa. Please consult Fisher,</p>	<p>Thank you for your comments. The points raised by the reviewer are tackled later in Chapter 1, in section 1.4, as well as in Chapter 2.</p>

289	Orenstein, Ronald	1	25	835	25	836	Agreed.	Thank you for the positive feedback.
290	Stewart, Davyth	1	25	827	25	836	The inclusion of animal welfare is an improvement from the earlier draft. However, animal welfare should not be considered as a separate component, but instead an integral part of the definition of sustainable use. In addition to the ethical questions raised by animal cruelty, the welfare of individual wild animals must be taken into consideration as part of the effort to sustainably conserve entire species. The sustainability of trade in live animals (pet trade, zoos etc.) depends	Thank you for your comment. As stressed in this paragraph, animal welfare was not identified in the scoping report for this assessment (see annex IV to decision IPBES-5/1) and was therefore, not addressed in this report, albeit we believe that this important topic would deserve a dedicated assessment. For that reason, we prefer not to add any new text around this issue.
291	Vukeya, Judith Vutivi	1	25	827	25	836	the assessment should delve deeper into how domestication of animals affects the both animals, communities and the tourism and trade industry adversely. Domestication is in no way conservative or sustainable. The domestication poses great threats to reputations of conservation capitals of the world. Wild animals are not meant to co-exist with humans, domesticating animals is a harmful practice that restricts and limits the species from living freely because of the confinement- the	Thank you for your comment. The scoping document for this IPBES assessment clearly focuses on wild species , so that domestication of animals is out of the scope of this assessment. Please note that this assessment already embraces a large variety of items and topics... Nonetheless, section 1.3.2 about the definition of wild species addresses some points stressed by the reviewer and show the difficulty, in some cases, to draw a clear line between wild and domesticated...
292	Yashphe, Shira	1	25	827	25	836	See our comment above (for page 23-24) on the need to include consideration of animal welfare. We would appreciate getting a response from the drafting team as to why animal welfare and protection was removed from consideration. If, at this point, there are not time/resources available to include an overview of the welfare aspects, we would ask the authors to at least put in a disclaimer for any users/readers of this report (including in the summary for policymakers	Thank you for your comment. As stressed in this paragraph, animal welfare was not identified in the scoping report for this assessment (see annex IV to decision IPBES-5/1) and was therefore, not addressed in this report, albeit we believe that this important topic would deserve a dedicated assessment. We removed lines 830-831 following the remark by the reviewer.
293	Empeiraire, Laure	1	26	846	26	846	The economic and social dimensions are much more rarely taken into account by international organizations, while the indigenous and local knowledge approach is often more integrative and considers unseparable the socio-economic and ecological dimensions.	Thank you for your comment. The text was updated accordingly.
294	Empeiraire, Laure	1	26	856	26	856	given culture, economy, governance system, and level of technological developmentt. ----> The use of the term level is useless because it falsely induces an evolutionary perspective ----> given culture, economy, governance system, and technological development	Thank you for your comment. The text was updated accordingly.
295	White, Michael	1	26	839	26	844	Mention Red List of (threatened) Ecosystems, which neatly complements Red List of Threatened Species (one species at a time)	Thank you for your comment. Figure 1.4 aims to describe how sustainable use may have been conceptualized across time and cultures. Mentioning a specific body or agreement, such as IUCN, in this general picture could be perceived as subjective or biased and would probably involve citing the main ones, which we prefer not to do for the sake of clarity.
296	White, Michael	1	26	844	26	847	Large Marine Ecosystem (LME) assessment uses a 5-fold model that includes natural aspects, and economic & governance	Thank you for your comment. Note that we used the term "rarely".

297	Empeaire, Laure	1	27	Fig 1.5	27	Fig 1.5	For the column Use I suggest (i) to extend Learning and education to Knowledge and experience formation, Learning and Education (ii) to substitute the term hygiene by corporal wellbeing wich have less normative content and (iii) the term medicine by health .	We appreciate the reviewer's comment. However, we have employed the language most commonly used in the English-language literature and policy.
298	Germany	1	27	869	27	869	"medecine puposes" should be "medical purposes".	Thank you for your comment. The text was updated.
299	Kosse, Rachel	1	27	869	27	869	Should "medecine" be "medicinal"?	Thank you for your comment. The text was updated.
300	Lerambert, Adeline	1	27	877	28	881	The consideration of species at higher taxonomic levels is understandable from a practical perspective, but it must be recognised that within taxa, the conservation status, uses, and impacts of use at a species level may vary considerably	Thank you for your comment. This part of the text just aims at defining the main terms and category that are used in the assessment. The following chapters however recognize differences in uses, conservation and management within species and taxa.
301	Mahoney, Shane	1	27	872	27	872	Perhaps change to "wildlife watching" (used elsewhere in the document, since tourism implies travel, which has additional implications.	Thank you for your comment. The text was updated.
302	Orenstein, Ronald	1	27	877	27	877	This approach risks masking differences among species or even local populations in their abilities to withstand and/or rebound from exploitation. Please consult Taylor, B. M., Choat, J. H., DeMartini, E. E., Hoey, A. S., Marshall, A., Priest, M. A., Rhodes, K. L., & Meekan, M. G. (2019). Demographic plasticity facilitates ecological and economic resilience in a commercially important reef fish. In <i>Journal of Animal Ecology</i> (Vol. 88, Issue 12). https://doi.org/10.1111/1365-2656.13095	Thank you for your comment. This part of the text just aims at defining the main terms and category that are used in the assessment. The following chapters however recognize differences in uses, conservation and management within species and taxa.
303	Rosenberg, Andrew	1	27	874	27	874	So the figure doesn't include habitat modification or loss. That is not included in the assessment because it is not considered use? But it may be the major factor affecting biodiversity.	Thank you for your comment. Yes indeed, habitat modification or loss is a major driver of biodiversity loss as shown by the IPBES Global Assessment. However, as noted at the end of section 1.1, this assessment differs in many ways from the Global assessment and focuses on use (of wild species).
304	White, Michael	1	27	869	27	874	Includes Fig 1.5 respell medicine	Thank you for your comment. This term has been replaced by Health in Figure 1.5

305	Diaz, Sandra	1	28	827	28	836	While typical issues of animal welfare are much more relevant to domesticated animals and therefore outside the scope of this assessment, wider issues of animals rights and related ethical issues, e.g. in recreational hunting, are probably well within the scope of this assessment, and a quickly emerging issue. This is especially relevant considering the pluralistic approach this assessment has decided to adopt. Hety should be addressed, even if not in big detail. Quick	Thank you for your comment. As stressed in section 1.3.2 and by the reviewer, animal welfare was not identified in the scoping report for this assessment (see annex IV to decision IPBES-5/1) and was therefore, not addressed in this report, albeit we believe that this important topic would deserve a dedicated assessment.
306	Empeaire, Laure	1	28	907	28	907	removal of organisms, parts of them , or materials ...	Thank you for your comment. The text was updated accordingly.
307	Fokam, Eric B.	1	28	897	28	897	improve on reolution of this very useful figure!	Thank you for your comment. The figure was edited in high quality by a professional for the final version of the chapter.
308	Welch, James R.	1	28	918	29	922	Some kinds of sport fishing do not involve harvesting fish. Many sport fly fishers use barbless hooks and release all of the fish they catch.	Thank you for your comment. This does not seem to require change in the text, since this point is clearly stated below, in the definition of fishing.
310	Belgium	1	29	Table 1.1.			The pictograms only show vertebrates. It would be more inclusive to also show an invertebrate. E.g. shrimps or molluscs or caterpillars (eaten in RDC).	Actually, one of three pictograms for fishing is a mollusc
311	Empeaire, Laure	1	29	Table 1.1.	29	Table 1.1.	In the cell (Plants X Harvest parts or products ...) ---> (e.g. leaves, nectar, resine, latex , berries) Latex is an important component of extractivism in Amazonia, Mexico, with various laticifera plants	Thank you for your comment. The text was updated.
312	Empeaire, Laure	1	29	Table 1.1.	29	Table 1.1.	In the cell (Plants X Direct interaction with organism ...) ---> (e.g. touching, smelling ...)	Thank you for your comment. The text was updated.
313	Empeaire, Laure	1	29	Table 1.1.	29	Table 1.1.	In the cell (Plants X No direct interaction with organism ...) ---> (e.g. photography, viewing, understanding their various functions). <i>I think it is important to emphasize that knowledge of wildlife is also part of an individual's experience and knowledge, and it is from there that this knowledge will be mobilized for learning and education.</i> Last point delete the mention wild species in all the lines, it's unnecessary	Thank you for your comment. For the sake of simplicity and concision, we prefer not to add too many example. Wild species has been removed.

