

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	Response
1	Bercovitch, Fred	3	0	0	0	0	Chapter 3 is problematic for multiple reasons, including, but not limited to: (a) selective use of literature, (b) misleading statements, (c) misquoting some publications, while plagiarizing others, (d) failing to provide solid, systematic, scientific evidence to bolster some of the conclusions, (e) adopting nebulous terminology that cannot be refuted [e.g., using the word "can" in multiple places], and (f) closing with a statement of belief that essentially undermines the entire chapter. The chapter largely repeats inferences that have been made regarding the economic advantages of trophy hunting, but fails to analyze the consequences in terms of population dynamics relevant to 'sustainable use'. The fact that hunting generates income is incontestable; whether hunting constitutes a 'sustainable use' of resources has not been demonstrated in this document.	Thank you for your comments regarding issues throughout the chapter. The chapter was written following IPBES protocols for literature review and knowledge assessment. We have edited and revised the chapter throughout in accordance with the comments received from two external reviews. Regarding your specific concerns on trophy hunting and terrestrial animal harvesting, please see the definitions of these activities in Chapter 1 and the intention and purpose of the assessment in the scoping document.
2	Blömer, Nynke	3	0	0			The Species+ E-library provides access to many species-specific reports and resources that could complement the sections in this chapter that give species-specific examples <a href="https://speciesplus.net/species#/elibrary">https://speciesplus.net/species#/elibrary</a>	Thank you for this suggestion. the link to species + is now included in section 3.2
3	Burgess, Neil	3	0	0			In general this is an amazing chapter and full of masses of data. Its so rich thats its hugely long. But contains vast amounts of good stuff	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
4	Germany	3	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 this suggestion. We are addressing the editorial issues.
5	Germany	3	0	0	0	0	General comment: Please provide confidence levels to give an indication about the scientific evidence base for all important findings. Please cross-check if confidence levels given in the SPM are also given in the chapter.	Thank you for your comment. The Executive Summary (as well the SPM) has provided the confidence levels based on the theory of IPBES assessments, such as the "well established" or "established but incomplete" etc.
6	Guimaraes, Ellen	3	0	0	0	0	GENERAL. Please provide the license of the figure (should be CC-0 or CC-BY). This comment applies to all figures produced by authors of the assessment	Thank you for your comment. All figures used in the assessment are provided only after permission from the concerned authors/editors/publishers.
7	Guimaraes, Ellen	3	0	0	0	0	General: Please add the literature reviews into a data management report specifying how and when these literature reviews were performed.	Thank you for your comment. Process of literature reviews has been provided into data management report of CH3.
8	Singh, Baljinder	3	0	0	0	0	I want to stress, in a general way, that there are already many multiplier threats that will exacerbate the problems created by overfishing. We must exercise greater caution in ensuring that the language used here does not remain overly rigid & certain, particularly that which paints optimistic pictures of fish stocks, or else the potential risk of Reputational Damage to the IPBES cannot be discounted, particularly if, as expected, dangerous disruptions to critical ocean ecosystems accelerate, & eventually render such strong positive statements about fish stocks erroneous. It would be safer for this draft to indicate that overviews of the available scientific literature & data will include more robust	Thank you for your interest and concern in framing. The chapter is based on significant literature review across disciplines and consistent with the guidelines outlined in the IPBES approved scoping report and those of this assessment as described in Chapter 1. Chapter 3 is meant to provide information and synthesis on status and trends based on available knowledge. We provide confidence intervals to communicate the levels of certainty. It is our perspective that this framework addresses your concerns.
9	Wells, Geoff	3	0	0	0	0	The use of 'timber harvesting' as a catch-all term for all uses of harvested wood and trees is a bit unusual and could be confusing to a lot of readers. For example, from my knowledge of the literature, most studies on the use of wood from trees would	Thank you for this suggestion. As such, we have replaced the term timber harvesting with the term logging (see Glossary for definition and clarity). Timber harvesting remains a type practice within "Logging". This subsection of CH3 (3.3.4) has

10	Costello, Mark	3	1	3	9		Poorly written. First stence is two (however should be at start of a sentence). Second sentence tells us nothing because it assumes we know what the indcitors are and what socio ecological systems are. The phrase "well established" obviously contradicts the sentence which says the indicators are not; similarly it is confusing in the last sentence.	Thank you for your suggestion. We have improved the text in the final version.
11	United States of America	3	101	3	105		More accurate to say "Timber harvesting for energy CAN BE sustainable at global and national scales [...]" Perhaps worth noting that 'sustainability' is not well defined internationally when it comes to biomass.	Thank you for your comment. This was not relevant to the fishing section of chapter 3.
12	Cascone, Carmela	3	1	4	1	4	Status and trends of wild species could be integrate in the Post-2020 Biodiversity Framework	Thank you for your comment. It does not relate clearly to the text identified and we have therefore not made any changes.
13	Hurley, Patrick	3	1	4	1	4	It would be helpful to reference the definion of what constitutes a wild species to the appropriate earlier location, such as Section 1.3.1, in the document (since some readers may turn specifically to this chapater and skip others).	Thank you for this comment. Cross references to Chapter 1 have been added to the text.
14	Harrington, Alexandra	3	1	5	1	5	Bold period after (3.2.1).	Thank you for your comment. This has been addressed.
15	Harrington, Alexandra	3	1	5	1	5	Bold period after (3.2.1).	Thank you for this suggestion. We have corrected in the new version.
16	Hurley, Patrick	3	1	5	1	5	Please change "the ones" to something like "the indicators" (assuming this is the correct reference) to make the reference to the previous sentence much clearer.	Thank you for this suggestion. We have corrected in the new version.
17	Botero-Arias, Robinson	3	1	10	1	18	The vertebrates(Chordata) would emerge as the most traded organisms, with 15,374 species listed under the category Use and Trade— Fukushima, Caroline Sayuri, Stefano Mammola, and Pedro Cardoso. "Global wildlife trade permeates the Tree of Life."	Thank you for your comment. The information has been incorporated
18	Rosenberg, Andrew	3	1	10	1	18	This point is hard to understand as the bolded text refers to traditional use of one species to the remaining text is about livelihoods I am not disputing either point but I am not sure how they are linked or what they each separately tell us about status	Thank you for your comment. The point has been edited in accordance with your comment.
19	United States of America	3	1	10	1	13	Phrasing of "one single species" is odd - perhaps rephrase to utilize harvested species for multiple uses	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
20	Diaz, Sandra	3	7	11			here would be a good place to make a brief yet clear link with nature's contributions to people, so people reading this assessment quickly realizes where the alignemnt to the general concpetual structure of IPBES is. I could be as simple as" one	Thank you for this suggestion. NCP have been included in the sentence, as suggested
21	Sousa Pinto, Isabel	3	8	13		18	why single out here the wild plant trade - not clear why	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.
22	Parrotta, John (IUFRO)	3	1	14	1	15	Clarification is needed here and in the chapter text regarding these figures; surely 10-80% is not a global estimate, considering for example that wild species contribute approx. 0% of income of the world's urban population and close to that for many more.	Thank you for the comment. The figures here in the executive summary synthesize available knowledge at a very high level. Given the large variability in gathering around the world, this range is not surprising. Regarding your comments on urban
23	John Parrotta (IUFRO)	3	1	14	1	15	Clarification is needed here and in the chapter text regarding these figures; surely 10-80% is not a global estimate, considering for example that wild species contribute approx. 0% of income of the world's urban population and close to that for many more.	Thank you for the comment. The figures here in the executive summary synthesize available knowledge at a very high level. Given the large variability in gathering around the world, this range is not surprising. Regarding your comments on urban
24	Boguski, David	3	1	19	1	28	Perhaps worth noting that this dogmatic thinking is sometimes contended by reports of world-wide decreases in biomass. Estimation of the long-term fishery biomass trends have been undertaken. For example, Palomares et al 2020 (Fishery biomass	Thank you for your suggestion. We have included more references, and also provided a balaced and more precautionary views.

25	Costello, Mark	3	1	19			<p>Apart from the first sentence this is a good paragraph. The first is an extraordinary and misleading statement. So what countries, apart from perhaps USA and Australia, have good fishery management? It is a disaster in Europe, Asia, almost non-existent in Africa. And global catches are only maintained by subsidies and are not increasing because they are being fished illegally, only a fraction monitored, and too often overfished due to generous quotas, bycatch and high-grading mortalities. This text sounds like what the fishing industry and government fishery agencies would like us to hear. Latr, excellent section contradict this text. These sections should be integrated and the peer reviewed science independently assessed by IPBES.</p>	<p>Thanks for your comment. The assessment is based on the available knowledge on the subject consistent with the aims and goals outlined in the scoping document. In this case, if we define "strong fisheries management" as a system that is in place to monitor the major target species, and adjust fishing pressure to achieve long term sustainable yield, then European Atlantic fisheries are well managed, the U.S. and Canada, Australia, Peru, New Zealand, the industrial fisheries of South Africa , and Chile and Argentina are making strides.</p>
26	Singh, Baljinder	3	1	19	1	22	<p>The statement I specifically wish to address is : "In countries or regions with strong fisheries management, which provide approximately half of the fisheries landings reported by the Food and Agriculture Organization of the United Nations , stocks are</p>	<p>Thank you for your comment. The statements "stocks are increasing in abundance and above target levels" are for stocks where the data on these species are not confounded by any of the issues this comment raises. The FAO landings</p>
27	Diaz, Sandra	3	7	19	7	23	<p>The headline of this KM seems to mix two different things"strong vs weak management, and small-scale vs. large-scale fisheries, and the increasing and decreasing trends. Please unpack and clarify.</p>	<p>Thank you for the comment. This key message is a high level summary of fishing practices. The language has been revised for clarity.</p>
28	Harrington, Alexandra	3	1	21	1	21	<p>Remove space between "United Nations ,"</p>	<p>Thank you for this suggestion. We have corrected in the new version.</p>
29	Harrington, Alexandra	3	1	21	1	21	<p>Remove space between "United Nations ,"</p>	<p>Thank you for this suggestion. We have corrected in the new version.</p>
30	Mahoney, Shane	3	1	21	1	22	<p>This blanket statement on the status of fish stocks is too wide ranging. Many stocks (e.g. Canada's east coast) are not increasing and some have seriously declined, others moderately. Some qualification required.</p>	<p>Thank you for your comment. The text has been modified to show it refers to an average. Please note that the executive summary specifically provides high level, general statements. More detailed information is available within the chapter.</p>
31	Sousa Pinto, Isabel	3	8	30		37	<p>Language here could be improved (e.g. but generally believed to be likely to be) and sections should be provided to guide the reviewers to the proper place where the findings are shown with the proper references</p>	<p>Thank you for your comment. The entire chapter has been thoroughly revised for language and clarity.</p>
32	Harrington, Alexandra	3	1	32	1	32	<p>Add period after (3.3.1.1).</p>	<p>Thank you for this suggestion. We have corrected in the new version.</p>
33	Harrington, Alexandra	3	1	32	1	32	<p>Add period after (3.3.1.1).</p>	<p>Thank you for this suggestion. We have corrected in the new version.</p>
34	United States of America	3	1	35	1	38	<p>the categorical statement "Global uptake of effective bycatch management measures is understood to be severely lagging in a majority of marine capture fisheries" is un-sourced and seems overly broad. Without context or detail, qualifiers "severely</p>	<p>Thank you for your comment. This is based on a quantitative assessment conducted at the RFMO level. We have revised the text to add details from the referenced publication.</p>

35	Diaz, Sandra	3		36	766		figure 3.13. Please explain the in-situ conservation indicator and what the scale really means in the legend, even if it is already in the main text, to facilitate the understanding of the figure.	
36	Mahoney, Shane	3	1	37	1	37	A crucial point made in line 37 re bycatch management measures lagging! Bycatch sometimes exceeds targeted catches but also discards of targeted catches based on poor size or due to limited on board storage or processing capacity.	Thank you for your positive feedback.
37	Mahoney, Shane	3	1	37	1	37	This issue of bycatch management measures lagging (Line 37) is a critical one. Bycatch can and often does exceed targeted catch. Further, bycatch should embrace/consider discards of targeted species due to poor size or quality or because hauls exceed on	This comment is the same as number 25. No revisions to the text are required.
38	Mahoney, Shane	3	2	40	2	41	I would recommend separating commercial bycatch issues and recreational fishing issues and dealing with them as separate statement categories. There are many good points made on both fronts but I feel it is conceptually distorting to place both in the one	Thank you for your comment. We separated the two bullet points in the executive summary. The statement about the contribution of rec fishing mortality is qualified as being incomplete.
39	Harrington, Alexandra	3	2	41	2	41	Add a period at the end of the sentence.	Thank you for the comment. We have included it in the new version.
40	Harrington, Alexandra	3	2	41	2	41	Add a period at the end of the sentence.	Thank you for the comment. We have included it in the new version.
41	Botero-Arias, Robinson	3	2	42	2	45	local people are likely to have the best knowledge about the resource and are best placed to use that knowledge to devise appropriate rules that result in sustainable management in wildlife and wildlife products Roe, Dilys, and Francesca Booker. "Engaging local communities in tackling illegal wildlife trade: A synthesis of approaches and lessons for best practice." Conservation science and practice 1.5 (2019): e26.  Cooney, Rosie, et al. "Wild Life, Wild Livelihoods: Involving communities on Sustainable Wildlife Management and Combating illegal Wildlife Trade." (2018).  Biggs, Duan, et al. "Developing a theory of change for a community-based response to illegal wildlife trade." Conservation Biology 31.1 (2017): 5-12.	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
42	Kristina, Rodina	3	2	42	2	44	5) Indigenous and local knowledge is an important source of information for the 42 sustainable use of wild plants and fungi, especially wild vegetables, wild edible fungi and 43 medicinal plants (well established) {3.3.2}, and small-scale fisheries. - It is	Thank you for the comment. We have updated the text accordingly
43	Mahoney, Shane	3	2	42	2	51	Very good to see both Indigenous and local knowledge referenced.	Thank you for this suggestion. The positive feedback is greatly appreciated by the chapter authors.
44	Ryan, Mark	3	2	42	2	44	Indigenous and local knowledge is also an important source of information for the sustainable use of wild birds and mammals (fauna). See for example: <a href="https://theconversation.com/indigenous-hunters-are-protecting-animals-land-and-waterways-118652">https://theconversation.com/indigenous-hunters-are-protecting-animals-land-and-waterways-118652</a> .	Thank you for the comment. We have updated the text accordingly
45	Koskela, Jarkko	3	1	48	1	49	Replace "timber harvesting" with "wood harvesting" here and throughout this chapter.	Thanks for this suggestion. We have replaced, wherever needed "timber harvesting" with "logging".

46	Koskela, Jarkko	3	2	48	2	51	It is not clear why it is urgent to gather knowledge on the genetic resources of crop wild relatives only, and not on the genetic resources of other wild species as well.	Thank you for your comment. In this assessment we are considering sustainable use at the species level and not at the genetic level. However, the genetic level is mentioned in this specific case because of the role of wild plant relatives in
47	Ryan, Mark	3	2	50	2	51	"... local knowledge on wild plants and fungi, genetic resources of crop wild relatives, and small scale fisheries is an urgent need (well established)" should also include a mention of "fauna"	Thank you for your comment. However this point relates specifically to scientific literature on flora. It is not in the opinion of the authors and the material used to support this point does not mention fauna.
48	Cascone, Carmela	3	2	52	2	52	Lichens should also be added	Thanks for this suggested change of wording. Lichens have been included as composite organisms arising from algae and fungi. And we will not adopt the adding.
49	Hurley, Patrick	3	2	52	2	62	Exec Summary, item VI: It would be helpful to note that gathering occurs in richer and poorer countries and that the practice may relate to motivations other than those related to poverty or need (such as with food insecurity). Further, I think that adding a	Thanks for this suggested change. We have included it in the new subsection of urban gathering in the new version.
50	Kristina, Rodina	3	2	52	2	55	wild meat is missing in this message	Thank you for your comment. This message is not about wild meat.
51	Costello, Mark	3	2	54			1 in 5 of all people gather food from the wild, directly themselves (or perhaps are recipients of)? Seems surprisingly high considering levels of urbanisation.	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
52	Sousa Pinto, Isabel	3	9	54		56	Unclear phrase "Unless the use of squalene is decreasing in cosmetics in developed countries, the trade of shark liver oil increased from less than 50 t in 2017 to 700 t in 2018.	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.
53	Costello, Mark	3	2	55			this is a sweeping statement. How many people in rural developed countries "rely on wild plants and fungi" (I would think none). Perhaps the sentence should say ".economically disadvantaged rural areas".	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
54	Mahoney, Shane	3	2	59	2	61	The need for more dedicated research is important. In many cases, however, even general metrics on harvests are unavailable or have never been quantified in terms of food security and livelihoods.	Thank you for the comments. The positive feedback is greatly appreciated by the chapter authors.
55	Malsch, Kelly	3	2	63	2	71	CITES covers 32,800 species of plants (see <a href="https://cites.org/eng/disc/species.php">https://cites.org/eng/disc/species.php</a> ), but I'm not sure where the information on 32,000 "wild ornamental plants" comes from? could just revise to "plants"? Not all CITES plant species are	Thank you for the question. please see 3.3.2.5 for the background and methods for analysis.
56	Rosenberg, Andrew	3	2	63	2	71	but aren't their consequences to biodiversity of native species in the importing countries from this trade in ornamentals? Seems odd to ignore that challenge.	Thank you for the comment. The key messages in this chapter focus on what is sustainable use. The section on gathering has more information on species. Chapter 4 on drivers has details on trade.
57	Caceres, Carolina	3	2	67	2	67	CITES does not regulate the gathering of wild ornamental plants; suggest strike "gathering and" as only their international trade is regulated by CITES	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
58	Morgan, David (CITES)	3	2	67	2	67	CITES does not regulate the gathering of wild ornamental plants per se, only that being harvested for international trade	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
59	Rosenberg, Andrew	3	2	72	3	86	worth noting there is a tradeoff interaction in hunting of bushmeat and availability of fish. See Brashares et al. 2004, Science 306, 1180-1181.	Thank you for the comment. However due to the structure of the analysis trade off interactions are not covered in this section.
60	Botero-Arias, Robinson	3	3	79	3	86	The use of the wild life is associated with the environment, and the changes( short and long term) affect the food security of the local people. In the western Amazon Basin, a people's adaptations are reflecting the shifts in animal populations, which ultimately helps	Thank you for your comment. We will add this information to the text of section 3.3.3.3.1

61	Mahoney, Shane	3	3	84	3	86	It is important to also recognize that sharing of wild meat by hunters to extended family, relatives, friends, colleagues and disadvantaged members in society, including in industrialized nations, greatly expands the social radius of wild meat	Thank you for the comment. The information provided here is based on available evidence, which focuses on growing consumption by urban populations and food preferences.
62	Miketa, Madison	3	3	87	3	94	This summary is unbalanced and reflects the large amount of literature missing from this chapter. Scientists have warned that species with low reproductive output, or sensitive social structure (e.g., infanticidal species) are especially susceptible to	Thank you for this comment. We significantly improved the text of hunting section and have included the literature you have recommended. However, the statement is emphasis that not all hunting practices are unsustainable and provide
63	Miketa, Madison	3	3	87	3	94	Further (continuing comment above), important social knowledge can be lost following offtake of older individuals, which may have long-term negative impacts on the population and would not be captured by simply measuring population size. Examples include:	Thank you for this comment and suggested literature. We have added the text on valuation of sustainability of different hunting practices in Hunting section 3.3.3.
64	Miketa, Madison	3	3	87	3	94	This summary is unbalanced and reflects the large amount of literature missing from this chapter. Scientists have warned that species with low reproductive output, or sensitive social structure (e.g., infanticidal species) are especially susceptible to	Thank you for this comment. We significantly improved the text of hunting section and have included the literature you have recommended. However, the statement is emphasis that not all hunting practices are unsustainable and provide
65	Miketa, Madison	3	3	87	3	94	Further (continuing comment above), important social knowledge can be lost following offtake of older individuals, which may have long-term negative impacts on the population and would not be captured by simply measuring population size. Examples include: •Mccomb, K., Moss, C., Durant, S. M., Baker, L. & Sayialel, S. Matriarchs as repositories of social knowledge in African elephants. (2001). <i>Science</i> , 292, 491–494. •Allen, C., Brent, L., Motsentwa, T., Weiss, M. & Croft, D. (2020). Importance of old bulls: leaders and followers in collective movements of all-male groups in African savannah elephants ( <i>Loxodonta africana</i> ). <i>Sci. Rep.</i> 1–9. •Chiyo, P. I. et al. (2011). Association patterns of African elephants in all-male groups: the role of age and genetic relatedness. <i>Anim. Behav.</i> 81, 1093–1099. •Berry, P. S. M. & Bercovitch, F. B. Leadership of herd progressions in the Thornicroft's giraffe of Zambia. (2015). <i>Afr. J. Ecol.</i> 53, 175–182. •Bercovitch, F. B. & Berry, P. S. M. (2015). The composition and function of all-male herds of Thornicroft's giraffe, <i>Giraffa camelopardalis thornicrofti</i> , in Zambia. <i>Afr. J. Ecol.</i> 53, 167–174.	Thank you for this comment and suggested literature. We have added the text on valuation of sustainability of different hunting practices in Hunting section 3.3.3.
66	Rosenberg, Andrew	3	3	87	3	94	I think this needs to be worded more clearly. The point is reasonable but not clearly stated. High value species that are hunted can provide revenue for conservation if the hunting is very well managed and the revenue is sufficient to make a real	Thank you for your comment. We have revised the text in this key message. The phrasing here is intended to be at a high level as this is the executive summary. A greater level of detail is available in the body text.
67	Sousa Pinto, Isabel	3	10	87		92	KM 8 should be after KM 9 since KM9 is still about fisheries and is a more logical follow-up of KM7	Thank you for the comment. All KMs have been revised in the final version.
68	Bercovitch, Fred	3	3	91	3	93	This is not a scientific statement, but a questionable assertion. Using "can" is a suggestive possibility, not a conclusion. Removing the word yields "hunting...increases the value of wild species...", but no solid scientific data has shown that the 'value'	Thank you for your comment. The statement has been changed. Here we use "can" because the sustainability of hunting depends on multiple drivers and there is no simple answer "yes" or "no" but rather link to proper policy making
69	Mahoney, Shane	3	3	91	3	94	Very well articulated statement. Just to emphasize this hunting/conservation- sustainability equation is a global phenomenon, and not something restricted to regions such as Africa where much discussion is often focused.	Thank you for this comment. The statement is disclosed in detail in the text of the 3.3.3 section
70	Cascone, Carmela	3	3	95	3	96	Cascade use of wood could be a topic to evaluate	Thank you for your suggestion. Additional reviews and evaluations are outside the scope of the current revisions.
71	Rosenberg, Andrew	3	3	95	3	105	I really don't know how you can make this point and conclude sustainability without referring to the climate change impacts of timber use and deforestation.	Thank you for this comment, however considering logging as a driver of climate change is outside the scope of what is defined as sustainable use in Chapter 1.

72	United States of America	3	3	95	3	98	Perhaps it would also be useful to highlight that approx. 50% of all wood harvested is used for fuel (as stated in 3.3.4.4);	Thank you for the suggestion. This information has been added to the key message.
73	John Parrotta (IUFRO)	3	3	95	3	98	Perhaps it would also be useful to highlight that approx. 50% of all wood harvested is used for fuel (as stated in 3.3.4.4);	Thank you for the suggestion. This information has been added to the key message.
74	United States of America	3	3	98	3	98	How is sustainability defined in this context? (applies also the discussion in 3.3.4.4)	Thank you for this comment. The reviewer is correct. In this context the term 'sustainability' should be replaced with 'sustainable yield' and related supply-demand terms. We have amended the key message to reflect this and we have
75	John Parrotta (IUFRO)	3	3	98	3	98	How is sustainability defined in this context? (applies also the discussion in 3.3.4.4)	Thank you for this comment. The reviewer is correct. In this context the term 'sustainability' should be replaced with 'sustainable yield' and related supply-demand terms. We have amended the key message to reflect this and we have
76	United States of America	3	3	104	3	104	rather than referring to electricity, perhaps it would make more sense to refer to "alternative (non-biomass) fuels and energy sources"?	Thank you for this comment. We have amended the key message to reflect your suggestion.
77	John Parrotta (IUFRO)	3	3	104	3	104	rather than referring to electricity, perhaps it would make more sense to refer to "alternative (non-biomass) fuels and energy sources"?	Thank you for this comment. We have amended the key message to reflect your suggestion.
78	Cedergren, Jonas	3	3	106	3	114	It is highly confusing to talk about trees in natural forest as wild, trees are either planted or naturally regenerated	Thank you for your comment. Please refer to chapter 1 and the glossary for the definition of wild species and what it means in the assessment.
79	Costello, Mark	3	3	106			is this the case globally? So all forestry plantations are less than half of global wood supply?	Thank you for your comment. Please see the section on logging (3.3.4) for supporting information.
80	Mahoney, Shane	3	3	106	3	113	Cutting and selling wood also forms part of local economies in many places, including in various regions of North America. These practices are often well regulated and sustainable.	Thank you for this comment. The logging section has been revised to reflect this information.
81	Malsch, Kelly	3	3	106	3	109	It's not just the illegal trade that threatens sustainable use -- consider adding "illegal and unsustainable timber harvesting".	Thank you for the comment. Sentence is accordingly improved (see Executive Summary & CH3-3.3.4.5.1).
82	United States of America	3	3	106	3	109	Here and in section 3.4.4, there is a lack of clarity in distinguishing timber produced in natural vs planted forests. Secondly, the sustainability of timber species is much larger than the problem of illegal harvesting (which is indeed a problem), and includes	Thanks for this comment. We have revised the key message with these points in mind.
83	Sousa Pinto, Isabel	3	10	106		110	algae are mentioned in line 106 as important and the forgotten in line 110. Why is this?	Thank you for your comment. However, there is no mention to algae on line 106.
84	John Parrotta (IUFRO)	3	3	106	3	109	Here and in section 3.4.4, there is a lack of clarity in distinguishing timber produced in natural vs planted forests. Secondly, the sustainability of timber species is much larger than the problem of illegal harvesting (which is indeed a problem), and includes	Thanks for this comment. We have revised the key message with these points in mind.

85	Trocchi, Valter	3	193	109	193	110	It is written: "Game and habitat management for hunting often leads to a disproportionate increase in the game species population with a decrease of non-game species". This statement is not absolutely true. On the contrary, the game and habitat management has benefits for the environment and biodiversity. A clear example in this regard is the project INTERREG PARTRIDGE ( <a href="https://northsearegion.eu/">https://northsearegion.eu/</a> ). PARTRIDGE aims for a 30% increase in farmland biodiversity by 2023 in all its demonstration sites, measuring farmland wildlife indicators such as breeding songbird and brown hare numbers. These support the targets in the EU's Biodiversity Strategy for agricultural land. Other examples are the Action Plans for various huntable species which have positive effects on habitats and many other species (e.g. <a href="https://ec.europa.eu/environment/nature/conservation/wildbirds/acti">https://ec.europa.eu/environment/nature/conservation/wildbirds/acti</a>	Thank you for the comment. This text has been re-phrased.
86	Muir, Giulia	3	4	125	4	142	also wild-plant based sources of recreational use. E.g. mycotourism, "chestnut" and "truffle roads" in Italy, Spain. Eg. <a href="https://repository.incredibleforest.net/oppla-factsheet/20223">https://repository.incredibleforest.net/oppla-factsheet/20223</a> ; <a href="https://www.turismocastillayleon.com/en/gastronomy-wine-">https://www.turismocastillayleon.com/en/gastronomy-wine-</a>	Thanks for the comment.
87	Harrington, Alexandra	3	4	127	4	127	Italicize in situ	Thank you for this suggestion. The positive feedback is greatly appreciated by the chapter authors.
88	Harrington, Alexandra	3	4	127	4	127	Italicize in situ	Thank you for this suggestion. The positive feedback is greatly appreciated by the chapter authors.
89	Mahoney, Shane	3	4	128	4	142	Very balanced perspective, Lines 128-142.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
90	Weiskopf, Sarah	3	4	132	4	136	How are pro-poor taxes related to wildlife watching and tourism? "are crucial" is also prescriptive.	Thanks for this suggested change. We have included it in the new version. The sentence now refers to "pro-poor approaches" and "crucial" has been amended to "important". Supporting text in the document body has also been revised
91	Harrington, Alexandra	3	4	136	4	136	Add period after (3.3.5.2.3)	Thank you for this suggestion. The positive feedback is greatly appreciated by the chapter authors.
92	Harrington, Alexandra	3	4	136	4	136	Add period after (3.3.5.2.3)	Thank you for this suggestion. The positive feedback is greatly appreciated by the chapter authors.
93	Lerambert, Adeline	3	4	137	4	138	"However, wildlife watching has unintended detrimental impacts...." This is certainly by no means always the case, so suggest 'can have' instead of 'has'.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
94	Stewart, Davyth	3	4	137	4	138	"However, wildlife watching has unintended detrimental impacts...." This should read "wildlife watching may have unintended detrimental impacts..." - as the evidence shows the detrimental impacts are possible but not likely.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
95	Weiskopf, Sarah	3	4	147	4	150	Statement should be deleted or significantly revised. "cannot and should not be underestimated" is a very strong statement, but then in parentheses it says this is unresolved.	Thank you for this comment. We deleted the sentence from the executive summary.
96	Mahoney, Shane	3	4	150	4	153	An insightful, and long-overlooked, perspective on inclusive land management. It is not always a trade off in type of use; it is often an integration of different scales and types of simultaneous utilization, and often of resources that interdependently co-exist	Thanks for your comment. We appreciate your positive feedback.
97	Perez Gil, Ramon (Mexico)	3	4	150	5	150	Several things come to mind in this context. The complications imposed by the offer of hunting exotic species in facilities holding native game also (quite often in the Northern part of Mexico, in the so called UMAS, ranches that introduced game species from the	Thank you for your comment, but some of these are already highlighted in the respective sections of the chapter and it is not possible to add more text to the Executive Summary.

98	Weiskopf, Sarah	3	4	150	4	154	There is a statement that basically conveys the point that transitioning of areas from fishing activities --> aquaculture creates a scenario where growth of aquaculture means less capacity to focus on wild capture fisheries management. This	Thank you for your comment. We agree - there is capacity for robust management of multiple coastal and marine uses, including marine capture and aquaculture fisheries. We have ensured that this bullet in the executive summary does not
99	Muir, Giulia	3	4	155	5	162	Indeed, we don't unfortunately, or not adequately! This goes back to the terms and definitions as I highlighted in my comments above, which is the first step towards better monitoring and assessment. Hence, although it is difficult to separate wild vs.	Thank you for your comment. Please refer to chapter 1 and the glossary for the definition of wild species and what it means in the assessment.
100	Mahoney, Shane	3	5	155	5	161	This point - failure to distinguish wild versus non-wild harvests - is of great importance, in defining measurable indicators and monitoring protocols for biodiversity conservation. Non-wild replacements may indeed provide equivalent monetary return but fail utterly in providing other nature-based services.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
101	Perez Gil, Ramon (Mexico)	3	5	155	5	155	There are no data indeed for many uses, even locally. Not all uses and interactions-activities /practices are regulated roughly half of the documented ones in the case of Mexico, hence no reporting is even expected. Then in those regulated, depending on the	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions.
102	Cedergren, Jonas	3	5	158	5	162	Yes, using only tables it is difficult to distinguish harvest of natural forest from planted forest. However, knowledge of national conditions will take you quite far	Thank you for the comment. This is a global assessment and we are not able to include national conditions for all countries.
103	Malsch, Kelly	3	5	158			Are you sure FAO doesn't split these out? If not, how do you have the striking graph later on with fish from capture/ aquaculture? (Figure 3.7, p. 19)?	Thanks for this comment. The text has been updated accordingly.
104	United States of America	3	5	159	5	159	This is not true in the case of wild vs plantation trees - there are reasonably good estimates, globally and at the regional and national level, of the proportions of harvests of trees from natural forests vs planted forests.	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.
105	John Parrotta (IUFRO)	3	5	159	5	159	This is not true in the case of wild vs plantation trees - there are reasonably good estimates, globally and at the regional and national level, of the proportions of harvests of trees from natural forests vs planted forests.	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.
106	Cascone, Carmela	3	5	160	5	160	Other living organisms should be considered	Thank you for your comment. The organisms listed here are only examples. May other living organisms are considered throughout the chapter.
107	Webb, Grahame	3	6	169			"economic aspirations" should be included here. Caution is needed to avoid any connotation that the central focus of assisting Indigenous people, should be restricted to sustainability of traditional ways and cultures, with limited outside contact. They	Thanks for your comment, however it is unclear what you mean here by economic aspirations. Economic considerations are included in the text here in terms of provisioning and material contributions, economic justice and
108	Costello, Mark	3	5	170			Missing parentheses make reading more difficult.	Thank you for your comment. Your suggestion has been incorporated in the text.
109	Sousa Pinto, Isabel	3	11	170		172	.....species trade that have more devastating impacts than hunting itself". Confidence level should be added here	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.
110	Webb, Grahame	3	6	172			organism, "including local use and trade".	Thanks for your comment. However, uses are much broader than only for local use or trade, thus applying this comment would change the meaning of the sentence and be inappropriate.
111	Aebischer, Nicholas	3	6	176	6	176	"previsouly" should be "previously"	Your suggestion has been incorporated in the text.

112	Miketa, Madison	3	6	177	6	179	Based on the rest of the text in this section, a motivation for subsistence use should also include for personal economic gain	Thanks for your comment. Personal economic gain is included in the broader and more inclusive categories of formal and informal trade and formal and informal markets.
113	Laze, Kuenda	3	6	180	6	182	Does it mean that - Formal trade in legal and illegal markets are considered part of sustainable use? - This is not clear. Illegal market cannot be a sustainable use of nature resources (wild plant/animal species). Sustainable development concept of	Thank you for the comment. The section is revised.
114	Sousa Pinto, Isabel	3	11	182		187	"Selective hunting and bias towards smaller sized animals..... Is not clear why there is a bias for small sized animals..... Also no confidence level in this statement	Thank you for noticing this. These are large-bodied species
115	Costello, Mark	3	6	184		217	Rather than tell us what we will be told, this text could be dropped and the section made shortended.	Thank you for the comment. The section is revised.
116	Hurley, Patrick	3	6	184	6	211	I find this paragraph overlong and the use of a topic sentence focusing on a particular section divergent from the tone set in the first two paragraphs. I think a topic sentence that speaks to the key issue here, integration of knowledge systems would be more	Thanks for the comment. The text has been revised to reflect the updates in the chapter text.
117	Hurley, Patrick	3	6	189	6	193	I applaud the others of the chapter for including and making this point and acting on the implications of this insight for the assessment.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
118	Mahoney, Shane	3	6	192	6	193	The IPBES attempt to include various world views and reinforce the rising awareness of the relevance of local and indigenous knowledge, is commendable. It would be good to identify, if it hasn't been somewhere in these documents, the race we are	Thank you for this comment. The significance of ILK and threats to ILK and IPLC are addressed elsewhere in the assessment.
119	Webb, Grahame	3	6	196			"other: e.g., pet and zoo trade". Pet and zoo trade is relatively minor relative to the huge diversity of avenues current used to exchange locally derived products for economic benefits (which is essential). "trade" should be a category, that does not need to be	Thank you. This text has been deleted.
120	Diaz, Sandra	3	12	201	12	202	"Nature's contributions to people are discussed 201 throughout Section 3.3". Indeed nature's contributions to people are referred to correctly in some cases, incorrectly (but easy to fix, see below) in some others, and not at all in others. Perhaps a brief mention of	Thanks for this comment. we now refer to NCP
121	Ryan, Mark	3	7	207	7	207	"and livelihoods in terms of food and medicinal provisioning, informal and formal trade." should also include "... And the transmission of cultures and traditions"	Thanks for this suggested change. We have included it in the new version.
122	Hurley, Patrick	3	7	212	7	217	Again, this paragraph's tone differs from the first two in the chapter's introduction and seems to lose some degree of assertiveness. I wonder if the last sentence should not be reworked to assert that "achieving the goal of sustainable use..."	Thanks for your comment. The text has been revised accordingly.
123	Sousa Pinto, Isabel	3	13	226		236	references to sections needed	Thanks for this suggested change. However, from lines 236 to 236 we are describing the structure of the section and we dont see the need to cite other work.

124	Sousa Pinto, Isabel	3	13	238		243	references to sections and confidence level needed	Thanks for this suggested change. However, from lines 238to 243 we are describing the methods and approach used in the section and we dont see the need to cite other work.
125	Webb, Grahame	3	7	243			This search may fail to identify a huge number of case histories. For example, the species-specific "non-detriment" findings associated with trade in CITES contain many examples of strategic indicators of sustainable use .... Whether the wild	Thank you for your comment. A review of case histories is provided in section 3.3.
126	Aebischer,Nicholas	3	8	249	8	249	"globaly" should be "globally"	Thank you. This typo was corrected
127	Mahoney, Shane	3	8	255	8	260	Lines 255-260...this organic and evolving relationship between wild resource use knowledge/skills and science and technology is well demonstrated in the recreational as well as subsistence hunting space, for example. And, of course, the	Thanks for this suggested change. We have included it in the new version.
128	Orenstein, Ronald	3	8	256	8	257	Why have second-order uses, such as reliance on ecosystem services including pollination, seed dispersal and biological control, not been included here?	Thank you for this comment. However, this was excluded in the scoping document
129	Aebischer,Nicholas	3	8	257	8	257	"datases" should be "datasets"	Thank you. This typo was corrected
130	Bohm, Monika	3	8	261	8	267	Could a brief overview of aquatic species use from Marsh et al be included here too, to avoid terrestrial bias?	Thanks for your comment. we now included ..."and in the case of aquatic groups, top purposes were for human food particularly bony fish and crustaceans and pets"
131	Hoffmann, Mike	3	8	261	8	262	25,000 ; 10,000 (rather than 25 thousand; 10 thousand)	Thanks for this suggested change. We have included it in the new version.
132	Mahoney, Shane	3	8	262	8	262	Line 262...The statistic of 40% of Red List species have documented use is an important reminder to the world of how relevant and widespread use of wild species remains, and of how careful considerations of demography, productivity and adaptive management approaches can enable and support species in vastly differing levels of susceptibility and vigor.	Thanks for this suggested change. We have included it in the new version.
133	Botero-Arias, Robinson	3	8	263	8	265	Amphibians and reptiles are taken from the wild and sold commercially as food, pets, and traditional medicines. Historical overcollecting for food or hides has led to extinction or severe population declines for many species, such as tortoises, large	Thanks for this comment. we know included "Consumption of reptile meat is often intertwined with cultural or medicinal beliefs. In some instances meat consumption is a by-product of the commercial kin harvest of crocodilians, snakes, and
134	Guillemain, Matthieu	3	8	264			this also encompasses human consumption	Thanks for this suggested change. We have included it in the new version.
135	Guillemain, Matthieu	3	8	264			this also encompasses human consumption	repeated
136	Ryan, Mark	3	8	264	8	264	The use of the term "sport hunting" is quite misleading. Traditionally, one would differentiate between subsistence and recreational hunting. There are very few people within the hunting community that would associate hunting with "sports".	Thank you for this ssuggestion. We have replaced this term with "recreational" hunting
137	Hoffmann, Mike	3	9	271	9	274	Table 1. Could also include results from Marsh et al. (2021; see Figure 1). This provides considerable additional analysis beyond only birds (Butchart 2008)	Thank you for this sugestion. Data for Marsh et al is now included in the Table 3.1

138	Koskela, Jarkko	3	9	271			Table 3.1: the cell #sp used x timber harvesting: the second and third points do not provide any information on the number of species. How species are being harvested is not reported to the other species; why highlight selective harvesting only for trees?	Thank you for this comment. Estimates on the number of tree species and their uses is now given in Table 3.1
139	Blömer, Nynke	3	9	274			The CITES Trade Database (trade.cites.org) provides extensive records of species in trade including purpose for trade such as hunting and personal (purpose codes H and P) and annual volumes traded internationally, would be useful to complement this	Thanks for this suggested change. However, we could not understand why H and P codes only are suggested by the reviewer as other might also fill in the SUA Framework (Chapter 1). In addition, as we explain in the text the codes of
140	Botero-Arias, Robinson	3	9	274	9	274	HUNTING: absolute species numbers, vertebrates (Chordata) would emerge as the most traded organisms, with 15,374 species listed under the category Use and Trade — more than half of which are fish. Amphibians and reptiles are most commonly	Thank you for this suggestion. This reference is now included in table 3.1
141	Kristina, Rodina	3	9	274	9	274	Hunting data seems to be a bit incomplete. Other examples exist. E.g As many as 2000 species of invertebrates, amphibians, fish, reptiles, birds and mammals are used as wild meat across the world (Redmond et al. 2006). In a meta-analysis of 354 hunting	Thank you for this comment. Estimates are now included in Table 3.1
142	Jaramillo, Lorena	3	10 (3.2.1.; Table 3.1;SOD)	274	10	274	Kindly revise as it should be BioTrade with B & T in CAPs in the following sentence: Around 5 million people worldwide from collectors/fishers/ hunters, workers, among others are involved in BioTrade (UNCTAD, 2017)	Thank you for your comment. This was corrected.
143	Jaramillo, Lorena	3	9 (3.2.1.; Table 3.1;SOD)	274	9	274	Kindly note that the value on Sales of BioTrade beneficiary companies relates to companies working in wild collection but also other activities such as agriculture. Also, sales of BioTrade beneficiary companies reached Euro 5,15 billion in 2019. source:	Thank you very much. This is now better explained.
144	Germany	3	9	275	11	275	Table 3.1/Uses: Figures giving annual consumption or trade volume are reported in EUR or US\$. For reason of better comparison it is suggested to use only one of both currencies.	Thanks for your suggestion. As we refer to specific data sources and in order to not change the original source we let the original currency from the cited reference
145	Bohm, Monika	3	12	278	12	278	The number of assessments on the IUCN Red List is changing with each update and thus it would be worthwhile to cite the version consulted for this number: "The 2020.3(?) version of the list includes assessmentson 128.918 species of..."	Thank you for this suggestion. We included the data of the IUCN report
146	Bohm, Monika	3	12	284	12	285	coding of major threats is required for all but LC species	Thank you for this suggestion. This is now included
147	Costello, Mark	3	12	287			wording off - groups repeated in sentence	Thanks for this comment. duplicated word groups has been deleted
148	Webb, Grahame	3	12	289			threatened "to minor or major degrees"	Thanks for this suggestion. we changed the text accordingly.
149	Bohm, Monika	3	12	293	12	294	Refer to IUCN Red List consistently as IUCN Red List?	thank you for this comment. This has been corrected
150	Hoffmann, Mike	3	12	296	12	297	Minor correction: this should read "According to this data source, plant groups tend to be used for more purposes than animal groups, including..."	Thanks for this comment. we edited the text following your suggestion
151	Webb, Grahame	3	12	296	12	302	completely puzzled why commodities in trade are deliberately excluded. If this is focussed on "subsistence" uses only it may explain ... but this should be made clear.	Thank you for this suggestion. We have chosen to include it in the section 3.2.2.
152	Bohm, Monika	3	12	303	12	303	Change Living Plant Index to Living Planet Index	Thanks for this comment. This is corrected

153	McRae, Louise	3	12	308	12	310	Suggest change to "Threat information from the data sources was available...". The threat data used was not species level data from the Red List but was population-level threat data taken from the data sources (mostly scientific papers). Please see Table S6	Thank you for this comment. We changed the text as suggested,
154	Bohm, Monika	3	12	314	12	314	Insert opening bracket	Thank you for this comment. Bracket was inserted
155	Sousa Pinto, Isabel	3	15	315		316	Unclear sentence !This is also true for less integration in terms of social-ecological systems, social science, environmental governance, applies to the whole of NE"	Thank you for your comment however we did not understand it. Lines 315 and 316 correspond to caption of figure 3.1
156	Guimaraes, Ellen	3	19	316	19	323	Figure 3.1. Please provide the license to the figure	Thank you for this comment. The figure's licence was added.
157	China	3	13	324	13	341	The Flora of China reports 31142 species of plants; not all these plants have economic uses. It is better to compare global and national data as a percentage than in quantity.	Thank you for this suggestion. We agree with your point but here we are comparing estimates from different datasets. That is the reason why the number of used species is important.
158	Koskela, Jarkko	3	13	339			Does "1,318 timber species" refer to trees which are harvested timber production, or to trees which are harvested to produce any wood products? The State of the World's Forest Genetic Resources (FAO 2014) estimated that more than 34,000 tree	Thanks for this suggested change. We have included it in the new version.
159	Costello, Mark	3	14	342		349	suggest do not waste space telling us about sources were not useful.	Thank you for this suggestion. However we feel that is important to point out the problems concerning the data in order to be able to point out solutions for better estimating use of wild species globally
160	Ebora, Juan B.	3	20	350	20	370	Being culturally valuable is relative. Use or potential use of species based on available data tilts the distribution of "culturally valuable" species to more advanced economies with of course more resources for studies. Just because there are less studies	Thanks for this comment. Figure 3.2 was removed from this version as it was highly associated with issues, as pointed out by reviewer. Section 3.3.5.2.3 discusses the importance of wild species for cultural use and does discuss the lack of
161	Butchart, Stuart	3	14	356			This section could usefully cite information from the following papers: Butchart, S. H. M. (2008) Red List Indices to measure the sustainability of species use and impacts of invasive alien species. <i>Bird Conserv. Int.</i> 18 (suppl.) 245-262. [includes the most	Thank you for your comment. This was taken into account in the last version of the assessment.
162	China	3	14	360	14	363	There is misunderstanding on the Flora of China. It is recommended to delete the Flora of China here in the line 363.	Thank you for this comment. Reference to Flora of China was deleted in line 363 as suggested
163	China	3	14	364	14	364	Taiwan is part of China. The map indicates that Taiwan is separated from China, which is wrong. Change the color of Taiwan Province to be the same as that of the mainland China.	Thank you for your comment. The map was taken out of the final version of chapter 3 therefore, this comment does not need to be addressed.
164	Majda, Achach	3	14	364	14	364	FIGURE 3.2 : the map of Morocco which appears on this figure is not correct. IPBES is kindly invited to adjust this situation and maintain the same approach adopted for the previous reports.	Thank you for your comment. The map was taken out of the final version of chapter 3 therefore, this comment does not need to be addressed.
165	Orenstein, Ronald	3	14	365	14	370	I suspect there is a strong investigator bias in this figure, and that consideration of uses of plants by indigenous peoples would result in far higher species counts in developing countries. While according to this figure less than 100 'valuable' species are used	Thank you for this suggestion. Because this Figure was contested due to its low number of species reported we decided to delete it. However we explain that global datasets underestimate the use of species
166	Guimaraes, Ellen	3	20	365	20	370	Figure 3.2. Please provide the license to the figure	Thank you for your comment. Figure 3.2 was removed.
167	Germany	3	15	373	15	375	Please consider to improve language. It is suggested to rephrase as follows (bold): "As far as With regard to the use of plant species for food, Khoury et al. (2019) show that a higher number of plant species are used for food in Asia (China and India) and	Thank you for this suggestion. We changed the text accordingly.

168	Pilling, Dafydd	3	15	378	15	379	It is true that FAO figures show that most food comes from plants, but these are mostly domesticated plants. I guess given the context that this may be intended to refer to wild plants (readers may well interpret it in this way). If it is intended to refer	Thanks for this comment. We edited the text as suggested and we provide a reference from Marsh et al (2020) reporting that plants are the most used taxa.
169	Germany	3	15	380	15	381	This sentence is not clear. Please consider to rephrase (bold): "A global survey by reports that [...]."	Thank you for this suggestion. We changed the text accordingly.
170	Pilling, Dafydd	3	15	380	15	381	This sentence is a bit confusing. The figure does not show the proportion of countries ("respondents" here are countries) per region that cited "use of wild plants as a food source". It shows the proportion of "responses" that referred to plants (a response	Thanks for this comment. we changed the text according to your suggestion.
171	Guimaraes, Ellen	3	21	387	21	388	Figure 3.3. Please use Robinson projection	Thanks for this comment. Figure 3.3 was removed
172	Laze, Kuenda	3	15	388	15	396	Relative use of the wild plants can be shown. It is interesting to know the number of wild plant species use per number of population at different scale like local, regional scales. This helps investigate the differences in plant use between regions. The map	Thank you for your suggestion. We removed this Figure because we agree with reviews comments that it underestimate the number of wild species used across the globe.
173	Guimaraes, Ellen	3	22	396	22	397	Figure 3.4. Please provide the license to the figure	Thanks for the comment. License for the figure is now included
174	Laze, Kuenda	3	16	398	16	399	Is it possible to write more about the Figure 3.4? Are there data at local level and or regional level about wild plant use and wild mammal species use? If there are data about wild plant data use and wild mammal animal use at country and regional levels, they	Thanks for this comment. As suggested we included more text on Figure 3.4 (Figure 3.2 in this revised version)
175	Pilling, Dafydd	3	16	400	16	403	These points don't really contradict each other. Wild food plant could be important in Africa but still be less diverse than in other regions. It is anyway not particularly clear that the figure shows that wild food plants are less diverse in Africa. Other things being	Thanks for this comment. We edited the text in order to address the comment you made.
176	Bohm, Monika	3	17	434	19	484	Would it be possible to specifically highlight which of the data refers to marine versus inland fisheries (or which data source includes inland fisheries). It would be important to convey a better sense of the importance of inland fisheries in the assessment.	Thanks for this comment. We now moved a paragraph from the small-scale fisheries section to this section, which provides separate overviews on catches and contributions of coastal and freshwater small-scale fisheries.
177	Boguski, David	3	17	435	17	436	Rather than 'source of protein' consider "Fish are a valued food security throughout the world contributing both culturally and economically, especially..."	Thank you for this suggestion. We changed the text accordingly.
178	Webb, Grahame	3	17	441			"recognised that reported landings of small-scale fisheries are underestimated". No one questions this.	Thank you for your comment. The comment is not clear.
179	Germany	3	17	443	17	445	Please provide a scientific definition of "underfished" stock of fish. The term suggests that any fishing rate below a "sustainable" fishing rate is sub-optimal, disregarding negative effects any human activity/use poses to the ecosystem. Please also consider to improve language, e.g. (bold) "sustainably fished/harvested".	Thank you for this comment. Language was improved as suggested.
180	Bohm, Monika	3	17	449	18	451	It appears that the University of Washington database focuses on marine species, indicate in the text.	Thanks for this comment. Following your suggestion, we now clarify that this source reports on marine species
181	Germany	3	18	454	18	467	Figure 3.6: For better reading the figure it would be of help to specify to which countries/regions the circles refer to. Question: Do fish landings reported here only comprise fish from marine sources or do they also include fish from freshwater? Please	Thanks you for this comment. It is marine fish landings and the caption was modified to clarify

182	Germany	3	18	454	18	467	Figure 3.6. Please explain abbreviations used: MMT, RAM.	Thank you. MMT is now defined in the caption. RAM is simply the name of the data base.
183	Orenstein, Ronald	3	18	468	18	472	Terms such as 'overfished', 'MSY' and 'underfished' are not consistently applied internationally, and may produce overoptimistic assessments of sustainability by ignoring such factors as ecosystem impacts and carbon footprint. Please	Thank you for your comment. The definition and dimensions of sustainability that would determine what constitutes overfishing etc. are much higher order than appropriate for this section of the report. We cannot add additional text to
184	Mahoney, Shane	3	18	475	18	476	Lines 475-476 - With one third of capture fishery harvests going to feed for aquaculture and livestock feed, the issue of sustainability becomes refracted and the equations of use/benefit far more complex. What proportion of wild fish harvesting contributes to	Thank you for your comment. We have focussed on the sustainable use of the capture fisheries resources, and don't see how this is related to aquaculture practice.
185	Webb, Grahame	3	18	475			"per year"	Thanks for this comment. "per year " is now inserted
186	Laze, Kuenda	3	19	485	19	505	Is there any possibility to add a sentence about the legal and illegal market and trafficking of wild terrestrial animals here? The organization of CITES (cites.org) may provide data about these including trans-boundary illegal trafficking.	Thanks for this comment. Trade in SUA is considered a driver and is explored in Chapter 4
187	Mahoney, Shane	3	19	485	19	505	This section on wild meat makes no reference to the large-scale meat procurement by recreational hunters in North America, Europe, South Africa etc. This is an important omission and should be rectified by reference to the Wild Harvest Initiative -	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. We feel our analytical approach is more informative than individual case studies, and we have already incorporated a few of these.
188	Malsch, Kelly	3	19	485			Consider also showcasing CITES data (as per figures looking at trade by group & assessing trends in Wild vs. captive-bred over time in <a href="http://macroecointern.dk/pdf-reprints/Harfoot_BC_2018.pdf">http://macroecointern.dk/pdf-reprints/Harfoot_BC_2018.pdf</a> ). CITES relevant data could be	Thank you for this comment. Trade is the focus of Chapter 4
189	Webb, Grahame	3	19	485			Reptiles are excluded, yet their contribution to food of many Indigenous people is very significant (freshwater, marine and terrestrial turtles, lizards, snakes, crocodiles).	Thanks for this comment. We now acknowledge the use of reptiles in this section
190	Botero-Arias, Robinson	3	19	486	19	486	Amphibians and reptiles are most commonly traded as pets, birds are traded both as pets and products, mammals are predominantly traded as products Scheffers, B.R., Oliveira, B.F., Lamb, I. and Edwards, D.P., 2019. Global wildlife trade	Thank you for this suggestion. Reference by Scheffers et al (2019) is now included
191	Hoffmann, Mike	3	19	486	19	488	This figure is too low, especially if it supposed to include invertebrates. Based on Marsh et al. (2021), 1,592 birds and 243 amphibians alone are used for food. Marsh et al did not include mammals due to incomplete availability of data, and only a	Thank you for this suggestion. We edited the text in order to include IUCN RED LIST and Marsh et al (2020) estimates
192	Ryan, Mark	3	19	488	19	489	It says that "Global reports by the Food and Agriculture Organization of the United Nations estimate that globally humans hunt 187 wild mammals". Is this for subsistence hunting or recreational hunting? It would seem like an extremely small	Thanks for the comment. This text has been removed.
193	Aebischer, Nicholas	3	19	489	19	489	Insert "species of" before "wild mammals"	Thanks for this comment. As suggested, "species" was inserted before "wild animals"

194	Orenstein, Ronald	3	19	489	19	489	As with plants, these estimates (particularly for mammals) may seriously underestimate local use. Local uses for 82 mammal species have been recorded for Mexico alone (Ávila-Nájera, D. M., Naranjo, E. J., Tigar, B., Villarreal, O., & Mendoza, G. D. (2018). An evaluation of the contemporary uses and cultural significance of mammals in Mexico. <i>Ethnobiology Letters</i> , 9(2), 124–135. <a href="https://doi.org/10.14237/ebl.9.2.2018.1106">https://doi.org/10.14237/ebl.9.2.2018.1106</a> ). Also please consult Altaf, M., Javid, A., Umair, M., Iqbal, K. J., Rasheed, Z., & Abbasi, A. M. (2017). Ethnomedicinal and cultural practices of mammals and birds in the vicinity of river Chenab, Punjab-Pakistan. <i>Journal of Ethnobiology and Ethnomedicine</i> , 13(1). <a href="https://doi.org/10.1186/s13002-017-0168-5">https://doi.org/10.1186/s13002-017-0168-5</a> ; Fernandes-Ferreira, H., Mendonça, S. V., Albano, C., Ferreira, F. S., & Alves, R. R. N. (2012). Hunting, use and conservation of birds in Northeast Brazil. <i>Biodiversity and Conservation</i> , 21(1), 221–244. <a href="https://doi.org/10.1007/s10531-011-0179-9">https://doi.org/10.1007/s10531-011-0179-9</a>	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. We feel our analytical approach is more informative than individual case studies, and we have already incorporated a few of these see section 3.3.
195	Aebischer, Nicholas	3	19	490	19	490	Insert "species of" before "wild birds"	Thanks for this comment. As suggested, "species" was inserted before "wild birds"
196	Hoffmann, Mike	3	19	490	19	490	Add "Marsh et al. 2021" after Butchart 2008; the figures in Marsh et al are slightly updated, but broadly coincide with these earlier findings	Thank for this comment. The text was edited to incorporate the suggestions made
197	Orenstein, Ronald	3	19	496	19	496	A comparative study of the effects of hunting on tropical mammal distribution, including in Asia, can be found here: Gallego-Zamorano, J., Benítez-López, A., Santini, L., Hilbers, J. P., Huijbregts, M. A. J., & Schipper, A. M. (2020). Combined effects	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. We feel our analytical approach is more informative than individual case studies, and we have already incorporated a few of these.
198	Bassetti, Luis	3	19	502	19	505	These habits may vary by location. Some indigenous people also use reptile meat as a food source. As an example, we can mention the hunting of tortoises ( <i>Chelonoidis</i> spp) and Caimans ( <i>Caiman</i> spp and <i>Paleosuchus</i> spp), which present semi-aquatic	Thank you for this suggestion. We included in the sentence "Although with regional variations...."
199	Botero-Arias, Robinson	3	19	502	19	505	In the Amazon (Central Amazon, Brazil) Consumption of mammals and birds occurs mainly at the household level whereas consumption of river turtles occurs mainly on special occasions. The residents like the taste of wild mammals and birds, turtle	Thanks for this suggestion. We are grateful for the detailed literature from different case studies. The case study analysis is the focus of section 3.3, and we have added suggested literature there. Here we aim at providing a global overview.
200	Cedergren, Jonas	3	20	507	20	523	The word selective is misleading. It implies that there would be a thought out and followed management model. The only form of forest management prescription followed in selectively logged forest is the minimum felling diameter, normally between 45 and	Thanks for this comment. We now stress the need for selective logging to be well beyond the establishment of wood removal quantity
201	Koskela, Jarkko	3	20	507	20	523	This section would benefit from data on the number of tree species used (see the earlier comment), on the production and trade of wood products and on the FRA 2020 results (e.g. that 93% of the global forest area consist of naturally regenerating	Thank you for this comment. However this source does not distinguishes between domesticated and wild specis and this challenges the scope of this assesement.
202	Hoffmann, Mike	3	20	508	20	510	This is true globally, but there are data available for selected taxonomic groups: there are several reports published by BGCI (see: <a href="https://www.bgci.org/our-work/plant-conservation/conservation-prioritisation/red-">https://www.bgci.org/our-work/plant-conservation/conservation-prioritisation/red-</a>	Thank you for this comment. The reference to BCI is now given.
203	Laze, Kuenda	3	20	508	20	510	Countries report to FAO about timber harvesting. However, reporting may change from one region to another. Yet, some regions can provide accurate data to FAO about main types of trees harvested (e.g., in temperate forests), type of harvesting	Thank you for this comment. However this source does not distinguishes between domesticated and wild specis and this challenges the scope of this assesement
204	United States of America	3	20	510	20	511	"The role of improving forest management practices..." this sentence is patently false, is not supported by the material presented in 3.3.4, nor by the very large body of scientific work conducted by the forest science community, forest practitioners	Thanks for this comment. This sentence has been edited.
205	John Parrotta (IUFRO)	3	20	510	20	511	"The role of improving forest management practices..." this sentence is patently false, is not supported by the material presented in 3.3.4, nor by the very large body of scientific work conducted by the forest science community, forest practitioners	Thanks for this comment. This sentence has been edited.

206	United States of America	3	20	512	20	516	Authors need to dig deeper into available data, starting with that available through ITTO and FAO for tropical regions, UNECE and other UN forest-related regional bodies for temperate and boreal regions.	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. To our knowledge ITTO , FAO, UNECE there is no specific mention
207	John Parrotta (IUFRO)	3	20	512	20	516	Authors need to dig deeper into available data, starting with that available through ITTO and FAO for tropical regions, UNECE and other UN forest-related regional bodies for temperate and boreal regions.	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. To our knowledge ITTO , FAO, UNECE there is no specific mention
208	Venier, Lisa	3	20	517	20	519	Not sure about this statement, in Canada a lot of temperate forest is selectively harvested	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. To our knowledge ITTO , FAO, UNECE there is no specific mention
209	United States of America	3	20	521	20	523	In addition to the analysis of Poudyal et al. 2018 (a, b are the same reference), authors should look directly at the ITTO sources referred to substantiate this statement.	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. To our knowledge ITTO , FAO, UNECE there is no specific mention to wild species use. Distinguishing between domesticated and native species is lacking
210	John Parrotta (IUFRO)	3	20	521	20	523	In addition to the analysis of Poudyal et al. 2018 (a, b are the same reference), authors should look directly at the ITTO sources referred to substantiate this statement.	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. To our knowledge ITTO , FAO, UNECE there is no specific mention
211	Orenstein, Ronald	3	20	527	20	531	This ignores avitourism (birding tourism), a valuable source of livelihoods which tends to be very species-focused as the aim is often to see either as many species as possible or to see specific species that are 'life birds' for the tourist. Please consult Biggs,	Thank you for this comment. We have amended the text to reflect that species-specific tourists exist and aim to view all the species in that taxonomic group. The suggested references all make the case for the potential or contribution
212	Dereliev, Sergey	3	20	529	20	531	The statement is that tourism focused on charismatic species encompasses the whole park / coral reef. There are specialised types of nature observation tourism, such as birdwatching, mammal watching, butterfly watching, plant tours, etc. where the	Thanks for this comment we now also address the role of taxonomic groups to recreational activities, such as birdwatching.
213	Dereliev, Sergey	3	20	534	20	535	There are a number economic assessments of nature tourism focused on species, in particular birdwatching. Such assessments are mostly from North America, such as this one <a href="https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1163&amp;c">https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1163&amp;c</a>	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. We feel our analytical approach is more informative than individual case studies, and we have already incorporated a few of these.
214	Botero-Arias, Robinson	3	21	557	21	566	IUCN and CITES lists are by far the most commonly used data sources regarding wildlife trade analyses. However, it is fundamental to approach these data carefully, to avoid misinterpreting patterns and processes in wildlife trade due to the	Thank you for comment. References were included
215	Germany	3	21	557	21	562	Please consider to rephrase. Statements and wording in both sentences seem to overlap largely.	Thanks for this comment. This sentence has been edited
216	Germany	3	21	568	21	570	Please check, is the reference to Table 3.1 in this sentence correct? In Table 3.1 (pp. 9-11, line 275) there seems to be no indication for this statement ("single species of animals, plants, and fungi often are used for a variety of reasons").	Thanks for this comment. Yes the reference is correctly made to Table 3.1
217	Germany	3	24	654	24	654	Please consider to re-phrase the principle (cf. Section 2.2.6, Fig. 2.2, p. 71) as follows (bold): "Restore/improve ecological context"	Thank you for comment. Change was made
218	Svizzero, Serge	3	24	677	25	677	typo, two rows of table 3.2. have the same number #4	Thank you for comment. The typo was corrected.
219	McRae, Louise	3	25	677	25	678	Table 3.2 The entry number 16 'Living planet index (utilized/non utilized)' is the same indicator as the entry number 1 McRae et al (2021)	Thank you for this comment. this explanation is already in the text" The global indicator developed by Mc Rae et al., (2021) follows the method used to calculate the Living Planet Index ( <a href="https://www.bipindicators.net/indicators/living-planet-index">https://www.bipindicators.net/indicators/living-planet-index</a> )."

220	Morgan, David (CITES)	3	25	677	25	677	The CITES trade database ( <a href="https://trade.cites.org/">https://trade.cites.org/</a> ) contains over 21 million records of trade transactions since 1975, allowing trends in the use of wild species for international trade to be determined.	Thanks for this comment. We list CITES as a relevant database, that has been used for mapping trade globally.
221	Hoffmann, Mike	3	25	679	25	681	Change "Mc Rae" to "McRae"	Thank you for this comment. Change was made
222	Germany	3	26	689	26	691	Figure 3.9: Please check the figure and its entitlement. Contrary to the entitlement the figure seems not to display trends in utilized vs. non-utilized species. Furthermore, the figure should be self-explanatory. Please elucidate abbreviations etc. in the entitlement.	Thanks for this comment. We changed the Caption of Figure 3.9 according to the reviewer suggestion
223	Orenstein, Ronald	3	26	699	26	700	For vertebrate species In international trade the overall pervasive trend is negative, with management having a limited mitigating effect in contrast to the statement made here. Please consult Morton, O., Scheffers, B. R., Haugaasen, T., & Edwards, D. P.	Thank you for this comment. Reference to Morton et al was included
224	Webb, Grahame	3	26	699			CITES can have a positive effect on this, because the economic incentive to use a listed species is directly linked to not simply recovering a depleted population, but demonstrating non-detriment from then on. So to use the species you have to recover	Thank you for this comment. This text is now included in the paragraph
225	Webb, Grahame	3	28	699			Space needed.	Thank for this comment. Space was deleted and the sentence edited
226	Germany	3	27	705	27	708	Figure 3.10: The figure should be self-explanatory. Please elucidate in the entitlement.	Thank you very much for this comment. We edited the caption and the text explaining Figure 3.10.
227	Bohm, Monika	3	27	709	27	710	Something seems missing in this sentence.	Thank you for this comment. We edited the sentence.
228	Germany	3	27	709	27	710	Please check the sentence: A verb is missing.	Thank for this comment. The text was edited to incorporate the suggestions made
229	Hoffmann, Mike	3	27	709	27	709	"Other studies, also using Red List data, evidence high variability..."	Thank you. Suggestion was incorporated in the revised version
230	Hoffmann, Mike	3	27	712	27	717	We would suggest slightly rewording as follows: "...for 16% of species. However, the majority (72%) of species that are used are not threatened, with 34% of used species having stable or improving population trends, suggesting that use is likely to be	Thank you very much. We changed the text according to the suggestion
231	Bohm, Monika	3	27	715	27	715	NT on the IUCN Red List stands for Near Threatened, not Non-Threatened	Thank you very much. The typo was corrected
232	Hoffmann, Mike	3	27	720	27	720	Note the range should be "147-152" - delete 266.	Thank you. 266 was deleted.
233	Germany	3	28	724	28	731	Figure 3.11: The figure should be self-explanatory. Please elucidate all abbreviations in the entitlement. Please also quote the source (Marsh et al. 2020).	Thanks for this comment. Figure 3.11 captions was edited as suggested
234	Guimaraes, Ellen	3	34	724	34	725	Figure 3.11. Please, use color blind friendly colors	Thank you for your comment. This figure is reused from an existing peer-reviewed publication. The license associated with this figure (Attribution-NonCommercial-NoDerivatives 4.0 International-CC BY-NC-ND 4.0) does not allow us to modify

235	Hoffmann, Mike	3	28	730	28	731	Delete this clause	Thank you for this comment. The clause was deleted from the caption of the figure and included in the main text
236	Bohm, Monika	3	28	732	28	751	Change "Artic" to "Arctic"	Thank you. Change was made.
237	Mahoney, Shane	3	29	739	29	742	Lines 739-742..It is important to note, and likely emphasized elsewhere in the document that undetailed comparisons of population trends between utilized and non-utilized species can fail to account for many influential factors that could be influencing	Thank you for this comment. This suggestion is now included in the text
238	Orenstein, Ronald	3	29	741	29	742	Please see previous comment. The study by Morton et al reached a different conclusion: "We examined 1,807 peer-reviewed articles and >200 TRAFFIC reports yet found no support for a quantified, existing sustainable trade..., wider environmental	Thank you the Morton results are now included in the section of 3.2 section
239	Germany	3	29	747	29	747	Figure 3.12: Figure elements and caption cannot be read. Please improve the figure in size and resolution.	Thank you for comment. The figure was updated with a higher resolution version.
240	Bohm, Monika	3	30	775	30	777	Also a lack of indicators looking at inland fisheries - might be useful to add	Thank you for this comment. we now also report lack of indicators on both inland fisheries and small scale fishing.
241	Mahoney, Shane	3	31	778	31	779	Box 3.1. The listing of indicators for terrestrial animal harvesting (trapping excluded) seems to exclusively rely on CITES referenced species??? If so, this excludes an enormous number of species which are harvested but not formally traded.	Thank you for this comment. The point made by the reviewer was included in this revised version
242	Morgan, David (CITES)	3	31	778	31	778	Apart from terrestrial animal harvesting, CITES regulates international trade in specimens derived from fishing and timber harvesting	Thank you for the comments. It is true that the CITES indicator shall apply to these practices. We revise accordingly.
243	Muir, Giulia	3	32	779	37	927	This section on Temporal Scale and use is crucial! I believe this could be enhanced by stressing: 1. the nutritional value of this "seasonal evenness" (Powell 2015: <a href="https://link.springer.com/article/10.1007/s12571-015-0466-5">https://link.springer.com/article/10.1007/s12571-015-0466-5</a> ) see	Thank you for this positive comment. Following the review suggestion we stressed the nutritional value of seasonal evenness
244	Mahoney, Shane	3	32	780	32	784	Lines 780-784. The dedicated attempt to introduce longer-term temporal indicator dimensions to sustainable use indicators is very much a step forward. Having worked closely with long term trends in ungulate populations, there are many insights to be gathered	Thank you for this suggestion. we reinforced the importance of the temporal scale of use as suggested by the reviewer.
245	Webb, Grahame	3	32	780			There is also a "time scale of harvest" ... some species may be subject to annual harvest, but others biennial or triannual. Timber may involve decades. Some other harvests may be repeated on shorter time scales (months). It is not fixed.	Thank you for this suggestion. Following your suggestion we made this point clearer.
246	Botero-Arias, Robinson	3	32	787	32	792	Eastern Peruvian Amazon Hunters preferred large-bodied mammals and mammals with high economic value. Actual harvests did not reflect preferences of hunters. The game choice by hunters and susceptibility of species to hunting depended	Thank you for this comment. However, lines 787 to 792 refer to seasonal calendars.
247	Mahoney, Shane	3	32	790	32	790	Line 790 -These observational based methods were, essentially, very similar to those adopted by field researchers in the early days of wildlife science and are still foundational to many disciplines.	Thank you for this suggestion. This is indeed truth. we made this point clearer.
248	White, Michael	3	33	812	33	812	Maybe consider the Celtic Tree Calendar? Summer for instance doesn't begin until the Hawthorn (May) tree flowers open. Many versions open source online	Thank you for this suggestion. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to
249	Mahoney, Shane	3	33	813	33	820	Lines 813-820 -Such practices, like litter removal, may well, in some circumstances, have related to fire management efforts as well.	Thank you for this suggestion. It does not seem to require changes to the text.

250	Germany	3	33	815	33	815	Please consider different improved wording, e.g. (bold): "practice used"	Thank you for this suggestion. We improved the wording
251	Germany	3	33	821	33	821	Figure 3.14: For better reading a higher resolution would be desirable.	Thank you for this suggestion. We made the figure bigger.
252	China	3	33	825	33	826	Change 'in Tibet' to "in Tibet, Autonomous Region of China"	Thank you for this suggestion. we included the text as suggested
253	Webb, Grahame	3	34	844			These calendars also reflects seasonal affects on access to different areas to hunt and gather. The wet season results in tall, matted grasses, which need to be burned when the dry season arrives, before people can walk to different areas to hunt and	Thank you very much for this suggestion. We made this point clearer
254	Germany	3	35	863	35	863	Figure 3.15: Please increase the figure's resolution. Captions cannot be read.	Thank you for your comment. The figure's resolution will be higher in the finalized version of chapter .
255	Germany	3	36	882	36	882	Figure 3.16: Please increase the figure's resolution. Captions cannot be read.	Thank you for your comment. The figure's resolution will be higher in the finalized version of chapter .
256	Mahoney, Shane	3	36	894	36	895	Another example of cultural and harvest calendars can be found amongst the Inuit peoples, where caribou and/or marine mammals are the focus of millennia old systems of timing of harvests, preferred seasons for trade and cultural ceremonies and	Thanks for this suggestion. However we can not add other examples of calendars due to space limitation
257	Costello, Mark	3	37	943			Here and elsewhere, space is taken up telling the reader about what is missing or not known. Instead, a focus on what is known tells us something. Then nconclude with its limitations if that may not be representative. We cannot measure everything everywhere	Thank you for your perspective. The text includes what is known, however it is important to point out that there are times when what is not known is also useful. Knowledge gaps are the focus of a later section in the chapter, and also
258	Mahoney, Shane	3	38	954	38	956	Lines 954-956 -demonstrating that indigenous lands can have appropriate scale for implementation of global MEAs is a critical step forward in conceptualizing the bridge between more technocratic, occidental science processes and IPs ideas of	Thank you for this positive comment.
259	Burgess, Neil	3	38	960			There is also a new report on indigenous lands that could be useful. <a href="https://report.territoriesoflife.org/wp-content/uploads/2021/05/ICCA-Territories-of-Life-2021-Report-GLOBAL-ENG.pdf">https://report.territoriesoflife.org/wp-content/uploads/2021/05/ICCA-Territories-of-Life-2021-Report-GLOBAL-ENG.pdf</a>	Thank you for the reference. It has been included
260	Burgess, Neil	3	38	960			This paper also uses the Garnett data to look at some other values. <a href="https://advances.sciencemag.org/content/6/36/eabb2824">https://advances.sciencemag.org/content/6/36/eabb2824</a> There are also other similar papers like this one <a href="https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/cobi.13620">https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/cobi.13620</a>	Thank you very much for the reference. it has been included
261	Webb, Grahame	3	38	979			Rightly refers to "economies" which seems ignored in the earlier sections, which is highly confusing.	Thank you for this comment. Indeed we focus on exploring the role of wild specis to economy only in this section.
262	Botero-Arias, Robinson	3	38	983	39	986	The Amazon basin is the largest and most species-rich tropical forest and river system in the world, playing a pivotal role in global climate regulation and harboring hundreds of traditional and	Thank you for this reference. This reference is now included
263	Botero-Arias, Robinson	3	39	999	39	1000	Many factors drive wildlife hunting and consumption, including source of income, taste preference, culture, lack of alternative meat, meat price, and wealth, and the relative importance of these factors may vary from place to place. Chaves, W.A., Monroe,	Thank you for this comment. Due to lack of space and as this point is already made in the section we could not include the reference.
264	Pilling, Dafydd	3	39	1007	30	1009	Just to be clear: in all cases the figures refer to proportions of countries reporting this kind of use I.e. there were not multiple respondents within countries as seems to be implied by some of the wording.	Thank you for this comment. We changed the wording as suggested

265	Ryan, Mark	3	39	1010	39	1010	Here "... in recreational harvesting of wild foods." is mentioned in the text. This links to the comment above on line 264, and provides an example of why "recreational hunting" is more encompassing than "sport hunting", including when comparing the	Thank you for this comment. This was changed according to the suggestion
266	Webb, Grahame	3	39	1012			"formal and informal trade". Some plant materials harvested in one country by local people are traded internationally. Perfumes and essences are a good example .... Madagascar provides wild vanilla and various other essences to high-end markets in EU and	Thank you for this suggestion. We changed the text as suggested.
267	Webb, Grahame	3	39	1017			insert space	Thank you for this suggestion. Space was inserted
268	Jaramillo, Lorena	3	40 (3.2.2; SOD)	1040		1040	When referring to UNCTAD's work, kindly use the word BioTrade with B & T in CAPs -> BioTrade	Thank you for this comment. This was corrected.
269	Webb, Grahame	3	40	1043			"business" is correctly mentioned here but ignored in earlier sections. Inconsistent	Thank you for this suggestion. We indeed explore the role of economic and business in this section
270	Jaramillo, Lorena	3	40 (3.2.2; SOD)	1051	40	1056	Kindly note that BioTrade Principles and Criteria are implemented in over 80 countries as of May 2021. - <a href="https://unctad.org/topic/trade-and-environment/biotrade">https://unctad.org/topic/trade-and-environment/biotrade</a> Also, sales of BioTrade beneficiary companies reached Euro 5,15	Thank you very much for this comment. We included in the section.
271	Muir, Giulia	3	40	1059	41	1077	interesting, page 23. of SOFO 2014 ( <a href="http://www.fao.org/3/i3710e/i3710e.pdf">http://www.fao.org/3/i3710e/i3710e.pdf</a> ) estimates that the bulk of estimated income from INFORMAL production of NWFPs is by far in Asia, but we know these are huge underestimates...See Lovric	Thank you for this suggestion. The FaO report is now included in this paragraph.
272	Ryan, Mark	3	41	1059	41	1070	The terms "wild" and "wild organic" or variations thereof seem to be used interchangeably through this section. It is important to note that just because something is "wild" does not make it organic, especially not according to many organic certification	Thanks for this suggestion. We edited the text accordingly
273	Webb, Grahame	3	41	1103			"Practices and Uses". There is a serious need, before moving straight onto the various uses of living biodiversity, on different scales, to introduce the reader to a summary of the current scientific knowledge about how living biodiversity sustains uses	Thank you for your comment. The role of biodiversity within the sustainable use of wild species is addressed in chapter 1 and chapter 2. Sections 3.1 and 3.2 include broad overviews such as you suggest here.
274	Bohm, Monika	3	42	1129	42	1129	This introduction to fishing could do with a scene setting of marine versus inland fisheries - the introduction seems to mainly focus on aspects of marine fisheries, but it would be worthwhile structuring the section on fisheries slightly differently to allow better mention	Thanks for this suggested change of wording. As it does not change the meaning, it is a matter of style and we will not adopt it.
275	Webb, Grahame	3	42	1129	122	3598	This is a profoundly good assessment of "fishing", that clarifies many general issues about harvesting – fish and other wildlife. It seems a very opportune time to include some clear guidance on the manner in which the life history traits affect management and	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
276	Campbell, Darius	3	43	1174	44	1176	Perhaps better to refer to Tuna RFMOs and General RFMOs rather than 'non Tuna RFMOs'. Also the map seems a bit out of date NPFC is now established since July 2015. Perhaps ask FAO for an up to date map.	Thank you for your comment. We replaced "non-tuna" with "other" RFMOs. We removed the brackets around NPFC in Figure 3.17, bottom panel, to indicate that this RFMO is now established.
277	Germany	3	43	1174	44	1178	Figure 3.17: Please increase the figure's resolution. Captions cannot be read. Please also elucidate all abbreviations.	Thank you for your comment. The caption has been amended to provide a key to the RFMO acronyms.
278	Orenstein, Ronald	3	44	1179	44	1180	Mention should be made here of the increasing number of marine species, particularly Chondrichthyes, listed on the Appendices to CITES, and follow-up activities in relation to these including implementation workshops. Please consult Clarke, S. (2004). Shark Product Trade in Hong Kong and Mainland China and Implementation of the CITES Shark Listings. TRAFFIC East Asia, Hong Kong, China; Mundy-Taylor V. and Crook V. (2013). Into the deep: Implementing CITES measures for commercially-valuable sharks and manta rays. Report prepared for the European Commission	Thank you for your comment. A new box/section has been added, written by Nick Dulvy, reviewing these suggested topics.

279	Costello, Mark	3	45	1203			This is correct that non target species are not monitored generally. But most fished stocks are not monitored at all. Some are not even reported by species name but a more generic name. This should also be mentioned. The following sentence citing a	Thanks you for this comment. Text modified to reflect that many species are not monitored.
280	Costello, Mark	3	45	1210		1213	This is correct and very important, but omitted from the Exec Summary with a contradictory sentence about sustainable fisheries. It seems very uncertain and unlikely that most stocks are being fished sustainably even from a fishery perspective.	Thank you for this comment. The executive summary has been revised to include this information.
281	Kershaw, Francine	3	45	1210	45	1211	In addition to life history, genetic information on fish stocks would be important to consider when assessing sustainable use.	Thank you for your comment. There has been no systematic review of genetic changes in fish stocks that can be used to assess sustainable use. There is certainly evidence for evolutionary changes in fish life history under intense fishing
282	Campbell, Darius	3	45	1218	45	1218	NOT sure that the text " A major event was the United Nations resolution 61.105 (2005) which provided for responsible vulnerable marine ecosystems and non-target species ..." makes sense as currently drafted. Should it not say something like	Thank you for your comment. We have revised this sentence accordingly.
283	Campbell, Darius	3	45	1227	45	1227	The text refers to international agreements under UN, what about other intergovernmental agreements outside UN, eg regional fisheries organisations and regional seas organisations seems to be a gap in the text between UN and NGO organisations, need also to refer to the IGOs, maybe together with UN ie the	Thank you for your comment. Section 1.2.1.1 includes a review of RFMOs and other regional fishery bodies. The section does not review activities by environmental NGOs or other non-IGOs, which is outside the scope of this section and not related to the international management of marine
284	White, Michael	3	46	1250	46	1250	typo shark finning	Thank you for your comment. This was corrected.
285	Costello, Mark	3	46	1251		1253	But the effect of these non lethal fishing is the same as lethal one from the perspective of the natural environment and sustainable fishing - they are removed or die later.	Thank you for your comment. The text has been revised to clarify this comment on the effects from non-lethal marine capture fisheries for the live collection of organisms for the aquarium trade.
286	Costello, Mark	3	46	1254			we are now back to an uncritical use of FAO data. No critical judgement seems to be present here, or use of alternative expert developed resources like SAUP, or peer reviewed literature. This is basically saying "see FAO" so why both wasting space if there is no expert assessment involved here, just repeating FAO information verbatim.	Thank you for your comment. FAO provides the only global analysis. SAUP used to do this in the 1990s based only on catch trends but they have abandoned that and don't evaluate changes in stock abundance. We refer to FAO as "most cited" and there is high overlap between FAO and national or RFMO assessments.
287	Germany	3	46	1276	46	1276	underfished: Is there also a - ecologically based - scientific definition of an "underfished" stock of fish - besides the purely economically based FAO definition? Please provide such a scientific definition. Cf. also comment above.	Thank you for your comment. The only definition that we know of is the FAO one described in line 1276 -- they simply define it as being well above the abundance that would produce maximum sustainable yield.
288	Costello, Mark	3	46	1277			IPBES should highlight that the FAO definition of sustainability only means more fish can be caught - it does not mean this is sustainable from the environmental perspective (seabed dredging) or collateral killing of threatened species. If IPBES does	Thank you for your comment. We include a review of effects of marine capture fisheries on endangered, threatened and protected bycatch species and habitat, and broader ecosystemic indirect effects of fishery removals through
289	Campbell, Darius	3	47	1286	45	1286	Why not use the latest FAO publication version of this (2020) in which the graph ends in 2017 not 2015?	Thank you for comment. The figure was updated with the most recent version from the 2020 FAO report.
290	Mahoney, Shane	3	47	1288	47	1294	Lines 1288-1294 - Clarifying the policy interpretations of the terms maximally sustainably fished and over-fished, is highly useful, as the public and political perception of these terms is often muddled and incorrect.	Thank you for your comment. FAO's definition "maximally sustainably fished" does not refer to the amount that can be harvested, but the abundance of the stock being in a certain range.