314	Koskela, Jarkko	1	29	926			In Table 1.1. "timber harvesting" should be replaced with "wood harvesting". In case of trees, the landscaping example is not wood harvesting but gathering. Furthermore, as removal of trees or seedlings for landscaping purpose is quite a rare example, a better example would be "Gathering (e.g. wildings)", referring to the gathering of naturally-born seedlings to be re-planted in other location, more typically for forestry or restoration purposes rather than for landscaping purposes.	Thank you for your comment. Actually, timber harvesting has been replaced by logging in this table and the whole report.
315	Mahoney, Shane	1	29	925	29	926	No definition is provided (prior to this mention) for "green hunting," nor is the term included in Annex 1, as is trophy hunting, for example. It is also a controversial and unpopular practice. (Table 1.1, "Non-lethal" Terrestrial animal harvesting).	Thank you for your comment. Green hunting definition was added in the glossary
316	Muir, Giulia	1	29	926	29	926	This is great! Emphasis on gathering in our view is the way to go for systematic data collection on a global scale which could be easily integrated in existing surveys in rural areas systematically, which would provide a better picture of the contributions of gathering. There is actually a statistical code on this ("the collection of wild growing materials (class 0230), originally in the ISIC as "the gathering of uncultivated materials" to differentiate the products from	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
317	Pekarik, Cynthia	1	29	926	29	926	Table 1.1: One could say that bird egg harvesting is with mortality since you are extracting an individual (or potential one) from the population, e.g. as compared to wool or those types of products.	Thank you for your comment. The table refers to the death of the adult organism. Eggs are produced by some animals for reproductive purposes, similarly as seeds or fruits are produced by some plants and trees. Removing eggs from the table would thus imply to remove seeds and fruits and we think that would be detrimental to the understanding of the table.
318	Griffin, Cy	1	30	955	30	967	Hunting often involves wildlife and habitat management to maintain sufficient populations of the target species. The harvest or taking is just part of hunting. Harvest may take place during part of the year, but the management activity can be year round. It also funds habitat management, either due to accepted opportunity cost (i.e. accepting a lower economic return on land use in return for hunting opportunity) or direct investment in habitat maintenance. See Oldfield et al. 2003	Thank you for your comment. This section just aims at defining the different terms and categories used in this assessment, here to distinguish between non-lethal and lethal terrestrial animal harvesting. Management activity of terrestrial animal populations is tackled by the following chapters, especially chapters 3, 4 and 6.
319	Koskela, Jarkko	1	30	945	30	946	It is not clear why the removal of living trees or seedlings is specifically excluded from the definition of gathering; see also the comment above.	Thank you for your comment. We distinguished logging from gathering because the former category is clearly defined in several policies and agreements and is of special concern for stakeholders.
320	Lendo, Carmela Isabel Nunez	1	30	932	30	944	Bycatch from fishing should be included here or somewhere. Bycatch is a direct consequence of modern fishing practices, and kills many different species. Davies, R. W. D., et al. "Defining and estimating global marine fisheries bycatch." Marine Policy 33.4 (2009): 661-672. Lewison, Rebecca L., et al. "Understanding impacts of fisheries bycatch on marine megafauna." Trends in ecology & evolution 19.11 (2004): 598-604.	Thank you for your comment. Bycatch is not included in the definition of fishing because it is a consequence of fishing (in some cases), but it is indeed an important issue that is tackled by the following chapters, especially chapters 3 and 6.
321	Mahoney, Shane	1	30	964	30	964	Green hunting requires a definition, as previously noted. Consider adding "falconry" here, perhaps in place of green hunting.	Thank you for your comment. Green hunting definition was added in the glossary.

322	Trocchi, Valter	1	30	960	30	962	This is the current definition of "hunting", but a more precise one can be instead be defined as "the set of activities that aim to take possession of a wild or feral animal, in order to have it permanently but for various purposes: food, economic, recreational, amateur, scientific etc. (Perco, 2020) . According to an ecosystem approach, hunting is also a fundamental means of using the ecosystem services provided by nature to human communities and of enhancing natural capital. The ES related	Thank you for your suggestion. However we decided to keep the definition agreed by all the experts on the matter writing the assessment.
323	White, Michael	1	30	938	30	944	Maybe worth mentioning 'bycatch': non-target spp often die after release	Thank you for your comment. Bycatch is not included in the definition of fishing because it is a consequence of fishing (in some cases), but it is indeed an important issue that is tackled by the following chapters, especially chapters 3 and 6.
324	Empeaire, Laure	1	31	990	32	992	----> Ceremonies and ritual expressions category are defined as the uses of wild species in <i>collective or individual</i> spiritual observances (who define the criteria : <i>especially those that may be valued for their role in maintaining cultural identity</i> . I think it's better to remove this part)	Thank you for your comment. 'Collective or individual' have been added. For the second part of the sentence, 'especially' has been replaced by 'as'.
325	Empeaire, Laure	1	31	990	32	992	----> Energy category..... Needs to be corrected"as the uses, use"	Thank you for your comment. The text was updated.
326	Empeaire, Laure	1	31	999	31	999	Knowledge and experience formation, Learning and Education	Thank you for your comment. We prefer to only keep Learning and education for the sake of simplicity and concision and also because production of knowledge is what did this category.
327	Koskela, Jarkko	1	31	968		975	"Timber harvesting" should be replaced with "wood harvesting" and the definition should be revised, see http://www.fao.org/sustainable-forest-management/toolbox/modules/wood-harvesting/basic-knowledge/en/ for further details.	Thank you for your comment. Actually, we decided to replace timber harvesting by logging in the whole report.
328	Miller, Carly	1	31	976	31	980	The definition of non-extractive use found here and elsewhere in this chapter (see below) does not mention tourism examples. There should be a mention of other "uses" or "interactions" with wildlife for its conservation. Initiatives such as the Lion's Share Fund (https://www.thelionssharefund.com/content/thelionssharefund/en/home/) which fund conservation of species through funds generated from use of wild animals' images in advertisement is another form of non-	Thank you for your comment. This section of chapter 1 gives the definitions of the main terms and categories used in the report. Examples about nature-based tourism, as other practices, are given in the following chapters.
329	Webb, Grahame	1	31	997			Should this not be "where the primary value is to provide" See recreational below (1005). The point being that "enjoyment" is as much an integral part of hunting for food, just as it is for recreational hunting. All hunters get enjoyment from the process. It has multiple rewards in addition to "food". The provision of food or other products (trophies) is also an integral part of recreational hunting (line 1005) and fishing for many people.	Thank you for your comment. As this is noted in the second paragraph of this section, these categories are not mutually exclusive, so that hunting and fishing can be pursued for both food and recreation.