291	Webb, Grahame	3	47	1288	47	1299	This statement is not simply correct but profoundly important to the complete IPBES task at hand. Fish populations are really no different from other animal populations, and many of the lessons learned with fisheries are simply not extended to other species. "Maximally sustainably harvested" wildlife populations are exactly the same. "Overexploited" has exactly the same meaning as "overfished". Stocks can rebuild if harvesting pressure is reduced.	Thank you for your comment. FAO's definition "maximally sustainably fished" does not refer to the amount that can be harvested, but the abundance of the stock being in a certain range.
292	Boguski, David	3	47	1290	47	1291	Consider simplifying the definition of 'maximumly sustainably fished' for clarity. Perhaps '...the largest abundance that can be taken from a species' stock over an indefinite period.'	Thank you for your comment. FAO's definition "maximally sustainably fished" does not refer to the amount that can be harvested, but the abundance of the stock being in a certain range.
293	Webb, Grahame	3	47	1300	47	1306	"Very low abundance" has the exact same science meaning with other wildlife. This should also be made clear. Part of the problem here, is that the IUCN decline criteria (there are multiple criteria) really indicate "decline only", and although the Red List	Thank you for your comment. Unfortunately we could understand the point that was made with this comment and could not address it in the chapter.
294	Costello, Mark	3	47	1307		1313	This is sweeping conclusion based on one paper. There is a rich literature on this topic that is being ignored here and reaches different conclusions.	Thank you for your comment. This conclusion is from a data base of over 1000 individual fish stocks, regional analyses for Europe and the US by other authors show the same trend and a recent paper by Duarte et al that appeared after the
295	Costello, Mark	3	48	1320			Is there a conflict of interest here in that this section is dominated by a paper by one of the report authors? I am not questioning the papere but this does not seem like an independent critical review of current knowledge like IPBES intends.	Thank you for your comment. The paper in question relied on data from dozens of countries and thousands of scientists and was authored by roughly 20 scientists from around the world. There is another analysis that appeared recently by
296	Germany	3	50	1343	50	1348	Figure 3.20: Please explicate whereupon abundance refers to. Please also explain the scale of abundance used in the figure.	Thanks you for this comment. The legend has been expanded.
297	Majda, Achach	3	50	1343	50	1343	FIGURE 3.20: the map of Morocco which appears on this figure is not correct. IPBES is kindly invited to adjust this situation and maintain the same approach adopted for the previous reports.	Thank you for your comment. Pursuant to resolutions of the United Nations General Assembly and Security Council, Western Sahara enjoys the status of a Non-Self Governing Territory within the United Nations. The General Assembly
298	Sousa Pinto, Isabel	3	51	1349			some of the interesting uses are new materials as bioplastics and from (wild) seaweeds and new fabrics	Thank you for your comment. There are several emerging or experimental uses of wild species that cannot be relevant to the assessment of the status and trends in use.
299	Costello, Mark	3	49	1352			Good to see example from a different study that seems to contradict the previous example. Contrary to the text, all trends seem downward. But still only 2 studies.	Thank you for your comment. The Costello 2012 paper uses data from a much smaller number of fish stocks but does show the same trend as Hilborn et al 2020 for assessed stocks.
300	Germany	3	52	1370	52	1371	Figure 3.22: Please increase the figure's resolution. Captions cannot be read. Please also elucidate all abbreviations in the entitlement.	Thank you for comment. Abbreviations were added and the figure was updated to a higher resolution.
301	Sousa Pinto, Isabel	3	51	1383			estimates that take all this in cnsideration are available e.g. searound us	Thank you for your comment. Searound us do not estimate abundances.
302	Germany	3	53	1393	53	1394	The figure is not self-explanatory. Please elucidate the figure's background.	Thank you for your comment. We have expanded the explanation in the caption.
303	Sousa Pinto, Isabel	3	52	1406		1410	References are quite old and probably do not conform to the reality of today	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. We have revised the text.
304	Costello, Mark	3	53	1414			this is excellent content. However, it shows how misleading the prior FAO figures on fishery catch were because they only represent 1/3 of fishery catch destined for human consumption. A better balance and CRITICAL EXPERT Assessment is needed of	Thanks for your comment. We made our best efforts to provide a critical evaluation of peer reviewed literature on small-scale fisheries. We agree that biodiversity and ecosystem services are important, but please note that this

305	White, Michael	3	54	1450	55	1463	Vitally important: fish are migrating from equator to higher, cooler latitudes: a major problem for subsistence fishers. Hot water holds less oxygen	Thank you for this interesting comment, but we cannot include this observation without supporting literature. Anyway, these climate change effects would fit better in Chapter 4 (drivers)
306	Costello, Mark	3	56	1499			IS this a new section without a heading on Ecological Sustainability - it is a good idea because the previous use of sustainability with respect to fisheries is limited to continued fish catch regardless of environmental impacts. For IPBES, the term	Thank you for these interesting observations. In fact, this is not a section related to ecological sustainability, but only a overall explanation about the methodological approach to review studies and evidence on small-scale fisheries.
307	Butchart, Stuart	3	58	1501			This section could usefully cite information from the following papers: Butchart, S. H. M. (2008) Red List Indices to measure the sustainability of species use and impacts of invasive alien species. <i>Bird Conserv. Int.</i> 18 (suppl.) 245-262. [includes the most	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. We feel our analytical approach is more informative than individual case studies, and we have already incorporated a few of these.
308	Majda, Achach	3	56	1511	56	1511	FIGURE 3.24: the map of Morocco which appears on this figure is not correct. IPBES is kindly invited to adjust this situation and maintain the same approach adopted for the previous reports.	Thank you for your comment. Pursuant to resolutions of the United Nations General Assembly and Security Council, Western Sahara enjoys the status of a Non-Self Governing Territory within the United Nations. The General Assembly
309	Boguski, David	3	56	1521	57	1559	This section lacks accuracy and depth. The summary of the global distribution on small-scale fisheries is limited, here, by Google Scholar's search algorithm based on the first 200 hits, which only represents approximately 1% of the available online literature post-	Please note that the goal of our review was not to provide a broad assessment of small-scale fisheries, but to provide an assessment of sustainable (or potentially sustainable) small-scale fisheries, hence our search terms were chosen and
310	Boguski, David	3	57	1562	57	1568	I believe it prudent to provide a strong justification for the use of (only) 19 studies used to inform the sustainability of small-scale fisheries globally, or highlight limitations	Thank you for this observation. In fact, there are not many studies making a global synthesis of small-scale fisheries that bring sufficient data to inform status and trends. We retrieved 49 studies with a global focus on fisheries from our
311	Belgium	3	58	1573	0	0	Generally, it seems that fisheries on crustaceans and molluscs have not been addressed explicitly. There are only references to 'marine invertebrates'.	Thank you for your comment. Please note that this phrase quotes a global survey (Anderson et al. 2011) on fishing patterns of many invertebrate species, which includes molluscs, crustaceans and many others. We clarified this
312	Boguski, David	3	58	1583	58	1594	Paragraph better suited to inform regional fisheries in North America	Thank you for your comment. Although we recognize that both Florida and Hawaii belong to the U.S., we consider that this study comparing fisheries between Florida and Hawaii has a broader scope than regional fisheries in North America,
313	Costello, Mark	3	58	1586			This sentence adds to the confused messages about whether fisheries are recovering or not. It needs to clarify what "many" , "global" and Fish stocks" it is referring to.	Thank you for your comment. We removed that statement, since it is too broad and we noticed that the study is mostly focused on large scale fisheries, not small scale fisheries, which are the focus of this section.
314	Orenstein, Ronald	3	58	1595	58	1595	I am amazed that there is no mention anywhere in this chapter of the trade in Acipenseriformes (sturgeons and paddlefishes, including the caviar industry). Please consult Tavakoli, S., Luo, Y., Regenstein, J. M., Daneshvar, E., Bhatnagar, A., Tan, Y., &	Thank you for your comment and to bring this group of species to our attention. The assessment aims to cover major cases and examples and sometimes it is difficult to focus on a particular species or groups. However, we
315	Costello, Mark	3	59	1626		1628	Sentence needs rephrasing.	Thanks for this suggestion. The sentence was changed in the new version.
316	Costello, Mark	3	59	1645		1647	details of study methods (biometry) do not seem necessary for an assessment report like this.	Thanks for this suggested change, we summarized this part of the text related to indicators adopted in the reviewed studies.
317	Orenstein, Ronald	3	57	1650	57	1650	Please consult Olopade, O.A., Olaniyi, I.O., Taiwo, I., & Dienye, H. (2017). Management of Overfishing in the Inland Capture Fisheries in Nigeria. <i>Journal of Limnology and Freshwater Fisheries Research</i> , 3(3), 189–194.	Thank you for suggesting these references, but these could be cited somewhere in the text, as this part of the text refers more specifically to Europe and the suggested studies are from Africa and Latin America. We include a citation of
318	Costello, Mark	3	60	1651			"frequent" is used twice in paragraph - it would be informative to give a % of studies or some idea of what it means.	Thanks for this suggested change. We have included the % of studies in the sentence, as suggested.
319	Costello, Mark	3	60	1662		1664	sentence says "limited" (everything is limited) and the following text contradicts it by listing many indicators. Reword?	Thank you for the suggestion. We deleted the word 'limited' in this sentence.

320	Jaramillo, Lorena	3	459 (References; SOD)	1692	459	1692	When referring to UNCTAD's work, kindly use the word BioTrade with B & T in CAPs -> BioTrade	Thank you for this comment. This was corrected.
321	Butchart, Stuart	3	67	1706			This section should really refer to the vast magnitude of the Asian Songbird trade and associated crisis for conservation of the targeted species. There is a considerable literature on this.	Thank you for your comment. However it seems that the comment was misplaced as it was not relevant for the fishing section.
322	Butchart, Stuart	3	70	1753			The section addresses "What are the consequences of sustainable use of wild species on the status of species' populations", but makes no mention of the most comprehensive indicator available for measuring the impacts of use (in all its	Thank you for your comment. The objective of this assessment is to consider various approaches to the enhancement of the sustainability of the use of wild species of all organisms within the ecosystems that they inhabit and
323	Costello, Mark	3	62	1760			why did it focus on freshwater and not marine fisheries? It seems extraordinary than marine fisheries are omitted here, and the role of overfishing by foreign fleets and affects on local communities is well known, leading to former fishermen's boats being used for	Thank you for this observation. The section on small-scale fisheries was split and part of it is in the small-scale fisheries for food section further up in the text. Please note that we do refer to African coastal fisheries and the problem of
324	Belgium	3	62	1763			We strongly suggest to cite this paper here: Els De Keyzer; Pascal M Masilya; Alunga L Georges; Christian M Amisi; Armand M Andema; Kwibe Assani; Prosper Bashengezi; Alexis B Bashonga; Abel R Bashonga; Béni L Hyangya; Christian	Thank you for your comment. This study brings information already included in the text on African fisheries, being thus another example to support a point already made, so we have chosen not to include it.
325	Mikiko, Hagiwara	3	61	1772	61	1779	Input: There is a report on shark fishing in Republic of Congo, where small-scale fishing and industrial fishing are competing the resource and it results in decrease of the resource. <a href="https://www.traffic.org/publications/reports/artisanal-shark-trade-in">https://www.traffic.org/publications/reports/artisanal-shark-trade-in-</a>	Thank you for your comment, but this would be yet another example to support a point already made and is based on an unpublished report, so we have chosen not to include it.
326	Orenstein, Ronald	3	64	1813	64	1813	I am similarly amazed by the omission of any reference to the fishery for Queen Conch ( <i>Strombus gigas</i> ), historically one of the most heavily-traded marine species listed under CITES. Please consult Hernandez-Lamb, J., Dibello, A., Lewis, S., Mackin, G.,	Thank you for this reminder. The suggested reference seems to be more related to the effects of marine protected areas and thus may fits better to the Chapter 4 (drivers). However, we do consider the fishery of Queen Conch, as we mention
327	Sousa Pinto, Isabel	3	67	1845	71	1985	having a table with the papers used would enable the reviewers to suggest additional references if relevant	Thank you for your comment. Please note that such large table with all studies is already included the Supplementary Material Table S3.1, which is in the Supplementary Material and is cited throughout the text.
328	Costello, Mark	3	67	1861			So few studies from N America and so many from S America (and Africa) - is that representative? Why does the number of countries matter? Surely it is the geographic area and number of coastal fisheries?	Thank you for your comment. We agree that number of countries may not be the main factor related to this difference in the number of studies, and that phrase was now removed as suggested by other reviewer. We suppose there would be
329	Costello, Mark	3	66	1885			Define TURF or better still, avoid acronyms so as not to make it difficult for non-peer readers.	Thank you for your comment, we replaced TURF by its meaning (territorial users' rights fisheries) along the text.
330	Boguski, David	3	67	1965	67	1966	"This reduced number of studies compared to the other regions is expected, as there are only two countries included in this region" - remove	Thank you for your comment, phrase removed as suggested.
331	Watt, Cortney	3	67	1972	67	1972	The term remarkably should be removed. It is hardly remarkable that local resource users would have valuable data to contribute, regardless of any financial/technical capacity.	Thank you for your comment, this term was removed, as suggested.
332	Costello, Mark	3	70	2084			No supporting reference cited here. The government, industry and their scientists may say this but this is contradicted by the evidence of high-grading, illegal dumping of catch, overfishing and lack of recovery of spiny lobsters and snapper, crew abuse and	Thank you for your comment. As suggested, we deleted the comment regarding 'well managed large scale commercial fisheries' and mentioned only the issue related to Maori fisheries, which was addressed by the cited reference
333	Watt, Cortney	3	71	2111	71	2112	I think small scale subsistence fisheries are pretty widespread in the Arctic also	Thank you for this observation, we now rephrased to mention the Arctic 'especially where small-scale fisheries are widespread, such as in most tropical countries and in the Arctic'.
334	Bohm, Monika	3	73	2218	73	2221	There are other paper on using fisher's knowledge to study bycatch of threatened species, e.g. in Bangladesh for river dolphins; Dewhurst-Richman et al. 2019 <a href="https://doi.org/10.1111/acv.12523">https://doi.org/10.1111/acv.12523</a>	Thank you for your comment, this study was added to the text, as suggested.

335	Orenstein, Ronald	3	74	2242	74	2244	For a review of the legal issues involved please consult Wold, C., & Kearney, M. D. (2015). The Legal Effect of Greenland's Unilateral Aboriginal Subsistence Whale Hunt. American University International Law Review, 30(3), 561–609; Hennig, M.,	Thank you for your comment. While these are interesting and important topics, their direct relevance to Box 3.3 is not clear. Many aspects of Indigenous whaling could be considered, but there is limited space and not everything can be included.
336	Watt, Cortney	3	74	2252	74	2253	Over 1000 beluga are taken worldwide or where? This sentence needs a reference	Thank you for your comment. Worldwide added to the start of the sentence, and the reference to the NAMMCO 2018 report moved to the end of this sentence.
337	Watt, Cortney	3	74	2253	74	2253	I would just state "in nearly all locations" as it is not true for the Cumberland Sound population	Thank you for your comment. This was changed as suggested.
338	Watt, Cortney	3	74	2254	74	2255	It is unclear what the references pertain to - they should come at the end of this sentence.	Thank you for your comment. The citations were moved as suggested.
339	Watt, Cortney	3	74	2254	74	2255	should cite Hobbs et al. 2020. Global Review of the Conservation Status of Monodontid Stocks. Marine Fisheries Review. 81(3-4):1-53. doi: 10.7755/MFR.81.3-4.1	Thank you for your comment. The citation was added to the beluga and narwhal sentences.
340	Watt, Cortney	3	74	2255	74	2256	this sentence requires a reference. The annual harvest for narwhal is much higher in some locations - is this a worldwide statistic?	Thank you for your comment. Sentence qualified to refer to "worldwide" harvest; citations to NAMMCO 2018 and Hobbs et al. 2020 added.
341	Watt, Cortney	3	74	2256	74	2256	I would just state "for most populations", but it is not true for the east Greenland population.	Thank you for your comment. This was changed as suggested.
342	Watt, Cortney	3	74	2264	74	2264	All of which harvests? The Greenland ones or all the marine mammal harvests? It is unclear, but Canadian marine mammal harvests are not under IWC.	Thank you for your comment. Qualified to refer to "Greenland large whale" harvests, since the IWC does not regulate small whales, either.
343	Watt, Cortney	3	74	2266	74	2266	I would delete occasionally since the next sentence suggests a significant number are taken annually in some communities	Thank you for your comment. This was deleted as suggested.
344	Costello, Mark	3	75	2274			What is composition in the table, species abundances in the catch?	Thank you for your comment. Composition here refers to relative abundance and number of species in the catch, this explanation was added to the table legend.
345	Costello, Mark	3	82	2329			repeats previous sentence line 2323	Thank you for your comment. This was revised to eliminate duplication
346	Singh, Baljinder	3	83	2380	84	2383	Information here uses language that could be softened viz. levels of certainty. "Direct mortality by pelagic marine fisheries is the main driver of reductions in the size and abundance of pelagic apex predators,	Thank you for your comment. We have revised the section to address the comment on the relative degree of certainty of the status of stocks of principal market species of tunas and billfishes, and of populations and stocks of incidentally
347	White, Michael	3	88	2502	88	2504	www.globalfishingwatch.org is very good	Thank you, we were aware of this project. We had a preference for the use of peer reviewed published data with associated analysis.
348	Mahoney, Shane	3	91	2537	91	2576	Box 3.3. It is interesting to contrast the approach of the IWC to recover whale populations, and the Canada/US approach of the early 20th century to recover hunted wildlife species. The IWC has used moratoriums; the NA approach was to use incentivized	Thank you for your very valuable comment. However we have very limited text volume and cannot incorporate this issue properly.
349	Takehara, Mari (Ministry Environment of Japan)	3	91	2541	91	2541	Please add an article by Cosentino and Fisher(2016) to the References since it is missing.	Thank you for your valuable comment. We have corrected the text accordingly.

350	Takehara, Mari (Ministry Environment of Japan)	3	91	2541	91	2543	Greenland (Denmark) has been conducting aboriginal subsistence whaling targeting minke, fin, bowhead and humpback whales as well as commercial whaling targeting narwhal, beluga and other small cetaceans. Faroe Islands (Denmark) has been conducting	Thank you for your valuable comment. We have corrected the text accordingly.
351	Takehara, Mari (Ministry Environment of Japan)	3	91	2550	91	2550	"global moratorium" should be corrected to "zero quota" as this is more accurate term in line with the Schedule of the International Convention for the Regulation of Whaling (ICRW).	Thank you for your valuable comment. We have corrected the text accordingly.
352	Takehara, Mari (Ministry Environment of Japan)	3	91	2553	91	2553	Japan should be omitted since Japan withdrew from ICRW in 2019.	Thank you for this one and other very valuable comments that helped to improve the text significantly. We have corrected the text accordingly.
353	Takehara, Mari (Ministry Environment of Japan)	3	91	2556	91	2556	"Poland, and Uruguay" should be replaced with the phrase "Uruguay, and many EU members including Poland" since it will reflect the fact that many other EU members became IWC member countries in the late 2000s. This is because there were	Thank you for your valuable comment. We have corrected the text accordingly.
354	Takehara, Mari (Ministry Environment of Japan)	3	91	2556	91	2558	The sentence should be corrected as "Thus, aquatic meat for commercial use is currently obtained through hunts under regional or national regulation as well as from stranded (dead or alive) and bycaught animals.", since hunting outside IWC does not	Thank you for your valuable comment. We have corrected the text accordingly.
355	Takehara, Mari (Ministry Environment of Japan)	3	91	2558	91	2559	This sentence should be corrected as "Japan suspended commercial whaling in 1988 and began whaling for scientific research in 1987 to gather population data in accordance with the paragraph 10e of the Schedule of the International Convention for	Thank you for your valuable comment. We have corrected the text accordingly.
356	Orenstein, Ronald	3	91	2559	91	2559	This fails to take into account the judgment of the International Court of Justice and other findings that Japan did not take up scientific whaling to "gather population data" but as a cover for commercial activities. Please consult Clapham, P. J. (2015).	Thank you for your comment. We have corrected the text accordingly.
357	Takehara, Mari (Ministry Environment of Japan)	3	91	2559	91	2560	This sentence should be corrected as "In accordance with the provisions of ICRW (Article 8), all meat taken from whales caught for scientific whaling were processed and sold in stores and restaurants, and the proceeds obtained from the sales were used	Thank you for your valuable comment. We have corrected the text accordingly.
358	Takehara, Mari (Ministry Environment of Japan)	3	91	2560	91	2561	This sentence should be corrected as "In 2019, Japan withdrew from the ICRW, in line with Japan's basic policy of promoting sustainable use of aquatic living resources based on scientific evidence and resumed commercial whaling after 31 years of	Thank you for your valuable comment. We have corrected the text accordingly.
359	Orenstein, Ronald	3	91	2561	91	2561	Fails to mention that Japan withdrew from the IWC and abandoned commercial whaling outside of its own EEZ. Please consult Holm, F. (2019). After Withdrawal from the IWC: The Future of Japanese Whaling. The Asia-Pacific Journal   Japan	Thank you for your valuable comment. We have corrected the text accordingly.
360	Takehara, Mari (Ministry Environment of Japan)	3	91	2564	91	2566	This sentence should be corrected as "IWC member countries that take whales are obliged to provide statistical, scientific and other pertinent information to the International Whaling Commission." since it would make clear which countries this	Thank you for your valuable comment. We have corrected the text accordingly.
361	Bercovitch, Fred	3	91	2565	91	2576	Wouldn't the same logic apply to terrestrial endangered species, i.e. a ban on hunting would be predicted to yield a rebound in population numbers? Whether 'commercial' or 'individual', the mechanism for the reduction in the number of animals is hunting.	Thanks for this comment. The assessment report is mandated to provide policy-relevant information, not policy recommendations, so we would not be able to make the recommendation suggested.
362	Takehara, Mari (Ministry Environment of Japan)	3	91	2566	91	2567	This sentence should be corrected as "While the western North Pacific stock of common minke and Bryde's whales are confirmed by the IWC Scientific Committee to be relatively abundant," since the stock name for minke whales should be added as well as how	Thank you for your valuable comment. We have corrected the text accordingly.
363	Takehara, Mari (Ministry Environment of Japan)	3	91	2567	91	2567	"long-lived" should be deleted since Minke and Bryde's whales are also long lived.	Thank you for your valuable comment. We have corrected the text accordingly.
364	Takehara, Mari (Ministry Environment of Japan)	3	91	2567	91	2568	"slow-reproducing" should be deleted since there is not enough scientific evidence that proves this.	Thank you for your valuable comment. We have corrected the text accordingly.

365	Takehara, Mari (Ministry Environment of Japan)	3	91	2567	91	2568	After the phrase of "to be relatively abundant," this sentence should be inserted: "abundance estimate of North Pacific stock of sei whale is still under examination by the IWC Scientific Committee although it has been substantially recovered. Thus, sei whales as a whole are still classified as endangered by the IUCN.", since these stocks are still under examination by the IWC SC.	Thank you for your valuable comment. We have corrected the text accordingly.
366	Takehara, Mari (Ministry Environment of Japan)	3	91	2569	91	2569	The resolution was not adopted by consensus but by voting with a substantial number of oppositions to this resolution. Therefore, "the International Whaling Commission reaffirmed..." should be replaced by "despite a substantial number of opposition, the	Thank you for your valuable comment. We have corrected the text accordingly.
367	Mahoney, Shane	3	93	2604	93	2605	Lines 2604-2605 - This inability to distinguish wild from farmed fish in our databases will be surprising for many, and, agreeing with the authors, makes it very difficult to provide this assessment. presumably this issue will surface in	Thank you for your comment, this issue has been added to the identified "Knowledge Gaps" section.
368	Germany	3	93	2621	93	2621	Please explain shortly (e.g. footnote) the scientific term 'diadromous'.	Thank you for your comment. A short explanation was added.
369	Majda, Achach	3	94	2624	94	2624	FIGURE 3.33: the map of Morocco which appears on this figure is not correct. IPBES is kindly invited to adjust this situation and maintain the same approach adopted for the previous reports.	Thank you for your comment. This map comes from a published paper and was not produced by the authors. The designations employed and the presentation of material on the maps used in the present report do not imply the
370	Mahoney, Shane	3	95	2663	95	2663	Line 2663...the role played by women in the dry fish component of small-scale fisheries, is an important point and does not only pertain to the countries and regions identified here. Historically, and for centuries (up until the 1960's) this aspect of fish	Thank you for your comment. We have incorporated some revisions to suggest that "the role played by women in the dried fish sector does not only pertain to the less developed countries and regions. Historically, and for centuries (up until
371	Costello, Mark	3	96	2698			are not most mussels grown from wild settled spat and eels from wild elvers? And mussel and eel production is reasonably well documented, perhaps also is Australian tuna production from wild fish.	Thank you very much for your suggestion but we are unable to include it as you have not provided any references base our discussion on.
372	Costello, Mark	3	98	2735		2738	what are the C and D at end of sentences referring to?	Thank you for your comment. These refer to the Figure 3.35; we added the right reference to the figure.
373	Costello, Mark	3	99	2772			this section repeats the previous sections on regional small scale fisheries.	Thank you for your comment. This occurs due to the structure chosen for the assessment, we made some editing to join both sections, thus eliminating repeated content and shortening the text.
374	Mahoney, Shane	3	100	2788	100	2790	Lines 2788-2790 - many public observers feel that small scale fisheries are, almost by their nature, more sustainably practiced, than larger scale commercial operations. Thus, the contrary evidence is important.	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
375	White, Michael	3	101	2834	101	2835	A widespread problem even though under-reported for IPLC	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
376	Perez Gil, Ramon (Mexico)	3	102	2888	102	2891	Octopus maya is an immense common-pool resource off the coast of the state of Campeche in the Yucatan Peninsula of Mexico whose extraction is not sustainable according to other sources. In fact, things might be even worse, for, in response to	Thank you for mentioning this, the suggested study and this additional perspective were included in the text and the sustainability of octopus fishery in Yucatan is now mentioned to be unresolved and both views are presented.
377	Mahoney, Shane	3	104	2971	104	2971	Line 2971 - the absence of long-term data on recreational fishing in North American is noteworthy, as the activity is heavily engaged in both Canada and the United States. The Wild Harvest Initiative (Conservation Visions Inc; insights @conservationvisions.com) )	Thank you for this update, but we are unable to insert this without supporting scientific literature. It is possible that the relatively few studies on recreational fisheries are due to the search terms employed, which were more directed to overall
378	Sousa Pinto, Isabel	3		2974		2976	sentence repeated - one example of what has been found in the chapter and needs to be cut (I found several repetitions of the same text or similar)	Thank you for your suggestion. The positive feedback is greatly appreciated by the chapter authors.

379	China	3	106	3049	106	3051	Delete the context related to China as the reference about China is out of date. In 2017, China issued the Notice on Further Strengthening the management and control of domestic fishing vessels and implementing the total management of marine fishery	Thank you for your comment. The efforts of the Chinese government to manage fisheries are wellcome and noteworthy, but please note that this text in the assessment refers specific to sharks' fisheries and the assessment should
380	China	3	112	3050	112	3051	Delete " and China (Lam & Sadovy De Mitcheson, 2011 ) "	Thank you for your comment. The efforts of the Chinese government to manage fisheries are wellcome and noteworthy, but please note that this text in the assessment refers specific to sharks' fisheries and the assessment should
381	Webb, Grahame	3	107	3084			The development of community-based fishing rights in Japan has a long history, where local communities were given rights to control and regulate especially sedentary marine resources, and to my knowledge still do. It has promoted a community based	Thank you for this interesting comment regarding the co-management of Japanese fisheries, but please note that it is hard to find incomplete references, some of which are outdated (published about 25 years ago). We made a search
382	Bassetti, Luis	3	108	3118	108	3123	Inform that in addition to fish, other species may have the same characteristics. Studies indicate that omega 3 and omega 6 polyunsaturated fatty acids are essential for the proper functioning of cellular activities. In this sense, studies related to the nutritional	Thank you for this comment. We are not trying to assess the possible sources of EPA and DHA, but the status and trends in their use.
383	Orenstein, Ronald	3	111	3212	111	3212	I believe that it is irresponsible to refer to any product of a wild species as "inexhaustible". That's what they said about Passenger Pigeons.	Thank you, we do agree that this term is inappropriate; "important" is now used instead of "inexhaustible"
384	Singh, Baljinder	3	112	3214	112	3216	For improved clarity & grammar, I recommend changing this to: "order Neogastropoda, which has at least 15,000 recorded species, most of which are suspected to be venomous (Puillandre et al. 2011)."	Thanks for your input; text has been changed.
385	Orenstein, Ronald	3	112	3232	112	3232	Kohn (2019) not in bibliography; do you mean Kohn (2016), Human injuries and fatalities due to venomous marine snails of the family Conidae. International Journal of Clinical Pharmacology and Therapeutics, Vol. 54 (7): 524-538?	Thank you for your valuable comment. We have corrected the text accordingly.
386	Biondo, Monica V.	3	119	3515	119	3515	The global value of the ornamental fish trade including accessories such as tanks, food, filters, heaters, drugs, and other items for freshwater and marine fishes seems to have grown from USD 7.2 billion in 1980 to between USD 20 billion and 30 billion in	Thank you for your comment. This comment was addressed in a box on ornamental fish produced by this reviewer.
387	Biondo, Monica V.	3	119	3515	119	3515	A few attempts have been made to try and make this industry more transparent. The Global Marine Data Base (GMAD) was introduced in 2002 and collected importer data for 1998 and 1999, and exporter data for 2000 and 2001, with 41 contributing	Thank you for your comment. This comment was addressed in a box on ornamental fish produced by this reviewer.
388	Biondo, Monica V.	3	119	3515	119	3515	There are other trade organization and data collection systems but they either are not equipped properly as they collect value and weight (including the water the fishes are transported in (for example the European Statistical Office (EUROSTAT) and/or are	Thanks for this valuable comment. Gaps in data collection, availability and relevance for accurate assessments for conservation purposes are issues that have been raised in this assessment. We'll introduce some ideas from your
389	Biondo, Monica V.	3	119	3515	119	3515	In 2019, the 183 member states of CITES agreed to commence in scrutinizing trade in marine ornamental fishes ( <a href="https://cites.org/eng/dec/valid17/82264">https://cites.org/eng/dec/valid17/82264</a> ) but so far, no steps have been taken. In view of the deplorable state that coral reefs are in,	Thank you for this constructive input. Text have been added.
390	Biondo, Monica V.	3	120	3518	120	3521	Background: In 2007 the United States of America proposed to list the species on the CITES appendices (CoP14 Com. 1 Rep. 10 (Rev. 1)). However, due to the opposition of Indonesia which stated that 'since 2004 it had been working with the EU to	This comment was addressed in a box on ornamental fish produced by this reviewer.
391	Biondo, Monica V.	3	120	3518	120	3521	The endangered Banggai cardinalfish, Pterapogon kauderni, is a coral reef fish species endemic to an area of 34 km2 in a remote part of Eastern Sulawesi, Indonesia. Discovered in 1994, the species had declined up to 90% by 2004 due to capture for the	This comment was addressed in a box on ornamental fish produced by this reviewer.
392	Orenstein, Ronald	3	120	3518	120	3521	Recent surveys have shown that the global wild population of this species continues to decline. Surveys from 2017 to 2019 found no juveniles at one site, no adults at another, near-extirpation at another site and further declines in overall Banggai cardinalfish	Thank you for indicating this study, we now added a brief comment about it in the text. However, please note that this study does not necessarily point to 'further declines in overall Banggai cardinalfish abundance over time'. In fact, the
393	Biondo, Monica V.	3	121	3555	121	3557	Without a reliable way to compile sound data on species composition, numbers, and origin of marine ornamental species imported, any claims by the marine aquarium industry on its sustainability are based on assumption and not science-based	This comment was addressed in a box on ornamental fish produced by this reviewer.

394	Orenstein, Ronald	3	121	3555	121	3557	Mention should be made here of the effect of illegal gold mining in the Amazon on both fish populations and the health of people consuming fish carrying high mercury loads. Please consult Hacon, S. de S., Oliveira-Da-Costa, M., Gama, C. de S., Ferreira,	Thanks for this comment, but please note that in the mentioned passage we refer to ornamental fish, which will not be consumed so contamination would not affect people. We included a comment on this relevant issue regarding mercury
395	Biondo, Monica V.	3	120	3585	120	3585	Although Indonesia describes its measures taken to protect the Banggai cardinalfish species, the references cited in their report to CITES ( <a href="https://cites.org/sites/default/files/eng/com/ac/31/Docs/E-AC31-31-R1.pdf">https://cites.org/sites/default/files/eng/com/ac/31/Docs/E-AC31-31-R1.pdf</a> ) clearly state that certain populations continue to	This comment was addressed in a box on ornamental fish produced by this reviewer.
396	Baumflek, Michelle	3		3603		3608	Establishing these numbers of vascular plant species and fungi is clearly important to this assessment, though referring to accepted names/species focuses understanding of them into a Western Science framework. Acknowledging the myriad Indigenous and	Thank you for the comments. We fully agree with you. We mentioned this information later in subsection of the purposes of gathering plants and fungi.
397	Rangel, Maite Lascrain	3	122	3609	122	3611	It is an incomplete definition. Products that are collected from wild trees should be considered.	Thank you for your comment. This term is defined in the glossary.
398	Webb, Grahame	3	122	3616			Add in shelter ... bark is used for making shelters of Indigenous Australians. Also for art work. Often results in death of the tree. But paper bark, just peeled off in layers, is used for many purposes (cooking, comfort, drinking vessels, etc) and does not	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
399	Baumflek, Michelle	3		3621		3623	Ticktin 2004, or a similar recent publication, would be an appropriate supporting citation for this sentence. Ticktin, T. (2004). The ecological implications of harvesting non-timber forest products. <i>Journal of applied Ecology</i> , 41(1), 11-21.	Thank you for the suggestion. The Chapter authors appreciate the information and adopt it in the new version.
400	Webb, Grahame	3	122	3636			"best compromise"(?)... for whom. Such products can be used legitimately for subsistence and/or trade. What I think is meant here is that traditional uses of such products are generally considered sustainable, but if an outside demand significantly	Thank you for making this point. It does not seem to require changes to the text.
401	Rangel, Maite Lascrain	3	123	3638	123	3640	Before commercial harvesting of wild plants ... This is because the commercial harvesting has	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
402	Svizzero, Serge	3	123	3640	123	3640	word missing: "...is debatable"	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
403	Webb, Grahame	3	123	3654			Seems odd that not much reference bis made to traditional uses of plants by Indigenous people. Many books on traditional uses of plants by traditional Indigenous people. A good reference for Aboriginal people in Northern Australia is Brock 2003.	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. We believe that these data are more representative of understanding the sustainability of gathering.
404	Baumflek, Michelle	3		3654			Recognizing the unevenness of data availability, are there other, smaller scale surveys that might be referred to here that come from different IPBES Regions? The focus on North America and Europe would benefit by being balanced with information from	Thank you for the question. We consider that it is a knowledge gap of study through the literature review.
405	Hurley, Patrick	3	123	3663	123	3666	It would be worth noting that yet another study reinforces these findings, with 49% of respondents indicate they gather berries or mushrooms. The study focused on an approach that sought to understand differences among households and where people	Thank you for this suggestion. We have chosen to include such data in a new subsection on urban gathering.
406	Svizzero, Serge	3	124	3678	124	3680	This sentence : "At the same time, large increases in immigrant populations are affecting what is harvested, by whom and for what purposes" should be qualified; indeed, migrants may want to gather wild species, especially if there are poor; however their	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 some information about urban gathering is included in a new
407	Mahoney, Shane	3	124	3687	124	3687	Line 3687 and associated. Data on gathering practices in Canada seem elusive or non-existent, yet there are strong cultural ties to these activities in Canada. It would be interesting to know if the authors feel whether there really is no information/data available	Thank you for making this point. Although maple syrup, wild blubberies and other wild plants are also gathered in Canada, the literature review showed the lacks of relevant research in the country. Luckily the assessment deals with status in the
408	Hurley, Patrick	3	124	3703	125	3725	I think it would be important to include a paragraph to this section (likely before consideration of gender dimensions) that acknowledges the growing recognition that wild plant gathering occurs in cities around the world. This recognition challenges a	Thank you for this suggestion. We have chosen to include information in a new subsection on urban gathering.

409	Baumflek, Michelle	3		3703			This paragraph would benefit from the inclusion of additional citations throughout.	Thank you for the comments. The paragraph is an overview extraction from our literature review. Please see the next sections.
410	Baumflek, Michelle	3		3716			This paragraph may need a transition and topic sentence to enhance flow from the ideas in the previous paragraph. The switch from discussing generalized information on ethnobiological knowledge into very specific examples from Austria and France	Thank you for the suggestion. We revise the paragraph accordingly.
411	Baumflek, Michelle	3		3737			I appreciate the diversity of examples provided in this paragraph.	Thank you for the comments. We also appreciate your comments.
412	Rangel, Maite Lascrain	3	126	3756	126	3756	benzoin (Styrax benzoin)	Thanks for this suggested change of wording. It is an improvement and we have adopted it. But in the article it is referred to <i>Styrax paralleloneurum</i> , which is the highlands species, presently the most exploited one. <i>Styrax benzoin</i> is
413	Webb, Grahame	3	126	3757			There are a huge diversity of reference books describing traditional Aboriginal use of plants for various things, including medicines, especially in northern Australia, where these uses continue.	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.
414	Baumflek, Michelle	3		3767			It might make sense to include the IUCN number of wild food species mentioned on Line 3796 in this paragraph.	Thank you for the suggestion. Since the IUCN RedList assessment does not fully cover all plant species, we do not consider it appropriate to mention here.
415	Rangel, Maite	3	126	3777	126	3780	Perhaps it is probably more correct to say: organic productos or	Thanks for this suggested change of wording. It is an
416	Svizzero, Serge	3	126	3792	127	3795	unclear sentence; "of fungi " is in excess; "the use of biological resources", in which "of " is missing.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
417	Hoffmann, Mike	3	127	3796	127	3797	I'm not sure about the origin of this wording or exactly what it is referring to. Without the source, I am unable to advise, but would be happy to follow-up with the authors directly if they need help	Thank you for your comment, the figure is extracted from the IUCN Red List of threatened species.
418	Mahoney, Shane	3	127	3796	127	3798	Line 3796-3798. The notion that gathering activities are harmful to species and can indeed impact abundance or even extinction risk, is quite foreign to the public's perception of these activities in many countries. It is worthwhile noting that activities such as	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.
419	Pilling, Dafydd	3	127	3797	127	3798	The report cited is not the original source of these figures. They come from this paper by Waycott et al <a href="https://www.pnas.org/content/106/30/12377">https://www.pnas.org/content/106/30/12377</a> . (Note that the wording is a bit imprecise. The figures actually refer to the period	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
420	Svizzero, Serge	3	127	3807	127	3808	perennial herb and annual/biennal have neither wood nor bark, and so what should be written is "not applicable" rather than '----'.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
421	Kershaw, Francine	3	128	3834	128	3834	The inclusion of the term "#genetic" may have provided some additional useful information on sustainability of the use and gathering of wild plants	Thank you for your comment. In this assessment we are considering sustainable use at the species level and not at the genetic level. However, the genetic level is mentioned in this specific case because of the role of wild plant relatives in
422	Baumflek, Michelle	3		3839			For clarity, provide an explanation of what 'snowballed' means in this context.	Thank your for the comments. We make clarification accordingly.
423	Baumflek, Michelle	3		3841			The criteria of selection for this literature might need to be explained in further detail. Were 50 case studies selected out of a larger set of literature? It seems like there would be more than 50 studies in the literature. Including a generalized geographic	Thank your for the comments. We make clarification accordingly.

424	Hurley, Patrick	3	129	3847	130	3897	I think it would be worth adding a sentence to one of the paragraphs here that indicates that, again, as with the above general paragraph on urban gathering, this connection to wild species is important to and part of peoples' everyday lives in the	Thank you for this suggestion. We have chosen to include information in a new subsection on urban gathering.
425	White, Michael	3	103	3907	103	3907	SPC does 'a women in fisheries' newsletter	Thank you for this information, but we are unable to include this without supporting literature.
426	Blömer, Nynke	3	131	3937			Table 3.8. How was the distinction made between ornamental vs. non ornamental? Some Aloe, Euphorbia and Orchid species are mainly traded for medicinal purposes for example.	Thanks for the question. The use of plants has multiple purposes, and the main purpose of its inclusion in the whole taxon group is to regulate international trade for the ornamental purposes of threatened species or their related
427	Caromel, Aude	3	131	3937			Please attribute any data used from the Species+ website (speciesplus.net) with the following format: UNEP (2021). The Species+ Website. Nairobi, Kenya. Compiled by UNEP-WCMC, Cambridge, UK. Available at: <a href="http://www.speciesplus.net">www.speciesplus.net</a> . [Accessed	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
428	Svizzero, Serge	3	132	3945	132	3955	I suggest adding 3 points. (1) Opuntia is native from the new world and has also been introduced in Europe. (2) Several species of prickly pear are cultivated for their edible fruits and paddles – for human consumption and also to feed livestock -	Thank you for your comment. The assessment sets the scope not dealing with introduces population, although these may be included in some aspects of the assessment (see Chapter 1, the definition is further explored in section 1.3.1.)
429	Rangel, Maite Lascurain	3	138	3951	138	3954	Perhaps to say that this occurs in other parts of the world and with numerous species. In traditional medicine several species are used and in those context, people occasionally harvest useful parts. This paragraph is very general and does not connect the	Thank you for making this point. It does not seem to require changes to the text.
430	Rangel, Maite Lascurain	3	132	3956	132	3858	Cactaceae family?	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
431	Orenstein, Ronald	3	132	3963	133	3973	Please consult Cohen, J. E., Williams, H. N., Strong, Y. E., & Fisher, H. C. E. (2020). Non-detriment findings for international trade in wild orchids from developing countries; A case study for <i>Broughtonia sanguinea</i> in Jamaica. <i>Journal for Nature</i>	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to
432	Webb, Grahame	3	132	3963			Orchids used as a binder for paint in traditional Aboriginal artwork (Ellersdorfer et al. 2012).	Thank you for the comment. Orchids have a wide variety of uses. The purpose of our review is to address the sustainability of the various uses for which this issue is in question rather than provide a comprehensive review of all
433	Caromel, Aude	3	139	3982			Please attribute any data used from the Species+ website (speciesplus.net) with the following format: UNEP (2021). The Species+ Website. Nairobi, Kenya. Compiled by UNEP-WCMC, Cambridge, UK. Available at: <a href="http://www.speciesplus.net">www.speciesplus.net</a> . [Accessed	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
434	Baumflek, Michelle	3	133	3983	133	4006	Natural cloth and natural dyes. As a reader, I would expect to see more synthetic information about cloth and dyes in different regions in this subsection.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
435	Baumflek, Michelle	3		3984			This example would benefit from an introductory paragraph that introduces natural cloth and some it's uses around the world, before moving into the specific example of Uganda bark cloth.	Thank you for the suggestion. We revise the paragraph accordingly.
436	Baumflek, Michelle	3	133	3993	133	4006	Citations needed throughout this paragraph. Include synthetic information from several different IPBES regions, as available. For instance: Siva, R. (2007). Status of natural dyes and dye-yielding plants in India. <i>Current science</i> , 916-925.	Thank you for the comments, this assessment focuses on the sustainable use of wild species. The review you kindly provided here has few information on the status of nature dys using wild plants. We have chosen not to include it in the
437	Hurley, Patrick	3	133	4007	134	4053	It is worth mentioning that these elements may be part of practices by many peoples in the Global North, such as by indigenous peoples and racial minorities in the U.S. For example, Gullah-Geechee peoples in the southeastern U.S. derive	Thanks for this suggested change. We have included it in the new version.
438	Baumflek, Michelle	3		4019			This example of <i>Trametes versicolor</i> seems to be a minor use of this species, which is highly valued medicinally. Is there another species of fungi to highlight as a handicraft?	Thank you for the question. We would be grateful if you can provide us with more specific cases.

439	Baumflek, Michelle	3		4030		4034	This information might be better placed in the discussions of natural dyes in section 3.3.2.5.2.	Thank you for the suggestion. We revise the paragraph accordingly.
440	Baumflek, Michelle	3		4035			Citations needed in this paragraph. The first few sentences of this paragraph might be better located earlier in the chapter, to parallel similar information about plant harvest sustainability.	Thank you for the comments. The paragraph is an overview extraction from our literature review. Please see the next sections.
441	Rangel, Maite Lascurain	3	134	4037	134	4038	akin to picking an apple off an apple tree. A metaphor inappropriate	We agree, thank you for your comment. We have edited this sentence to read "In most cases, it is actually only the fruiting body that is taken, leaving the mycelium behind in its substrate"
442	Sousa Pinto, Isabel	3	137	4068			Gathering includes all "plant like" organisms including fungi and algae. I think seaweeds would be better included in the fisheries section since is still harvested industrially in some countries and so the "gathering" practice does not apply. They could be included in	Thank you for your comment. Please see the definition in the Glossary.
443	Vaglica, Valentina	3		4071		4071	The genus name of the species <i>B. papifera</i> should be written in full. The species was not mentioned before in the paragraph, therefore the reader is unsure to what genus the species <i>papifera</i> belongs too. To clarify; is the main source of?	Thank you for this suggested change. We have included it in the new version.
444	Vaglica, Valentina	3		4080		4080	<i>Aquilaria</i> is a genus of agarwood listed under CITES. Therefore regulated. Genus names should be written in italics.	Thank you for this suggested change. We have included it in the new version.
445	Svizzero, Serge	3	136	4101	136	4102	it could be added that such uses of plants and fungi is completely consistent with the transition to the bioeconomy that most - if not all - countries are willing to do. By the way, there is a unique paper about the bioeconomy in the reference list (see Bioeconomy.fi).	Thank you for your comment. While this is an interesting phenomenon, it is a bit outside the scope of this assessment. Bioeconomy deserves an in-depth and specific assessment.
446	Hurley, Patrick	3	138	4173	138	4208	Research by Dr. Yilmaz Ari at Bandirma University in Turkey has documented plants gathered in the Kaz Mountains National Park (Kaz Dağları Milli Park) and its surroundings, many of which are used for teas by local villagers and for sale to nearby small urban	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. The case studies are retrieved from systematic literature review. It is hard for us to integrate the information you provide with
447	Svizzero, Serge	3	138	4174	138	4176	I suggest adding the following reference: Svizzero, S. (2016), Foraging Wild Resources: Evolving Goals of an Ubiquitous Human Behavior. <i>Anthropology</i> 4(161). <a href="https://doi.10.4172/2332-0915.1000161">https://doi.10.4172/2332-0915.1000161</a>	Thank you for the suggestion, the article supports the statement, and we prefer adding it into the sentence.
448	Pilling, Dafydd	3	138	4178	138	4182	It is not clear what "review" is referred to. I understand that these figures are from the Ullian et al paper and appear in The State of the World's Plants. It is not clear why the FAO report is cited here.	Thanks for the comment, the composition of human food is cited from the FAO.
449	Rangel, Maite Lascurain	3	138	4180	138	4180	...included in the review. Were the mushrooms missing in this amount?	That is correct, the review cited here focused on plants - we have rephrased this to clarify that we are not talking about the SUA, but other recently published reviews, in this sentence. Please see the section on wild edible fungi for a focus on
450	Rangel, Maite Lascurain	3	138	4184	138	4185	This data is repeated in 3769	Thank you for the tracing, the text was modified accordingly.
451	Hurley, Patrick	3	138	4187	138	4192	Please include a reference to the renewed interest in this connection for peoples in Austria and the relationship to gathering in a Biosphere Reserve there. See Schunko, C., Grasser, S., & Vogl, C. R. (2015). Explaining the resurgent popularity of the wild:	Thank you for this suggestion. We have chosen to include it in the section 3.3.2.9 for the use of recreation by gathering.
452	Svizzero, Serge	3	138	4187	138	4188	I suggest to add the following paragraph (and reference) in order to explain that even though the acquisition of wild food through gathering is gradually marginalized, it persists and is resilient, for at least three different (not exclusive) reasons : After agriculture	Thanks for the information and suggested statement. We have included it in the new version. It's better for us to invite you to be our CA.

453	White, Michael	3	138	4187	138	4190	Even within countries (e.g. Cook Islands) central government holds a cash-based viewpoint, but outer islands don't, as they are subsistence	Thank you for making this point. It does not seem to require changes to the text.
454	Hurley, Patrick	3	139	4193	139	4202	Please include reference to the general role of urban foraging for food security (see Poe et al. 2014) and in comprising a portion of urban residents' diets (Synk et al. 2017), both fully listed in my previous urban foraging comments above.	Thank you for this suggestion. We have chosen to include information in a new subsection on urban gathering.
455	Webb, Grahame	3	138	4207			Suggest "crop wild relatives" be defined for the non-expert reader, as one could argue all plants are relatives of species used domestically as standard "crops" if this is what it means.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. We have included your suggestion within the 3.3.2.10
456	Muir, Giulia	3	138	4210	142	4375	great to have specific examples, but I think the incredible diversity of fruits that are wild could be highlighted in a table or annex - there are so many and I feel the section doesn't do justice! suggest as with wild vegetables to include in such a table	Thanks for this suggestion. The links to these data sources were now included into section 3.2
457	Rangel, Maite Lascurain	3	145	4252	145	4252	The edible seed of <i>Oecopetalum mexicanum</i> grows in three management systems in central Veracruz, México, (conserved forest, shade-grown coffee plantation and enriched forest), where this species is of particular economic, and cultural value. The	Thank you for the comments. This case does not provide an analysis of the status and trends in the use of the plants by gathering, and the management approach is more appropriate for Chapter Five.
458	Rangel, Maite Lascurain	3	147	4306	147	4317	Do the following species correspond to the chapter of starchy fruits?	Thanks for the comment. Most of the species mentioned here are starchy fruits, but we have moved cacti to the juicy fruits section.
459	Baumflek, Michelle	3	141	4330		4375	Juicy fruits: Huckleberries are also of great importance to First Nations communities in western Canada. Is it possible to complement the European and US examples provided here with examples from other regions?	Thank you for the comments, cases of Huckleberries gathering is included in the subsection of 3.3.2.9
460	Rangel, Maite Lascurain	3	139	4334	139	4335	The fruits are harvested all over the world for personal, informal conomic and formal economic use. I suggest delete berries and juicy tree	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
461	Perez Gil, Ramon (Mexico)	3	143	4376	143	4376	Beverages, I do not find any other section where the actual use of several species of Agave ought to be mentioned. This practice is quite important. 75% of all the species occur in Mexico, 69% are endemic. 23 species are used to produce a destiled liquor locally	Thank you for your comment. The assessment focuses on the sustainabl use of wild species by gathering and doesn't address much on cultivated populations. This does not, however, imply a complete absence of human management
462	Perez Gil, Ramon (Mexico)	3	143	4397	144	4397	I truly believe the gum from Manilkara zapota (Chicozapote-Chicle), ought to be mentioned. A historical account would be fair given the great importance of this gum in the chewing gum industry. Even though the production was sustainable yet climate	Thank you for the comments. We believe the Chicle Gum from sapodilla (Manilkara zapota) is very important and a renewable resource. However through our systematic literature review, we have not found available data to
463	Muir, Giulia	3	144	4419	4419	144	More recent data is available in FAOSTAT, among other sources, if needed to support this graphic	Thank you for the information. FAOSTAT relies on analysis and interpretation. However there is not enough space for this asseement to be devoted to such discussion. We chose not to include this source in supporting this graph.
464	Svizzero, Serge	3	144	4430	144	4430	typo, pharmaceutical	Thank you for your comment, corrected.
465	Rangel, Maite Lascurain	3	145	4437	145	4437	I suggest the scientific name of gum arabic	Thank you for the comment, the scientific name of gum arabic was provided in the first sentence of the paragraph.
466	Muir, Giulia	3		4445		4445	more recent data available particularly from Sudan in national databases. Speak with Simona.Sorrenti@fao.org for more on this if useful! Also have a look here for some anecdotes: <a href="http://www.fao.org/3/CA2428EN/ca2428en.pdf">http://www.fao.org/3/CA2428EN/ca2428en.pdf</a> .	Thank you for the useful information. The data source in this regard is the same and is from NGARA 2017.
467	Rangel, Maite Lascurain	3	145	4448	145	4450	Perhaps: Karaya gum is produced as an exudate from the tree <i>Sterculia urens</i> in India and <i>S. setigera</i> in Africa used for many industries.	Thank you for the suggestion, we revise it accordingly.

468	Baumflek, Michelle	3	145	4455	154		This section on wild edible fungi is an excellent synthesis of available literature. The scope is exactly what I would expect in an assessment of this scale.	Thank you very much for your kind words.
469	Muir, Giulia	3	147	4532	148	4553	We are working to have more detail in trade data. It is a slow process but we were able to include a few more codes on NWFPs, including mushrooms, in the latest HS revision: <a href="http://www.wcoomd.org/">http://www.wcoomd.org/</a> -	Thank you very much for the heads up - I can only imagine the challenge of developing unified systems here! We have now mentioned this development in the text.
470	Perez Gil, Ramon (Mexico)	3	149	4596	149	4602	The vast gastronomy of Mexico, the array of recipes involving all sorts of fungi and also other wild plants gathered seasonally for the purpose is worth mentioning perhaps. UNESCO recognised Mexico's cuisine as world heritage (intangible cultural heritage too)	Thank you for your suggestion, we agree that this is an interesting point but felt that this is already reflected in the current text and in the interest of brevity we have decided to keep it as it is. It is quite clear that the subject would benefit
471	Rangel, Maite Lascurain	3	149	4596	149	4597	Although .....wild edible fungi. If this is not with a reference, it should be removed. How often does this perception occur?	Thanks for your comment - we do indeed find this qualification cited frequently, especially in ethnomycology papers from South East Asia and Africa, but also Europe. We will add some example citations to support this statement.
472	Germany	3	149	4624	150	4625	Figure 3.44: The figure is not self-explanatory. Please elucidate all abbreviations. Please also increase the figure's resolution. Captions cannot be read.	Thank you your comment. The figure was improved based on your comment.
473	Germany	3	151	4631	151	4631	Figure 3.45: Please increase the figure's resolution. Captions cannot be read.	Thank you for your comment. The comment is not applicable anymore as the figure was removed from the final version of the chapter.
474	Muir, Giulia	3	154	4761	156	4821	wild vegetables don't receive enough attention in my view! So much more could be said also on the nutritional values, although I understand the need to keep focused and synthesize. A few more references here, including to some articles highlighting nutritional	Thank you for this suggestion. This information has important ethno-botany research value, but it is of little help to us in discussing sustainability. We did throw away a lot of similar data. We cannot add additional text on the nutritional values
475	Hurley, Patrick	3	155	4781	155	4800	Or practices and uses may be disappearing as local peoples are displaced from their villages in response to conservation interventions, which may have unintended consequences for local plants. See the works of Yilmaz Ari from Turkey's Kaz Mountains	Thank you for the comments, We have chosen to include the argument in a new subsection of urban gathering.
476	Svizzero, Serge	3	156	4801	156	4803	It should be said which weeds from rice fields are consumed (at least the main one) and how they are gathered, which parts are eaten (their seeds?), are they eaten by human or by livestock (.....). Indeed, weeds in rice fields is a major problem for farmers	Thank you for the question. The weeds from rice fields are gathered and consumed as wild vegetables in this subsection.
477	Svizzero, Serge	3	156	4822	157	4845	section 33275 is about various uses of seaweed related to food and beverage. However nothing is said (neither in this section nor in section 3.3.2.11 which is about material and shelter) about using seaweed as bio-fertilizer. It could be worth to mention this,	Thank you for this suggestion. This information has important ethno-botany research value, but it is of little help to us in discussing sustainability. We did throw away a lot of similar data. We have chosen not to include it in the assessment.
478	Svizzero, Serge	3	156	4825	156	4825	"an increase of 5.7% per annum "; during which period?	Thank you for the question. The number is cited from the reference.
479	Orenstein, Ronald	3	156	4830	156	4839	Mention should be made of the threat of climate change to the survival of kelp-based ecosystems. See, eg. Qiu Z, Coleman MA, Provost E, Campbell AH, Kelaher BP, Dalton SJ, Thomas T, Steinberg PD, Marzinelli EM. 2019 Future climate change is	Thank you for the suggestion. Climate change as a driver is address in the Chapter Four as arranged by the assessment.
480	Webb, Grahame	3	156	4835			"lead the exploitation of wild seaweed stocks". Not clear what this means. Do you mean they harvest the greatest amount in tonnes? Or do they take the maximum harvest, from the areas they have available to them? Are they "exploiting" or simply using.	Thanks for the question. We provide the unit of the data. They are in wet metric tonnes.
481	Svizzero, Serge	3	158	4884	158	4884	typo, Brussel	Thank you for your comment, corrected.
482	White, Michael	3	160	4949	160	4949	'Properties' might be better than 'activities'	Agreed and edited! Thank you.

483	White, Michael	3	161	4967	161	4973	Paragraph duplicated in lines 4983-4989	Thank you for highlighting this. We have removed the duplicated section
484	Rangel, Maite Lascurain	3	161	4983	161	4989	Be repeated with 4983 - 4989	Thank you for highlighting this. We have removed the duplicated section
485	China	3	161	4990	161	5001	It is suggested to add efforts and measures by Chinese government to reduce dependence on wild caterpillar fungus through cultivation and fermentation technologies. China has applied advanced biotechnology to cultivate <i>Paecilomyces</i>	Thank you very much, this is a great suggestion. We will add a small section highlighting the breeding and fermentation-based approach.
486	Morgan, David (CITES)	3	162	5043	162	5046	Just to be clear, 5 <i>Taxus</i> species are included in the CITES Appendices, but not <i>T. baccata</i> .	Thank you for the comments. At that time for the reference <i>T. wallichiana</i> was treated as the synonyms of <i>T. baccata</i> . We revise the name to avoid misunderstanding.
487	White, Michael	3	163	5076	163	5076	Replace 'undertake' with 'tolerate' or 'withstand'	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
488	Rangel, Maite Lascurain	3	164	5091	164	5092	Perhaps it is more appropriate to say: ... meets the need of regeneration or renewal. I suggest delete natural resource	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
489	Rangel, Maite Lascurain	3	165	5094	164	5094	Where is this plant from? In all cases mentioned the place of use.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
490	Rangel, Maite Lascurain	3	164	5098	164	5102	Where is this plant from? In all cases mentioned the place of use.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
491	Rangel, Maite Lascurain	3	165	5107	164	5107	Where is this plant from? In all cases mentioned the place of use.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
492	Hurley, Patrick	3	166	5180	166	5192	Please add a sentence acknowledging that these dynamics play out in cities. See cites above for Palliwoda et al. and research on parks in Berlin as well as works from Seattle, USA (e.g., McLain et al. 2013, Poe et al. 2014).	Thanks for the comments, We have included in a new subsection of gathering.
493	Svizzero, Serge	3	166	5193	168	5272	In section 3.3.2.10 I think that more could be said about the use of wild relatives in crop improvement, this is especially important given the challenges related to the impact of climate change as well as about food security. The following paragraph could be	Thank you for this suggestion. We agree that this is an important issue. However it is outside the scope of the chapter and the assessment, which focuses on the sustainable uses of wild species. The fact that wild relatives
494	Kershaw, Francine	3	166	5247	167	5272	We are pleased to see the discussion of wild crop relatives and the need to improve representation of WCRs in gene banks. Similar to previous comments, the relevance of genetics to assessing sustainability of wild plant species subject to gathering	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
495	Webb, Grahame	3	167	5249			"Croc wild relatives" is better explained here, but should this be brought back to 4207 ... Maybe it could be a separate subheading as it seems quite distinct. To the non expert it could have many different meanings?	Thanks for the comment. It is not clear what it refers to, as the line mentioned is on a topic unrelated to crop wild relatives. Therefore no action has been taken.
496	Webb, Grahame	3	168	5257			Perhaps the existence of this project could be mentioned earlier (4207)	Thank you for the comments. It is not clear why we would move this to earlier and thus have not made any changes in relation to this comment.
497	Germany	3	168	5269	168	5269	Figure 3.47: Please increase the figure's resolution. Captions cannot be read.	Thank you for the comments. We revise the figure with higher resolution.

498	Webb, Grahame	3	169	5276			Insert "bark".	Thanks for the suggestion. We revise it accordingly.
499	Webb, Grahame	3	170	5323	171	5377	The use of palms for making baskets and other basketry products is very widespread amongst Indigenous people, often using natural products to dye them, and is one of the major handicrafts widely traded outside Indigenous lands (eg Aboriginal:	Thank you for this suggestion. This information has important ethno-botany research value, but it is of little help to us in discussing sustainability. We did throw away a lot of similar data. We have chosen not to include it in the assessment.
500	Svizzero, Serge	3	171	5378	172	5425	emerging issues in gathering (section 332.12) is only about consequences of COVID-19 pandemic (which of course are important); maybe another topic could be added, namely the role of wild species in the transition towards the bioeconomy.	Thank you for your comment. While this is an interesting phenomenon, it is a outside the scope of this chapter which focuses on status and trends.
501	Lerambert, Adeline	3	172	5426	212	6678	This entire section over-focusses on the perceived benefits of wildlife exploitation, while failing to emphasise the damaging consequences of such exploitation for wildlife conservation, ecosystem viability, animal welfare, and ultimately human well-being. It also frequently relies on references and data that are <del>my</del> years, sometimes decades, old. The section would benefit from	Thank you for your valuable comment. We improved this section accordingly. However, we have very strict text volume, and the emphasis of the Assessment is Sustainable use and its examples, but not unsustainable practices including overexploitation.
502	Miketa, Madison	3	172	5426	212	6678	Overall, this section reads as very one-sided, highlighting only the benefits of animal harvesting without acknowledging the well-documented costs. Many key papers presenting data on the negative aspects of lethal management and trophy hunting have	Thank you for your comment. Primarily we tried to focus on examples of sustainable practices, however, do feel lack of costs and trade-offs. We improved the text accordingly.
503	Perez Gil, Ramon (Mexico)	3	172	5426	172	5427	Please refer to project A-001 Economic importance of Terrestrial Vertebrates of Mexico. The results of this research account for 90 practices dealing with terrestrial animals, 19 varieties of hunting for example, the authors proposed a novel method for	Thank you for this suggestion of additional material to support the economic importance of wildlife. Unfortunately we have not been able to trace the report you mention on the gov.mx page and do not have access to it from the scoping
504	Stewart, Davyth	3	172	5426	212	6678	This section has emphasised the potential benefits of wildlife exploitation, but failed to properly address the likely negative consequences of wildlife exploitation across a range of objectives including wildlife conservation, ecosystem viability, animal welfare,	Thank you for your valuable comment. We have changed the text accordingly.
505	Webb, Grahame	3	172	5428			.... multiple functions, and over and above the basic prerequisite that the wild population has the biological capacity to compensate for a specific harvest, the sustainability of a hunting or harvest operation, hinges on ..... If the population does not have this	Thank you for your comment. We have added the discussion about measures of Sustainability in existing literature.
506	Lerambert, Adeline	3	172	5431	172	5433	Studies and reports have increasingly questioned the economic, conservation and societal values of trophy hunting activities, its morality, and its sustainability.	Thank you for your valuable comment. We have improved the text accordingly and added the literature you have suggested.
507	Mahoney, Shane	3	172	5431	172	5433	Lines 5431-5433. Hunting is a contributor to various economies globally. It is worth noting that even in massive industrial economies such as that of the United States, recreational hunting generates enormous expenditures and contributes hundreds of	Thank you for your valuable comment. We have added this information to the text.
508	Stewart, Davyth	3	172	5431	172	5433	There are numerous studies and reports that have questioned the economic, conservation and societal values of trophy hunting activities, its morality, and its sustainability. See for example <a href="http://www.ecolarge.com/work/the-200-million-question-how-much-does-trophy-hunting-really-contribute-to-african-communities/">http://www.ecolarge.com/work/the-200-million-question-how-much-does-trophy-hunting-really-contribute-to-african-communities/</a> ; <a href="https://www.cell.com/trends/ecology-evolution/fulltext/S0169-5347(16)00090-2?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0169534716000902%3Fshowall%3Dtrue">https://www.cell.com/trends/ecology-evolution/fulltext/S0169-5347(16)00090-2?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0169534716000902%3Fshowall%3Dtrue</a> ; <a href="https://www.tandfonline.com/doi/full/10.1080/09669582.2019.1604719">https://www.tandfonline.com/doi/full/10.1080/09669582.2019.1604719</a> .	Thank you for your valuable comment. We have changed the text accordingly.
509	Freyer, Daniela	3	172	5432	5433		why "especially in African countries"? on hunting in Latin American	Thank you for your valuable comment. We used the literature
510	Bercovitch, Fred	3	172	5434	172	5434	This is an opinion, not a scientific fact, which dilutes a fundamental difference between subsistence hunting for survival and recreational hunting for fun, topics described in more depth later in Chapter 3.	Thank you for your comment. "Different motivation" includes differences between hunting for survival and "for fun". This exactly means that different groups of people go to hunt for different reasons.

511	Ryan, Mark	3	172	5437	172	5438	Consider revising the following sentence: "Hunters may desire a trophy but also hunt for food or for the experience and leisure or for cultural and traditional reasons." Suggested revision: "Hunters may hunt for food or for the experience and leisure or for cultural	Thank you for your valuable comment. We have changed the text accordingly.
512	Bercovitch, Fred	3	173	5439	173	5440	This statement is incorrect. A 'sustainable yield' is based upon the population recruitment rate, and not the reproductive rate. The former will be lower than the latter based upon the mortality rate of immature animals. A 'sustainable yield' must be one where	Thank you for your valuable comment. We have changed the text accordingly.
513	Freyer, Daniela	3	173	5439	5443	173	"hunting activities" is too limited - should be "hunting, collection or capture" in order to also cover offtake of live animals; also, the definition of sustainable yields presented here is far too simplistic: it ignores that other threats need to be taken into account when	Thank you for your valuable comment. We have changed the text accordingly.
514	Orenstein, Ronald	3	173	5439	173	5440	This simplistic definition of sustainability is inapplicable for many hunted species, including those hunted for trophies, because recreational hunters in particular frequently select animals on the basis of age and gender, with a priority being given to 'trophy'	Thank you for your comment. We have corrected the text accordingly. Besides, we provide this discussion in section 3.3.3.3.4 on Recreational hunting.
515	Freyer, Daniela	3	173	5440	5440	173	"must not exceed population reproduction rates" should be complemented by "and must not reduce inter- and intraspecific biodiversity" (i.e. not just a quantitative approach to biodiversity but a qualitative approach.)	Thank you for your valuable comment. We have changed the text accordingly.
516	Lerambert, Adeline	3	173	5444	173	5446	Note that the IUCN WCCEL Ethics Working Group stated that trophy hunting is not consistent with "sustainable use" <a href="https://www.iucn.org/news/world-commission-environmental-law/201909/compatibility-trophy-hunting-a-form-sustainable-use-iucns-objectives">https://www.iucn.org/news/world-commission-environmental-law/201909/compatibility-trophy-hunting-a-form-sustainable-use-iucns-objectives</a>	Thank you for your comment. We provide this discussion in section 3.3.3.3.4 on Recreational hunting.
517	Stewart, Davyth	3	173	5444	173	5446	Reference should be made to the IUCN WCCEL Ethics Working Group stated that Trophy hunting is not consistent with "sustainable use" <a href="https://www.iucn.org/news/world-commission-environmental-law/201909/compatibility-trophy-hunting-a-form-">https://www.iucn.org/news/world-commission-environmental-law/201909/compatibility-trophy-hunting-a-form-</a>	Thank you for your comment. We provide this discussion in section 3.3.3.3.4 on Recreational hunting.
518	Mahoney, Shane	3	173	5445	173	5445	Line 5445. Indeed, while there are historic examples of unregulated hunting causing declines and even contributing directly to species extinctions, the circumstances are much different for regulated hunting practices, and have been for close	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
519	Freyer, Daniela	3	173	5446	5446	173	Negative effects of hunting activities on non-target species, e.g. poisoning of birds of prey by lead ammunition, should be included, e.g. - Andreotti et al. 2018: Economic assessment of wild bird mortality	Thank you for your comment. We have added this to section 3.3.3.3.4 on Recreational hunting.
520	Gadallah, ZuZu	3	173	5449	173	5450	given widespread hunting of birds, which involves a greater number of species, individual organisms, and techniques than ungulate hunting, this statement requires greater precision.	Thank you for your valuable comment. We have changed the text accordingly.
521	Brien, Matthew	3	173	5451	173	5452	including crocodylians (Caldwell 2017. World trade in crocodylian skins 2013-2015. UNEP-WCMC, Cambridge.)	Thank you for your comment. But here we refer to all hunting types. Adding this text may led to wrong interpretation. However, we have added this link to the section 3.3.3.3.2.
522	China	3	173	5453	173	5455	According to this description of the references, the definition is not clear. It should specified that the entire animal or parts or products of animals are to be permanently removed.	Thank you for your comment. But here we use the definitions provided by CLAs and clarified in Chapter 1. See Glosary.
523	Webb, Grahame	3	173	5453			Perhaps should state here "which includes animals of the water's edge like crocodiles". Some crocodile species do in fact live in forests (eg Paleosuchus sp; Osteolaemus spp (Campos et al. 2017)	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. We feel our analytical approach is more informative than individual case studies, and we have already incorporated a few of these.

524	Svizzero, Serge	3	173	5454	173	5454	I have noticed that in section 3.3.3 about terrestrial animal harvesting , invertebrates are also included. However nowhere in the chapter are mentioned land snails while they are considered as gourmet in some countries (*France, of course!) and are also	Thank you for your comment. Please refer to the definition of terrestrial animal harvesting in Chapter 1 and at the beginning of section 3.3.3.
525	Freyer, Daniela	3	173	5455	5456	173	delete sentence "For ease of reference..." as this falsifies definition of "animal harvesting", which does not only include hunting (killing), but also removal of live animals. Throughout the report "hunting or capture" should be used instead.	Thank you for the comment. The text has been revised for clarity.
526	Perez Gil, Ramon (Mexico)	3	173	5457	171	5458	It is not clear why the example of green hunting here when in fact, the animal is put down but not removed. The pet trade yes for you remove the entire individual.	Thank you for your comment. See section on Non-lethal uses.
527	Freyer, Daniela	3	173	5465	5636	179	Why is there only a sub-chapter 3.3.3.2.1 on hunting for subsistence? An equivalent chapter on hunting for commercial purposes should be included, as this carries higher risk for negative impacts on targeted species and their environment.	Thank you for your comment. There is extensive discussion of commercial harvesting later in section 3.3.3.
528	Freyer, Daniela	3	173	5465	179	5636	suggest to include evidence on the shift of hunting patterns in reaction to the unsustainable use and over-exploitation of other protein sources, e.g. increase of terrestrial bushmeat hunting in reaction to depletion of fish-stocks, including by commercial	Thank you for the comment. Shifting hunting patterns in relation to outside drivers is a topic covered in Chapter 4 of the assessment.
529	Anissimoff, Michael	3	173	5466	173	5476	This paragraph is seemingly a summary of Indigenous Rights Holders, subsistence living, hunting, cultural livelihood, colonialism, and land appropriation across the globe all in 11 lines....the wording must be precise. Examples:	Thank you for your valuable comment. We have changed the text accordingly.
530	Bercovitch, Fred	3	173	5468	173	5470	Although the statement is correct, it blurs the difference between subsistence hunting for meat and nonsubsistence hunting for cultural traditions. By combining the two categories into 'subsistence' hunting, one has created a situation whereby killing a	Thank you for your valuable comment. We moved the statement to section 3.3.3.3.1 Cultural expression.
531	Ryan, Mark	3	173	5468	173	5469	This section highlights the important cultural aspects associated with animal body parts, as referenced above in my comments on lines 5437-5438.	Thank you for your valuable comment. We moved the statement to section 3.3.3.3.1 Cultural expression.
532	Webb, Grahame	3	173	5468			...wellbeing, an activity in which individual skill and expertise were recognised and ordered in community structures. In Aboriginal communities, the status of individuals as experts in activities associated with hunting is widely respected and a fundamental	Thank you for your valuable comment. We have changed the text accordingly.
533	Botero-Arias, Robinson	3	174	5485	174	5488	The Amazon basin is the largest and most species-rich tropical forest and river system in the world, playing a pivotal role in global climate regulation and harboring hundreds of traditional and	Thank you for your comment. We have added your suggested literature.
534	Orenstein, Ronald	3	174	5489	174	5498	See comment 41 above. The text does not consider that removal of wild species for the commercial meat trade may reduce their availability for local subsistence hunters. The relationship is admittedly complex, as is the relationship between diversity of	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions.
535	Webb, Grahame	3	174	5490			"have" resulted ...	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
536	Webb, Grahame	3	174	5491			"in many" indigenous .... In Australia, Aboriginal people have rights to use wildlife for subsistence but are restricted from commercially using or trading in wildlife.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
537	Lerambert, Adeline	3	174	5493	174	5495	Hunting for the wild meat trade is no longer limited to indigenous peoples or local communities, but is also carried out by non-local people for commercial purposes	Thank for your comment, In this section we are talking about hunting for subsistence and this simply put, it's hunting for survival.
538	Stewart, Davyth	3	174	5493	174	5495	Hunting for the wild meat trade is no longer limited to indigenous or local people, but is also carried out by non-local people for commercial purposes, as well as by people employed on timber and mining operations, working close to forests and other wildlife	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions.

539	China	3	174	5511	174	5512	what does it mean 'the sale of game'?	Thank you for your comment. This refers to wild meat trade and this was changed in the text to make it clearer.
540	Botero-Arias, Robinson	3	174	5513	174	5517	In Central Amazon, Brazil, many factors drive wildlife hunting and consumption, including source of income, taste preference, culture, lack of alternative meat, meat price, and wealth, and the relative importance of these factors may vary from place to place.	Thank you for your comment. We have added a more recent paper from Chaves to address your point (Chaves, W. A., Valle, D., Tavares, A. S., Morcatty, T. Q., & Wilcove, D. S. (2021). Impacts of rural to urban migration, urbanization, and
541	Botero-Arias, Robinson	3	174	5519	175	5528	The consumers' knowledge of and attitude toward wildlife, preference for meat, and perceptions about changes in wild and domesticated meat consumption. The consumption of river turtles occurs mainly on special occasions	Thank you for your comment. We have added a more recent paper from Chaves to address your point (Chaves, W. A., Valle, D., Tavares, A. S., Morcatty, T. Q., & Wilcove, D. S. (2021). Impacts of rural to urban migration, urbanization, and
542	Perez Gil, Ramon (Mexico)	3	174	5520	175	5523	The iguanas in Mexico, Central America and the caribbean are even captive bred for they are a food source for many rural families. Several species, even endemics	Thanks for the comment. However without additional information we are unable to incorporate it into the text.
543	Webb, Grahame	3	174	5521			"heavily exploited". Not sure whether you mean the total amount eaten by humans? Or the most commonly eaten reptile? Whether you are referring to wild resources or the massive amount now produced in closed-cycle farms? Better to be precise.	This is referring to wildlife resource and provided the precision as suggested.
544	China	3	175	5523	175	5524	abalone is marine animal	Thank you for your comment. This was deleted.
545	Bassetti, Luis	3	175	5524	175	5529	In Brazil, caiman subsistence hunting is widely used by rural and indigenous communities throughout the Brazilian Amazon. As this hunt is not selective, smaller species are also involved (i.e. Paleosuchus trigonatus and Paleosuchus palpebrosus).	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions.
546	Freyer, Daniela	3	175	5524	175	5524	traded should be used instead of "trafficked", to better cover legal in addition to illegal trade.	Thank you for your comment. This was corrected.
547	Bassetti, Luis	3	175	5526	175	5529	Crocodylians have been a major source of skin and meat worldwide for several decades. There should be more examples to clarify this. Reference: Hoffman, L. C., & Cawthorn, D. (2013). Exotic protein sources to meet all needs. Meat science, 95(4), 764–771. <a href="https://doi.org/10.1016/j.meatsci.2013.04.027">https://doi.org/10.1016/j.meatsci.2013.04.027</a>	Efforts have been made nowadays to protect crocodylians and limit commercial trade of skins and skin products worldwide that led to the remarkable recovery of species such as the American alligator, and certain populations of the Nile and Saltwater crocodiles. This is clarified in the text.
548	Bassetti, Luis	3	175	5527	175	5527	After Huchzermeyer 2003a and 2003b, Insert the following information: the crocodile meat is produced in different management programs and is considered a meat with a fine flavor, having a greater similarity with chicken and rabbit meat	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions.
549	Bassetti, Luis	3	175	5527	175	5529	"Caiman meat (as other crocodylians) is a product that is increasing in acceptance in the world food market. Currently there is a proper supply of meat from many management plans from Argentina, Bolivia, Brazil and USA in the Americas." Reference:	Thank you for your comment. The reference has been added.
550	China	3	175	5529	175	5530	delete Taiwan, it is not a country but a part of China.	Thank you for your comment. This was corrected.
551	Webb, Grahame	3	175	5532			"smaller scale" .... The weight of frogs legs consumed may be smaller, but in terms of the number of specimens consumed, it may be one of the largest ... in Indonesia alone involves 100's of millions of individuals each year for export, and 7 times that	Thanks for bringing this information we have also highlighted the importance of the frog use as food in the text

552	Freyer, Daniela	3	175	5544	175	5544	Reasons for over-exploitation (not just "over-hunting") cannot be reduced to "due to the lack of knowledge or monitoring", as it is often driven by commercial interest. Other reasons include lack of sufficient regulation, lack of political will / prioritization of conservation.	Thank you for your comment, some additional details is added
553	Svizzero, Serge	3	175	5551	175	5551	I suggest to add, for Asia, the following reference which is dealing with the goitered gazelle, S. Svizzero (2019), Issues and Challenges in the Conservation of the Goitered Gazelle ( <i>Gazella subgutturosa</i> ; Gldenstdt, 1780), Journal of Zoological Research 3(3): 1-9.	Thank you for your comment. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it.
554	Botero-Arias, Robinson	3	175	5552	175	5552	The amazon caiman use context: black caiman harvest in the 1960s attained only 8% of peak production in 1943. In 1964, the previously ignored spectacled caiman rapidly entered the market as a replacement.... In the central Amazon: With reduction in abundance of black caiman, exploitation shifted to spectacled caiman  Antunes, A.P., Fewster, R.M., Venticinqe, E.M., Peres, C.A., Levi, T., Rohe, F. and Shepard, G.H., 2016. Empty forest or empty rivers? A century of commercial hunting in Amazonia. <i>Conservation Biology</i> , 30(1), 168-176.	Thank you for your comment. We have added text on caiman harvest.
555	Guillemain, Matthieu	3	175	5552	175	5554	Also true from bird harvest in fossil records, e.g. Broughton 2004 Ornithological Monographs	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions
556	Perez Gil, Ramon (Mexico)	3	175	5556	175	5560	Small mammals, peccary and smaller such as rabbits and hares, even racoons, opossum, ringtails, coatimundi, agouti and paca, squirrels and smaller cats are common targets, and specially birds like pigeons and doves that attract important numbers of hunters a year, and also ducks and other waterfowl. These species account for the larger proportion of the animals hunted troughout the national territory and in the Central America region also	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions
557	Webb, Grahame	3	176	5562			Aboriginal people in northern Australia likewise often take small prey, because there are no large native game species.	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 point.
558	Botero-Arias, Robinson	3	176	5564	176	5568	In the 1970s, unregulated hunting of black caiman populations nearly eliminated the species With reduction in abundance of black caiman, exploitation shifted to spectacled caiman,	Thank you for your comment. We have added text on caiman harvest.