330	Belgium	1	32	1009			"Other definitions" maybe better to write "other definitions related to scale"	Thank you for your comment. The text was updated.
331	Empeaire, Laure	1	32	1003	32	1003		We appreciate the reviewer's comment. However, we have employed the language most commonly used in the English-language literature and policy.
332	Empeaire, Laure	1	32	1001	32	1002	Medecine and hygiene --- > Health and corporal wellbeing fibers, oily substances must be emphasised. This can be integrated in the category Materials and construction. A proposition of reformulation : ---> Construction, materials are defined as the uses of wild species to create dwellings or shelters for humans or animals (not only domestic) and to produce objects (the adjective utilitarian seems unnecessary) by the use of matriels or substances as fibers, dyes, tanning agents, fats, etc.	Thank you for your comment. The text was updated, but we did not mention dyeing or tanning here, as some of these products can be indeed used as materials but also for other uses, as food or medicine.
333	Diaz, Sandra	1	33	927	35	1008	It I intriguing that the categories of practices and uses are defined in the text without any reference to the IPBES conceptual framework, whereas thy could be aligned quite well. The practices fit very well within the broad category of "anthropogenic assests") and "co-production"(by people and nature) (check definitions in Global Assessment ch. 1 or in the Diaz et al. 2015 COSUST paper; all the knowledge, work, technology, procedures used in e.g. fishing, gathering etc. qualify as anthropogenic	Thank you for your comment. The reference to the IPBES conceptual framework has been given extensively in a previous section (1.1.2). This section "Organizing structure" (1.3.3) focuses on the organization of this report and how we defined the main terms and categories across chapters to ensure consistency across the assessment and to facilitate the distillation of key findings.
334	Fokam, Eric B.	1	33	1022	35	1075	illegal fishing is not mentioned, especially as a driver of negative trend, and I wonder if it is purposefully...	Thank you for your comment. Indeed, this section aims at defining small-scale fisheries because this notion may be highly variable from one country to another, so it was important to define how we consider it in this assessment. Illegal fishing and how it negatively affects trends in fishing (and exploited species) is not the purpose of this section, nor Chapter 1. This issue is discussed in Chapter 3.
335	Lendo, Carmela Isabel Nunez	1	34	1078	34	1079	Also with the intend of ecological restoration. Stanturf, John A., Brian J. Palik, and R. Kasten Dumroese. "Contemporary forest restoration: a review emphasizing function." Forest Ecology and Management 331 (2014): 292-323. Aerts, Raf, and Olivier Honnay. "Forest restoration, biodiversity and ecosystem functioning." BMC ecology 11.1 (2011): 1-10.	Thank you for your comment. The reviewer's point that plantations can sometimes be used as a restoration strategy is well taken. However, the complex role of plantation forestry in restoration is outside the scope of this assessment. We have modified the language to clarify that intensive production is not the purpose of all plantation forestry.
336	Diaz, Sandra	1	37	1118			Figure 1.6. This figure is good, but the legend is too terse for readers to make full use of it. Please expand and, especially, deifne what the red and green colours mean in this context.	Thank you for your comment. Figure 1.6 was removed following several comments received during both external reviews of the chapter.
337	Empeaire, Laure	1	37	1133	37	1133	Finally, insofar as the enactment of sustainable use is closely related to the implementation and institutionalization of indicators, indicators not only reflect the status of sustainable use elements, they also have the potential to powerfully format environmental as well as equity and justice outcomes. + In this sense, it is important that the identification of indicators involves all the actors concerned.	Thank you for your comment. This issue is discussed in detail in Chapter 2, section 2.3.3.

338	Kosse, Rachel	1	37	1118	37	1119	Figure 1,6 is not clear and a bit confusing. There should be a descriptive key and caption. It is clear what each chapter explains, but not how the conceptual diagram connects to that. What do the red and green mean?	Thank you for your comment. Figure 1.6 was removed following several comments received during both external reviews of the chapter.
339	Lendo, Carmela Isabel Nunez	1	37	1118	37	1118	Missing the definition of NCP in Figure 1.6.	Thank you for your comment. Figure 1.6 was removed following several comments received during both external reviews of the chapter.
340	Bliss, Cebuan	1	38	1127	38	1137	and multi-species justice	Thank you for your comment. While animal welfare concerns all animal species, it has been of special concern for domesticated ones, which are clearly out of the scope of this assessment. Animal welfare is increasingly being incorporated into concepts of sustainable use of wild species but it was not identified in the scoping report for the sustainable use assessment and is not dealt with in any detail in this assessment. Nevertheless, this issue would deserve a dedicated assessment.
341	Kosse, Rachel	1	38	1136	38	1137	What does measures mean in this context?	Thank you for your comment. "Measures" has been changed to "metrics".
342	Kosse, Rachel	1	38	1157	38	1157	Typo, "methodologies" to replace "metrologies"	Thanks for catching that. It has been corrected.
343	Webb, Grahame	1	38	1126			The indicators are part of the "monitoring" responsibility in the sustainable use process.	Thank you for your comment. The text has been revised to note the role of indicators in monitoring.
344	Emperaire, Laure	1	40	1227	40	1227	Thus, incorporation of indigenous and local knowledge and indigenous peoples and local communities' perspectives of what are living wild animals or plants as well as their experience is essential to achieving both the socio-cultural and ecological goals of sustainable use of these wild species.	We appreciate the reviewer's comment. However, our meaning in this sentence is broader than indigenous peoples' and local communities' understanding of the nature of wild animals and plants. Further, this assessment has been framed in terms of social-ecological systems. Thus we retain this formulation, noting that culture is a social construction.
345	Orenstein, Ronald	1	40	1198	40	1210	Mention should be made here of the importance of a precautionary approach in cases of uncertainty. Sustainability needs to be demonstrated, not merely assumed. Please consult Lack, M. (2007). With an eye to the future: addressing failures in the global management of bigeye tuna. TRAFFIC International and WWF Australia; Curtis, J. M. R., & Vincent, A. C. J. (2008). Use of Population Viability Analysis to Evaluate CITES Trade-Management Options for Threatened Marine Fishes.	Thank you for your comment. Precautionary approaches are mentioned in chapter 3 and chapter 6 for the practice of fishing only. IPBES confidence framework applies to every parts of the assessments' review, not just an assessment of what is sustainable and what is not.

346	Webb, Grahame	1	40	1200			With the best of planning Sustainability" can only be demonstrated definitively in hindsight: "Was the use sustained?". The same with potential adverse impacts: "Did they occur?"	Thank you for your comment. This is the point presented here indeed and this does not seem to require a change of the text.
347	Orenstein, Ronald	1	41	1219	41	1222	This statement should be qualified by noting that it only applies to areas in which indigenous people live or have lived, or where they carry or have carried out traditional activities. "Biodiversity people value" can be found in the Antarctic, around deep-sea vents and in other areas which only became accessible to humans in recent times.	We appreciate this comment but note that the statement also applies to areas in which indigenous peoples no longer engage in traditional activities such as protected areas from which they have been removed. Likewise, the sentence begins "Much of", clearly indicating that it does not apply to all biodiversity valued by humans.
348	Orenstein, Ronald	1	41	1229	41	1229	I realize that this assessment is specifically directed towards sustainable use, but it would be helpful to broaden that here and elsewhere to read "conservation and sustainable use". There are many organisms worth conserving that may never be used directly, and others that are in such a perilous condition that direct sustainable use may be impossible, at least at present.	Thank you for this suggestion. As the reviewer notes, this is outside the scope of the assessment.
349	Jugran Pant, Harshit	1	42	1263	42	1264	Supporting sustainable use of wild species should also incorporate the conservation strategy being followed by indigenous and local community.i.e. sacred places, etc.	Thank you for this comment. The strategies employed by indigenous peoples and local communities are the subject of Box 1.5 and a later subsection of 1.4.1, entitled "Indigenous and local knowledge, indigenous peoples and local communities and sustainable use of wild species".
350	Lendo, Carmela Isabel Nunez	1	42	1263	42	1264	Not only supporting indigenous peoples and local communities and applying their knowledge, but also include them in the management/stewardship of species/ecosystems that traditionally have been managed by Western societies (e.g. the Great Barrier Reef - Ross, Helen, et al. "Co-management and Indigenous protected areas in Australia: achievements and ways forward." Australasian Journal of Environmental Management 16.4 (2009): 242-252.	Thank you for this comment. We have added the "and management" to the sentence.
351	Welch, James R.	1	42	1252	42	1252	Instead of Coronovirus (of which there are many), suggest "Coronovirus (COVID-19)"	Thank you for your comment. We have added the suggested parenthetical clarification.
353	Jugran Pant, Harshit	1	43	1320	43	1321	it could also be mentioned that the perceptions of local communities are also based upon the traditional values and beliefs.	Thank you for your comment. We have added "are grounded in traditional values and beliefs that" to this sentence.
354	Tucker, Linda	1	43	1297	43	1327	The definition of "indigenous" and "indigenous peoples" would be widely accepted across cultures of indigenous nations with whom we have had close working relationships. However, it should be brought in line with the universal understanding of indigeneity, as outlined in the Worldwide Indigenous People's Governance Charter (2020): "Indigenous: Indigenous means one who is of the Earth, and who serves the Earth, recognizing the dignity, freedom, mutuality, continuance and flourishing of planetary life	Thank you for this comment. As a product of the IPBES platform, we use employ the IPBES definitions for indigenous peoples and local communities.