559	Bercovitch, Fred	3	176	5570	176	5571	This sentence provides incomplete information about human evolution that is important for assessing the role of hunting as sustainable use of resources. In short, human hunting has driven animals to extinction not only in New Guinea, but around the	Thank you for your comment. This was corrected.
560	Hoffmann, Mike	3	176	5575	176	5576	a more detailed analysis, investing intentional use in particular (and removing minor threats) shows that more than a quarter of all NT and threatened species, across 13 comprehensively assessed taxa (9,753 species), have intentional biological	Thank you for the comment. It is unclear how to incorporate your suggestion with the existing text, which we feel is sufficient for the scope and scale of the assessment.
561	Webb, Grahame	3	176	5578			. Suspect this means that the wild population has declined by 20% (vulnerable), or 50% (endangered), as would be expected from a widely hunted species – the wild population may still be sustaining the harvest. Meeting the decline criteria for the IUCN Red list simply establishes that it has declined. It does not establish that the declined population is not stable (at the reduced level) nor being used sustainably (Webb 2008). The significance of the	Thank you for your comment. However without a complete reference for Webb 2008 we are unable to include the material in the text.
562	Germany	3	176	5584	176	5584	Figure 3.48: Please increase the figure's resolution. Captions cannot be read.	Thank you for comment. The figure was updated with a better resolution.
563	Mahoney, Shane	3	177	5592	177	5592	Line 5592 - Elephants may well, in some specific circumstances be threatened by ILLEGAL HUNTING and trade, but the statement implies that any and all forms of hunting threaten elephant populations, including highly regulated hunting. Some clarification should be provided here.	Thank you for your comment. We have deleted the text since it is redundant with the figure itself.;
564	Ryan, Mark	3	177	5592	177	5592	The term "hunting" is used quite regularly throughout this chapter, including as a synonym for poaching (illegal harvesting). It is important that activities receive the correct terminology so as to avoid confusion and conflation with practices that are e.g. illegal.	Thank you for the comment. This specific text has been deleted. A larger discussion of legal vs illegal hunting and its impacts on sustainable use is available in chapter 4.
565	Guillemain, Matthieu	3	177	5596			"larger" instead of "smaller"?	Thank you for your comment. The text has been changed accordingly.
566	Lerambert, Adeline	3	177	5596	177	5607	Also disruption of social stability within hunted populations (elephant examples) and disruption of genetic viability (leopards) Slotow et al. 2018. Older Bull Elephants Control Young Males. Nature 408, no. 6811 (2000): 425–26, <a href="https://doi.org/10.1038/35044191">https://doi.org/10.1038/35044191</a> Taylor et al. 2018. Movement Reveals Reproductive Tactics in Male Elephants. Journal of Animal Ecology, no. September 2018 (2019): 1–11, <a href="https://doi.org/10.1111/1365-2656.13035">https://doi.org/10.1111/1365-2656.13035</a> Naude et al. 2020. Unsustainable anthropogenic mortality disrupts natal dispersal and promotes inbreeding in leopards. Ecology and Evolution 10:3605–3619. DOI: 10.1002/ece3.6089	Thank you for your comment. However the texts provided focus on the species themselves, and not on dimensions of their sustainable use. The later is the mandated focus of this assessment.

567	Stewart, Davyth	3	177	5596	177	5607	<p>The impact on ecosystem structure and processes is also evidence with hunting of larger sized animals. Please include these references dealing with disruption of social stability within hunted populations (elephant examples) and disruption of genetic viability (leopards)</p> <p>Slotow et al. 2018. Older Bull Elephants Control Young Males.</p>	Thank you for your comment. The literature suggested here is regarding the animals, while this assessment is on the sustainable use. Therefore they are outside the scope of the assessment and have not been included.
568	Webb, Grahame	3	177	5596			<p>"can" impact. It is not a universal truth. Hunting of smaller animals by Aboriginals has not been considered detrimental. The biggest problems small animals have seem to be introduced predators (foxes, cats, dingoes) and introduced poisonous food items (cane</p>	Thank you for your comment. It does not seem to require a change to the text.
569	Botero-Arias, Robinson	3	177	5608	177	5615	<p>At present, Amazonian caiman species exhibit stable populations throughout much of their distribution range... Given the large extent of the Amazon basin and the high densities of caiman populations in some localities, extensive harvesting of wild individuals seems more appropriate, especially because of its lower operational costs and high conservation value for the environment...</p>	Thank you for your comment. We have added text on caiman to the report.
570	Webb, Grahame	3	177	5609			<p>"post-depleted landscapes" ... not sure what this means. In terms of altered habitats, eg palm oil, urbanisation ... the previous biodiversity has been lost but some species simply thrive, increase greatly in abundance, and sustain wild harvest (Kasterine</p>	Thanks for the comment. This text has been revised for clarity.
571	Webb, Grahame	3	179	5614			<p>The harvesting of small life stages could be relevant here. Crocodile egg harvests were intense historically (by Aboriginal people before settlement in mid-1800's), and now, as part of the management program, and it appears to have had no measurable impact on the wild population over 35+ years (Webb 2021; Fukuda et al. 2011, 2020)/</p>	Thank you for your comment. However, it cannot be directly linked to the text.
572	Mahoney, Shane	3	177	5619	177	5620	<p>Line 5619-5620. It may be worthwhile noting that this source-sink relationship was considered one of the reasons for establishing protected areas in the early efforts of the parks and wilderness movements globally, though not, of course, for hunted species replenishment, specifically or exclusively.</p>	Thank you for your comment. This text has been revised for clarity.
573	Lerambert, Adeline	3	177	5622	177	5624	<p>You can't consider the sustainability of hunting of the same species from the same population but for different purposes in isolation from each other.</p>	Thank you for your comment. The structure of the text has been repeatedly revised and updated in accordance with the requirements for IPBES and the expertise of the assessment authors.

574	Lerambert, Adeline	3	178	5628	178	5634	Note also the WHO/OIE/UNEP guidance on trade in wild mammals for human consumption.  <a href="https://cdn.who.int/media/docs/default-source/food-safety/ig--121-1-food-safety-and-covid-19-guidance-for-traditional-food-markets-2021-04-12-en.pdf?sfvrsn=921ec66d_1&amp;download=true">https://cdn.who.int/media/docs/default-source/food-safety/ig--121-1-food-safety-and-covid-19-guidance-for-traditional-food-markets-2021-04-12-en.pdf?sfvrsn=921ec66d_1&amp;download=true</a>	Thanks for the suggestion. A reference to this report has been added.
575	Stewart, Davyth	3	178	5628	178	5634	mammals for human consumption <a href="https://cdn.who.int/media/docs/default-source/food-safety/ig--121-1-food-safety-and-covid-19-guidance-for-traditional-food-markets-2021-04-12-en.pdf?sfvrsn=921ec66d_1&amp;download=true">https://cdn.who.int/media/docs/default-source/food-safety/ig--121-1-food-safety-and-covid-19-guidance-for-traditional-food-markets-2021-04-12-en.pdf?sfvrsn=921ec66d_1&amp;download=true</a>	Thanks for the suggestion. A reference to this report has been added.
576	Kristina, Rodina	3	178	5630	178	5631	The emergence of new infectious diseases, particularly zoonoses (derived from animals), is indeed increasing; however this section could also suggest some principles aim to reduce the risk of future pandemics originating from wild animals. Should such addition be accepted, please consult with the CPW sttament in this regard: <a href="http://www.fao.org/3/cb1163en/cb1163en.pdf">http://www.fao.org/3/cb1163en/cb1163en.pdf</a>	Thank you for your comment. This discussion is taken up in more detail in Chapter 4.
577	China	3	178	5631	178	5634	The citation (Broad, 2020) is missing in the reference. According to the latest study of WHO-convened Global Study of Origins of SARS-CoV-2: China Part, there is no direct correlation between China banned wild meat markets preventing the consumption and	Thanks for the comment. This text has been deleted.
578	Perez Gil, Ramon (Mexico)	3	177	5632	177	5634	It has not been well established that this was the route this virus followed, in fact the early accusation caused attacks to bat colonies and an outcry against use of species. There is much debate still on this matter. I strongly recommend not to take a position when it has not been well established yet.	Thank you for your comment. The text has been deleted.
579	Lerambert, Adeline	3	178	5635	178	5636	It should be noted that most of the references are 15-20 years old and that domestic consumption rates will mostlikely have changed significantly. Covid-19 may also have significantly impacted demand for wild meat to compensate for loss of alternative income streams among those affected.	Thank you for the comment. It is unclear how to incorporate your suggestion with the existing text, which we feel is sufficient for the scope and scale of the assessment. Data regarding the impacts of COVID-19 on wild meat consumption is not yet available and thus cannot be included in the report.
580	Stewart, Davyth	3	178	5635	178	5636	The references here are 15-20 years old. More recent studies are needed to should the current level of domestic consumption, as well as the impact on wild meat consumption as a result of Covid-19 pandemic, and loss of alternative income streams among those affected.	Thank you for the comment. It is unclear how to incorporate your suggestion with the existing text, which we feel is sufficient for the scope and scale of the assessment. Data regarding the impacts of COVID-19 on wild meat consumption is not yet available and thus cannot be included in the report.
581	Freyer, Daniela	3	178	5636	179	5636	Delete line on Denmark, as cattle & pigs are not "wild meat". Instead data on consumption of wild game (e.g. deer, wild boar etc.) in European countries should be included, as well as legal and illegal bird hunting in Europe, for reference on the latter see e.g. - <a href="https://www.komitee.de/media/bird_hunting_in_europe_british_birds_2019.pdf">https://www.komitee.de/media/bird_hunting_in_europe_british_birds_2019.pdf</a> ; - <a href="https://www.cambridge.org/core/services/aop-cambridge">https://www.cambridge.org/core/services/aop-cambridge-</a>	Thanks for the comment. The text has been updated accordingly.

582	Freyer, Daniela	3	178	5636	179	5636	Other prey species than mammals are underrepresented in Table 3.12., e.g. consumption of parrots or other birds, reptiles, and amphibians, in Latin America, Africa or Asia have been neglected	Thank you for your comment. The table refers primarily to wild meat from mammals. Birds, reptiles and amphibians are presented in detail elsewhere.
583	Mahoney, Shane	3	178	5636	178	5637	Table 3.12 - It is noteworthy that no reference is made to wild meat consumption in North America, though there is a very substantial annual harvest and consumption by the @15 million recreational hunters in Canada and the United States each year. Pls note: Conservation Visions and IUCN's Sustainable Use and Livelihoods Specialist Group (SULi). (2019). Methodological Approaches and Initial Data Projections for the North American Wild Harvest Initiative (CBD/SBSTTA/23/INF/20). Retrieved from the Convention on Biological Diversity's SBSTTA-23 website:	Thank you for the comment. Table 3.12 refers only to wild meat sourced for subsistence use. According to CIFOR reporting, subsistence use takes place in Africa, Asia and South America only. All wild meat in North America or Europe came from recreational hunting or commercial hunting. Information about recreational hunting comes later in this section.
584	Ryan, Mark	3	178	5636	178	5636	In table 3.12, suggest replacing the term "catch" with "harvest". Harvesting can be done in many ways and the term is more malleable to these various ways than "catch" which implies an animal was caught.	Thank you for your comment. This has been changed
585	Svizzero, Serge	3	179	5637	179		Among the various uses of terrestrial animal hunting presented in section 3.3.3.3., I think the following one is missing "illegal hunting by pastoralists/farmers in order to reduce competition between wild animal and their flocks/crops": Indeed another motive of	Thank you for the comment. However, structure of this section is somewhat fixed by the structure of the assessment outlined in chapter 1. Furthermore, the information you provide relates to issues of trade-offs and drivers, which is
586	Bercovitch, Fred	3	179	5638	179	5647	The statements that hunting has been a mechanism that solidifies cultural and personal bonds, as well as providing ornaments that reveal power and prestige are incontestable, but moot when considering the present day conservation crisis. One can use the	Thank you for your comment. 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
587	Bliss, Cebuan	3	179	5639	179	5650	Darimont et al. (2020), Large carnivore hunting and the social license to hunt. Conservation Biology. Perhaps include paragraph on changing perceptions of hunting for culture and recreation e.g. in some places it has become less acceptable (ban on fox hunting	Thank you for the comment. However, the information you provide here relates to bans, which is a change in policy rather than a change in cultural values, per se. Policies related to sustainable use are the topic of chapter 6.
588	Webb, Grahame	3	179	5643			One of the key social outcomes is that it creates a range of specialist areas within a community in which individuals can strive to become expert and be recognised and valued by the community for their demonstrated expertise. There is also a direct	Thanks for the comment. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it.
589	Svizzero, Serge	3	179	5644	179	5645	"...transferred in economic capital..."; unclear to me. What do you mean by "economic capital"?	Thanks your comment. This text has been deleted.
590	Lerambert, Adeline	3	179	5646	179	5650	But customs often change over time, and international elements associated with trophy hunting which emerged primarily during the colonial era have had a significant impact, with a shift away from local cultural and religious practices, towards commercial trophy	Thank you for your comment. The word trophy has been removed from this text to convey that the related text is about hunting more broadly.
591	Miketa, Madison	3	179	5646	179	5647	This is a very simplistic view of how trophy hunting is viewed between and within different cultures. Opinions on this topic are extremely diverse and many have negative views of trophy hunting for a variety of reasons. See just a few examples: •Darimont, C. T., Hall, H., Eckert, L., Mihalik, I., Artelle, K., Treves, A., & Paquet, P. C. (2020). Large carnivore hunting and the social license to hunt. Conservation Biology, 1–9. •Byrd, E., Lee, J. G., & Olynk, N. J. (2017). Perceptions of hunting	Thank you for your comment. As it is not our mandate to weigh in on the political debates regarding the concept of trophy hunting, all related text has been significantly revised.

592	Ryan, Mark	3	179	5646	179	5646	The term "trophy hunting" is extremely misleading as it assumes the only goal of the hunter is to obtain part or parts of the body of an animal. While the main purpose of the hunt may appear, on the surface, to be the obtaining of a 'trophy', in reality it is about much more than this for many hunters. Consider rephrasing as follows: "In many cultures across the world hunts, where the prime objective appears to be the harvesting of a trophy, are often associated with power... etc." This is more accurate. To write otherwise is to completely misrepresent the possible motivations of the hunters, particularly in view of what is mentioned earlier in the section.	Thank you for your comment. As it is not our mandate to weigh in on the political debates regarding the concept of trophy hunting, all related text has been significantly revised.
593	Stewart, Davyth	3	179	5646	179	5650	The report fails to properly understand how local customs change over time, and with increased influence from external pressures, such as trophy hunting by foreigners, which has seen a shift away from local cultural and religious practices, towards commercial	Thank you for your comment. As it is not our mandate to weigh in on the political debates regarding the concept of trophy hunting, all related text has been significantly revised.
594	Guillemain, Matthieu	3	180	5657	180	5659	You are likely talking about illegal poaching, not legal hunting here. This is worth explaining (some legal catching of passerines is practiced in some countries, but the numbers are far lower than this)	Thanks for the comment. This text has been revised significantly.
595	Lerambert, Adeline	3	180	5657	180	5659	Cultural' hunting cannot be condoned if it is clearly biologically and ecologically unsustainable.	Thank for your comment. The purpose of the assessment is to report on the knowledge on sustainable use, not to condone or condemn the practices. It should also be noted that ecological and biological sustainability is not valued over
596	Stewart, Davyth	3	180	5657	180	5659	While the report recognises local hunting for 'old and dear traditions', it does not fully examine whether this sort of hunting is biologically and ecologically sustainable	Thanks for the comment. This text has been revised.
597	Trocchi, Valter	3	180	5657	180	5659	The book of Higginbottom (2004) provides a assessment of what has and has not worked well in the planning and management of wildlife tourism resources, but it does not carry out a specific investigation of bird bags or their dynamics in the Mediterranean basin. Hunttable species are just the ones cited in Birds Directive of European Union. Such species are <i>Turdus philomelos</i> , <i>Turdus iliacus</i> , <i>Turdus merula</i> , <i>Turdus pilaris</i> , <i>Turdus viscivorus</i> and	Thanks for this suggested change. We have included it in the new version.
598	Bliss, Cebuan	3	180	5658	180	5659	"part of old and very dear traditions"; "protection and tender care by millions of Northern Europeans" - the language here could be more scientific, also more neutral, from an ontological perspective	Thanks for the comment. The text has been updated accordingly.
599	Webb, Grahame	3	180	5658			Hunting or harvesting must reduce densities, and is deliberately done (especially in fisheries), to stimulate a higher rate of population increase. It is not clear here whether the case history is one in which hunting is causing a decline in density (it must), an ongoing decline, and whether the decline is more than optimal for sustainable harvesting. See ... P42 1129- p122 3598	Thanks for the comment. This text has been revised significantly.

600	Mahoney, Shane	3	180	5660	180	5660	Line 5660 -increasingly, the consumption of wild meat is also motivated by healthy lifestyle choices. This is certainly true of recreational hunters in Canada and the United States.	Thanks for this suggested change. We have included it in the new version.
601	Webb, Grahame	3	180	5663	180	5664	Suggest: "In Papua-New Guinea, it is a tradition in the Genyem that certain animals could be only hunted by clan leaders, while others ...."	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
602	Webb, Grahame	3	180	5670			"hunt" as a group.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
603	Lerambert, Adeline	3	180	5674	180	5675	Nevertheless, and as highlighted above, because hunting is 'cultural' it does not mean it is ecologically sustainable.	Thank for your comment. The purpose of the assessment is to report on the knowledge on sustainable use, not to condone or condemn the practices. It should also be noted that ecological and biological sustainability is not valued over cultural sustainability in many definitions of sustainability. How sustainable use is defined and used is the subject of chapter 2.
604	Orenstein, Ronald	3	180	5674	180	5678	See comment 6 above and references cited therein.	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.
605	Stewart, Davyth	3	180	5674	180	5675	The report recognises the cultural value of some exploitative practices, it should be noted that just because a certain practice is cultural, does not mean it is ecologically sustainable - which needs to be assessed independently of the cultural value.	Thank for your comment. The purpose of the assessment is to report on the knowledge on sustainable use, not to condone or condemn the practices. It should also be noted that ecological and biological sustainability are not valued over cultural sustainability in many definitions of sustainability, and that the very definition of sustainability is such that the cultural and the ecological cannot be independently assessed. How sustainable use is defined and used is the subject of chapter 2.
606	Webb, Grahame	3	180	5676			"beliefs	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
607	Webb, Grahame	3	180	5676	180	5677	Taboos can have important implications for local conservation, for example with primates (infield et al. 2018) and crocodiles (Daltry et al. 2004, Brackhane et al. 2019).	Thank you for your comment. However, without complete citation information we do not have the details required to add the suggested text.
608	Lerambert, Adeline	3	180	5691	180	5693	Why is the data quoted so outdated? More up-to-date information can be obtained from the CITES trade database. Between 2008 and 2017, close to 300,000 trophy items derived from more than 300 threatened animal species protected by international agreement, were exported from more than 100 countries.	Thank you for your comment. The text referenced here has been significantly revised.

609	Ryan, Mark	3	180	5691	180	5693	Instead of "... mammal trophies", should the term not be "... Mammal body parts"? The term "trophy" does not align with what is mentioned earlier in the chapter about (hunting) trophies.	Thanks for the comment. This text has been deleted.
610	Stewart, Davyth	3	180	5691	180	5693	The CITES trade database provides more up-to-date information that is referenced here. Between 2008 and 2017, close to 300,000 trophy items were exported from more than 100 countries, derived	Thank you for your comment. The text referenced here has been significantly revised. It should be noted that since CITES Trade Database is very hard to use due to its
611	Brien, Matthew	3	180	5694	181	5703	Several species of crocodylian are harvested for the leather and fashion industry, with over 5.2 million crocodylian skins reported in trade between 2013-2015 (Caldwell 2017. World trade in crocodylian skins 2013-2015. UNEP-WCMC, Cambridge). The majority of crocodylian skins in trade are from captive bred stock, although many were originally sourced sourced from legal wild egg ranching programs. In many countries, local people, including indigenous, benefit through the payment of royalties for eggs, and/or employment through the farm supply chain (Fukuda, Yusuke, Grahame Webb, Glenn Edwards, Keith Saalfeld, and Peter Whitehead. "Harvesting predators: simulation of population recovery and controlled harvest of saltwater crocodiles <i>Crocodylus porosus</i> ." <i>Wildlife Research</i> (2020): Japan, T	Thank you for this suggestion. We have included your text in the assessment.
612	Webb, Grahame	3	181	5699			Insert "wildlife" before mammal.	Thank you for your comment. The text has been updated
613	Lerambert, Adeline	3	181	5702	181	5702	It should be recognised that both legal and illegal international trade chains contribute to species decline	Thanks for the comment. Additional information has been added to this section on effects of legal trade.
614	Stewart, Davyth	3	181	5702	181	5702	While illegal trade does contribute to decline of many species, it should be recognised that it is the trade (both legal and illegal) that contributes to species decline. It is not a requirement that legal trade is sustainable, these are 2 independent factors to be assessed separately.	Thanks for the comment. Additional information has been added to this section on effects of legal trade.
615	Brien, Matthew	3	181	5703	181	5703	However, legal international trade has also contributed to the recovery of species such as crocodylians. These programs provide economic incentive for people to tolerate the recovery of a large predator (Fukuda, Yusuke, Grahame Webb, Glenn	Thank you for your comment. We have included it in the text
616	Guillemain, Matthieu	3	181	5704	181	5709	See comment above about the feather industry in the XIX-XXth centuries	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.
617	White, Michael	3	181	5708	181	5708	Guyane (French Guiana is a colonial artefact)	Thanks for the comment. This has been updated.
618	Webb, Grahame	3	181	5710			Emu oil and crocodile oil are both used in cosmetics and for medicinal purposes (Jeengar et al. 2015; li et al. 2017)	Thank you for your comment. Without complete reference information we cannot locate the suggestions for inclusion in the text.

619	Aebischer, Nicholas	3	181	5712	181	5712	Not necessarily flotsam, as it can be recovered from whale corpses - see most recently <a href="https://www.bbc.co.uk/news/av/world-middle-east-57288265">https://www.bbc.co.uk/news/av/world-middle-east-57288265</a>	Thank you for making this point. It does not seem to require changes to the text.
620	Guillemain, Matthieu	3	181	5717	181	5736	why only amphibians, reptiles and insects here? mammals and birds are also used for food...	Thanks for this comment. The text has been revised significantly for logical consistency and order.
621	Lerambert, Adeline	3	181	5718	181	5719	Why such outdated references? This section needs to account for the changes in wild meat consumption during the Covid pandemic.  Ripple et al. 2019. Are we eating the world's megafauna to	Thanks for your comment. However, the link provided is for a policy perspective paper that argues for certain outcomes predicted by a proposed model. It is therefore not appropriate to include in a chapter on status and trends. There may be
622	Stewart, Davyth	3	181	5718	181	5719	The references here should be updated to account for the changes in wild meat consumption since the Covid pandemic. see for example:	Thanks for your comment. However, the link provided is for a policy perspective paper that argues for certain outcomes predicted by a proposed model. It is therefore not appropriate to include in a chapter on status and trends. There may be
623	Germany	3	181	5719	181	5719	In natural sciences citations typically take only the (main) author's surname. Please skip "Elizabeth L."	Thanks for the comment. The references have all been fixed in the final version.
624	Webb, Grahame	3	181	5719			insert "in countries where wild meats were consumed in rural areas (Elizabeth .....". The drift to the cities is taking place in all countries, including those (like Australia) in which rural (non-Aboriginal) people – farmers, graziers etc., generally do not eat	Thank you for your comment. This text has been revised.
625	Lerambert, Adeline	3	181	5727	181	5730	Also the demand in European and other developed countries among diaspora communities for wild meat from their countries of origin, creating an increasing international trade element.  <a href="https://www.ecojust.eu/bushmeat-trafficking-in-europe-a-ticking-time-bomb/">https://www.ecojust.eu/bushmeat-trafficking-in-europe-a-ticking-time-bomb/</a>	thank you for your comment. We have added this information in the text
626	Stewart, Davyth	3	181	5727	181	5730	Also important to include reference to the the demand in Europe (and other developed countries) among diaspora communities for wild meat from their countries of origin, creating an increasing international trade element.  <a href="https://www.ecojust.eu/bushmeat-trafficking-in-europe-a-ticking-time-bomb/">https://www.ecojust.eu/bushmeat-trafficking-in-europe-a-ticking-time-bomb/</a>	Thanks for the comment. Additional information has been added to this section on effects of legal trade.
627	Bassetti, Luis	3	181	5729	181	5730	In this context, the scientific community has also focused on non-conventional protein sources, mainly in the meat produced in conservation and sustainable use programs, such as the meat of crocodilians, which contribute to the improvement of local and	Thank you for your comment. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it.
628	Webb, Grahame	3	181	5729			"that is" consistent.	Thanks for the comment. This text has been revised.
629	Webb, Grahame	3	181	5732			Suggest "create incentives for" rather than "be a driving force for".	Thanks for the comment. The text has been revised.
630	White, Michael	3	181	5732	181	5732	IPLC	Thanks for this point. The text has been revised so it is no longer relevant.

631	Brien, Matthew	3	182	5740	182	5740	Include other refs for harvest of crocodiles for food (eg. Caldwell 2017. World trade in crocodylian skins 2013-2015. UNEP-WCMC, Cambridge; Elsey et al. 2019; Fukuda, Yusuke, Grahame Webb, Glenn Edwards, Keith Saalfeld, and Peter Whitehead. "Harvesting predators: simulation of population recovery and controlled harvest of saltwater crocodiles <i>Crocodylus porosus</i> ." <i>Wildlife</i>	Thank you for your comment. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it.
632	Perez Gil, Ramon (Mexico)	3	182	5741	182	5742	I think the information related to the reptile skin trade is very limited, please refer to: Arroyo-Quiroz I., Perez-Gil R. & Leader-Williams N. 2006. Mexico in the International Reptile Skin Trade: A Case Study. <i>Biodiversity and Conservation</i> 16: 931-952.	Thank you for your comment. We have added additional information to the text consistent with our review criteria.
633	Brien, Matthew	3	182	5742	182	5742	Include other refs for global trade in crocodiles for skin trade (eg. Caldwell 2017. World trade in crocodylian skins 2013-2015. UNEP-WCMC, Cambridge; Elsey, R., Woodward, A. and Balaguera-Reina, S.A., 2019. Alligator mississippiensis. The IUCN Red List of Threatened Species.; Joanen, T., Merchant, M., Griffith, R., Linscombe, J. and Guidry, A., 2021. Evaluation of Effects of Harvest on Alligator Populations in Louisiana. <i>The Journal of Wildlife Management</i> , 85(4), pp.696-705)	Thank you for your comment. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it.
634	Webb, Grahame	3	182	5742			Insert MacGregor (2006), Caldwell (2017) skin trade crocodylians	Thank you for your comment. Without complete reference information we cannot locate the suggestions for inclusion in the text.
635	Lerambert, Adeline	3	182	5749	182	5754	Surely more up-to-date information is available.	Thank you for your comment. Additional information has been added to this section
636	Stewart, Davyth	3	182	5749	182	5754	More up-to-date information needed	Thank you for your comment. Additional information has been added to this section.
637	Brien, Matthew	3	182	5754	182	5754	However, the crocodylian harvest programs in the USA (alligator) and Australia (saltwater crocodile) are highly regulated and monitored, with a coordinated system of permits, licences, and rigorous tagging and export requirements (Elsey, R., Woodward,	Thank you for your comment. We have included it in the text
638	Mahoney, Shane	3	182	5754	182	5754	Line 5754 - An extraordinary statistic that more than 50 percent of all traded reptile specimens were not identified to species. Clearly this is a place where improvements to monitoring records can be recommended.	Thanks for the comment. We agree this is a serious knowledge gap.
639	Webb, Grahame	3	182	5757			The most commonly traded species of amphibians and reptiles are abundant, widely distributed, and have long histories of sustaining use and trade, with varying degrees of regulation matched to their life history parameters.	Thanks for the suggestion. We have incorporated it.
640	Webb, Grahame	3	181	5760	181	5765	"In contrast, species with low abundance, restricted ranges and life-history strategies that depend on adults having survival rates, are more vulnerable to be detrimentally affected by harvest, unless it is strictly regulated, and takes account of factors such as	Thanks for this suggested change of wording. As it does not change the meaning, it is a matter of style and we will not adopt it.

641	Webb, Grahame	3	182	5767			For reptiles and amphibians, there are relatively few studies that document the ways in which wild populations respond to harvests, specifically density-dependent influences on population dynamics, so our understanding of "dynamic populations" is limited (Webb 2015; Webb et al. 2003, 2004). Kennett et al. (2014) provide clear evidence that density-dependent factors are critical to understanding the impact of harvest on northern snake-necked turtles ( <i>Chelodina oblonga</i> ): <i>Chelodina oblonga</i> populations can rebound rapidly following reductions in density, and so is resilient to a level of harvest and predation by pigs.	Thank you for your comment. We cannot add additional text to the chapter for every particular case. We feel our analytical approach is more informative than individual case studies, and we have already incorporated a few of these. This text is also specifically about the animal populations rather than the sustainability of their use. See chapter 1 for definitions and structure of assessment.
642	Brien, Matthew	3	182	5768	182	5768	Add at end of paragraph: In the Sepik River area of Papua New Guinea, increased involvement of local communities in the commercial Saltwater crocodile egg harvest has resulted in reduced hunting of adult Saltwater crocodiles and taking of eggs	Thank you for your comment. We feel our analytical approach is more informative than individual case studies, and we have already incorporated a few of these.
643	Brien, Matthew	3	182	5769	182	5769	Crocodilian meat is traded widely but is particularly favoured in the Far East, especially China and Hogn Kong (Caldwell 2017. World trade in crocodilian skins 2013-2015. UNEP-WCMC, Cambridge). The top species traded for meat are <i>C. niloticus</i> and <i>C.</i>	Thank you for your comment. We have included it in the text
644	Freyer, Daniela	3	182	5771	182	5772	change to "In Europe, there are 4600 tons of frog meat imported per year, corresponding to 46-200 million frogs, based on calculations by Veith et al. 2000 ("A test for correct species declaration of frog legs imports from Indonesia into the EU". <i>Biodiv. &amp; Cons.</i> 9:333-341).	Thank you for your comment. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it.
645	Webb, Grahame	3	182	5774			In Indonesia, Kusri (2005) estimates the domestic consumption may be 7 times the number exported.	Thank you for making this point. It does not seem to require changes to the text.
646	Lerambert, Adeline	3	183	5779	183	5781	The loss of a human food source is not the biggest problem here - it is the loss of wild amphibian populations and the impacts this might have for wider biodiversity and ecosystem stability	Thanks for this comment. This assessment is on the sustainable use of wild species, not specifically on their population biology and biological conservation. The section is specifically about food. Therefore we have not made any changes based on this comment.

647	Stewart, Davyth	3	183	5779	183	5781	The loss of wild amphibian populations is a significant concern and the impact this may have for wider health of biodiversity and ecosystem stability. These impacts should be emphasised more so than the loss of a food source for humans, and can more quickly adapt to other food sources with minimal to no negative impact.	Thanks for this comment. This assessment is on the sustainable use of wild species, not specifically on their population biology and biological conservation. The section is specifically about food. Therefore we have not made any changes based on this comment.
648	Webb, Grahame	3	183	5780			. ".... Declining for various reasons, particularly degrading of wetlands, and in some countries harvests for of frogs for food have been legislated against (A. Carpenter ....." This is not all due to harvest and wetland deterioration and pollution intimate involved. Other countries have sustained harvesting of frogs for food with modest management for long periods of time (in Louisiana: LWF 2021).	Thanks for this suggested change of wording. As it does not change the meaning, it is a matter of style and we will not adopt it.
649	Orenstein, Ronald	3	182	5783	182	5790	There have been serious issues concerning the sustainability of the commercial trade in frog legs, including the potential risks of disease transmission. Please consult: Altherr, S., Goyenechea, A. and Schubert, D. (2011): Canapés to extinction— the international trade in frogs' legs and its ecological impact. a report by Pro Wildlife, Defenders of Wildlife and Animal Welfare Institute (Eds.), Munich (Germany), Washington, D.C. (USA). Gratwicke, B., Evans, M. J., Jenkins, P. T., Kusriini, M. D., Moore, R. D., Sevin, J., & Wildt, D. E. (2010). Is the international frog legs trade a potential vector for deadly amphibian pathogens?	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
650	Lerambert, Adeline	3	183	5789	183	5790	If this figure is from 2006 as the reference suggests, it should not be considered the 'current status'	Thanks for the comment. The text has been updated.
651	Stewart, Davyth	3	183	5789	183	5790	Need to provided an updated reference to determine the current status (reference is made to a report from 2006).	Thanks for the comment. The text has been updated.
652	Webb, Grahame	3	183	5789			The real question here is whether the current harvest of 3800 is being sustained. Or is the amount in trade declining annually now that I presume quotas have been established (ignoring the domestic use which may be many times greater).	Thanks for the comment. The text has been updated.
653	Freyer, Daniela	3	183	5790	183	5790	Add reference to study by Ohler, A. & V. Nicolas (2017): Which frog's legs do froggies eat? The use of DNA barcoding for identification of deep-frozen frog legs (Dicroglossidae, Amphibia) commercialized in France. Eur. J. Taxon. 271: 1–19. This study found broad mislabeling of frozen frogs legs as "Limnonectes macrodon", while this formerly dominant species in trade is now quasi absent in imported frozen legs, an indication for a significant	Thank you for your comment. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it.
654	Webb, Grahame	3	183	5791	183	5800	It seems in none of these countries have the frog resources been subject to science-based monitoring and management – that is, the approach seems to have been one of harvesting (unregulated harvest) all you can find for export, then stopping harvesting. A	Thanks for the comment. The relevant text has been revised
655	Freyer, Daniela	3	183	5800	183	5800	Add information from study by Cicek, K.; Ayaz, D.; Afsar, M.; Bayrakci, Y.; Peksen, C.A. et al. (2020): Unsustainable harvest of water frogs in southern Turkey for the European market. Oryx May, 9 pp. 10.1017/S0030605319000176	Thank you for your comment. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it.

656	Bercovitch, Fred	3	183	5801	183	5802	See my first comment regarding the use of the word "can". In this case, the 'can' ONLY applies if the source (or legal) population of frogs is not only unequivocally identified, but does not provide a mechanism for inclusion of non-source (or illegal) frog specimens. For example, the legal shipment of giraffe specimens across international boundaries provides an avenue for the shipment of illegally killed giraffe specimens (HSI Report, 2018).	Thanks for your comment. The relevant text has been deleted.
657	Freyer, Daniela	3	183	5807	183	5807	Add more references on invasive species linked to frog farming, e.g. - Santos-Pereira & Duarte Rocha 2015: Invasive bullfrog <i>Lithobates catesbeianus</i> (Anura: Ranidae) in the Paraná state, Southern Brazil: a summary of the species spread. <i>Revista Brasileira de Zootecias</i> 16: 141-147.  Add the aspect of increased risk of spreading diseases linked to frog farms: - Ribeiro et al. 2019: Bullfrog farms release virulent zoospores of	Thank you for the comment. Analysis of invasive species is outside the scope of this assessment. There is another IPBES assessment, specifically on invasive species, that is current underway.
658	Webb, Grahame	3	183	5814			Is this total harvest ... or harvest for export only.	Thanks for the comment. We have edited the sentence for clarity.
659	Webb, Grahame	3	184	5822			The science underpinning the harvest seems to be completely lacking.	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
660	Freyer, Daniela	3	184	5824	184	5824	Suggest to add paragraph on amphibian consumption in Latin America, e.g. - Teixeira et al. 2001: The world market for frog legs. <i>FAO, Rome. Globefish</i> version 68: 1-44;	Thanks for the suggestion. Literature included has been selected through systematic literature review following IPBES protocols. We cannot add a whole new section now based on this one FAO reference.
661	Majda, Achach	3	184	5838	184	5838	FIGURE 3.49 : the map of Morocco which appears on this figure is not correct. IPBES is kindly invited to adjust this situation and maintain the same approach adopted for the previous reports.	Thank you for your comment. Pursuant to resolutions of the United Nations General Assembly and Security Council, Western Sahara enjoys the status of a Non-Self Governing Territory within the United Nations. The General Assembly
662	White, Michael	3	186	5893	186	5897	Palm weevils also destroy the forest trees	Thank you for your comment. We have corrected the text accordingly.
663	Guillemain, Matthieu	3	186	5897			"possibly" can be omitted...	Thank you for your comment. We have corrected the text accordingly.
664	Chardonnet, Bertrand	3	186	5916	201	6278	This part presents some data on Trophy hunting and my comments concern only those for Africa. I see two main sources of concern with these data:	Thank you for your comment. We have corrected the text accordingly.
665	Chardonnet, Bertrand	3	186	5916	201	6278	It presents only one face of the coin (supposed to be the shining one) and keep hidden many other indicators that are important to assess the sector (as a conservation tool, or as far as sustainability is concerned). It is therefore not balanced. Many	Thank you for your comment. We have corrected the text accordingly.
666	Chardonnet, Bertrand	3	186	5916	201	6278	Following there is no assessment nor analysis or trend of the sector in Africa and therefore no way to draft recommendations.	Thank you for your comment. We have corrected the text accordingly.

667	Chardonnet, Bertrand	3	186	5916	201	6278	Comments on the data: Most data are related to the turnover of hunting outfitters or hunting camps. These amounts are not the money spent to manage the hunting area but are generally closer to be the turnover of the tourism activity only (building and running a camp, overseas marketing to get hunting clients, safari 4x4 cars, salary for professional hunters and hunting team). If (which is generally not the case) (2)(3) the hunting operation makes a profit, this money can be used to manage the hunting area. According to the hunting sector itself (Conservation Force) (4), in Tanzania (the African country with the largest hunting sector, and the most successful one, in open land), between 2013 and 2015 27 hunting operators exploiting 121,400 km <sup>2</sup> spent 2.24 million USD for management and anti-poaching activities, in other words 0,18 USD/ha/year, out of a general turnover for the Tanzanian hunting sector of 4.24 USD/ha/year (which represents 4,2% only used for area management). The same figures are seen all over Africa, including South Africa and Namibia.	thank you for your comment. We have corrected the text accordingly
668	Chardonnet, Bertrand	3	186	5916	201	6278	This should be put in perspective with the actual cost of managing a Protected Areas which is around 10 USD/hectare/year (5,6,7). The money used by Trophy hunters is not enough to manage properly the hunting area, even by a fraction as it represents only around 2% of what is needed for a proper management. The consequence is easy to understand: wildlife is decreasing, as is the area where it lives.	Thank you for your comment. We have corrected the text accordingly.
669	Chardonnet, Bertrand	3	186	5916	201	6278	Nowadays the degradation of both the biotope and the populations of game species have led to the non-use of 40% of big game hunting zones in Zambia (8), and 72% in Tanzania (9). Therefore, it is difficult to say that it is sustainable. It is similar for the number of emblematic trophy species (which form the basis of the income), with a clear decline of lions and elephants shot in Tanzania since the last 10 and 20 years (well before the trophy import ban in the USA) (10, 11), showing clearly hat trophy hunting was not sustainable.	Thank you for your comment. We have corrected the text accordingly.
670	Chardonnet, Bertrand	3	186	5916	201	6278	Data on economic return to community are not put in perspective: The same report from Conservation Force explains that between 2013 and 2015, the above-mentioned 27 hunting operators in Tanzania distributed an average annual sum of 1.04 million USD	Thank you for your comment. We have corrected the text accordingly.
671	Chardonnet, Bertrand	3	186	5916	201	6278	2. Analysis: Tanzania has allocated 14.1% of its land to national parks and reserves and 26.4% to hunting zones, Zambia has allocated 7.9% of its land to national parks and 21.3% to hunting zones, and Botswana has allocated 18% of its land to national	Thank you for your comment. We have corrected the text accordingly.
672	Chardonnet, Bertrand	3	186	5916	201	6278	3. Synthesis: Trophy hunting in Africa is in decline everywhere due to demographic increase, rapid progress of the agricultural front to produce food, huge increase of the cost to manage protected and hunting areas while trophy hunters need huge areas	Thank you for your comment. We have corrected the text accordingly.
673	Chardonnet, Bertrand	3	186	5916	201	6278	That is vastly different from the past: when human population was small, land was available everywhere and pressures from people on Protected and hunting areas were small, therefore hunting was feasible and hunting areas were inhabited by a lot of wildlife. With	Thank you for your comment. We have corrected the text accordingly.
674	Chardonnet, Bertrand	3	186	5916	201	6278	4. Recommendation: The problem now is to understand change and adapt to change. The trophy hunting sector is very conservative and not sensitive to change, as it is for climate change. The point now is to adopt	Thanks for this comment. The assessment report is mandated to provide policy-relevant information, not policy recommendations, so we would not be able to make the recommendation suggested.
675	Chardonnet, Bertrand	3	186	5916	201	6278	References: 1. Snyman, S., Sumba, D., Vorhies, F., Gitari, E., Enders, C., Ahenkan, A., Pambo, A.F.K., & Bengone, N.(2021). State of the Wildlife Economy in Africa. African Leadership University, School	Thanks for this comment. The assessment report is mandated to provide policy-relevant information, not policy recommendations, so we would not be able to make the recommendation suggested.