355	Empeiraire, Laure	1	44	1347	44	1347		Thanks for this suggested change of wording. It is an improvement and we have adopted it.
							... deities or entities, specific to each cosmology.	
356	Empeiraire, Laure	1	44	box 1.3	44	box 1.3	idem in the box 1.3	Thank you for this comment. In the specific case of Andean cosmology, these beings are classified as deities and we have maintained that language.
357	Tucker, Linda	1	44	1348	44	1354	This paragraph highlights the "Indigenous Way", as described in the Worldwide Indigenous Peoples Governance Charter: "Indigenous Way: is to recognise the interconnectedness, interrelatedness and interdependence of all facets of Creation.... The Indigenous Way is to recognise that Mother Earth is not isolated from the Whole." This is further expressed in the Charter, in the description of the Sacredness of Nature: "Nature is a unified whole and should not be separated into	Thank you for making this point. It does not seem to require changes to the text.
358	Welch, James R.	1	44	1349	44	1350	Suggest ending the sentence "Wild species and humans are relatives." with "..., according to many Indigenous understandings."	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
360	Empeiraire, Laure	1	45	1358	45	1358	include careful observation over time with, frequently, an intergenerational transmission of these observations.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
361	Empeiraire, Laure	1	45	1366	45	1367	the notion of hybrid knowledge does not seem to me to be productive because it does not meet the criteria of what makes knowledge on either side. On the other hand, the notion of complementary knowledge that appears on line 1367 is better adapted to these intercultural contexts.	Thank you for your comment. We have modified this sentence accordingly.
362	Empeiraire, Laure	1	45	1379	45	1379	For example ... what is the corresponding bibliographic reference?	We have added a reference.
363	Empeiraire, Laure	1	45	1379	45	1379	For example, hunters should make sure animals do not suffer when they are killed but, in other situations, to kill an animal or to collect a plant is the result of a alliance with the keeper or the custodian of the forest.	Thank you for this suggestion. We have chosen not to include it in the assessment, as you have not provided supporting references and it does seem to be suggested elsewhere.

364	Mahoney, Shane	1	45	1380	45	1380	This statement needs a qualifier. Consider changing to "do not suffer needlessly". Even the most responsible hunter cannot "make sure" an animal feels no pain or distress as it is mortally wounded. We should acknowledge the whole reality of sustainable wild species use as we support it.	Thank you for making this point. It does not seem to require changes to the text, which have been made and a reference added.
365	Empeiraire, Laure	1	46	box 1.5	46	box 1.5	and enforcing local norms of sustainable use	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
366	Empeiraire, Laure	1	46	box 1.5	46	box 1.5	Cultural practices (instead of spiritual practices, it has a broader meaning)	Thank you for this comment. Our review of the literature and input during ILK dialogue workshops emphasized the particular importance of spiritual practices. As a result, we have retained that language.
367	Empeiraire, Laure	1	46	box 1.5	46	box 1.5	Prohibitions (instead of taboos it has a more general way)	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
368	Empeiraire, Laure	1	46	1409	47	1410	with robust indigenous and local knowledge have been remarkably resilient in the face of the crisis, ... > the notion of resilience is not adapted, on the one hand because a local or indigenous community cannot be the same after such a shock (see the impact of the conquest of the Americas), on the other hand because it frees the political power from its obligations towards the most vulnerable populations, since "they are resilient". (Reghezza-Zitt, M., Rufat, S., Djament-Tran, G., Le Blanc, A., & Lhomme, S. (2012). What Resilience Is Not: Uses and Abuses. Cybergeog, 621. doi:https://doi.org/10.4000/cybergeog.25554) ____ > with robust indigenous and local knowledge have been remarkably organized in the face of the crisis, ...	Thank you for the comment. We have added the words SARS COV-2 before "pandemic" to clarify that this sentence refers to that specific context rather than such state-changing events as the colonization of the Americas.
369	Lendo, Carmela Isabel Nunez	1	46	1391	46	1392	Box 1.5. patterns and indicators in the environment such as tide cycles, winds, observed breeding seasons - Mathews, Darcy L., and Nancy J. Turner. "Ocean cultures: Northwest Coast ecosystems and indigenous management systems." Conservation for the Anthropocene Ocean. Academic Press, 2017. 169-206. McNiven, Ian. "Saltwater people: spiritscapes, maritime rituals and the archaeology of Australian indigenous seascapes." World Archaeology 35.3 (2004): 329-349.Green,	Thanks for this suggested change. We have added monitoring in the new version of Box 1.5.
370	Welch, James R.	1	46	1402	46	1402	Instead of Coronavirus (of which there are many), suggest "Coronavirus (COVID-19)"	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
372	Kosse, Rachel	1	47	1419	47	1419	Why is COVID-19 specifically mentioned? Aren't these traditional medicine systems used for all medical practices? It sounds limited to the pandemic when phrased like this.	Thanks for this comment. The subject of this paragraph is the COVID-19 pandemic. We have added a cross reference to Chapter 3, where status and trends in traditional medical practices are discussed at length.

373	Lendo, Carmela Isabel Nunez	1	47	1422	47	1422	Not only lack of enforcement but also active ejection of indigenous peoples from their lands for mining companies (e.g. Amazon in Brasil, Australia)	Thanks for this suggested change. We have included displacement of indigenous peoples in the new version.
374	Mahoney, Shane	1	47	1417	47	1418	Traditional medicinal systems also make extensive use of wild animals and wild animal parts, though these uses have not always been sustainable and have often been revealed as increasingly unsustainable, i.e. the traditional use of rhino horn in TCM. I'm not sure this fits with a discussion of pandemic impacts, but to mention TM in relation to fungi and wild plants, but not animals, also seems odd.	Thank you for this comment. We have added animals to the general sentence on traditional medicinal practices, with a cross reference to Chapter 3, where status and trends in traditional medical practices are discussed at length.
375	Germany	1	48	1428	48	1428	Figure 1.8: text hard to read, re-design, please.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
376	Jugran Pant, Harshit	1	48	1423	48	1424	The tortoise can have one shell marked as for the uses of wild species in traditional knowledge as it forms a large part of the conservation and utilization strategies.	Thank you for this revision to the figure. As indigenous and local knowledge is already present as one of the turtle's legs, we have not changed the figure in this respect. We have revised the figure to make the text, including "Indigenous and local knowledge", easier to read.
377	Lendo, Carmela Isabel Nunez	1	48	1429	48	1429	Fig. 1.8. doesn't define the acronym IPLC	Thank you for your comment. We have added "(IPLC)" to the figure caption.
379	Welch, James R.	1	48	1435	48	1435	Correct: "...used with permission."	Original artist has been asked to obtain a Creative Commons copyright license to be substituted here.
381	Emperaire, Laure	1	49	1459	49	1459	cases ---> substitute by strategies (to emphasise the protagonism of local actors)	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
382	Harrington, Alexandra	1	49	1486	49	1486	Remove the) at the end of the sentence	Thank you for your comment. The close parenthesis mark has been removed.

384	Kosse, Rachel	1	49	1475	49	1479	This sentence is too long so the meaning is lost. The concept of 'formal rules' is not clear. The next lines about context make more sense.	Thanks for this suggested change. We have revised for clarity in the new version.
385	Lendo, Carmela Isabel Nunez	1	49	1461	49	1465	I think it should be highlighted the need of programs/projects/funds to develop reports that include Indigenous practices and their outcomes for people and nature. This would be a way to transfer this knowledge to Western societies, and would form the basis for future co-management of species/ecosystems.	Thank you for this suggestion. We have chosen not to include it in the assessment, as you have not provided any supporting evidence for this specific approach and it does seem to be suggested elsewhere.
386	Pekarik, Cynthia	1	49	1474	49	1474	Suggest changing "stakeholders" to "stakeholders and Indigenous Rights holders "	Thank you for your comment. The text was updated.
387	Koskela, Jarkko	1	50	1508			Replace "non-timber forest products" with "non-wood forest products".	Thank for your suggestion. The term "non-timber forest products" was used in the assessment referenced here. As a result, we retain it here.
388	Mahoney, Shane	1	50	1525	50	1527	In addition to serving as "primary sources of subsistence resources" and food "safety nets" in times of crisis, wild species uses are also secondary food sources for most recreational hunters who prefer to consume wild meat (because of its health benefits, for example), though they could choose to consume only commercially produced food. I don't believe this is captured here.	Thank you for your comment. We added language around those lines two paragraphs below.
389	Yashphe, Shira	1	50	1530	51	1532	Of note, the illegal trade of wild species is often interconnected with the legal trade. So there should be a mention here of the need for legal trade to be heavily monitored and regulated. (Van Uhm, Dana P., and William D. Moreto. "Corruption within the illegal wildlife trade: a symbiotic and antithetical enterprise." The British Journal of Criminology 58, no. 4 (2018):864-885) https://www.cambridge.org/core/journals/oryx/article/thirtysix-years-of-	Thank you for your comment. Section 1.5 here only presents a set of key findings coming from the list of previous assessments reviewed and that point did not appear clearly in those. This issue however is discussed in more details in chapter 4, section 4.2.4.3.1, and we added the point made by the reviewer.
390	China	1	51	1564	51	1566	These two references(Callaway & Cyranoski, 2020; Cyranoski, 2020) are news and are early guesses that should not be cited. It is recommended that expressions and citations be deleted.	Thank you for your comment. We removed those sentences.
391	Guillemain, Matthieu	1	51	1562	51	1563	Also consider the live capture, transportation, keeping and sale here (e.g. wet markets in Asia): i.e. whole live animals and not only meat	Thanks for this suggested change. We have included it in the new version.

393	Guimaraes, Ellen	1	51	1429	51	1436	Figure 1.8. Please provide the license to the figure (should be CC-0 or CC-BY)	Thanks for this suggested change. We have included it in the new version.
394	Lendo, Carmela Isabel Nunez	1	51	1548	51		Capture fisheries not only provide direct food for people but they are also used for making feed for marine aquatic species (aquaculture) Tacon, A. G. J. "Use of fish meal and fish oil in aquaculture: a global perspective." Aquatic Resources, Culture and Development 1.1 (2004): 3-14.	Thank you for your comment. We made this more explicit in the revised text.
395	Lendo, Carmela Isabel Nunez	1	51	1570	51	1570	Traditional medicinal knowledge would also include Chinese medicine which is increasingly unsustainable (i.e. may threaten the preservation of resources). Hinsley, Amy, et al. "Building sustainability into the belt and road initiative's traditional Chinese medicine trade." Nature Sustainability 3.2 (2020): 96-100.	Thank you for your comment. The aim in this section in chapter 1 is not to detail discussion of the sustainability of some practices, but this can be found in chapter 4 (4.2.4.3.1) and chapter 5 (5.4.3.4).
396	Mahoney, Shane	1	51	1537	51	1537	and local communities	Thanks for this suggested change. We have included it in the new version.
397	Orenstein, Ronald	1	51	1562	51	1567	A distinction should be drawn between local use of wild meat and the commercial bushmeat trade, which caters primarily to upscale urban markets, often at high prices, and may even reduce food security for local communities by depopulating faunal populations. It is this trade that is a likely major contributor to the spread of zoonotic disease. Please consult Orenstein, R. 2020. Wildlife markets and COVID-19. Washington, DC, USA: Humane Society International. https://www.hsi.org/wp-	Thank you for your comment. Section 1.5 here only presents a set of key findings coming from the list of previous assessments reviewed and that point did not appear clearly in those. This issue however is discussed in more details in chapter 3, section 3.3.3.3.3 and in chapter 4, section 4.2.3.3.4.
398	Pekarik, Cynthia	1	51	1564	51	1567	I would use different wording here, I am concerned that there are some nuances which are lacking, i.e there are specific practices of animal use that may increase risks of zoonotic diseases, but as noted, we still don't have full details on the origins of COVID 19.	Thank you for your comment. We removed those sentences.
399	Vukeya, Judith Vutivi	1	51	1543	51	1557	how safe is this tradition? because several reports have been published to counter the safety of consuming wild species, for example, the recent IPBES pandemics report has highlighted how the chances of pandemics increase due to human-wildlife contact. how is this assessment going to address the dangers of humans consuming wild species, especially with the prevalence of the COVID-19 pandemic.	Thank you for your comment. Covid-pandemic and the risk of zoonosis are covered in several parts of the report. The Covid-19 pandemics is indeed a key event that has affected the use of wild of species, as climate change or other environmental hazards. This is discussed in particular in Chapter 4 (section 4.2.1.7) and chapter 5 (box 5.2 and 5.5, among other).
400	Koskela, Jarkko	1	52	1581	52	1583	The sentence includes an inaccurate statement related to forest management; it is not a primary driver of biodiversity loss. Presumably the purpose here was to refer to "unsustainable wood harvesting" or perhaps wood mining types of activities which have nothing to do with forest management.	Thank you for your comment. We corrected the text in the final version.

401	Lendo, Carmela Isabel Nunez	1	52	1583	52	1583	Primary driver of biodiversity loss also includes 1) the selection of GMO seeds by private companies that are replacing the use of native seeds - Kuruganti, Kavitha, and Aishwarya Madineni. "Monsanto-ising Indian agriculture." group (2008). 2) The selection of certain fish species causing a high pressure on this populations that are modifying the natural trophic chains. ter Hofstede, Remment, and Adriaan D. Rijnsdorp. "Comparing demersal fish assemblages between periods of contrasting climate and	Thank you for your comment. Since this assessment is about the sustainable use of wild species, we do not discuss the use of seeds which are domestic species. Regarding the impact on fish selection on trophic chains, note that the sustainable use assessment does not look at the sustainability of a practice at the ecosystem level, because this would be the matter of a dedicated assessment for each of the practices discussed here to be adequately addressed. We explore some of these issues, however, in chapter 3, section 3.3.1.1 (see the box on the case of the Black Sea and cascading effects).
402	Miller, Carly	1	52	1607	53	1610	We encourage the authors to look beyond tourism as an example for non extractive uses that support conservation. There are important initiatives currently being established/running which should be reviewed: Rhino Impact Investment: https://undp-biodiversity.exposure.co/results-for-rhinos ; https://www.zsl.org/conservation/our-priorities/wildlife-back-from-the-brink/animals-on-the-edge/rhino-impact-investment ; www.rhinoimpact.com	Thank you for your comment. This section 1.5 purpose is to introduce major, encompassing assessments rather than specific studies or tools. Those may be discussed in other parts of the assessment. Regarding the novel finance mechanisms described here, they are out of the scope of this assessment which focuses on using wild species, and there is actually no data yet on whether these mechanisms impact on use or wild species. However, they are mentioned twice in chapter 3. Once in a new paragraph "3.2.4.2. Emerging issues" and in a case study "3.3.2.3. Case studies that highlight trade-offs and synergies in sustainable use".
403	Orenstein, Ronald	1	52	1587	52	1587	I would say "knowledge and tradition"; see comment 5 above and Jones et al. (2008) cited therein.	Thank you for your comment. We have revised the language to clarify that our emphasis here is on practices associated with wild species uses.
404	White, Michael	1	52	1602	52	1606	Include UN Declaration on Rights of Indigenous Peoples 2007	Thank you for your comment. We refer to assessments here, not to legal instruments. The UN Declaration on the rights of indigenous peoples is considered in the two sources cited.
405	Kosse, Rachel	1	53	1624	53	1624	United Nations Environment Programme can be written in full the first time, and then written as UNEP since that is within the UNEP communication guidelines and it is listed in the acronyms.	Thank you for your comment. We corrected the text accordingly.
406	Miller, Carly	1	53	1623	53	1626	Please note this report from Conservation Capital and Space for Giants with information on income generated from wildlife tourism: Capital, Conservation & Giants, Space & Vause, James. (2019). Building a Wildlife Economy: Developing Nature-Based Tourism in Africa's State Protected Areas. Also at: Kapur, Radhika. (2018). The Significance of Wildlife Tourism. Please also note the Chardonnet report comparing the revenue	Thank you for your comment. This section in chapter 1 aims at providing a very general overview without a detailed discussion of the issue. This section focuses on global assessments, therefore only the third reference suggested was included while the two other lead to similar conclusions to those of the two global assessment discussed here.
407	Orenstein, Ronald	1	53	1626	53	1626	Please consult Naidoo, R., Fisher, B., Manica, A., & Balmford, A. (2016). Estimating economic losses to tourism in Africa from the illegal killing of elephants. <i>Nature Communications</i> , 7, 1–9. https://doi.org/10.1038/ncomms13379 ; Liu, Y., & Hu, L. (2019). Impact of rural tourism on wildlife. <i>Revista Científica, FVC-LUZ</i> , 29, 67–75.	Thank you for your comment. This part here in chapter 1 aims at providing a very general overview without entering the detailed elements of an issue. Section 3.4.3.4 in chapter 3 looks at the trade-offs between trophy hunting and non-extractive practices. Similar references to those provided in the comments were included.
408	Orenstein, Ronald	1	53	1630	53	1631	Please consult Tumusiime, D. M., & Vedeld, P. (2012). False promise or false premise? Using tourism revenue sharing to promote conservation and poverty reduction in Uganda. <i>Conservation and Society</i> , 10(1), 15–28. https://doi.org/10.4103/0972-4923.92189 .	Thank you for your comment. This part here in chapter 1 aims at providing a very general overview without entering the detailed elements of an issue. This issue is discussed in Chapter 4, section 4.2.4.3.3. This specific reference was not added because we already had literature that sufficiently covered this topic.