676	Bliss, Cebuan	3	186	5917	187	5957	welfare of animals hunted recreationally could be noted as an under-addressed issue in conservation: Hampton, J. O., & Hyndman, T. H. (2019). Underaddressed animal-welfare issues in conservation. <i>Conservation Biology</i> , 33(4), 803–811.	Thank you for your comment. We have added this in the text.
677	Lerambert, Adeline	3	186	5918	186	5921	In his review 'Trophy Hunting - A psychological perspective', psychologist Prof Geoff Beattie identified personality traits of trophy hunters, including narcissism, machiavelianism and psychopathy, as strong motivators for trophy hunting.	Thank you for your comment. We have corrected the text accordingly.
678	Miketa, Madison	3	186	5921	186	5922	The text here gives the impression that all recreational hunters are motivated by an altruistic desire to support global conservation efforts. This simply isn't true and again points to the unbalanced take in this section. Many recreational hunters are fueled by	Thank you for your comment. We have corrected the text accordingly.
679	Miketa, Madison	3	186	5921	186	5922	The text here gives the impression that all recreational hunters are motivated by an altruistic desire to support global conservation efforts. This simply isn't true and again points to the unbalanced take in this section. Many recreational hunters are fueled by	Thank you for your comment. We have corrected the text accordingly.
680	Lerambert, Adeline	3	187	5936	187	5944	Recreational hunting is a centuries-old activity, but the modern practice of trophy hunting emerged among Europeans during the colonial era, and in the United States in the latter half of the 19th century. Over subsequent decades, the desire among wealthy	Thank you for your comment. The text was written in a form of literature review and reflect the range of opinions exist in literature but not the personal view of authors.
681	Stewart, Davyth	3	187	5936	187	5944	Recreational hunting is a centuries-old activity, but the modern practice of trophy hunting emerged among Europeans during the colonial era, and in the United States in the latter half of the 19th century. Over subsequent decades, the desire among wealthy	Thank you for your valuable comment. We have corrected the text accordingly.
682	Guillemain, Matthieu	3	187	5938	187	5939	It would be worth mentioning that this was largely caused by the observation of crashed populations, e.g. in birds following decades (centuries) of overharvest for food and feather trade (e.g. DAY, A.M. 1949. <i>North American Waterfowl</i> . Stackpole Co.,	Thank you for your comment. We have corrected the text accordingly.
683	Perez Gil, Ramon (Mexico)	3	187	5939	187	5931	The same is true, the multiple motivations of a hunter, in the case of Mexico's 19 modes of hunting. Please refer to project A-001 Economic Importance of Terrestrial Vertebrates of Mexico. Mexico's Biodiversity Commission web page,	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. Furthermore, we have not been able to locate this report.
684	Bercovitch, Fred	3	187	5940	187	5944	This statement requires a scientific citation. What is the reference, or references, for the claim?	Thank you for your comment. We have corrected the text accordingly.
685	Miketa, Madison	3	187	5940	187	5944	Hunting is being described here as the solution; however, it is also part of the problem. It is important to note that the reason many of these populations need such intense recovery efforts are because they were over-hunted and over-exploited. In addition, hunting can	Thank you for your valuable comment. We have corrected the text accordingly.
686	Miketa, Madison	3	187	5940	187	5944	Hunting is being described here as the solution; however, it is also part of the problem. It is important to note that the reason many of these populations need such intense recovery efforts are because they were over-hunted and over-exploited. In addition, hunting can	Thank you for your valuable comment. We have corrected the text accordingly.
687	Orenstein, Ronald	3	187	5940	187	5944	This paragraph overlooks the possibility that the 'dramatic recovery' of deer and other game species may actually represent not so much a recovery an artificial inflation of population levels as a result of management specifically aimed at increasing the	Thank you for your valuable comment. We have corrected the text accordingly.
688	Brien, Matthew	3	187	5942	187	5943	This is also true for non-game species such as the American Alligator (Elsey, R., Woodward, A. and Balaguera-Reina, S.A., 2019. <i>Alligator mississippiensis</i> . The IUCN Red List of Threatened Species; Joanen, T., Merchant, M., Griffith, R.,	Thank you for your comment. We have corrected the text accordingly.
689	Mahoney, Shane	3	187	5943	187	5943	This recovery of legally hunted species to historical abundances is accurate and represents one of the best-case study examples of conservation through sustainable utilization.	Thank you for your comment.
690	Brien, Matthew	3	187	5945	187	5945	This is also true for non-game animal populations such as the American Alligator (Elsey, R., Woodward, A. and Balaguera-Reina, S.A., 2019. <i>Alligator mississippiensis</i> . The IUCN Red List of Threatened Species; Joanen, T., Merchant, M., Griffith, R.,	Thank you for your comment. We have corrected the text accordingly.

691	Lerambert, Adeline	3	187	5945	187	5957	Studies and reports have increasingly questioned the economic, conservation societal values of trophy hunting activities, its morality, and its sustainability. With money to be made, corrupt practices abound.	Thank you for your valuable comment. We have corrected the text accordingly.
692	Miketa, Madison	3	187	5945	187	5948	It should be noted here that poor regulation and monitoring is widespread. Wildlife management plans often rely on insufficient data and do not consider the indirect effects of hunting or other sources of off-take, making it impossible to ensure biological	Thank you for your valuable comment. We have corrected the text accordingly.
693	Stewart, Davyth	3	187	5945	187	5957	The studies and reports referenced fail to account for corruption with animal populations manipulated and quotas set to maximise profits. The referenced material also fail to properly assess the extent to which hunting quotas are exceeded and other conditions	Thank you for your valuable comment. We have corrected the text accordingly.
694	Webb, Grahame	3	187	5948			Insert Mahoney and Geist (2019).	Thank you for your valuable comment. We have corrected the text accordingly.
695	Bercovitch, Fred	3	187	5952	189	5958	These lines present misleading and incorrect information about the contents of the Table, which also contains questionable information. The report states "Data suggests even highly vulnerable species with low regeneration capacity can be hunted	Thank you for your comment. This was modified and the table was renamed "Examples of populations of wild mammals that have recovered in areas where hunting management is in place even though global trends may be
696	Brien, Matthew	3	187	5952	187	5952	This is also true for species such as the American alligator (Eelsey, R., Woodward, A. and Balaguera-Reina, S.A., 2019. Alligator mississippiensis. The IUCN Red List of Threatened Species; Joanen, T., Merchant, M., Griffith, R., Linscombe, J. and Guidry,	Thank you for your comment. We have corrected the text accordingly.
697	Miketa, Madison	3	187	5952	187	5958	This is a very one-sided presentation of hunting sustainability. In addition to sustainable examples, there should also be examples of unsustainable hunting provided as well. Table 3.13 even lists African lion ( <i>Panthera leo</i> ) and grey wolf ( <i>Canis lupus</i> ) without	Thank you for your comment. We have included the most fresh sources.
698	Orenstein, Ronald	3	187	5954	187	5954	See comment 69 above.	Thank you for your valuable comment. We have corrected the text accordingly.
699	Aebischer, Nicholas	3	187	5956	187	5957	This sentence downplays the positive role that hunting can have on the conservation of the hunted species by providing an incentive for landowners to maintain a favourable environment for those species. Two European examples and a North American	Thank you for your comment. We have corrected the text. Unfortunately, we don't have enough space for providing a detailed text, but we have added the report on Sustainable Driven Grouse Shooting (2021) to reference list.
700	Aebischer, Nicholas	3	187	5957	187	5957	The term "pheasants" should be limited to members of the Phasianinae. To increase the generality of the statement, replace "pheasants" with "galliforms", which encompasses pheasants, quails, partridges, francolins, grouse, guineafowl, turkeys, guans,	Thank you for your comment. We have corrected the text. Unfortunately, we don't have enough space for providing a detailed text, but we have added the report on Sustainable Driven Grouse Shooting (2021) to reference list.
701	Guillemain, Matthieu	3	187	5957			pheasants are not a good example here, as in many cases the harvested populations are historically or contemporary introduced and supported by repeated releases for the purpose of hunting	Thank you for your comment. We have corrected the text accordingly.
702	Brien, Matthew	3	187	5958	188	5958	Include in Table 3.13. American alligator ( <i>Alligator mississippiensis</i> ); LC - least concern; increasing/stable; southern USA; (Eelsey, R., Woodward, A. and Balaguera-Reina, S.A., 2019. Alligator mississippiensis. The IUCN Red List of Threatened	Thank you for your comment. We have corrected the text accordingly.
703	Freyer, Daniela	3	187	5958	189	5959	one example of the bias in the section on hunting is this included table of examples of alleged "sustainable hunting", while no list of examples and references have been included documenting "unsustainable hunting"; the list of "sustainable hunting" should be	Thank you for your comment. This was modified and the table was renamed "Examples of populations of wild mammals that have recovered in areas where hunting management is in place even though global trends may be

704	Hoffmann, Mike	3	187	5958	189	5959	Please be sure to capitalize Red List categories in table 3.13	Thank you for your comment. This was taken into account in the final version of the chapter.
705	Mahoney, Shane	3	187	5958	187	5959	Table 3.1...For a fuller representation of North American case studies the authors should look to: Mahoney, Shane P. & Geist, Valerius (Eds.). (2019). The North American Model of Wildlife Conservation. Johns Hopkins University Press.	Thank you for your comment. We have corrected the text accordingly.
706	Mahoney, Shane	3	189	5959	189	5962	The section on Trophy Hunting presents, overall, a very balanced and inclusive view of relevant issues.	Thank you for your comment. It is the pleasure to get such comment among negative critics from side of ultra conservanists.
707	Ryan, Mark	3	189	5964	189	5965	This is a very important clarification regarding what is meant here by "trophy hunting". It would benefit from the following addition of text: "... This is also sometimes referred to as "International hunting", especially as for example individuals could travel long	Thank you for your comment. In the text of the whole assessment we use the unificated terms defined by all authors (see Glosary).
708	Miketa, Madison	3	189	5967	189	5968	This is contradictory to the rest of the text that argues that trophy hunting is very beneficial and positively viewed. This statement may be better supported by references indicating how many people trophy hunt or the number of animals taken as trophies.	Thank you for your valuable comment. We have corrected the text accordingly.
709	Miketa, Madison	3	189	5968	189	5980	It should also be noted that there are limits to this source of revenue and how it is distributed to local communities. It is also important to highlight the economic importance of non-consumptive wildlife use as well as the economic benefits gained	Thank you for your comment. We have used some of the suggested sources to improve the text. More detailed analysis of existing policies and alternatives is given in Chapter 6.
710	Bercovitch, Fred	3	189	5969	189	5988	These two paragraphs provide a faulty economic foundation for considering trophy hunting as sustainable use. The two paragraphs concentrate on the INCOME derived from trophy hunting, but the fundamental variable to examine is NOT income,	Thank you for your valuable comment. We have corrected the text accordingly.
711	Lerambert, Adeline	3	189	5969	189	5980	The true economic value of trophy hunting to an area such as sub-Saharan Africa, is tiny compared to other potential forms of wildlife revenue. A 2017 study entitled The Lion's Share concluded that "the current total economic contribution of trophy hunters from	Thank you for your valuable comment. We have corrected the text accordingly.
712	Stewart, Davyth	3	189	5969	189	5980	Trophy hunting does not have the significant effect on gross domestic product (GDP) that supporters claim. An analysis of the existing literature on trophy hunting economics shows that communities that live in the vicinity of these hunting grounds	Thank you for your valuable comment. We have corrected the text accordingly.
713	Perez Gil, Ramon (Mexico)	3	188	5977	188	5980	Economic figures showing the income, reveue and money spent by hunters in Mexico are shown in the report or project A-001 Economic Importance of Terrestrial Vertebrates of Mexico. Mexico's Biodiversity Commission web page,	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. Furthermore, we have not been able to locate this report.
714	Ryan, Mark	3	189	5981	189	5981	Important to emphasise "... In Africa" as there are many other species around the world which could fetch e.g. USD 100,000+ (see examples of Markhor in Pakistan: <a href="https://www.thethirdpole.net/en/nature/trophy-hunting-markhor/">https://www.thethirdpole.net/en/nature/trophy-hunting-markhor/</a> ). If	Thank you for your valuable comment. We have corrected the text accordingly.
715	Germany	3	190	5990	190	5990	Figure 3.50: Please increase the figure's resolution. Captions can hardly be read.	Thank you for your comment. The figure was updated with a better resolution.
716	Guillemain, Matthieu	3	190	5993	190	6005	It should be explained here that in some instances/countries the shot animals are not totally wild and free-ranging, but managed (to various levels of intervention, from very limited to cage-hunting) in dedicated ranches. This obviously does not have the same	Thank you for your comment. We have separate section on Canned Hunting.
717	Miketa, Madison	3	190	5995	190	6003	This section is unbalanced and ignores the significant amount of research that identifies serious concerns about the sustainability of trophy hunting. See examples of references cited throughout comments. It is important that the text acknowledges these	Thank you for your valuable comment. We have corrected the text accordingly.
718	Webb, Grahame	3	190	5996	190	5997	Should this be to "local population declines that have reduced the number that can be harvested sustainably .... The point being that population declines must occur as a result of harvesting – it is the significance of the decline to sustainability that is important.	Thank you for your valuable comment. We have corrected the text accordingly.

719	Freyer, Daniela	3	190	5997	190	6000	the contribution of income from trophy hunting to livelihoods of indigenous and local people is overstated; several publications provide evidence that income from trophy hunting for communities is economically insignificant, can not compete with other forms of	Thank you for your valuable comment. We have corrected the text accordingly.
720	Orenstein, Ronald	3	190	5999	190	6000	This oversimplifies the issue of conservation benefits from incentive-based sport hunting regimes. Please consult Ochieng, A., Visseren-Hamakers, I. J., & Van Der Duim, R. (2018). The battle over the benefits: Analysing two sport hunting policy	Thank you for your comment. This issue is considered more broadly in Chapter 6.
721	Lerambert, Adeline	3	190	6000	190	6005	All of the 'non-profit organisations' mentioned here are closely affiliated to hunting organisations, and therefore cannot be considered to be objective in their views. It should be noted that IUCN does not have a consensus position on trophy hunting; the	Thank you for your valuable comment. We have corrected the text accordingly.
722	Stewart, Davyth	3	190	6000	190	6005	It should be noted that IUCN does not have a consensus position on trophy hunting; the IUCN's World Commission on Environmental Law Ethics Specialist Group has stated that trophy hunting is not consistent with "sustainable use".	Thank you for your valuable comment. We have corrected the text accordingly.
723	Miketa, Madison	3	190	6003	190	6005	The non-profits listed are pro-hunting groups and financially from continued hunting. There are many other conservation-minded non-profits who have raised legitimate concerns about the impacts of trophy hunting on species and local populations.	Thank you for your valuable comment. We have corrected the text accordingly.
724	Bercovitch, Fred	3	190	6005	190	6005	The citation includes the Boone & Crockett Club, but missing from this paragraph is any mention that the Boone & Crockett Club has issued an official statement ( <a href="https://www.boone-crockett.org/bc-position-statement-endangered-species-act">https://www.boone-crockett.org/bc-position-statement-endangered-species-act</a> ) that supports the	Thank you for your comment. Indirect drivers are described in Chapter 4. Here we provide just links to them.
725	Miketa, Madison	3	190	6006	190	6008	While there are ethical philosophical concerns about trophy there are many papers in the scientific literature that document the wide ranging negative impacts of trophy hunting. Scientists (academic, government, and NGO) have also expressed their concerns about	Thank you for your comment. We have corrected the text accordingly. See also 1.3.3.5.
726	Orenstein, Ronald	3	190	6006	191	6021	The text on this subject is one-sided to the point of bias, and needs serious revision to present a balanced view of the issues involved. It is unfortunate, given the admission that trophy hunting is a subject of serious debate, that this and surrounding text	Thank you for your valuable comment. We have corrected the text accordingly.
727	Freyer, Daniela	3	190	6007	190	6007	Another example for the bias in the report, the sentence "For emotional and ideological reasons hunting is often excluded as an option ..." should be deleted. It seems based on purely personal judgement / differing ideologies rather than fact as it ignores	Thank you for your comment. However, we have chosen to maintain the text as it is. Emotions and ideology are important aspects of sustainable use. The entire chapter is based on various scientific literatures and consistent with the IPBES
728	Lerambert, Adeline	3	190	6009	190	6011	It has been clearly demonstrated that trophy hunting is severely damaging to the social cohesion and genetic stability of many hunted species, precisely because of the traits hunters covet and the individual animals that are consequently targeted. This is true	Thank you for your valuable comment. We have corrected the text accordingly.
729	Stewart, Davyth	3	190	6009	190	6011	It has been clearly demonstrated that trophy hunting is severely damaging to the social cohesion and genetic stability of many hunted species. This is true for lions, leopards and elephants, among others. See for example:	Thank you for your valuable comment. We have corrected the text accordingly.
730	Webb, Grahame	3	190	6009			"for even strictly managed and regulated use"	Thank you for your valuable comment. We have corrected the text accordingly.
731	Webb, Grahame	3	190	6010			"resources and options for alleviating poverty"	Thank you for your valuable comment. We have corrected the text accordingly.
732	Miketa, Madison	3	190	6011	190	6013	Another view that would be helpful to include here is the need to highlight the benefits provided by these species. Focusing solely on value from hunting and culling devalues the critical roles species play in their ecosystem and the numerous benefits they	Thank you for your valuable comment. We have corrected the text accordingly.
733	Lerambert, Adeline	3	190	6013	191	6017	Published field studies have brought the conservation credentials of trophy hunting into question in relation to African lions and leopards in Tanzania, lions in Zimbabwe, leopards on South Africa, and elephants across parts of Southern Africa, among	Thank you for your valuable comment. We have corrected the text accordingly.

734	Stewart, Davyth	3	190	6013	191	6017	Published field studies have brought the conservation credentials of trophy hunting into question, including in relation to African lions and leopards in Tanzania, lions in Zimbabwe, leopards on South Africa, and elephants across parts of Southern Africa.	Thank you for your valuable comment. We have corrected the text accordingly.
735	Webb, Grahame	3	190	6014			"could become nonviable financially across ...."	Thank you for your valuable comment. We have corrected the text accordingly.
736	Webb, Grahame	3	191	6014	191	6016	Superscripts need correcting.	Thank you for your valuable comment. We have corrected the text accordingly.
737	Webb, Grahame	3	191	6016			" Mozambique. This represents 59,538 km2 of lands allocated to wildlife outside the national park estate – 4 times the area of Serengeti ...."	Thank you for your valuable comment. We have corrected the text accordingly.
738	Miketa, Madison	3	191	6017	191	6021	Please provide references to support this statement.	Thank you for your valuable comment. We have corrected the text accordingly.
739	Miketa, Madison	3	191	6017	191	6021	Please provide references to support this statement.	Thank you for your valuable comment. We have corrected the text accordingly.
740	Bercovitch, Fred	3	191	6022	191	6026	As noted in my first comment, the word "can" is nebulous, based on a possibility, and inappropriate or invalid when evaluating what is, or is not, sustainable use. In this case, the text reads: "Hunting tourism can create additional jobs for gamekeepers, rangers,	Thank you for your valuable comment. We have corrected the text accordingly.
741	Lerambert, Adeline	3	191	6022	191	6026	Claims relating to job creation seem to assume that all of the people who provide services to hunters would not be employed without the income those hunters bring. This might be true for the relatively small number of people who directly service the hunters'	Thank you for your comment. We do not state that "all of the people who provide services to hunters would not be employed without the income those hunters bring", we state that "Hunting tourism CAN create additional jobs" and this is
742	Miketa, Madison	3	191	6022	191	6026	These references are extremely weak and do not support your statements. The Bioeconomy.fi, 2017 is not a strong resource, and shows that 1) hunting is the least valuable of all sources, and 2) nature tourism far outweighs hunting in value (2,737 vs 85	Thank you for your comment. We have corrected the text accordingly. Non-extractive practices are considered and the end of this section.
743	Stewart, Davyth	3	191	6022	191	6026	Claims relating to job creation are based on the false premise that the only employment options are to service hunters. Alternative employment may be available, or could be made available with minimum investment and shift in policy focus.	Thank you for your comment. Policy options are considered deeply in Chapter 6.
744	Bercovitch, Fred	3	191	6025	191	6025	The citation of Ebner (2016) is misleading and incorrect. His study was based upon interviewing 16 people over a 13 day period in Mongolia asking about eagle hunting and tourism. He did not discuss poverty alleviation, nor did he discuss 'hunting tourism'.	Thank you for your valuable comment. We have corrected the text accordingly.
745	Lerambert, Adeline	3	191	6027	191	6036	Research suggests that hunting companies contribute on average only 3% of their revenue to communities living in hunting areas. As for where the money goes, the US Democratic staff of the House Committee on Natural Resources in its report 'Missing the	Thank you for your valuable comment. We have corrected the text accordingly.
746	Stewart, Davyth	3	191	6027	191	6036	Research suggests that hunting companies contribute only 3% of their revenue to communities living in hunting areas. The US Democratic staff of the House Committee on Natural Resources in its report 'Missing the Mark' stated: "Our analysis shows that	Thank you for your valuable comment. We have corrected the text accordingly.
747	Webb, Grahame	3	191	6028	191	6029	".... Hunting are funding law enforcement and/or providing..."	Thank you for your valuable comment. We have corrected the text accordingly.
748	Anissimoff, Michael	3	191	6031	191	6033	This is outdated, is not a good example: suggest removing	Thanks for the suggestion. This text has been deleted.

749	Bercovitch, Fred	3	191	6037	191	6034	This opinion is contradicted by data from the United States of America. The USA has 'well-managed hunting areas' and is a 'politically stable country'. The National Park system, overseen by the Interior Department, operates protected areas where hunting	Thank you for your comment. We state that it "normally lead" which does not mean that this is the case for every countries, as you point it out with the example of the US.
750	Lerambert, Adeline	3	191	6037	191	6044	The likes of the CAMPFIRE programme in Zimbabwe have been disastrous, and there are also serious questions about the value to wildlife conservation of the CBMRM programme in Namibia., both of which rely heavily on the utilisation of wildlife.	Thank you for your valuable comment. We have corrected the text accordingly.
751	Miketa, Madison	3	191	6037	191	6044	The "use it or lose it" mindset devalues wildlife and ignores the critical role species place in their ecosystem and the large number of ecosystem services they provide which directly benefit humans. In addition, there is evidence that trophy hunting facilitates wildlife	Thank you for your valuable comment. We have corrected the text accordingly.
752	Stewart, Davyth	3	191	6037	191	6044	For more information about the success (or lack thereof) of wildlife conservation of the CBMRM programme in Namibia, see for example <a href="https://onlinelibrary.wiley.com/doi/abs/10.1111/1467-7660.00169">https://onlinelibrary.wiley.com/doi/abs/10.1111/1467-7660.00169</a> and <a href="https://conservationaction.co.za/recent-news/the-">https://conservationaction.co.za/recent-news/the-</a>	Thank you for your valuable comment. We have corrected the text accordingly.
753	Webb, Grahame	3	191	6037			"To date the management systems built around "use it or lose it" have ...."	Thank you for your valuable comment. We have corrected the text accordingly.
754	Miketa, Madison	3	191	6050	191	6055	These programs also have their issues. See examples below •Dube, N. (2019). Voices from the village on trophy hunting in Hwange district, Zimbabwe. Ecological Economics, 159, 335-343. •Nordbø, I., Turdumambetov, B., & Gulcan, B. (2018). Local	Thank you for your comment. Indirect drivers are considered in Chapter 4.
755	Orenstein, Ronald	3	191	6050	191	6055	This rosy picture is contradicted by recent locally-based studies indicating that the CAMPFIRE regime is having governance problems leading to minimal benefits being provided to local people and illegal hunting as a form of protest, and can lead to	Thank you for your valuable comment. We have corrected the text accordingly.
756	Webb, Grahame	3	191	6050			"Proper" has all sorts of odd connotations! What you seem to be highlighting are "Trophy hunting programs embedded into social, cultural and economic context of local people, such as CAMPFIRE (ref) and the Torghar Conservation project (ref) ....	Thank you for your valuable comment. We have corrected the text accordingly.
757	Bercovitch, Fred	3	192	6056	192	6059	This is PLAGIARISM. The exact same sentence, word for word, appears on p. 6 of the IUCN (2016) report. Directly quoting from a reference without the proper attribution is scientifically unethical. Furthermore, the IUCN (2016) report provides NO solid evidence	Thank you for your valuable comment. We have corrected the text accordingly.
758	Miketa, Madison	3	192	6059	192	6061	The statements referenced to Naidoo et al (2016) are inconsistent with what the paper found. This is what the figure 64.3% represents: "In contrast, the majority (64.3%) of the benefits from hunting were in the form of cash for the operation of the	Thanks for the comment. Given the synthetic nature of the report we are not in a position to report on specific national case studies in such detail. Therefore this information has been deleted.
759	Miketa, Madison	3	192	6059	192	6061	A point that Naidoo et al (2016) makes, which is relevant to this report is that almost 80% of hunting benefits are delivered by two species (elephant and buffalo). When considering the sustainability of trophy hunting, it is important to note that the	Thanks for the comment. Given the synthetic nature of the report we are not in a position to report on specific national case studies in such detail. Therefore this information has been deleted.
760	Orenstein, Ronald	3	192	6059	192	6061	This text misrepresents the cited paper (Naidoo, R., Weaver, L. C., Diggle, R. W., Matongo, G., Stuart-Hill, G., & Thouless, C. (2016). Complementary benefits of tourism and hunting to communal conservancies in Namibia. Conservation Biology,	Thanks for the comment. Given the synthetic nature of the report we are not in a position to report on specific national case studies in such detail. Therefore this information has been deleted.
761	Lerambert, Adeline	3	192	6065	192	6068	This dialogue seems to consider that the only way to generate revenues for conservation and local communities are through either trophy hunting, or 'nature-based tourism', and compares and contrasts the two. This is clearly a myopic viewpoint, and fails	Thanks for this comment. The assessment report is mandated to provide policy-relevant information, not policy recommendations, so we would not be able to make the recommendation suggested.
762	Miketa, Madison	3	192	6065	192	6068	Again, stating that trophy hunting tourism "avoids many of the negative side-effects from nature-based tourism" is disingenuous. Please reference the literature for the wide-ranging direct and indirect negative effects of trophy hunting.	Thanks for the comment. This text has been edited.
763	Stewart, Davyth	3	192	6065	192	6068	This is a very simplistic comparison between trophy hunting and nature based tourism, focussed only on revenue and expenditure. The investment in infrastructure from nature based tourism provides its own benefits including employment across a range of	Thanks for the comment. This text has been edited.

764	Aebischer, Nicholas	3	192	6069	192	6069	Change "provide contribute" to "contribute"	Thank you for your valuable comment. We have corrected the text accordingly.
765	Aebischer, Nicholas	3	192	6069	192	6070	I feel that the benefits of management for hunting for wider biodiversity are poorly documented here, and should be given more space. The contribution made to conservation through the exploitation of galliforms is described in Aebischer, N.J. (1997).	Thank you for your comment. Unfortunately, because of space limits we cannot describe a lot of very challenging topics in depth. At the same time, we've added the suggested literature to references.
766	Webb, Grahame	3	192	6069			Delete "provide"	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
767	Trocchi, Valter	3	192	6073	192	6080	The widespread commitment of Europe's hunters to biodiversity conservation is exemplified by the Biodiversity Manifesto of FACE, the association that represents about 7 million European hunters: <a href="http://www.biodiversitymanifesto.com/">http://www.biodiversitymanifesto.com/</a>	Thank you for your comment. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it.
768	Lerambert, Adeline	3	192	6077	192	6080	This text has clearly been written by organisations with vested interests in commercial hunting, and needs to be balanced against alternative viewpoints, arguments, and evidence.	Thank you for your valuable comment. We have corrected the text accordingly.
769	Miketa, Madison	3	192	6077	192	6080	Since the text mentioned hunters contributions to the EU Habitats Directive, the text should also discuss the scientific literature and court cases questioning the legality of hunting with regard to the EU Habitats Directive.	Thanks for the comment. Given the synthetic nature of the report we are not in a position to report on specific national case studies in such detail. Therefore this information has been deleted.
770	Botero-Arias, Robinson	3	192	6081	192	6085	In Central Amazon, Brazil, many factors drive wildlife hunting and consumption, including source of income, taste preference, culture, lack of alternative meat, meat price, and wealth, and the relative importance of these factors may vary from place to place.	Thank you for your useful comment. We have added this information to the text but in section 3.3.3.3 Hunting for Food.
771	Webb, Grahame	3	192	6081			"provided gratis or sold to local communities, where it is highly valued "	Thanks for the suggestion. This text has been edited.
772	Mahoney, Shane	3	192	6087	192	6089	Lines 6087-6089 - It should be noted that during the COVID pandemic, hunting and fishing participation in the United States and Canada increased dramatically. This well documented through state agency hunting and fishing permit sales.	Thanks for the comment. This is considered a driver and is discussed in chapter 4 as part of reporting on the effects of the pandemic.
773	Ryan, Mark	3	192	6087	192	6090	It is worth mentioning here the increase in the number of individuals taking up recreational hunting in the wake of the Covid-19 pandemic. The underlying motives link closely to what is mentioned elsewhere in this chapter about knowing where one's	Thanks for the comment. This is considered a driver and is discussed in chapter 4 as part of reporting on the effects of the pandemic.
774	Aebischer, Nicholas	3	192	6091	192	6095	The reference quoted here is for central Europe. Another trend worth mentioning in western Europe is the increased reliance of pheasant and partridge hunting on artificially reared birds released in advance of the hunting season, resulting in a larger total	Thank you for your comment. Unfortunately, because of space limits we cannot describe a lot of topics in depth.
775	Guillemain, Matthieu	3	192	6091	192	6092	This may not be linked with disinterest from hunters, but the hunting of declining species gradually getting banned...	Thank you for your comment. We present the information as it was interpreted in the cited sources.
776	Lerambert, Adeline	3	192	6093	192	6093	Trophy hunting does not represent an effective wildlife management tool. Far from removing surplus, decrepit or 'undesirable' animals, trophy hunters typically pursue the animals with the most impressive traits which make the best 'trophies', but	Thank you for your valuable comment. We have corrected the text accordingly.
777	Stewart, Davyth	3	192	6093	192	6093	Trophy hunting does not represent an effective wildlife management tool. This section relies upon the theoretical claim that hunting could target post reproductive animals and thereby contribute to population control. However, there is no analysis	Thank you for the comment. All text related to trophy hunting has been substantially edited.
778	Webb, Grahame	3	192	6094			Which "in 2020" was approximately	Thanks for the suggestion. This text has been edited.

779	Aebischer, Nicholas	3	193	6101	193	6101	"haunting" should be "hunting"	Thanks for the suggestion. This text has been edited.
780	Miketa, Madison	3	193	6101	194	6124	As mentioned in previous comments, here are some papers that have been excluded from this review that are relevant to this section. I recommend this section be rewritten to include a larger portion of the scientific literature, specifically on the concerns of negative impacts of lethal management and trophy hunting on populations, species, and ecosystems. <ul style="list-style-type: none"> <li>•Allendorf, F. W. &amp; Hard, J. J. (2009). Human-induced evolution caused by unnatural selection through harvest of wild animals. <i>Proc. Natl. Acad. Sci.</i> 106, 9987–9994.</li> <li>•Balme, G., Slotow, R., &amp; Hunter, L. (2009). Impact of conservation interventions on the dynamics and persistence of a persecuted leopard (<i>Panthera pardus</i>) population. <i>Biological Conservation</i>, 142, 2681–2690.</li> <li>•Bergstrom, B. J. (2017). Carnivore conservation: shifting the paradigm from control to coexistence. <i>Journal of Mammalogy</i>, 98(1), 1–6.</li> <li>•Bergstrom, B. J., Arias, L. C., Davidson, A. D., Ferguson, A. W., Randa, L. A., &amp; Sheffield, S. R. (2014). License to Kill: Reforming Federal Wildlife Control to Restore Biodiversity and Ecosystem Function. <i>Conservation Letters</i>, 7(2), 131–142.</li> <li>•Beschta, R. L. &amp; Ripple, W. J. (2009). Large predators and trophic cascades in terrestrial ecosystems of the western United States. <i>Biological Conservation</i>, 142, 2401–2414.</li> <li>•Bischof, R. et al. (2018). Regulated hunting re-shapes the life history of brown bears. <i>Nat. Ecol. Evol.</i> 2, 116–123.</li> <li>•Brainerd, S. M. et al. (2008). The effects of breeder loss on wolves. <i>J. Wildl. Manage.</i> 72, 89–98.</li> <li>•Chapron, G., &amp; Treves, A. (2017). Blood does not buy goodwill:</li> </ul>	Thanks for the comment. The selection process for literature to include in the assessment is based on very specific criteria, as stated in the text and determined by IPBES. We understand that different experts may have included different literature, but are not in a position now to change the search and inclusion criteria according to individual selections. Nevertheless, the text has been edited significantly to address some of these concerns.
781	Webb, Grahame	3	193	6101			"hunting"	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
782	Webb, Grahame	3	193	6102			"Without institutional investment and adequate safeguards"	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
783	Perez Gil, Ramon (Mexico)	3	193	6109	193	6113	There are other schemes in operation by means of which the presence of game species, potential trophy specimens, is favoured or nurtured to use an even more precise word, but not necessarily having a negative impact on other wildlife, on the	Thank you for the comment. All text related to game species and trophy hunting has been substantially edited.
784	Webb, Grahame	3	193	6113			delete "their" and replace with "predator"	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
785	Webb, Grahame	3	193	6116			Start new sentence with ""Growing ...."	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
786	Aebischer, Nicholas	3	193	6119	193	6119	Insert "in" after "increasing"	Thanks for the suggestion. This text has been edited.
787	Kershaw, Francine	3	194	6121	194	6122	In addition to the impacts of unsustainable hunting on population genetics, genetic tools are extremely useful in understanding chain of custody and pathways of illegal trade of hunted (and harvested) species, as well as being informative in a species	Thanks for the comment. This text has been edited.

788	Webb, Grahame	3	194	6132	194	6133	"wild boar damage to agriculture and forestry is .."	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
789	Lerambert, Adeline	3	194	6135	194	6138	<p>The report "The 200 million question" by Economists at Large states: "Research published by the pro-hunting International Council for Game and Wildlife Conservation and the UN Food and Agriculture Organisation, supported by other authors, finds that hunting companies contribute only 3% of their revenue to communities living in hunting areas."</p> <p>The vast majority of their expenditure does not accrue to local people and businesses, but to firms, government agencies and individuals located internationally or in national capitals."Nature based tourism does play a significant role in national development, but trophy hunting is insignificant. Across the investigated countries, trophy hunting revenue was only 1.8% of tourism revenues." The report identifies Zimbabwe as the African country (among those studied) where tourism revenue represents the largest proportion (6.4%) of GDP, but estimates that only 3.2% of total tourism revenue is derived from trophy hunting. The authors of this report estimated that as little as 3% of hunting revenues are directed back into local communities.</p> <p><a href="http://www.ecolarge.com/work/the-200-million-question-how-much-does-trophy-hunting-really-contribute-to-african-communities/">http://www.ecolarge.com/work/the-200-million-question-how-much-does-trophy-hunting-really-contribute-to-african-communities/</a></p>	Thanks for your comment. The text on trophy hunting has been revised significantly. However, the information here because it does not meet our criteria for inclusion.
790	Stewart, Davyth	3	194	6135	194	6138	The report "The 200 million question" by Economists at Large states: Research published by the pro--hunting International Council for Game and Wildlife Conservation and the UN Food and Agriculture Organisation, supported by other authors, finds that	Thanks for your comment. The text on trophy hunting has been revised significantly. However, the information here because it does not meet our criteria for inclusion.
791	Bercovitch, Fred	3	194	6136	194	6138	This is PLAGIARISM. The exact same sentence, word for word, appears on p. 4 of the IUCN (2016) report. Directly quoting from a reference without the proper attribution is scientifically unethical.	Thanks for the comment. The text has been updated according to the information you have provided.
792	Bercovitch, Fred	3	194	6137	194	6138	The sentence is FALSE. Nothing in Table 3.15 reveals a percentage of revenue that is allocated to the local community.	Thanks for the comment. I agree and this reference has been deleted.
793	Lerambert, Adeline	3	194	6139	194	6141	The trophy hunting industry has been implicated in the trafficking of wildlife through so-called 'pseudo-hunting', where trophy hunting has been used as a front to facilitate the acquisition and export of valuable parts of protected animals for illegal commercial trade.	Thanks for the information. The material on so called trophy hunting of endangered wild species in Africa has been significantly edited.
794	Miketa, Madison	3	194	6139	194	6144	As stated above, literature has also shown that trophy hunting contributed to increased human-wildlife conflict and poaching. These studies should be included to provide a more balanced assessment.	Thanks for the information. The material on so called trophy hunting of endangered wild species in Africa has been significantly edited.

795	Stewart, Davyth	3	194	6139	194	6141	The trophy hunting industry has been implicated in the trafficking of wildlife through so-called 'pseudo-hunting', where trophy hunting has been used as a front to facilitate the acquisition and export of valuable parts of protected animals for illegal commercial trade. The relationship between rhinoceros trophy hunting and the illegal international trade in rhinoceros horn is well-documented. In January 2018, the Natural Resources and Tourism Minister of Tanzania accused hunting operators of being involved in poaching and illegal exports of ivory. Such associations further undermine the credibility of the trophy hunting industry's conservation claims, and place vulnerable wildlife populations at increased risk. <a href="https://www.traffic.org/site/assets/files/2662/south_africa_vietnam_rhino_horn_nexus.pdf">https://www.traffic.org/site/assets/files/2662/south_africa_vietnam_rhino_horn_nexus.pdf</a> <a href="https://allafrica.com/stories/201801260119.html">https://allafrica.com/stories/201801260119.html</a>	Thanks for the information. The material on so called trophy hunting of endangered wild species in Africa has been significantly edited.
796	Webb, Grahame	3	194	6140			""when demand exists for wild ....". Replace "creates" with "can stimulate"	Thanks for the suggestion. This text has actually been deleted.
797	Webb, Grahame	3	194	6141			"that" needs to be "than". But it is not clear what is meant by "more devastating (???) impacts than hunting itself". Probably need to explain as it appears like one of those motherhood statements.	Thanks for the suggestion. This text has actually been deleted.
798	Bercovitch, Fred	3	194	6145	195	6145	Table 3.14 includes incorrect citations. Ebner (2016) contains NO information about hunting economics in the countries listed.	Thanks for the comment. This reference has been removed from the assessment.
799	Lerambert, Adeline	3	194	6145	194	6145	Murray et al (2017) conclude in "The Lion's share" that trophy hunting operators overstate the economic and social benefits of their activities and that "The tourism sector overall is between 2.8% and 5.1% of GDP in the study countries, meaning that the	Thanks for the information. The material on so called trophy hunting of endangered wild species in Africa has been significantly edited.
800	Stewart, Davyth	3	194	6145	194	6145	Murray et al (2017) conclude in "The Lion's share" that trophy hunting operators overstate the economic and social benefits of their activities and that "The tourism sector overall is between 2.8% and 5.1% of GDP in the countries examiend, meaning that	Thanks for the information. The material on so called trophy hunting of endangered wild species in Africa has been significantly edited.
801	Svizzero, Serge	3	194	6145	195	6145	I think that some data in table 3.1.4. are false, especially in the two columns "people employed" and "number of hunters". For instance there are approx. 1.2 million hunters in France.	Thank you for your comment. While we recognize that the estimation is low, these were the numbers retrieved from literature at the time.
802	Miketa, Madison	3	197	6146	198	6146	Some of these references are very outdated. Did you use the CITES database to get the most recent (2018) trophy trade numbers? This won't represent all of the individuals hunted as trophies, especially for trophies that aren't exported internationally.	Thank you for your comment. These were the numbers retrieved from literature at the time.
803	Botero-Arias, Robinson	3	197	6150	197	6151	The Amazon basin is one of the world's richest and most critical natural environments.. Although it has been proposed that defaunation due to the massive 20th century international trade in Amazonian furs and skins led to an "empty forest" scenario, it is	Thank you for this suggestion. We have chosen not to include it in the assessment, as it is not clearly related to the identified text, which has furthermore been deleted.
804	Guillemain, Matthieu	3	197	6154	197	6457	In some countries it is illegal for hunters to sell some of their game (e.g. only a handful of species can be legally sold in France)	Thanks for the information. However without additional reference information it is not possible to incorporate it into the text.
805	Webb, Grahame	3	197	6154	197	6155	"Data from the European Union and some other regions suggests less than ...."	Thanks for the suggestion. This text has been revised.