409	Orenstein, Ronald	1	53	1633	53	1633	Please consult Hakim, L. (2020). COVID-19, tourism, and small islands in Indonesia: Protecting fragile communities in the global Coronavirus pandemic. <i>Journal of Marine and Island Cultures</i> , 9(1), 130–141. https://doi.org/10.21463/jmic.2020.09.1.08 Ying, T., Wang, K., Liu, X., Wen, J., & Goh, E. (2020). Rethinking game consumption in tourism: a case of the 2019 novel coronavirus pneumonia outbreak in China. <i>Tourism Recreation Research</i> , 0(0), 1–6.	Thank you for your comment. This part here in chapter 1 aims at providing a very general overview without entering the detailed elements of an issue. This issue is discussed in Chapter 3, section 3.3.5.2.4 on emerging issues in non-extractive practices. It includes several papers suggested by the reviewer.
410	White, Michael	1	53	1631	53	1633	Covid pandemic being a perfect example	Thank you for your comment. Covid-pandemic and the risk of zoonosis are covered in several parts of the report. The Covid-19 pandemic is indeed a key event that has affected the use of wild species, as climate change or other environmental hazards. This is discussed in particular in Chapter 4 (section 4.2.1.7) and chapter 5 (box 5.2 and 5.5, among other).
411	Germany	1	54	1682	54	1686	It is herein referred to "Sustainable Development Goals are interdependent". Whilst this is clear, the rest of the sentence calls for more clarity, including on tradeoffs between SGDs with regard to sustainable use of wild species. Kindly consider reviewing this sentence while including respective tradeoffs.	Thank you for your comment. The point in section 1.6 is actually that there is hardly no trade-off when the use of wild species is truly sustainable. This was clarified further in the first paragraph of section 1.6.
412	Kosse, Rachel	1	54	1683	54	1683	It would be good to use "integrated and indivisible" in line with the 2030 Agenda https://sdgs.un.org/2030agenda	Thanks for this suggested change. We have included it in the new version.
413	Mahoney, Shane	1	54	1690	55	1692	There is also evidence that connections to nature through extractive practices, i.e. foraging and hunting, can benefit psychological health and improve wellbeing through reduced stress, tension, and aggression, i.e. Eskridge, C. W. (1986). Zero-order inverse correlations between crimes of violence and hunting licenses in the United states. <i>Social Science Research</i> 71: 55–57; Kellert, S. R. (1978). Attitudes and characteristics of hunters and antihunters. In <i>Transactions of the Forty-third North</i>	Thank you for making this point. The references were reviewed by Chapter 3. Some were included in section 3.3.3.4 and this is now reflected in the analysis of the contribution of the sustainable use of wild species to SDG 3 provided in Chapter 1.
414	Webb, Grahame	1	54	1682			It should be acknowledged that "although the Sustainable Development Goals are presented as 17 separate entities, which assists auditing of programs against them, they are in reality highly interdependent. Poverty (SDG1) is a fundamental constraint on most of the other SDG's being achieved. Hence sustainable use programs that contribute directly to poverty alleviation, and improved livelihoods, increase the probability of the other SDG's being advanced.	Thank you for making this point. The point about the SDGs being interdependent is that progress towards every single SDG increases the probability of the other SDGs being advanced. The purpose of this section is to demonstrate in which capacity progress towards SDG 15 component of achieving sustainable use of wild species contributes to all other SDGs.
415	Shono, Kenichi	1	55	Table 1.3	61	Table 1.3	Sustainable timber harvesting also have significant roles to play in SDG 1, 8, 12 and 15. SDG 6 - Timber harvesting will involve some form of (and often considerable) disturbance to the soil, which will result in at least temporary soil erosion. Sustainable timber harvesting can reduce such soil impacts compared to unsustainable practices, but I believe it is misleading to state that harvestin ensures clean water.	Thank you for your comment. We have deleted the text on the contributions of sustainable logging to water quality.
416	Mahoney, Shane	1	57	1690	57	1692	While I understand green hunting occurs, I'm not certain this document should endorse it as a practice to "provide decent work for local communities and national economic growth," given the many criticisms of the practice and the limited success stories (at least, of which I am aware). (Table 1.3, SDG 8).	Thank you for your comment. Mentioning "green hunting" here was indeed misleading and we removed it. It is classified by Chapter 3 as a practice of non-lethal terrestrial animal harvesting rather than non-extractive practice.

417	Empeiraire, Laure	1	58	SDG 11 in the table 1.3	58	SDG 11 in the table 1.3	because it includes target 11.4 which refers to the heritages. I suggest to add in the block SDG 11 the comment: Target 11.4 of the Sustainable Development Goals (SDGs) aims to "strengthen efforts to protect and preserve the world's cultural and natural heritage". Whether it is a question of wild biodiversity or not, the systems of knowledge, uses and representations of biological resources by IPLCs are also configured as heritages institutionally recognized or acting as local heritages.	Thanks for this suggested change. We have included it in the new version.
418	Lendo, Carmela Isabel Nunez	1	58		58		SDG 10. Inclusion of Indigenous peoples and local communities in the management/stewardship of species/ecosystems (e.g. park ranger in land and in marine protected areas). This inclusion would have 3 main positive outcomes: 1) Social inclusion 2) More enforcement to protect land and ocean 3) New knowledge formed from the interaction of traditional and Western practices.	Thank you for making this point. We added the point regarding the co-creation of knowledge, with additional references to relevant sections in the other chapters. The point on social inclusion was already covered while the point on better protection of land and sea is covered further in the table, regarding SDGs 14 and 15.
419	Lendo, Carmela Isabel Nunez	1	59		59		SDG 11. Urban greenspaces also support the urban biodiversity and connectivity for species	Thank you for making this point. It does not seem to require changes to the text since the assessment focuses here on direct use of species by people (see the definition of sustainable use of wild species for the purpose of this assessment in section 1.3).
420	Lendo, Carmela Isabel Nunez	1	59		59		SDG 12. The Marine Stewardship Council cannot ensure that the fish, that they have labeled, has been sustainably fished because there is not enforcement to monitor the fishing practices. They should be out of this box.	Thank you for your comment. It is indeed not the goal of Marine Stewardship Council to enforce the monitoring or management regulations (which are governmental or state prerogatives). Nonetheless, the MSC label is given only to sustainable fisheries according to 3 main criteria: (i) the fish population should not be exploited above sustainable levels (usually according to Fmsy and Bmsy), (ii) the fisheries should have minimal environmental impacts and (iii) the fisheries must comply with relevant laws and effective management. Opportunities and shortcomings of ecolabelling are discussed further in Chapter 6, section 6.4.3.1. We think that this is still relevant to indicate MSC and, more generally, ecolabelling, as a relevant
421	Lendo, Carmela Isabel Nunez	1	59		59		SDG 13. It is missing the fundamental role of species in maintaining healthy ecosystems that can store carbon (e.g. soil, forests, grasslands, seagrasses, etc)\	Thank you for making this point. The assessment focuses here on direct use of species by people (see the definition of sustainable use of wild species for the purpose of this assessment in section 1.3) but does not cover use of species for delivering regulating nature's contributions to people.
422	Lendo, Carmela Isabel Nunez	1	59		59		SDG 14. This statement ("Half of the world's fisheries are sustainably managed") as many fishing practices are not reported worldwide. Therefore, this % is lower than 50%.	Thank you for your comment. We specified that only half of the world's fisheries are reported on.
423	White, Michael	1	59		59		SDG 14 industrial fishing takes little or no account of its carbon footprint	Thank you for your comment. This assessment looks only at the sustainability of the species harvesting process, in order to keep the scope of the assessment manageable. We therefore do not look at the sustainability of the whole value chain of species use.
424	Bliss, Cebuan	1	62	1697	62	1697	spelling - consumption	Thank you for your comment. The typo is now fixed.

425	Harrington, Alexandra	1	62	1726	62	1726	Add (before "see"	Thank you for your comment. The typo is now fixed.
427	Kosse, Rachel	1	62	1697	62	1697	Typo: "consumption" and not "consumptione"	Thank you for your comment. The typo is now fixed.
428	Koskela, Jarkko	1	63	1761			Replace "sustainable timber harvesting" with "silvicultural practices".	Thank you for your comment. We actually changed the name of the practice from "timber harvesting" to "logging" to address comments from the second external review, following a review of the terminology used by six key global forestry organizations.
429	Koskela, Jarkko	1	63	1772	63	1774	It is not clear to what CO2 emissions are referred to in this sentence; "forest management for biomass energy" should be replaced with a more accurate term, depending on what is the message.	Thank you for your comment. We have revised the text for clarity and added references.
430	Lendo, Carmela Isabel Nunez	1	63	1746	63	1747	Also social inclusion	Thank you for making this point. We updated the text accordingly.
431	Biondo, Monica V.	1	64	1800	64	1800	When demand for marine ornamental fishes for aquariums increases, they cannot just be bred as marine ornamental fishes do hardly breed in captivity. Of the known approximately 4'000 known marine ornamental fishes, approx. 2,500 are in trade (M.V. Biondo, R.P. Burki, 2019, Monitoring the trade in marine ornamental fishes through the European Trade Control and Expert System TRACES: Challenges and possibilities, Mar. Policy (2019). doi.org/10.1016/j.marpol.2019.103620) and of these	Thank you for your comment. We removed the example of aquaculture for ornamental fish.
432	Empeaire, Laure	1	65	1848	65	1850	Add at the end of the paragraph ---> Target 11.4 also supports the recognition of these biodiversity use systems as heritages through national or international institutions and thus legitimizes them in several arenas, from local to international scale.	Many thanks for your comment. We have included this point in the new version.
433	Harrington, Alexandra	1	65	1822	65	1822	Indent at the beginning of the paragraph	Thank you for your comment. The typo is now fixed.

435	Mahoney, Shane	1	65	1841	65	1842	This is an excellent point, which has been overlooked in the past.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
436	Orenstein, Ronald	1	66	1867	66	1869	The reverse is also true; merely because a use is legal and is subject to regulation does not guarantee that the use is sustainable. The regulatory scheme may be influenced by lack of information, poor governance, demand both from suppliers and consumers, corruption etc. Please consult Rizzolo, J. B. (2021). Effects of legalization and wildlife farming on conservation. <i>Global Ecology and Conservation</i> , 25, e01390. https://doi.org/10.1016/j.gecco.2020.e01390	Thank you for your comment. Your point is made in chapter 4 and chapter 6.
437	Danune, João	1	71	71	71	197	Wildlife in a catastrophic decline due to human destruction-does human population have an impact on human species? Human affect biodiversity by their population numbers, use of land, and their lifestyle, causing damage to habitats for species. Although many humans may not realize how important biodiversity is to them, it is clear that without it humans would not be able to exist. How are humans affecting wildlife? Human activity is by far the biggest cause of habitat loss..The loss of wetlands,	Thank you for making this point. It does not seem to require changes to the text.
438	Danune, João	1	71				For example. The Plant Resources of South-Asia (PROSEA) project records nearly 6,000 species in its basic list of species (some of them exotic) used by humankind in the region, and assuming similar levels in other Tropic region, Wild species used basic tend environment by humans occur in all biogeographical region and habitats types. In each region common have learned to make use of plant diversity, no matter how basic the environment.. For example, several million people depend on the diverse	Thank you for your comment. We have chosen not to include those examples because they provide similar evidence to the examples and cases that are already presented in the assessment. It was also not possible to locate the source for the figures provided in the comment.
439	Danune, João	1	71				Tropical forests have long been recognized as housing a large percentage of the planet's biodiversity, and the plant species they contain are a major source of food and numerous other products. It has been estimated that in Amazonia one 50 percent of the rural populations depends on forests activities, including extractivism, for survival. Globally hundreds of millions of tribal people inhabit tropical forests and use wild species on products derived from them as a significant part of their	Thank you for making this point. It does not seem to require changes to the text.
440	Shizuka Hashimoto	1	Figure 1.6				Also, I did not understand figure 1.6 well, The texts are a bit too small and blurred, which makes them difficult to read. Need to add legends to explain the meaning of colors (red and green) and arrows.	Thank you for your comment. Figure 1.6 is now deleted.
441	Shizuka Hashimoto	1	Figure 1				I am a bit concerned with figure 1 which follows the PSR framework, not the IPBES conceptual framework. Can't this be revised following the IPBES CF?	Thank you for your comment. Figure 1.1 was revised.
442	Lendo, Carmela Isabel Nunez	1	General				In general this chapter is missing the concept of RESTORATION (use of wild species to restore ecosystems, benefits and impacts)	Thank you for making this point. It does not seem to require changes to the text since the assessment focuses here on direct use of species by people (see the definition of sustainable use of wild species for the purpose of this assessment in section 1.3).