806	Botero-Arias, Robinson	3	197	6160	197	6160	COUNTRY Brazil... Amazon Basin: Game species Focal species included 10 large-bodied mammals: Sirenia, Trichechidae: manatee ( <i>Trichechus inunguis</i> ); Rodentia, Caviidae: capybara ( <i>Hydrochoerus hydrochaeris</i> ); Carnivora, Felidae: ocelot ( <i>Leopardus pardalis</i> ) and margay ( <i>Leopardus wiedii</i> ), which are combined for analysis, and jaguar ( <i>Panthera onca</i> ); Carnivora, Mustelidae: neotropical otter ( <i>Lontra longicaudis</i> ) and giant otter ( <i>Pteronura brasiliensis</i> ); Cetartiodactyla, Tayassuidae: collared peccary ( <i>Pecari tajacu</i> ) and white-lipped peccary ( <i>Tayassu pecari</i> ); Cetartiodactyla, Cervidae: red brocket deer ( <i>Mazama americana</i> ); and one reptile: Crocodylia, Alligatoridae: black caiman ( <i>Melanosuchus niger</i> ), the largest Amazonian vertebrate. Other species (not temporally analyzed) included common agouti ( <i>Dasyprocta</i> spp.), Amazonian brocket deer ( <i>Mazama nemorivaga</i> ), tapir ( <i>Tapirus terrestris</i> ), iguana ( <i>Iguana iguana</i> ), tegu lizard ( <i>Tupinambis teguixin</i> ), caiman lizard ( <i>Dracaena guianensis</i> ), boa ( <i>Boa constrictor</i> ), anaconda ( <i>Eunectes murinus</i> ), and spectacled caiman ( <i>Caiman crocodilus</i> ).	Thank you for the information. This table has, however, been deleted.
807	Webb, Grahame	3	198	6161	201	6278	Although critically into address "canned hunting", this section in my opinion strays into strong advocacy, and in doing so, undermines much of what has been said in the previous sections on hunting. Suggest the following points need to be considered: 1. You are essentially making the case that canned hunting is immoral and unethical, and should not be pursued, even if it results in conservation and livelihood benefits. This is the exact same case made by activists to trophy hunting in general. So there is a striking inconsistency. 2. The key issue in both instances, which has much wider application, is that the ethical and moral position of producers and end consumers with regard to human interactions with wildlife are "defined"	Thanks for the detailed, well-reasoned comment. It is rightly noted that the author avoids evaluations, limiting himself to an overview of the phenomenon. The assessment of canned hunting as immoral and unethical belongs to some authors and groups whose opinions are set forth in the assessment. Unlike trophy hunting, canned hunting is frowned upon by large hunting organizations; canned hunting is opposed to authentic hunting, as well as the culture and traditions of local communities. There are many practical (non-emotional) arguments against canned hunting. There is no conclusion about the fundamental unsustainability
808	Webb, Grahame	3	198	6168			"defined"	thank you for the comment. The text has been changed accordingly.
809	Guillemain, Matthieu	3	199	6174	199	6177	This is a range of very different situations, whose ethical issues probably strongly differ for most observers (from totally acceptable to disgusting)	Thank you for the comment. The aim was to show the widest possible range and scope of the concept of "canned hunting", and the presentation is not limited solely to ethical considerations.
810	Sousa Pinto, Isabel	3	199	6183			Maybe a definition of what is considered recreational hunting would be good if it is not in chapter 1 or other place.	Thank you for the comment. Please check the Glossary for "recreational uses".
811	Webb, Grahame	3	199	6185			Remove ")"	Thank you for the comment. The text has been changed accordingly.
812	Webb, Grahame	3	199	6188			So far "canned hunting" ... not "canned" hunting.	Thank you for the comment. The text has been changed accordingly.

813	Webb, Grahame	3	199	6194			"make"	Thank you for the comment. The text has been changed accordingly.
814	Guillemain, Matthieu	3	200	6204			I agree canned hunting represents a very small proportion of world hunting, and I think the treatment given to this practice here is very large compared to what it actually represents for biodiversity (not for ethics!) compared to bird hunting only being briefly	Thank you for your comment. Agree, the emotional aspect is very strong here. However, there are also significant practical risks and dangers. We have added some text on this issue.
815	Webb, Grahame	3	200	6209	200	6220	Awkward	Thank you for your comment. Since the reference is relevant for our review and the comment does not provide a valid reason to remove this sentence we decided to keep it in the assessment.
816	Miketa, Madison	3	200	6244	201	6248	It would be a more informative to the reader to provide additional information to explain why these countries have banned trophy hunting and/or canned hunted. This would also be a good place to mention South Africa's recent decision on captive lion breeding.	Thank you for your comment. Agree, the South African government and courts have made many decisions in recent years regarding captive lion breeding. The text is limited to some of them in order to avoid exceeding the permissible
817	Ryan, Mark	3	200	6244	200	6245	Where are the references for this? Should read "Netherlands" instead of "Holland". Precisely what species are targeted? I am not aware of any import restrictions for Romania.	Thank you for your comment. "Holland" is in the referenced source (Sheikh et al., 2019). Replaced by "Netherlands" on the recommendation of the reviewer. Pointing to the ban on the import of trophies into Romania, the source (Sheikh et al.,
818	Ryan, Mark	3	201	6256	201	6257	It is unclear what is meant by this sentence. Is it implying that it is often legal for threatened species? And illegal for endangered species? Threatened or endangered at what level? Local, national, international? Have consulted the reference in question	Thank you for your comment. The referenced publication provides a situation where the U.S. The Fish and Wildlife Service listed three wild antelope populations as endangered, but did not prohibit breeding for hunting, which prompted a
819	Orenstein, Ronald	3	201	6258	201	6271	Canned hunts for puma are available at several locations in Argentina. Please consult Humane Society of the United States, & Humane Society International. (2021). Profit Over Conservation Claims: Analysis of auctions and exhibitors at Dallas Safari Club	Thank you for the comment. The text has been changed accordingly.
820	Perez Gil, Ramon (Mexico)	3	201	6258	201	6259	Following the examples and expectations of the USA hunters which are the most common tourist hunters visiting Mexico, Canned hunting has been a regular practice since the mid 80's and still continues.	Thank you for your comment. Unfortunately there is no publications on canned hunting in Mexico in English
821	Lerambert, Adeline	3	201	6262	201	6271	It should be recognised that, in its report published in May 2021, South Africa's High-Level Panel of Experts for the Review of Policies, Legislation and Practices on Matters of Elephant, Lion, Leopard and Rhinoceros Management, Breeding, Hunting, Trade	Thank you for the comment. The text has been corrected accordingly.
822	Stewart, Davyth	3	201	6262	201	6271	In the report of South Africa's High-Level Panel of Experts for the Review of Policies, Legislation and Practices on Matters of Elephant, Lion, Leopard and Rhinoceros Management, Breeding, Hunting, Trade and Handling (May 2021), it was identified that the	Thank you for the comment. The text has been corrected accordingly.
823	Perez Gil, Ramon (Mexico)	3	201	6272	201	6272	The small and large ranches in the northern part of the county that introduced exotic game to attract tourist trophy or recreational hunters is in a way a variation of canned hunting still.	Thank you for your comment. Unfortunately there is no publications on canned hunting in Mexico in English
824	Webb, Grahame	3	201	6283			"significant and costly compliance procedures like...."	Thank you for the comment. The text has been corrected accordingly.
825	Bohm, Monika	3	201	6285	202	6289	In this context, it may also be worthwhile to mention that for many invertebrate species, collection for scientific research is fundamentally important for species identification and stricter controls can also be detrimental to building conservation	Thank you for the comment. The text has been changed accordingly.
826	Webb, Grahame	3	201	6285			"Scientific gathering" (??). What does this mean?	Thank you for your comment. This refer to the harvesting of organisms for scientific purposes.
827	Webb, Grahame	3	201	6286	202	6298	Museum collections have been greatly reduced by limiting numbers, even if species are common, as a form of ethical statement. Larger series collected historically have been profoundly important in establishing not simply presence of	Thank you for the comment. The text has been corrected accordingly.

828	Guillemain, Matthieu	3	202	6287	202	6298	Again, why put so much emphasis on this small-scale activity, and not expand on proper overarching hunting issues (what biologically makes hunting sustainable or not, which biological traits make some taxonomic groups more at risk, etc)?	Thank you for the comment. The assessment aims to review and consider a range of forms of sustainable use. Use of wild species for education and science is an important form of use, especially since scientists often feel their use is justified
829	Lerambert, Adeline	3	202	6289	202	6291	With modern methods of information dissemination the justification for the extraction of wildlife for educational purposes is increasingly questionable.	Thank you for the comment. The text has been corrected accordingly.
830	Bercovitch, Fred	3	202	6299	202	6301	This statement is incorrect. The Institutional Animal Care and Use Committee is an official organization (hence, the use of upper case letters) established by institutions within the USA in order to comply with federal regulations regarding animal welfare, care,	Thank you for the comment. The text has been corrected accordingly.
831	Webb, Grahame	3	202	6308			Is "N.B." required?	Thank you for the comment. The text has been corrected accordingly.
832	Webb, Grahame	3	202	6309			The "potential harm should be balanced".	Thank you for the comment. The text has been corrected accordingly.
833	Stewart, Davyth	3	202	6311	202	6315	The extraction of species for scientific purposes can have significant impacts on populations. One significant example is the demand for long-tailed macaques for research purposes. According to the WCMC-CITES trade database, reported exports	Thank you for the comment. The text has been corrected accordingly.
834	Webb, Grahame	3	202	6312			"very small" relative to other natural and unnatural causes of mortality.	Thank you for the comment. The text has been corrected accordingly.
835	Guillemain, Matthieu	3	202	6319	202	6320	This is not a valid comparison: these probably come from a limited number of (hopefully) healthy populations, while museum collections aim at covering a much broader biodiversity, hence may also exploit small, rare, or endangered populations, but in	Thank you for the comment. The text has been corrected accordingly.
836	Webb, Grahame	3	202	6319	202	6320	Needs updating and precision. "For comparison, in 2019 the adaptive and sustainable annual duck and quail harvest season in Victoria is estimated to have taken 426,681 target birds (Moloney & Powell, 2019)."	Thank you for the comment. The text has been corrected accordingly.
837	Bercovitch, Fred	3	203	6328	203	6351	Saguinus oedipus, as well as most marmosets and tamarins, are listed under Appendix I of CITES.	Thank you for the comment. We have added this to the text
838	Lerambert, Adeline	3	203	6328	203	6330	There are serious questions relating to the relevance and applicability of animal models as subjects for human biomedical research, and ethical aspects must also be taken into account.	Thank you for the comment. But such issues are out of the scope of the Assessment (not on domesticated species).
839	Webb, Grahame	3	203	6341	203	6351	The manipulation of CITES to ban imports of wild primates and birds into the USA and EU, is heavily driven by economic factors favouring the commercial captive breeding of birds and primates for medical research within the USA for profit. This raises all sorts	Thank you for the comment. We have added this to the text.
840	Webb, Grahame	3	203	6346			Italics (?). If it "seems" to have led to a decline the reference should be included. "seems to whom". Harvest will obviously create a decline, but the question of significance is whether any data have established an ongoing (unsustainable) decline.	Thank you for the comment. The text has been corrected accordingly.
841	Lerambert, Adeline	3	203	6355	203	6356	Sustainability efforts should focus on reducing and replacing animals in research and teaching.	Thanks for this comment. The assessment report is mandated to provide policy-relevant information, not policy recommendations, so we would not be able to make the recommendation suggested.
842	Stewart, Davyth	3	203	6355	203	6356	Further information and analysis is necessary about how efforts to reduce and/or replace animals in research and teaching, can be incorporated into measurements of sustainability.	Thanks for this comment. The assessment report is mandated to provide policy-relevant information, not policy recommendations, so we would not be able to make the recommendation suggested.

843	Webb, Grahame	3	203	6356	203	6368	Is this really "Unsubstantiated (?) claims that scientific gathering of voucher specimens was a significant cause of the decline and loss of Mexico's elf owl ( <i>Micrathene whitneyi socorroensis</i> )(reference) have been questioned, with invasive	Thank you for the comment. We have provided the information as it was written in initial source.
844	Lerambert, Adeline	3	204	6375	204	6374	The references for data used in this section are, for the most part, outdated.	Thank you for the comment, however we disagree. Most of the references are post 2000. The assessment has a temporal range of 50 years with a focus on literature from the last 20 years.
845	Stewart, Davyth	3	204	6375	204	6374	Need to update the reference sources for this section.	Thank you for the comment, however we disagree. Most of the references are post 2000. The assessment has a temporal range of 50 years with a focus on literature from the last 20 years.
846	Webb, Grahame	3	204	6381	204	6389	Fat of wild crocodylians has long been used for medicinal products, and is now a standard byproduct of farms and ranches (eg Vantor 2012; Li et al. 2017), and the blood collected as a byproduct at the time of slaughter, and from bleeding of farm	Thank you for your comment. We did not include these new examples as we think the point was made.
847	Webb, Grahame	3	204	6388			"alternatives" (??). does this mean harvesting the secretions from live animals, or alternatives to the secretions?	Thanks for the comment. This text has been deleted.
848	China	3	204	6394	204	6395	Delete "Two Asian species listed as Critically Endangered in the IUCN Red List, largely driven by demand from China (Heinrich et al., 2016)". Trade is one of the threats resulting in the decline of the wild pangolin population, and other threats include habitat loss,	Thank you for the comment. However, the text is in regards to harvesting, and does not state that the decline is solely due to demand in China. We have revised the text to increase clarity of this point, but not deleted it. The additional
849	Lerambert, Adeline	3	204	6394	204	6395	Three Asian species are listed as Critically Endangered (Philippine, Chinese, Sunda), one as Endangered (Indian). Of the African species, two are Endangered (White bellied, Giant Ground), two are Vulnerable (black bellied, Temmincks)	Thanks for the comment. However, the goal of the assessment is not to report on species status alone but to report on it in relation to sustainable use. Only species whose population levels (or endangered status) is related to use are
850	Stewart, Davyth	3	204	6394	204	6395	Updated information concerning Pangolins: Three Asian species are listed as Critically Endangered (Philippine, Chinese, Sunda), one as Endangered (Indian). Of the African species, two are Endangered (White bellied, Giant Ground), two are Vulnerable (black bellied, Temmincks) <a href="https://www.iucnredlist.org/search?query=pangolin&amp;searchType=species">https://www.iucnredlist.org/search?query=pangolin&amp;searchType=species</a>	Thanks for the comment. However, the goal of the assessment is not to report on species status alone but to report on it in relation to sustainable use. Only species whose population levels (or endangered status) is related to use are included here.
851	Lerambert, Adeline	3	204	6397	204	6402	Why is this data so outdated? All pangolins were moved to CITES Appendix I in 2016, effectively banning international trade.	Thanks for the comment. However, the goal of the assessment is not to report on species status alone but to report on it in relation to sustainable use. Only species whose population levels (or endangered status) is related to use are
852	Stewart, Davyth	3	204	6397	204	6402	This data is out of date. Need to account for the fact that all pangolins were moved to CITES Appendix I in 2016, effectively banning international trade.	Thanks for the comment. However, the goal of the assessment is not to report on species status alone but to report on it in relation to sustainable use. Only species whose population levels (or endangered status) is related to use are
853	Perez Gil, Ramon (Mexico)	3	205	6436	205	6442	Families of terrestrial vertebrate in use, for different purposes are part of the report in project A-001 Economic Importance of Terrestrial Vertebrates of Mexico. Mexico's Biodiversity Commission web page, <a href="http://www.conabio.gob.mx">www.conabio.gob.mx</a> . We insist it must	Thank you for the comment. Unfortunately we have not been able to locate this report on the conabio.mx website. We are additionally lacking in experts fluent in Spanish in this chapter.
854	Guillemain, Matthieu	3	205	6443	205	6447	this seems a very strong underestimation, given the recurrent issues with wildlife being use in traditional asian medicine, especially in China????	Thanks for your comment. The numbers presented here are based on the scientific literature reviewed from our experts, selected based on our literature search criteria. We cannot speculate beyond that.
855	Webb, Grahame	3	205	6443	206	6458	Seems that traditional Chinese medicines (TCMs) are important to reference here (eg Zhou et al. 2011).	Thank you for the suggestion. Unfortunately without additional information we are unable to locate the suggested reference.
856	Guillemain, Matthieu	3	206	6457			but then "use" is not synonym to "exploited", i.e. no extraction	Thanks for the comment. This text has been deleted.

857	Germany	3	206	6460	206	6460	Figure 3.52: Please increase the figure's resolution. Captions can hardly be read.	Thank you for your comment. The figure was updated with a better resolution.
858	Michels, Ann	3	206	6463	209	6556	Firstly, the trade in live specimens should not be characterized as 'non-lethal' as the take of live specimens in many cases, involves significant mortalities during capture, transport and holding. While the earlier version of the report provided an overview of the	Thank you for your comment. Definitions of lethal and non-lethal terrestrial animal harvesting are provided and explained in detail in Chapter 1. Regarding the changes from the first to second order drafts, text continues to be revised in order to
859	Ryan, Mark	3	206	6463	206	6470	It would be important here to highlight some of the drawbacks that could be associated with this kind of practice. For some, individuals are still removed from the wild; is there a selection bias that might influence the survival of the species? Where the wild	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions.
860	Brien, Matthew	3	207	6471	207	6485	The wild egg harvesting program in the Northern Territory of Australia provides additional income to landowners, many of whom are indigenous, through the payment of royalties for each egg collected (USD\$20-30 each). The farm supply chain also	Thank you for your comment. We are not in a position to include additional national level case studies at this time.
861	Guillemain, Matthieu	3	207	6472	207	6485	many other exemples should be given here, e.g. animal private collections (also songbirds kept in cages, etc)	Thanks for the comment. The focus in the assessment is not to create an inventory of all species that are used in these various ways, but to assess the state of sustainable use of species for which this is of particular interest or concern.
862	Lerambert, Adeline	3	207	6472	207	6485	This section focuses on a single example, the vicuna, which is often used as the 'poster animal' for how regulated international trade and 'sustainable use' can benefit species conservation. However, there are questions about the validity of this model,	Thank you for your comment. As you point out, this issue was already addressed in accordance with your particular concerns in the IPBES 2019 global assessment. Our intention here is to not duplicate that report, but rather to
863	Webb, Grahame	3	207	6483	207	6485	The benefits extend beyond "survival" per se. As referred to elsewhere, the rebuilding of depleted wild populations has reinstated vicuna in the ecosystem, and has allowed the development of sustainable use programs that directly assist the	Thank you for your comment. The text has been corrected accordingly.
864	Webb, Grahame	3	207	6487	207	6512	The uses are not restricted to honey. Aboriginal people use the wax as a base material for making bush string last, and binding tools, toys and other implements. There is a rare form of rock art created with bee's wax (Brady et al. 2019).	Thank you for your comment. The text has been corrected accordingly.
865	Ryan, Mark	3	208	6516	208	6517	"Green hunting is cheaper and less harmful..." is a highly subjective statement. See also reference to some of the drawbacks alluded to with the above comment on lines 6463-6470. Any mention of this needs to be put into context. Less harmful to individual animals or the wildlife populations and habitats as a whole? Cheaper compared to what type of hunting? Where are the references for this statement? Is cheaper good or bad?	Thank you for your comment. The text has been corrected accordingly.
866	Webb, Grahame	3	208	6517			This chapter has already dealt with the many benefits of regulated trophy hunting, including the meat produced and its importance to local people, and the sustainability of the whole process, so releasing the animals alive may make some people feel better ...	Thank you for your comment. The text has been corrected accordingly.
867	China	3	208	6521	208	6524	Delete 3.3.3.4.4. Huang Caiyi, spokesman of the National Forestry and Grassland Administration, announced on 13 December 2018 that the import and export of rhinoceros, tigers and their products will continue to be strictly prohibited; the sale, purchase, transportation, carrying and mailing of rhinoceros, tigers and their products are strictly prohibited; rhino horn and tiger bone are strictly forbidden to be used as medicine. ( <a href="http://www.china.com.cn/news/2018-12/13/content_74271446.htm">http://www.china.com.cn/news/2018-12/13/content_74271446.htm</a> )	Thank you for your comment. The text has been corrected accordingly.
868	Guillemain, Matthieu	3	208	6522	208	6524	is this significantly practiced, or are rhino horns mostly cut from shot animals?	Thank you for your comment. The text has been corrected accordingly and relocated this information.

869	Orenstein, Ronald	3	208	6522	208	6524	It is a bit odd to suggest that the demand for rhino horn is in any way met by non-lethal extraction, given that international commercial trade in horn is forbidden under CITES. The cited paper is missing from the bibliography; I presume it is Cheung, H.,	Thank you for your comment. The text has been corrected accordingly and relocated this information.
870	Webb, Grahame	3	208	6522	208	6524	Rhino horn is used in TCM for various purposes ... . That it can now be harvested sustainably from living animals, in wild and captive situations, to meet that need, is a separate issue.	Thank you for your comment. The text has been corrected accordingly and relocated this information 20/12/2022
871	Bohm, Monika	3	208	6525	209	6556	This section is surprisingly short, given the extensive occurrence of wild-caught species in the pet trade; it also cuts out entirely the importance of the pet trade for species groups such as reptiles (e.g. Auliya et al. 2016	Thank you for your comment. The text has been corrected accordingly. We cannot add much additional text to the chapter due to word length restrictions.
872	Freyer, Daniela	3	208	6525			Pet and zoo trade should be treated in two different paragraphs, given the fact that volume of trade in live animals for zoos is much smaller than commercial trade and that different regulations apply	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions.
873	Freyer, Daniela	3	208	6525	209	6556	This chapter is ignoring the serious impact that the exotic pet trade, which until today heavily depends on wild-caught animals, has on targeted wild populations and on their habitats. The majority of species in exotic pet trade are not protected under CITES, leaving international trade mostly unregulated and unmonitored. Trade has been identified to be unsustainable in many cases. Here is a small selection of references on the subject: - Msuka et al. 2021: Vulnerability assessment of Lake Malawi's ornamental fish resources to export ornamental trade. Fisheries Research 238: 105869 - de Sousa et al. 2021: Conservation and trade of the endangered <i>Hypanncristus zebra</i> (Siluriformes, Loricariidae), one of the most trafficked Brazilian fish. Global Ecol Cons. 27: e01570 - Altherr et al. 2020: Strategien zur Reduktion der Nachfrage nach als Heimtiere gehaltenen Reptilien, Amphibien und kleinen Säugetieren. Federal Agency of Nature Conservation Germany, BfN-Skripten 545, 466 pp.; - Ngo, H.N. et al. 2019: A case study on trade in threatened Tiger Geckos ( <i>Goniurosaurus</i> ) in Vietnam including updated information on the abundance of the Endangered <i>G. catbaensis</i> . Nat. Conserv. 2019, 33, 1–19. - Frank, E.; Wilcove, D. 2019: Long delays in banning trade in threatened species-Scientific knowledge should be applied with more urgency. Science 363: 686–688. - Shepherd et al. 2019: A case for listing the Union Island Gecko <i>Gonatodes daudini</i> in the Appendices of CITES. Global Ecology and Conservation 17: e00549.	Thank you for your comment. The text has been corrected accordingly.
874	Freyer, Daniela	3	208	6525	209	6556	In particular species with small wild populations and/or small Area of Occupancy (AOO) or Extent of Occurrence (EOO), including island populations, are highly prone to over-exploitation and many studies have documented the decline of wild populations that were	Thank you for your comment. The text has been corrected accordingly.

875	Freyer, Daniela	3	208	6525	209	6556	<p>Furthermore, it is well documented that the high demand by specialised collectors for rare or "new" species (i.e. only recently scientifically described) has caused intense collections in the wild, shortly after type localities were published - which is why an increasing number of scientists warn against publishing type localities.</p> <p>- Maron, D.F. 2019: This Shy Caribbean Lizard is Now a Coveted Pet – and Critically Endangered. How Did This Happen? ICRF Reptiles &amp; Amphibians 26(2): 167-169.</p> <p>- Ngo et al. 2018: Microhabitat selection and communal nesting in the insular Psychedelic Rock Gecko, <i>Cnemaspis psychedelica</i>, in Southern Vietnam with updated information on trade. Nature Conservation 31: 1-16.</p> <p>- Holden, M.; McDonald-Madden, E. 2017: High prices for rare species can drive large populations extinct: The anthropogenic Allee effect revisited. J. Theor. Biol. 429: 170–180.</p> <p>- Lindenmayer, D.; Scheele, B. 2017: Do not publish: Limiting open-access information on rare and endangered species will help to protect them. Science 356: 800–801.</p> <p>- Bernardes et al. 2017: Comparative morphometrics and ecology of a newly discovered population of <i>Tylotriton vietnamensis</i> from northeastern Vietnam including remarks on species conservation. Salamandra 53(3): 451-457.</p> <p>- Nguyen, T. et al. 2016: <i>Goniurosaurus catbaensis</i>. The IUCN Red List of Threatened Species 2016: e.T18917684A18917688. <a href="http://dx.doi.org/10.2305/IUCN.UK.2016-2.RLTS.T18917684A18917688.en">http://dx.doi.org/10.2305/IUCN.UK.2016-2.RLTS.T18917684A18917688.en</a>.</p> <p>- Gong et al. 2013: Population status, distribution and</p>	Thank you for your comment. The text has been corrected accordingly.
876	Freyer, Daniela	3	208	6525	209	6556	<p>In addition, the line between legal and illegal wildlife trade is blurred, with many nationally protected not protected under CITES, with non-adherence to national quotas for collection/hunting or export, or with laundering of wild-caught</p>	Thank you for your comment. We think the proper place for such discussion is Chapter 4 of the Assessment.
877	Freyer, Daniela	3	208	6525	209	6556	<p>The paragraph fails to include negative side-effects of the wildlife trade, e.g. invasive species, impact of wildlife farms -- see e.g.</p> <p>- Gong et al. 2018: Millennium-old farm breeding of Chinese softshell turtles (<i>Pelodiscus</i> spp.) results in massive erosion of</p>	thank you for your comment. We have added information on alien species but farming is out of the scope.
878	Perez Gil, Ramon (Mexico)	3	208	6525	208	6525	<p>The zoological parks basically exchange or buy/sell from each other, rarely they buy specimens coming from the wild. This is the case in Mexican Zoos and Circuses even, figures provided by the only registered legal importer-exporter of wildlife an enterprise</p>	Thank you for your comment. The text has been corrected accordingly.
879	Bliss, Cebuan	3	208	6526	209	6556	<p>Exotic pet trade is a pathway for spread of invasive alien species - perhaps a discussion from this perspective is warranted (i.e. it is not sustainable use if it endangers biodiversity elsewhere in the world). Possible refs: Soule, M. E. (1990). The onslaught of alien species, and other challenges in the coming decades. Conservation Biology, 4(3), 233–239; Regulating pets using an objective positive list approach, Warwick, 2021 <a href="https://www.sciencedirect.com/science/article/abs/pii/S1558787821000095">https://www.sciencedirect.com/science/article/abs/pii/S1558787821000095</a>; Shivambu N, Shivambu TC, Downs CT (2020) Assessing the potential impacts of non-native small mammals in the South African pet trade. NeoBiota 60: 1-18</p>	Thank you for your comment. The text has been corrected accordingly.
880	Webb, Grahame	3	208	6526	208	6531	<p>A prerequisite for conservation action, by the public, is that they must value wild animals, and in an increasingly urban world, the ability of people to have contact with animals through zoos and pets adds significantly to the positive values people attribute to</p>	Thank you for your comment. The text has been corrected accordingly.

881	Lerambert, Adeline	3	208	6527	208	6527	The credibility of claims that zoos are important for ex-situ conservation is in serious doubt. Even among 'responsible' zoos, the proportion of species held and bred that are threatened with extinction, and for which captive breeding has been identified as a conservation priority, is low, and likely much lower in other facilities. The extent to which zoos provide significant funding for in situ conservation is also in doubt, for while a few institutions undoubtedly contribute a significant amount, most contribute nothing.  <a href="https://www.bornfree.org.uk/publications/conservation-or-collection-report">https://www.bornfree.org.uk/publications/conservation-or-collection-report</a>	Thank you for your comment. The text has been corrected accordingly.
882	Stewart, Davyth	3	208	6527	208	6527	The credibility of claims that zoos are important for ex-situ conservation is in serious doubt. Even among 'responsible' zoos, the proportion of species held and bred that are threatened with extinction, and for which captive breeding has been identified as a	Thank you for your comment. The statements has been deleted.
883	Webb, Grahame	3	208	6527			Insert "educational".	Thank you for your comment. The text has been corrected accordingly.
884	Guillemain, Matthieu	3	208	6532	208	6538	poaching of wild songbirds to keep them as pets in cages is a serious issue in several parts of the world, and not mentioned here	Thank you for your comment. Please refer to section 3.3.3.3.4 on pet and zoo trade.
885	Lerambert, Adeline	3	208	6532	208	6538	The global trade in live animals, often taken from the wild, as exotic pets, poses significant threats to the conservation of many populations and species, as well as compromising animal welfare, increasing human health risks, and potentially introducing alien	Thank you for your comment. The text has been corrected accordingly
886	Stewart, Davyth	3	208	6532	208	6538	The global trade in live animals, often taken from the wild, as exotic pets, poses significant threats to the conservation of many populations and species.	Thank you for your comment. The text has been corrected accordingly.
887	Vitale, Jessica	3	208	6533			There is a typo for 'Northern Ireland' (Norrthern)	Thank you for your comment. The text has been corrected accordingly.
888	Webb, Grahame	3	208	6533			"Northern"	Thank you for your comment. The text has been corrected accordingly.
889	Vitale, Jessica	3	208	6535			Is there a reference missing here, or should the semi-colon be removed? "(Taylor & Signal, 2005; Daly & Morton, 2009;)"	Thank you for your comment. The text has been corrected accordingly.
890	Biondo, Monica V.	3	208	6538	208	6538	Often ornamental fishes (marine and freshwater) are omitted from statistics about pet species and specimens kept in homes. Marine ornamental fishes (pets): 10.5 million (2005), UK 1.4 million (2014), CHF 0.02 mio. (Biondo, 2017).	This reviewer was invited to write a box on ornamental fishes in the fishing section.

891	Orenstein, Ronald	3	208	6540	208	6543	This number may be an underestimate, as specimens exported as captive-bred may in fact be wild-caught. See Auliya, M., Garcia-Moreno, J., Schmidt, B. R., Schmeller, D. S., Hoogmoed, M. S., Fisher, M. C., Pasmans, F., Henle, K., Bickford, D., & Martel, A. (2016). The global amphibian trade flows through Europe: the need for enforcing and improving legislation. <i>Biodiversity and Conservation</i> , 25(13), 2581–2595. <a href="https://doi.org/10.1007/s10531-016-1193-8">https://doi.org/10.1007/s10531-016-1193-8</a> . According to Mohanty, N. P., & Measey, J. (2019). The global pet trade in amphibians: species traits, taxonomic bias, and future directions. <i>Biodiversity and Conservation</i> , 28(14), 3915–3923. <a href="https://doi.org/10.1007/s10531-019-01857-x">https://doi.org/10.1007/s10531-019-01857-x</a> , "The USA imported	Thank you for your comment. The text has been corrected accordingly.
892	Vitale, Jessica	3	208	6540	208	6543	- Suggest rephrasing the sentence starting with "An estimation from the databases..." to the following: "An analysis of trade data reported in the CITES Trade Database showed that trade in amphibians..." as the official name is the 'CITES Trade Database' (could use a footnote to define 'CITES' if needed)  - It's not clear to me what data this is referring to: "the trade for wild amphibian species has increased in the last years, with ~ 40,000 animals exported per year characterized by the trade of captive-sourced live animals". This seems to use statistics on captive-sourced trade as an example of increasing trade in wild-sourced amphibians? It would be helpful to refer to years. Looking at the supplementary information data file for Harfoot et al. 2018, I get an average of approximately 40,000 captive-sourced	Thank you for your comment. The text has been corrected accordingly.
893	Webb, Grahame	3	208	6549			Is this "their" population?	Thank you for your comment. The text has been corrected accordingly.
894	Webb, Grahame	3	208	6549	209	6553	Is their population truly "dwindering" ... if so it seems Saudi Arabia has implemented a program to rebuild wild populations and apply science-based management to ensure falconry can be conducted sustainably in the future.	Thank you for your comment. The text has been taken from the initial literature source.
895	Guillemain, Matthieu	3	209	6550	209	6555	this is not non-lethal use: the goal is to breed and release bastards for hunting and hunting related (falcon training) purpose...	Thank you for your comment. The text has been taken from the initial literature source.
896	Webb, Grahame	3	209	6554	209	6556	This seems inconsistent with the previous sections. The issue seems to be that lethal use provides critical benefits to local people, especially within the 20% of Indigenous lands that contain 80% of the remaining biodiversity (WWF 2021), and the challenge	Thank you for your comment. The statements has been deleted.
897	Ryan, Mark	3	208	6555	208	6556	This statement "... it remains insufficient in the face of lethal uses of wild animals because hunting activities produce more damage" completely contradicts and is not backed up by what is mentioned earlier in chapter 3. Namely, the benefits of sustainable hunting	Thank you for your comment. The statements has been deleted.
898	China	3	209	6566	209	6575	It is suggested to delete the sentence "For example, captive ...the Covid-19 outbreak" or to make revisions to "For example, captive pangolins were found to be contaminated with strains of coronavirus, resembling those causing COVID-19 (which could	Thank you for your comment. The text has been corrected accordingly.
899	Laze, Kuenda	3	209	6569	209	6578	Countries prepare strategic emergency plans to tackle emergency issues (e.g., natural catastrophe). Emergency plans have prevention measures. Illegal markets of wild plants and animals are a misuse of wildlife and could be identified as emergency	thank you for your comment. Illegal activities are out of the scope of the Assessment.
900	Svizzero, Serge	3	209	6573	209	6573	typo, exact	Thank you for your comment. The text has been corrected accordingly.

901	Derelev, Sergey	3	209	6581	209	6581	It will be useful if Section 3.3.3.5.1 covers also the issue of bird population management. In the African-Eurasian flyways this issue is legally governed by the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), the Bern	Thank you for your comment. The revision of current hunting programs is out of the scope of this chapter.
902	Webb, Grahame	3	209	6582	212	6678	Predators on people and domestic stock are a serious conservation dilemma, because the social license is a dynamic entity. Most predators were subject to eradication and sometimes severe depletion (to the point of extinction) historically. But the	Thank you for your comment. The text has been corrected accordingly.
903	Bercovitch, Fred	3	209	6585	209	6586	The claim that "Hunting for species and habitat management is an essential part of current sustainable wild species management." is contradicted by the data. If hunting was 'an essential part' of sustainable resource use, then why would only 24% of African	Thank you for your comment. The text has been corrected accordingly.
904	Miketa, Madison	3	209	6585	209	6586	Hunting is not a necessary part of management and there are many non-lethal management alternatives. In fact, there is ample evidence that lethal management is ineffective, and that non-lethal solutions are more effective than hunting or culling. •Treves, A., Krofel, M., & McManus, J. (2016). Predator control should not be a shot in the dark. <i>Frontiers in Ecology and the Environment</i> , 14(7), 380–388. •Teichman, K. J., Cristescu, B., & Darimont, C. T. (2016). Hunting as a management tool? Cougar-human conflict is positively related to trophy hunting. <i>BMC Ecology</i> , 16(1), 1–8. •Chapron, G., & Treves, A. (2017). Blood does not buy goodwill: allowing culling increases poaching of a large carnivore. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 284(1851). •Peebles, K. A., Wielgus, R. B., Maletzke, B. T., & Swanson, M. E. (2013). Effects of remedial sport hunting on cougar complaints and livestock depredations. <i>PLoS ONE</i> , 8(11), 1–8. •Robinson, H. S., Wielgus, R. B., Cooley, H. S., & Cooley, S. W. (2017). Sink populations in carnivore management: cougar demography and immigration in a hunted population. <i>Ecological Applications</i> , 18(4), 1028–1037. •Balme, G., Slotow, R., & Hunter, L. (2009). Impact of conservation interventions on the dynamics and persistence of a persecuted leopard ( <i>Panthera pardus</i> ) population. <i>Biological Conservation</i> , 142, 2681–2690. •Packer, C., Kosmala, M., Cooley, H., Brink, H., & Pinteá, L. (2009). Sport hunting predator control and conservation of large carnivores. <i>PLoS One</i> , 4(6), e5941.	Thanks for this comment. The assessment report is mandated to provide policy-relevant information, not policy recommendations, so we would not be able to make the recommendation suggested.
905	Orenstein, Ronald	3	209	6585	209	6586	The statement that hunting is an 'essential' part of sustainable wild species management is patently untrue. That it may form part of such management in some situations is true, but there are a number of countries (eg Kenya) that do not permit trophy hunting,	Thank you for your comment. The text has been corrected accordingly.
906	Webb, Grahame	3	210	6590			Not sure whether this captures the reality that management programs for most species involve elements of all of these different motivations in different parts of the area being managed. eg with saltwater crocodiles (Saalfeld et al. 2016).	Thank you for your comment. We cannot a lot of issues in depth and add additional text to the chapter due to word length restrictions.
907	Guillemain, Matthieu	3	210	6604	210	6612	Many other examples could be given here, such as coypu in the UK, Life project to eradicate Ruddy duck in France etc	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions.
908	Mooij, Diana and Villegas, Christine	3	210	6604	210	6613	Should the sentence speak about the eradication of alien species or invasive alien species? According to the glossary, alien species would not be invasive. However, the specie presented as the North American example was/is an invasive alien specie and not	Thank you for your comment. The text has been corrected accordingly.
909	Gadallah, ZuZu	3	210	6609	210	6609	reference Elkinton and Liebhold, 2007 is not in the reference list and not readily locatable.	Thank you for your comment. The text has been corrected accordingly.