443	Michels, Ann	1	General			General observations: The previous version of the assessment included more descriptive text and additional case studies that were illustrative of the large number of species, types of use and management efforts utilized. This current, revised version is concerning as: 1) many of these examples have been deleted and many of the chapters on certain uses/species (e.g. pet trade, etc...) have been shortened to such an extent while others (e.g. hunting) have been greatly expanded	Thank you for your comment. The assessment was revised based on the comments and we feel that your point was addressed.
444	Dahou, Tarik	1		1030	1062	The category of artisanal fishing is very fuzzy as it encompasses a large variety of fishing methods and various ways to commercialize catches. The small-scale fisheries notion is more precise but it is crucial not to consider small-scale fisheries as only a means of subsistence. Small-scale fisheries often combine subsistence and commercial fishing and despite this feature they are still compatible with biodiversity concerns. Their way of fishing have a weak impact on ecosystems as long as the intensity	Thank you for your comment. This section was revised based on the comments and we feel that your point was addressed.
445	Dahou, Tarik	1		1304	1312	there's a political dimension of indigenous rules in conservation policies, as groups are competing about who could represent the best the autochthonous principle. One should be careful about the potential inequities stemming from the indigenous management of resources in policy conservation (Murray li 2002, Agrawal 2002), as sometimes different indigenous groups use and take care of the same resources. This is especially the case with migratory species like fish, as several groups in	Thank you for your comment. This section was revised based on the comments and we feel that your point was addressed.
446	Dahou, Tarik	1		1210	1410	We have to stress that local knowledge is important to increase knowledge about biodiversity, but it is important to mention that it is difficult to mobilize this knowledge without a strong assessment of small-scale fisheries rights and an increase of their role in policy definition. Too often the mobilization of local knowledge is done without a clear objective to strengthen the key role of their possessors in biodiversity policy making, eroding progressively their involvement in knowledge	We appreciate the important points raised by the reviewer. These are addressed at length in Chapters 2, 3, and 6 and Key Messages on ILK and IPLC.
447	Dahou, Tarik	1		1545	1549	reliability of wild species exploitation data across the world is questionable, as a large part of legal catching is unreported and as the amount of illegal exploitation of wild species is important. In a lot of countries the figures don't take into consideration the huge quantity of IUU (illegal, unreported and unregulated) fishing catches. It is crucial to mention that to avoid too optimistic views of fish stocks dynamics, but also because this segment of fishing largely uses non-sustainable	Thank you for your comment. This assessment was revised based on the comments and we feel that your point was addressed (especially in Chapter 3 fishing section).
448	Dahou, Tarik	1		1561	1563	there are important impacts of climate change on diseases proliferation stemming from wild species. For fish, ciguatera and others diseases concerns are gaining traction, given their impacts on food markets and human health.	Thank you for your comment. This was addressed in Chapter 4 on drivers.
449	Kenward, Robert	1		117	117	Ch1. 117. References to wellbeing gains from nature that have arisen from the pandemic could usefully be included, including one or both of the following: Samson, C. & Pretty, J. 2006. Environmental and health benefits of hunting lifestyle and diets for the Innu of Labrador. Food Policy 31:528-553. Coker, M.S., Ladd, K., Murphy, C.J., Ruby, B.C., Shriver, T.C., Shoeller,	Thank you for the suggesting reference, this was addressed in chapter 4.
450	Kenward, Robert	1		214	214	214. This diagram is good in its current form and not improved by extension in the SPM.	Thank you for the positive feedback.

451	Kenward, Robert	1		233		233	233. "tends" (plural needed)	Thank you for your comment. The typo is now fixed.
452	Kenward, Robert	1		517		517	517. spelling "multigenerational"	Thank you for your comment. The typo is now fixed.
453	Kenward, Robert	1		872		872	872. Replace "wildlife tourism" by "wildlife watching" (tourism can include travel for recreational fishing, hunting and for gathered foods, all of which have particular governance requirements as recognised in the European Charters from Bern Convention)	Thank you for your comment. The text was updated accordingly.
454	Kenward, Robert	1		873		873	873. text should be "terrestrial animal harvesting" to align with figure	Thank you for your comment. The typo is now fixed.
455	Kenward, Robert	1		911		911	911 consider adding "but may do so inadvertently (e.g. through disease transmission at artificial feeders)"	We appreciate the point suggested by the reviewer and have added text to include it.
456	Kenward, Robert	1		926		926	926. "green hunting" in this diagram has no prior mention or any definition in the text.	Thank you for your comment. Green hunting is now added in the assessment's glossary.
457	Kenward, Robert	1		963		963	963 insert "falconry", to read "such as pet trade, falconry or green hunting"; in accordance with the ambition expressed at 1647 and several references to its sustainability in Chapter 6 (all work by Dixon et al.), mention of falconry (UNESCO's largest intangible heritage file) seems essential, not least because of traditional falconry releasing raptors after hunting with them.	Thank you for your comment. "falconry" has been added.
458	Kenward, Robert	1		979		979	979 "such as some wildlife tourism"; there is a definitional issue with tourism (as with many sustainable use activities) which can range from recreational fishing, hunting or gathered-food consumption through high-value-low-impact wildlife watching to mass-observation which impacts other ecosystem services; "wildlife watching tourism" (1615) or "observational tourism" is appropriate when non-extractive is intended; changes recommended here will make Chapter 1 consistent with Ch. 2,	Thank you for your comment. The text was updated accordingly and use of "wildlife tourism" was checked throughout the assessment.

459	Kenward, Robert	1		995	995	995 either "uses" or "use" work, but not both	Thank you for your comment. The typo is now fixed.
460	Kenward, Robert	1		1486	1486	1486. delete parenthesis after "archipelago"	Thank you for your comment. The typo is now fixed.
461	Kenward, Robert	1		SDG6	SDG6	SDG6. Sequestering carbon through use of timber in durable buildings has climate benefits.	Thank you for making this point. It does not seem to require changes to the text since the assessment focuses here on direct use of species by people (see the definition of sustainable use of wild species for the purpose of this assessment in section 1.3) rather than impact of use on ecosystem services.
462	Kenward, Robert	1		SDG8	SDG8	SDG8. Last paragraph: "Non-extractive practices (e.g., wildlife watching, ..."	Thank you for your comment. We replaced "tourism" by "wildlife watching" as this was more appropriate here and aligned with the assessment's glossary.
463	Kenward, Robert	1		SDG11	SDG11	SDG11. Comma after "agroforestry" in last sentence.	Thank you for your comment. The typo is now fixed.
464	Kenward, Robert	1		SDG13	SDG13	SDG13. Carbon is sequestered through use of timber in durable buildings. Communities benefit from non-timber forest products when woodland is retained (REDD+) to benefit climate.	Thank you for your comment. We added the point regarding the contributions of the sustainable use of wild species to, and its benefits from the implementation of REDD+ policies. Regarding carbon sequestration in timber in building, we chose not to include it since the assessment focuses on direct use of species by people (see the definition of sustainable use of wild species for the purpose of this assessment in section 1.3) rather than impact of use on ecosystem services.
465	Kenward, Robert	1		SDG15	SDG15	SDG15. "Wildlife watching as a complementary activity..." ("nature-based tourism" is appropriate elsewhere)	Thank you for raising this point. We checked our use of "nature-based tourism" throughout the assessment to avoid giving it the same meaning as "non-extractive practices". The definition of nature-based tourism was updated in the glossary to reflect that it can involve extractive and non-extractive practices. In this specific case, we prefer to keep "nature-based tourism" since the findings presented apply to tourism involving either extractive or non-extractive practices.
466	Kenward, Robert	1		1697	1697	1697. Spelling "consumption"	Thank you for your comment. The typo is now fixed.

467	Kenward, Robert	1		1705		1705	1705. plural "uses"	Thank you for your comment. The typo is now fixed.
468	Kenward, Robert	1		1728		1728	1728. singular "insight"	Thank you for your comment. The typo is now fixed.
469	Kenward, Robert	1		1757		1757	1757. plural "targets"	Thank you for your comment. The typo is now fixed.
470	Kenward, Robert	1		1777		1777	1777. "Observational tourism"	Thank you for your comment. We replaced "tourism" by "wildlife watching" as this was more appropriate here and aligned with the assessment's glossary.
471	Kenward, Robert	1		1819		1819	1819. "... greatly to Goal 12 ..."	Thank you for your comment. The typo is now fixed.
472	Kenward, Robert	1		1820		1820	1820. "... evidence that some of them create inequalities, and thus undermine..."	Thanks for this suggested change. We have included it in the new version.
473	Kenward, Robert	1		1835		1835	1835. Spelling "highlighted"	Thank you for your comment. The typo is now fixed.
474	Kenward, Robert	1		1855		1855	1855. Delete "fight"	Thanks for this suggested change. We have included it in the new version.

475	Kenward, Robert	1		1977		1977	1977. "Much evidence shows..."	Thank you for your comment, but we can see no connection between the highlighted text and the comment, so we are unable to respond appropriately.
476	Lendo, Carmela Isabel Nunez	1	48	1482	48	1482	Many more example with the Polynesian peoples. Tissot, Brian N., William J. Walsh, and Mark A. Hixon. "Hawaiian Islands marine ecosystem case study: ecosystem-and community-based management in Hawaii." Coastal Management 37.3-4 (2009): 255-273.	Thank you for your comment. The examples provided here are intended to be illustrative, rather than exhaustive.