910	Germany	3	210	6610	210	6612	The authors might want also to mention the European wolf ( <i>Canis lupus</i> ) as one of the most common target species for (past) eradication.	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions.
911	Miketa, Madison	3	210	6617	210	6617	This statement is disingenuous as many scientists from academic, government, and NGOs have long voiced concerns about hunting and culling. These concerns are evidence-based and in response to the negative impacts on population growth,	Thank you for your comment. The text has been corrected accordingly.
912	Miketa, Madison	3	210	6624	210	6635	Conservation biologists view natural predation positively because the health of the ecosystem relies on a balanced food web. Removal of predators from an ecosystem can cause top-down trophic cascades and simplify ecosystem by releasing herbivores	Thank you for your comment. The text has been corrected accordingly.
913	Bercovitch, Fred	3	210	6629	210	6631	The premise of the statement "While hunters obviously view the opportunity to hunt as a positive value, a certain proportion of the public will view it as morally unacceptable" is that some people have a positive opinion of a certain activity, while others find the	Thank you for your comment. We prefer to leave the statement as it is.
914	Miketa, Madison	3	210	6629	210	6631	Again, this belittles the large number of people who have legitimate concerns about hunting (biological, ecological, moral, philosophical, etc.). This text has excluded a large amount of research, some of which I've referenced in other comments, that	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions.
915	Kristina, Rodina	3	211	6637	211	6678	Suggestion to add good practice guidance to manage HWC and ensure coexistence. See details here: <a href="http://www.fao.org/3/cb2447en/cb2447en.pdf">http://www.fao.org/3/cb2447en/cb2447en.pdf</a>	Thanks for this comment. The assessment report is mandated to provide policy-relevant information, not policy recommendations, so we would not be able to make the recommendation suggested.
916	Brien, Matthew	3	211	6651	211	6665	The example of crocodylians belongs here. The recovery of many crocodylian populations from near extinction in the 1970s and 1980s has resulted in increased conflict with humans, specifically attacks and a threat to the livelihoods of rural people. In places	Thank you for your comment. The text has been corrected accordingly.
917	Guillemain, Matthieu	3	211	6651	211	6669	other examples include goose conflicts with agriculture (plus air safety and disease transmission): no issue about fear of the animal here, yet fierce debates about the extent of the issues and the ways to solve the problem (see AEWA EGMP	Thank you for your comment. The text has been corrected accordingly.
918	Perez Gil, Ramon (Mexico)	3	211	6651	211	6651	Please refer to Local Perspectives on Conflicts with Wildlife and Their Management in the Sierra Gorda Biosphere Reserve, Mexico Inés Arroyo-Quiroz, Raúl García-Barrios, Arturo Argueta-Villamar,	Thank you for your comment. The text has been corrected accordingly.
919	Trocchi, Valter	3	211	6657	211	6659	The citation of Wikipedia (2021) does not seem sufficiently authoritative as a source. Promoting the sustainability of wild animal use requires a rigorous approach to value judgments. "It also requires a move away from simplistic, divisive and inaccurate	Thank you for your comment. The text has been corrected accordingly.
920	Ryan, Mark	3	211	6659	211	6659	Wikipedia, 2021 is not a reliable reference. While the statement may be correct, I am confident that other references could be used to support this.	Thank you for your comment. The text has been corrected accordingly.
921	Guillemain, Matthieu	3	212	6674	212	6677	Explicit reference to adaptive management processes can be made here (see e.g. many papers by Byron K. Williams)	Thank you for this comment. This text has been deleted from the final draft.
922	United States of America	3	212	6679	279	9072	Sections 3.3.4 is not well organized at present , and very difficult for the reader to follow, as the text drifts within sections (especially in 3.3.4.2 and 3.3.4.3) among topics and region of the world, and is excessively detailed in some places, and too general in others.	Thank you for this comment. The section has been heavily revised.
923	United States of America	3	212	6679	279	9072	While the authors have made good use of the literature and global datasets in Section 3.3.4, there is virtually no discussion of traditional knowledge in relation to the topics covered in this chapter related to the management of forests for timber and wood	Thank you for this comment. There is some discussion of wood products on the text on artisanal uses.
924	John Parrotta (IUFRO)	3	212	6679	279	9072	Sections 3.3.4 is not well organized at present , and very difficult for the reader to follow, as the text drifts within sections (especially in 3.3.4.2 and 3.3.4.3) among topics and region of the world, and is excessively detailed in some places, and too general in others.	Thank you for this comment. The section has been heavily revised.

925	John Parrotta (IUFRO)	3	212	6679	279	9072	While the authors have made good use of the literature and global datasets in Section 3.3.4, there is virtually no discussion of traditional knowledge in relation to the topics covered in this chapter related to the management of forests for timber and wood	Thank you for this comment. There is some discussion of wood products on the text on artisanal uses.
926	Andrews, Christopher	3	212	6683	212	6683	Typo, 'anamlyzed'.	Thank you for the comment. Logging section has been thoroughly revised.
927	Cedergren, Jonas	3	212	6690	212	6699	The classification of different timber harvesting modes makes no sense at all. It is absolutely untrue to say that illegal logging is most prominent in industrial forestry. There are areas where it is rampant in community forestry as well as in small scale forestry.	Thank you for this comment. We have deleted the text that implies illegal logging is primarily associated with industrial scale logging.
928	Koskela, Jarkko	3	212	6690	212	6699	The presented three-element typology does not reflect the real situation very well, in reality it is much more complex. The ownership itself describes poorly how, and by whom, wood is harvested. It is also odd that illegal logging is associated only to	Thank you for the comment. The reference to illegal harvesting in the classification of industrial timber-harvesting has been removed. We acknowledge there are limitations to all classification systems, however it is also necessary in
929	Andrews, Christopher	3	212	6703	212	6706	Instead of two separate sentences, the Lawson et al.(2014) citation could be worked into the other sentence.	Thank you for this comment. The reference and associated text have been removed from this section.
930	Cedergren, Jonas	3	212	6705	212	6706	The statement on illegal logging needs to be accompanied by a much stricter definition and an assessment using that definition, if it is to serve any purpose. It is moreover very uncommon that illegal loggers use highly mechanised systems.	Thank you for your comment. The text here is a general introduction to the section. More detailed definitions and text occur later in the section and address these concerns.
931	United States of America	3	212	6705	212	6706	This estimate might be roughly correct, but perhaps a range of estimates might be more appropriate: See Kleinschmit et al. (2016) for a thorough analysis of this topic.	Thanks for the comment. This text has been heavily revised and the specific reference deleted.
932	John Parrotta (IUFRO)	3	212	6705	212	6706	This estimate might be roughly correct, but perhaps a range of estimates might be more appropriate: See Kleinschmit et al. (2016) for a thorough analysis of this topic.	Thanks for the comment. This text has been heavily revised and the specific reference deleted.
933	United States of America	3	213	6713	213	6718	The typology is interesting, and it could perhaps be used to summarize the results (including both characteristics and impacts) of the subsequent 50 pages of text in one or more tables, just before the current section 3.3.4.4 (Uses). Authors should be sure	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
934	John Parrotta (IUFRO)	3	213	6713	213	6718	The typology is interesting, and it could perhaps be used to summarize the results (including both characteristics and impacts) of the subsequent 50 pages of text in one or more tables, just before the current section 3.3.4.4 (Uses). Authors should be sure	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
935	Cedergren, Jonas	3	213	6723	213	6724	This means that you regard cutting of eucalypts in e.g. Ara Cruz and Vera Cruz as gathering rather than harvesting?????? Strange!	Thank you for your comment. This term is defined in the glossary. Refer to CH1 definition.
936	Orenstein, Ronald	3	213	6725	213	6726	See previous comment, which also applies here. Management of parks and protected areas normally does not involve timber harvesting.	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.
937	Andrews, Christopher	3	213	6744	213	6744	Maybe state where large-scale plantations started in the 1960's. Large scale planting started in the UK with the 'British Forestry Act' in 1919. There is also evidence of historical 'experimental' plantations in the 1600s- though this was likely not large scale	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. We have paraphrased the sentence to take into consideration your suggestion.
938	Guariguata, Manuel R.	3		6748		6749	There are more recent estimates than those from this old paper from 2008 which point out to a different trend (and seems to contradict what is stated in lines 6899-6908). The paper by McEwan et al. (2019) says just the opposite: that the relative	
939	Guariguata, Manuel R.	3		6749		6751	This sentence needs proper substantiation.	

940	Cedergren, Jonas	3	214	6754	214	6754	No source stated for the figure	Thank you for this comment. The source of the figure has been provided
941	United States of America	3	214	6754	214	6754	Very useful illustration, but source of data presented in figure needs to be referenced.	Thank you for your comment. Source of data used in the figure has been provided.
942	John Parrotta	3	214	6754	214	6754	Very useful illustration, but source of data presented in figure	Thank you for your comment. Source of data used in the
943	Andrews, Christopher	3	214	6756	214	6759	Good references for this section on forest management might include 'Bettinger, P. and EBSCOhost (2017) Forest management and planning. 2nd ed. London, United Kingdom: Academic Press' and 'Innes, J. L. and Tikina, A. V. (2016) Sustainable Forest	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made,
944	Cedergren, Jonas	3	214	6756	214	6756	Use recognised definitions of forest management, harvesting etc. They are easy to locate on the internet	Thank you for the comment. Please see Glossary for definition.
945	Andrews, Christopher	3	214	6763	214	6765	Another term for timber-harvesting practices can be 'silvicultural systems', a good reference is 'Matthews, J.D., 1991. Silvicultural systems. Oxford University Press.'	Thank you for this suggestion. We have replaced the term "Timber harvesting" with "Logging"; timber harvesting a practice within logging.
946	Cedergren, Jonas	3	214	6764	214	6764	What is predatory logging? What is variable retention harvesting? Use recognised definition and avoid nonsense expressions like this.	Thanks for this suggested change. We have included it in the new version.
947	Shono, Kenichi	3	214	6764	214	6765	It is not clear what "predatory" means. However, if it means removal of valuable timber species without regard for sustained future yield, then such harvest could also be done through reduced impact logging. Likewise, RIL can be used to	Thanks for this suggested change. We have included it in the new version.
948	United States of America	3	215	6767	215	6771	A very broad (and perhaps not well substantiated) statement on two important issues - implementation of management plans, and legality, so it would be good to see some actual data: on the legality topic, see Kleinschmit et al. (2016).	Thank you for this comment. The section has been re-written.
949	John Parrotta (IUFRO)	3	215	6767	215	6771	A very broad (and perhaps not well substantiated) statement on two important issues - implementation of management plans, and legality, so it would be good to see some actual data: on the legality topic, see Kleinschmit et al. (2016).	Thank you for this comment. The section has been re-written.
950	Cedergren, Jonas	3	215	6772	215	6787	Despite having a Ph.D. in forestry I do not understand anything in this paragraph. What is it that you want to say? Please write that.	Thank you for your concern for clarity in the text. We agree that the text should be accessible to a range of stakeholders.
951	Andrews, Christopher	3	215	6775	215	6775	This doesn't quite make sense. Try changing to "...the broader the group of forest users"	Thanks for this suggested change. We have included it in the new version.
952	Cedergren, Jonas	3	217	6853	217	6854	This is irrelevant in this context. Moreover, there are many slow growing trees in tropical and sub-tropical forests that are capable of growing and that are slow growing.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
953	United States of America	3	217	6853	217	6854	Depends on the time scale considered: over the past 100-200 years, temperate forests in North America and Europe at least have been highly dynamic and gone through periods of depletion and expansion.	Thank you for this comment. The section has been re-written.
954	John Parrotta (IUFRO)	3	217	6853	217	6854	Depends on the time scale considered: over the past 100-200 years, temperate forests in North America and Europe at least have been highly dynamic and gone through periods of depletion and expansion.	Thank you for this comment. The section has been re-written.

955	United States of America	3	217	6855	217	6856	be more specific - what is meant by novel forests and is this statement intended to apply just to temperate forests?	Thank you for this suggestion. We have chosen to include it in the section by changing the wording.
956	John Parrotta (IUFRO)	3	217	6855	217	6856	be more specific - what is meant by novel forests and is this statement intended to apply just to temperate forests?	Thank you for this suggestion. We have chosen to include it in the section by changing the wording.
957	United States of America	3	217	6869	217	6872	years or, more accurately, decades?	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
958	John Parrotta (IUFRO)	3	217	6869	217	6872	years or, more accurately, decades?	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
959	United States of America	3	219	6891	219	6891	define "ecosystem integrity"	Thank you for this suggestion. We have chosen to include it in the section.
960	Venier, Lisa	3	219	6891	219	6898	In Canada it is often not the case that forest harvest results in low ecosystem integrity and forest harvest is not at all likely to be a precursor to deforestation. It may lower ecological integrity temporarily but remains forests with lots of ecological value	Thank you for making this point. It does not seem to require changes to the text. At the beginning of the paragraph, Canada is stipulated among the countries with forests of high ecosystem integrity.
961	John Parrotta (IUFRO)	3	219	6891	219	6891	define "ecosystem integrity"	Thank you for this suggestion. We have chosen to include it in the section.
962	Kershaw, Francine	3	221	6926	221	6928	It is worth noting that genetic information forms a key component of forest management in terms of production (artificial selection, climate adaptation) and conservation of biodiversity (harvesting strategies that maximize maintenance of biodiversity, mixed	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.
963	Shin, Thant	3	222	6952	222	6955	There should be considered potential misuse in transferring responsibilities from public or private to forest communities.	Thank you for this comment. The section has been re-written.
964	United States of America	3	222	6977	257	8388	The material presented in this section should be significantly condensed and better organized. While there are very detailed reviews of the literature regarding these topics in certain regions, particularly the Amazon, the geographical coverage is uneven.	Thank you for this comment. The section has been re-written.
965	John Parrotta (IUFRO)	3	222	6977	257	8388	The material presented in this section should be significantly condensed and better organized. While there are very detailed reviews of the literature regarding these topics in certain regions, particularly the Amazon, the geographical coverage is uneven.	Thank you for this comment. The section has been re-written.
966	Shono, Kenichi	3	222	6984	222	6985	Informal and traditional harvesting can be sustainable. And not all legal harvesting is sustainable either. Suggest to state simply that "unsustainable harvesting practices prevail".	Thank you for this comment. The section has been re-written.
967	Cedergren, Jonas	3	223	7017	223	7023	Extraction rates of course determine level of impact. Mode of felling and yarding, pre-planning also play a big part	Thank you for making this point. It does not seem to require changes to the text. These have been noted within the same paragraph.
968	Cedergren, Jonas	3	223	7028	223	7028	Logging methods alone cannot guarantee sustainability, far from it	Thank you for making this point. It does not seem to require changes to the text. Other factors influencing sustainability have been addressed in other chapters of the assessment.
969	Shono, Kenichi	3	224	7031	224	7032	RIL is used by most internationally certified concessions, and many national logging codes also require this. Whether RIL practices are consistently and soundly implemented in the field is another question, but RIL application is certain not limited to	Thank you for this comment. The section has been re-written.

970	Cedergren, Jonas	3	224	7035	224	7035	Tru, but more so because it has gotten a reputation of being very complicated and that donor agencies insist on e.g. very extensive stock maps and strict weather restrictions.	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 argument.
971	United States of America	3	224	7043	224	7045	"inherently low practice"?	Thank you for this comment. The text has been clarified.
972	John Parrotta (IUFRO)	3	224	7043	224	7045	"inherently low practice"? More generally,	Thank you for your comment. There has been a change in wording to make 'inherently low practice' more understandable.
973	Shono, Kenichi	3	224	7044	224	7044	"...inherently low practice..." Please describe low in what aspect/quality?	Thank you for your comment. There has been a change in wording to make 'inherently low practice' more understandable.
974	Shono, Kenichi	3	224	7046	224	7047	RIL provides guidelines to reduce environmental impacts of logging. It does not recommend or guide the intensity of logging. If there are more commercial trees in the stand that can be harvested sustainably, then allowable cut and harvesting intensity	Thank you for your comment. We have adjusted the text accordingly to reflect that RIL does not recommend or guide intensity of logging.
975	Shono, Kenichi	3	224	7050	224	7050	Suggest to describe better what you mean by "recovery rate". The problem with most commercially valuable species is that there is lack of natural regeneration. Many of these species are light demanding, and grow relatively fast, while some are slow	Thank you for your comment. We have clarified our language.
976	Shono, Kenichi	3	224	7052	224	7055	It is important to note that RIL is not a means of determining sustainable harvesting volume nor guides silvicultural treatments after harvesting to ensure regeneration of commercial timber species. When a primary forest is logged for the first time, forest	Thank you for this comment. We have clarified our language on RIL practices and guidelines.
977	Shono, Kenichi	3	224	7057	224	7059	I strongly suggest to reconsider this sentence which indicates that RIL facilitates deforestation. Deforestation only occurs when there is conversion in land use. Legal timber production done in forest estate that are designated to remain in forest land use will	Thank you for your comment. The sentence has been deleted from the assessment.
978	Shono, Kenichi	3	224	7068	224	7069	RIL is one of the tools of sustainable forest management, specifically to reduce the environmental impact of forest harvesting. I don't think there has been any claim or misunderstanding that RIL implementation alone equals SFM. RIL does not determine	Thank you for this comment. The section has been re-written.
979	Shono, Kenichi	3	225	7072	225	7072	The referenece is one study in Congo that concluded that "presence of SFM in a concession does not immediately lead to less deforestation". This study finding is also contradictory because SFM means maintenance of forest values. If the forest	Thank you for this comment. The section has been re-written.
980	Shono, Kenichi	3	225	7078	225	7093	What is discussed in this paragraph goes much further beyond timber harvesting. This is about land use, valuation and monetization of forest ecosystem services, national development strategies, etc. Such land use changes are driven by larger	Thank you for this suggestion. The text has been recommended for another chapter.
981	Shono, Kenichi	3	225	7079	225	7079	"good tree species"- there are not inherently good or bad tree species. Suggest to say "commercially value tree species" if this is what the author means.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
982	Cedergren, Jonas	3	231	7353	232	7364	More references on the actual methods please	Thank you for this comment. The section has been re-written.
983	Cedergren, Jonas	3	234	7452	234	7452	Logging operations in tropical forests are moptor manual regardless of who manages them, and that goes for a large part of the non-tropical world too	Thank you for this comment. The section has been re-written.

984	Cedergren, Jonas	3	234	7455	234	7457	I strongly doubt that. It may have been true at the time of writing, although I doubt that too. A lot of things have happened in forestry in that region in the years that have passed	Thank you for this comment. The section has been re-written.
985	Cedergren, Jonas	3	234	7463	236	7539	At text box has lost its purpose if it is more than a page long. It is absolutely possible to shorten this to that. Moreover I strongly disapprove of stereotype expressions like Western principles and science (line 7524). If such ugly language has to be used, it has to	Thank you for this comment. The section has been re-written.
986	United States of America	3	234	7463	236	7539	Interesting case study, but much too long; the following case studies from Mexico and Guatemala in Boxes 3.16 and 3.17 are much more concise.	Thank you for this comment. The case study has been revised for length.
987	John Parrotta (IUFRO)	3	234	7463	236	7539	Interesting case study, but much too long; the following case studies from Mexico and Guatemala in Boxes 3.16 and 3.17 are much more concise.	Thank you for this comment. The case study has been revised for length.
988	Cedergren, Jonas	3	238	7622	238	7623	Figure stated are not understandable	Thank you for your comment, but we can see no connection between the highlighted text (which is not a figure) and the comment, so we are unable to respond appropriately. Please also note this table has been moved to supplementary materials.
989	United States of America	3	239	7674	247	7958	It is not clear what the main points are from this very lengthy and uneven country-wise discussion of the status of forests in the South Asia, their history, condition, trends and management.	Thank you for your comment. This section has been significantly revised for clarity and consistency.
990	John Parrotta (IUFRO)	3	239	7674	247	7958	It is not clear what the main points are from this very lengthy and uneven country-wise discussion of the status of forests in the South Asia, their history, condition, trends and management.	Thank you for your comment. This section has been significantly revised for clarity and consistency.
991	United States of America	3	247	7960	248	7995	The focus is limited to the Amazon region - what about governance in the rest of the tropical and subtropical world?	Thank you for this comment. The text has been deleted from this section.
992	John Parrotta (IUFRO)	3	247	7960	248	7995	The focus is limited to the Amazon region - what about governance in the rest of the tropical and subtropical world?	Thank you for your comment. This section has been significantly revised for clarity and consistency.
993	United States of America	3	248	7996	249	8015	Limited coverage of economic impacts, and geographical focus (i.e., Latin America)	Thank you for this comment. The text has been deleted from this section.
994	John Parrotta (IUFRO)	3	248	7996	249	8015	Limited coverage of economic impacts, and geographical focus (i.e., Latin America)	Thank you for this comment. The text has been deleted from this section.
995	United States of America	3	249	8016	249	8037	Limited coverage of the topic, and narrowly geographically focused (i.e., Latin America)	Thank you for this comment. The text has been deleted from this section.
996	John Parrotta (IUFRO)	3	249	8016	249	8037	Limited coverage of the topic, and narrowly geographically focused (i.e., Latin America)	Thank you for this comment. The text has been deleted from this section.
997	United States of America	3	249	8043	251	8103	Detailed discussion of a limited region	Thank you for this comment. The text has been deleted from this section.
998	John Parrotta (IUFRO)	3	249	8043	251	8103	Detailed discussion of a limited region	Thank you for this comment. The text has been deleted from this section.

999	Cedergren, Jonas	3	251	8115	251	8118	You cannot classify forestry practices as either RIL or non-RIL. RIL is almost unknown outside areas managed by donor projects and the concept becomes irrelevant in clear felling operations.	Thank you for your comment. This text has been removed.
1000	United States of America	3	251	8119	253	8195	Far too detailed, without providing overview or conclusions.	Thank you for your comment. This section has been significantly revised for clarity and consistency.
1001	John Parrotta (IUFRO)	3	251	8119	253	8195	Far too detailed, without providing overview or conclusions.	Thank you for your comment. This section has been significantly revised for clarity and consistency.
1002	Cedergren, Jonas	3	251	8120	251	8120	It is quite simply impossible to classify forestry practices as either sustainable or devastating	Thank you for your comment. This text has been removed.
1003	Cedergren, Jonas	3	252	8130	252	8130	Stating that sawmills are almost sole the driving force behind all industrial timber harvesting is not true, it is partly true for concession forestry, but the report has a global uptake	Thank you for your comment. This section has been significantly revised for clarity and consistency.
1004	United States of America	3	253	8196	254	8220	need to provide a global (pan-tropical) overview and conclusions.	Thank you for this comment. The section has been re-written.
1005	John Parrotta (IUFRO)	3	253	8196	254	8220	need to provide a global (pan-tropical) overview and conclusions.	Thank you for this comment. The section has been re-written.
1006	United States of America	3	254	8221	254	8234	Unclear what is supposed to be covered here in terms of Economy; solely focussed on the Brazilian Amazon.	Thank you for your comment. This text has been removed.
1007	John Parrotta (IUFRO)	3	254	8221	254	8234	Unclear what is supposed to be covered here in terms of Economy; solely focussed on the Brazilian Amazon.	Thank you for this comment. The section has been re-written.
1008	Cedergren, Jonas	3	254	8235	255	8255	The paragraph is poorly referenced and necessarily true, major concessionaires are often well equipped for the job they do	Thank you for your comment. This text has been removed.
1009	United States of America	3	254	8235	255	8273	good coverage of technological and planning aspects of timber harvesting, and while it might be too detailed (, it should be used as a model for other subsections' (e.g., 3.3.4.2.2, 3.3.4.2.3, and 3.3.4.3.2) coverage of technological characteristics and impacts.	Thank you for this comment. We have revised the text for length.
1010	John Parrotta (IUFRO)	3	254	8235	255	8273	good coverage of technological and planning aspects of timber harvesting, and while it might be too detailed (, it should be used as a model for other subsections' (e.g., 3.3.4.2.2, 3.3.4.2.3, and 3.3.4.3.2) coverage of technological characteristics and impacts.	Thank you for this comment. We have revised the text for length.
1011	United States of America	3	255	8274	255	8279	Unclear what is supposed to be covered here in terms of Culture.	Thank you for this comment. This text has been moved to the section on timber mining.
1012	John Parrotta (IUFRO)	3	255	8274	255	8279	Unclear what is supposed to be covered here in terms of Culture.	Thank you for this comment. This text has been moved to the section on timber mining.
1013	United States of America	3	255	8280	257	8366	The information presented here considers only the Amazon region and Central Africa - missing information related to tropical Asia. Also, main findings might be best presented in the form of a Table summarizing environmental, economic, social and cultural	Thank you for the comment. This text has been removed.

1014	John Parrotta (IUFRO)	3	255	8280	257	8366	The information presented here considers only the Amazon region and Central Africa - missing information related to tropical Asia. Also, main findings might be best presented in the form of a Table summarizing environmental, economic, social and cultural	Thank you for the comment. This text has been removed.
1015	Shono, Kenichi	3	255	8281	255	8282	The word "predatory" is subjective. I suggest to clarify what this means in neutral words. As commented before, conventional logging does not have to be always "predatory", and RIL does not automatically mean that commercial species being harvested will	Thank you for this comment. This text has been removed.
1016	Cedergren, Jonas	3	256	8348	256	8349	Generic statements like this need to be referenced and exemplified. You say that concession forestry is often not sustainable, so when is it sustainable? There are many examples of this in the text.	Thank you for the comment. This text has been removed.
1017	Gauthier, Sylvie	3	258	8367	262	8524	Many statements coming from very regional studies are made as if they apply to the entire temperate/boreal biome. I have pointed some places below but attention should be made to either specify where it applies or tone down some of the statements	Thank you for this comment. The section has been re-written.
1018	United States of America	3	258	8367	262	8524	This section considers only industrial forestry, and is primarily focussed on northern hemisphere boreal and cool temperate regions (and conifers): no coverage of the highly significant industrial forestry in Chile and New Zealand. Missing from this	Thank you for this comment. The section has been re-written.
1019	John Parrotta (IUFRO)	3	258	8367	262	8524	This section considers only industrial forestry, and is primarily focussed on northern hemisphere boreal and cool temperate regions (and conifers): no coverage of the highly significant industrial forestry in Chile and New Zealand. Missing from this	Thank you for this comment. The section has been re-written.
1020	Cedergren, Jonas	3	258	8369	258	8389	You fail to mention that there was a long era of selective logging in northern Europe the first half of the 20th century. To begin with after that era clear cutting was a method to restore sparsely stocked stands	Thank you for this comment. The section has been re-written.
1021	Gauthier, Sylvie	3	258	8374	258	8377	Some reference such as Dupuis et al. are very region specific... whereas the statement seems to apply to the entire temperate and boreal biome	Thank you for this comment. The section has been re-written.
1022	Venier, Lisa	3	258	8377	258	8380	I am not aware of hopes to increase the scale of clearcutting in Canada/ I think this statement needs more qualification.	Thank you for this comment. The section has been re-written.
1023	Gauthier, Sylvie	3	258	8380	258	8384	Not the case everywhere in Canada for instance clear-cutting with protection of advanced regeneration and soil is practiced. This allows for natural regeneration to come back. See The State of Canada's Forests. Annual Report 2020. 2020. Natural Resources	Thank you for this comment. The section has been re-written.
1024	Gauthier, Sylvie	3	258	8385	258	8389	This statement should be toned down a bit. SFM principles are developed (see CCFM 1995 for instance in Canada), but it is true that in some regions the main focus is on timber supply.	Thank you for this comment. The section has been re-written.
1025	Venier, Lisa	3	258	8385	258	8389	It is true that sustained yield concentrated on timber stocks but in Canada forest management definitely considers other forest resources including biodiversity often using a natural disturbance emulation paradigm and a coarse and fine filter approach that	Thank you for this comment. The section has been re-written.
1026	Cedergren, Jonas	3	258	8392	260	8453	The review of the effects of clear felling is very one-sided. So far very few species have disappeared from countries due to forestry. The niche suitable for selection cutting is very small in north and central Europe. Mechanisation has per se had no detrimental	Thank you for this comment. The section has been re-written.
1027	Gauthier, Sylvie	3	258	8392	258	8399	Again very regional studies are used as if their results applied to the entire temperate and boreal biome. May want to have a look at this paper 2. P. J. Burton, Y. Bergeron, B. E. C. Bogdanski, G. P. Juday, T. Kuuluvainen et al., in Forests and society –	Thank you for this comment. The section has been re-written.
1028	Gauthier, Sylvie	3	259	8429	259	8429	rewrite the end of the sentence as ...while partial cutting and extended rotations can enable maintenance of mixed species stands or stands that have some characteristics of older forests.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. We have included your suggestion within the new version of the assessment.

1029	Gauthier, Sylvie	3	259	8431	259	8448	the paragraph is strange as we do not know really what applies to boreal, temperate or other biomes.	Thank you for this comment. The section has been re-written.
1030	Koskela, Jarkko	3	259	8431	259	8432	A reference should be added to this sentence. It is neither clear if this refers to a specific country or a forest biome. Moreover, some readers might understand (wrongly) that industrial wood harvesting operations always aims areas of >50,000 hectares, or	Thank you for this comment. The section has been re-written.
1031	United States of America	3	259	8436	259	8438	PNG is not in the boreal or temperate zone.	Thank you for this comment. The section has been re-written.
1032	John Parrotta (IUFRO)	3	259	8436	259	8438	PNG is not in the boreal or temperate zone.	Thank you for this comment. The section has been re-written.
1033	United States of America	3	260	8449	260	8453	discussion of concessions in Latin America, SE Asia and Central & West Africa belongs in the section on industrial timber management in the tropics and subtropics, not in this section.	Thank you for this comment. The section has been re-written.
1034	John Parrotta (IUFRO)	3	260	8449	260	8453	discussion of concessions in Latin America, SE Asia and Central & West Africa belongs in the section on industrial timber management in the tropics and subtropics, not in this section.	Thank you for this comment. The section has been re-written.
1035	Cedergren, Jonas	3	260	8454	260	8465	Bullshit from start to finish. Rewrite, and have somebody else do it. It may to some extent be true for tropical forest, but for boreal and temperate.	Thank you for this comment. The section has been re-written.
1036	United States of America	3	260	8454	260	8465	Seems to be an over-simplified analysis.	Thank you for this comment. The section has been re-written.
1037	John Parrotta (IUFRO)	3	260	8454	260	8465	Seems to be an over-simplified analysis.	Thank you for this comment. The section has been re-written.
1038	United States of America	3	260	8466	260	8483	Unclear what is supposed to be covered here in terms of Technology.	Thank you for this comment. The text has been moved to a more appropriate section.
1039	John Parrotta (IUFRO)	3	260	8466	260	8483	Unclear what is supposed to be covered here in terms of Technology.	Thank you for this comment. The text has been moved to a more appropriate section.
1040	United States of America	3	260	8484	262	8524	Presentation of global data on wood removals would seem better placed in an earlier section of 3.3.4. Also, it would be much more informative for this discussion (here and throughout 3.3.4) to consider timber harvesting from natural and planted forest	Thank you for this comment. The section has been re-written.
1041	John Parrotta (IUFRO)	3	260	8484	262	8524	Presentation of global data on wood removals would seem better placed in an earlier section of 3.3.4. Also, it would be much more informative for this discussion (here and throughout 3.3.4) to consider timber harvesting from natural and planted forest separately. There are fundamental differences between these two broad types of forest management in terms of their use of their management, impacts, and end uses.	Thank you for this comment. The section has been re-written.
1042	Germany	3	261	8501	261	8502	Figure 3.58: Please insert in the figure's entitlement (bold): "Global [wood removals ...]". For better reading, please use other units for y-axis' labelling (e.g. 109 m³). Please also correct x-axis's caption (bold): "Export".	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. We have included your suggestion within the NEW version of the assessment.

1043	Cedergren, Jonas	3	261	8503	261	8503	There is no method known in forestry that goes by the name of retention forestry.	Thank you for your interest in using accurate terminology. In fact the term retention forestry is used in the assessment directly as a result of the literature on which the assessment is based. For example, Gustafsson, L., Hannerz, M., Koivula,
1044	Gauthier, Sylvie	3	261	8503	262	8512	Strong statements without any references ; may want to look at recent reviews for the boreal forest areas (Shorohova, E., Sinkevich, S., Kryshen, A. et al. Variable retention forestry in European boreal forests in Russia. Ecol Process 8, 34	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. We have included your suggestions (some of the literature) within the NEW version of the assessment.
1045	Venier, Lisa	3	261	8503	262	8512	There has been much discussion about tree retention. The document says "if the aim is to maintain more of the mature forest characteristics in production forests" but in many disturbance driven ecosystems this is not the aim for various reasons	Thank you for your comment. The text has been adjusted to reflect that this is not the aim.
1046	Venier, Lisa	3	261	8509	261	8512	not clear what is meant by exposed or semi-exposed here, needs clarification	Thank you for your comment. This text has been removed.
1047	Gauthier, Sylvie	3	262	8513	262	8524	With regards to the effect of retention on structures, CWD etc. may want to look at the work of NJ Fenton <a href="https://www.researchgate.net/profile/Nicole-Fenton-4/publications">https://www.researchgate.net/profile/Nicole-Fenton-4/publications</a> ; for example : Moussaoui, L., Leduc, A., Fenton, N. J., Lafleur, B.,	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. We have included your suggestion within the new version of the assessment.
1048	United States of America	3	262	8513	262	8521	This "knowledge gap" is rather difficult to believe - it is suggested that the authors dig a bit deeper into the silvicultural literature.	Thank you for your comment. Due to time constraints for adding new literature review, this text has been deleted.
1049	John Parrotta (IUFRO)	3	262	8513	262	8521	This "knowledge gap" is rather difficult to believe - it is suggested that the authors dig a bit deeper into the silvicultural literature.	Thank you for your comment. Due to time constraints for adding new literature review, this text has been deleted.
1050	Morgan, David (CITES)	3	263	8599	263	8604	Not clear what species are being referred to here. CITES does not regulate trade in true sandal wood Santalum spp, but only Osyris lanceolata.	Thank you for this suggestion. We have chosen to include a reference to the species restricted under CITES has been added in the new version
1051	United States of America	3	264	8615	272	8876	Section 3.3.4.4.2 is probably the strongest and most complete and coherent section of 3.3.4. Very good global overview and coverage of the major issues, presenting good data at the global level.	Thank you for the positive feedback.
1052	John Parrotta (IUFRO)	3	264	8615	272	8876	Section 3.3.4.4.2 is probably the strongest and most complete and coherent section of 3.3.4. Very good global overview and coverage of the major issues, presenting good data at the global level.	Thank you for the positive feedback.
1053	United States of America	3	266	8680	266	8682	This statement is unclear - overestimation of what?	Thank you for the comment. We have clarified the sentence.
1054	John Parrotta (IUFRO)	3	266	8680	266	8682	This statement is unclear - overestimation of what?	Thank you for the comment. We have clarified the sentence.
1055	United States of America	3	266	8689	266	8693	This is a new topic, and does not belongs elsewhere in this section.	Thank you for bringing this to our attention. This sentence has been moved to a more suitable section.
1056	John Parrotta (IUFRO)	3	266	8689	266	8693	This is a new topic, and does not belong elsewhere in this section.	Thank you for bringing this to our attention. This sentence has been moved to a more suitable section.
1057	United States of America	3	267	8694	267	8709	The use of the term "sustainable" in this paragraph needs clarification - does it refer to whether or not the growing stock of wood is not declining, to environmental impacts, social or economic sustainability? It seems a contradiction that at global,	Thank you for this comment. The reviewer is correct. In this context the term 'sustainability' should be replaced with 'sustainable yield' and related supply-demand terms. We have clarified that different types of sustainability in this section.

1058	John Parrotta (IUFRO)	3	267	8694	267	8709	The use of the term "sustainable" in this paragraph needs clarification - does it refer to whether or not the growing stock of wood is not declining, to environmental impacts, social or economic sustainability? It seems a contradiction that at global,	Thank you for this comment. The reviewer is correct. In this context the term 'sustainability' should be replaced with 'sustainable yield' and related supply-demand terms. We have clarified that different types of sustainability in this section.
1059	Majda, Achach	3	268	8717	268	8717	FIGURE 3.60 (a) : the map of Morocco which appears on this figure is not correct. IPBES is kindly invited to adjust this situation and maintain the same approach adopted for the previous reports.	Thank you for your comment. Pursuant to resolutions of the United Nations General Assembly and Security Council, Western Sahara enjoys the status of a Non-Self Governing Territory within the United Nations. The General Assembly
1060	United States of America	3	269	8743	269	8745	"harvest by vehicle and horseback"? What does this mean?	Thank you for this comment. We have clarified the sentence.
1061	John Parrotta (IUFRO)	3	269	8743	269	8745	"harvest by vehicle and horseback"? What does this mean?	Thank you for this comment. We have clarified the sentence.
1062	United States of America	3	270	8800	270	8802	This should read "Resprouting is a major source of regeneration in tropical DRY forests and woodlands...." Vegetative reproduction is not nearly as prevalent in tropical moist and wet forests. Incidentally, it is also a feature of traditional fuelwood management in many temperate forest regions, where oaks and many other hardwood species are managed by coppicing.	Thank you for this suggested change. We have included it in the new version.
1063	John Parrotta (IUFRO)	3	270	8800	270	8802	This should read "Resprouting is a major source of regeneration in tropical DRY forests and woodlands...." Vegetative reproduction is not nearly as prevalent in tropical moist and wet forests. Incidentally, it is also a feature of traditional fuelwood	Thank you for this suggested change. We have included it in the new version.
1064	Germany	3	273	8886	273	8888	Figure 3.61: For better reading, please use other units for y-axis' labelling (e.g. 106 m <sup>3</sup> ). Please also correct x-axis's caption (bold): "Export".	Thank you for this suggested change. We have included it in the new version.
1065	Germany	3	274	8912	274	8913	Figure 3.62: For better reading, please use other units for y-axis' labelling (e.g. 106 m <sup>3</sup> ). Please also correct x-axis's caption (bold): "Export".	Thank you for this suggested change. We have included it in the new version.
1066	Germany	3	275	8926	275	8926	Figure 3.63: For better reading, please use other units for y-axis' labelling (e.g. 106 m <sup>3</sup> ). Please also correct x-axis's caption (bold): "Export".	Thank you for this suggested change. We have included it in the new version.
1067	Germany	3	276	8942	276	8942	Figure 3.64: For better reading, please use other units for y-axis' labelling (e.g. 106 m <sup>3</sup> ). Please also correct x-axis's caption (bold): "Export".	Thank you for this suggested change. We have included it in the new version.
1068	United States of America	3	276	8946	278	9012	Very appropriate topic to highlight; authors may want to review and make fuller use of Kleinschmit et al. (2016), which provides a comprehensive assessment of this issue,	Thank you this suggestion. We have used this reference to highlight illegal logging/timber harvesting issue.
1069	John Parrotta (IUFRO)	3	276	8946	278	9012	Very appropriate topic to highlight; authors may want to review and make fuller use of Kleinschmit et al. (2016), which provides a comprehensive assessment of this issue,	Thank you this suggestion. We have used this reference to highlight illegal logging/timber harvesting issue.
1070	China	3	277	8997	277	9002	China's timber harvesting ban is actually "natural forest harvesting ban", not "banning illegal timber harvesting". There is no doubt that illegal logging should be banned, and the corresponding law enforcement should be in place. It is totally wrong that "Hence,	Thank you for this suggested change. We have rephrased the sentence and supported by a recent reference (Guan et al. 2020, <a href="https://doi.org/10.1080/20426445.2020.1785604">https://doi.org/10.1080/20426445.2020.1785604</a> ).

1071	United States of America	3	278	9013	278	9045	This is not an "emerging" issue, but one that has been with us for a very long time. Suggest that it be included (or combined with existing text on the topic) in the sustainability discussion in sections of 3.3.4 on tropical timber harvesting.	Thank you for the comment. The text has been moved and revised.
1072	John Parrotta (IUFRO)	3	278	9013	278	9045	This is not an "emerging" issue, but one that has been with us for a very long time. Suggest that it be included (or combined with existing text on the topic) in the sustainability discussion in sections of 3.3.4 on tropical timber harvesting.	Thank you for the comment. The text has been moved and revised.
1073	Kristina, Rodina	3	279	9046	279	9046	This section lacks the topic related to covid/disease spillover and wildmet. For example, SWM Programme produced the White Paper and Policy brief that provides decision-makers with a set of actionable recommendations that can be implemented to prevent	Thank you for this comment. However, the text here refers specifically to COVID/disease issues related to logging. The pandemic as a driver of uses of wild animal species is addressed in greater detail in Chapter 4.
1074	United States of America	3	279	9046	279	9072	Authors may want to consider more recent work on impacts of the Covid-19 pandemic on forests, forest-based economies, trade and people: suggest reviewing the background papers prepared for the late April 2021 UN Forum on Forests' 16th Session. These	Thank you for this suggestion. Impact of COVID-19 pandemic has been discussed in detail in CH4. Also forest fire as a driver is discussed in CH4.
1075	John Parrotta (IUFRO)	3	279	9046	279	9072	Authors may want to consider more recent work on impacts of the Covid-19 pandemic on forests, forest-based economies, trade and people: suggest reviewing the background papers prepared for the late April 2021 UN Forum on Forests' 16th Session. These	Thank you for this suggestion. Impact of COVID-19 pandemic has been discussed in detail in CH4. Also forest fire as a driver is discussed in CH4.
1076	Ryan, Mark	3	280	9090	280	9092	The following sentence is misleading as it introduces a very subject term (harmful): "By its very definition, non-extractive practices are frequently less directly harmful to wild species and ecosystems than extractive practices." Perhaps what is meant	Thanks for this suggested change. We agree this revision is less subjective. The sentence now refers to "less direct impacts" rather than 'harmful'.
1077	Guillemain, Matthieu	3	280	9093	280	9096	A possible review paper to cite here is <a href="http://documents.irevues.inist.fr/handle/2042/55674">http://documents.irevues.inist.fr/handle/2042/55674</a>	Thank you for this additional review paper suggestion. We have chosen to include it in the section on ecological aspects of recreational use in non-extractive practices (section 3.3.5.2.3).
1078	Diaz, Sandra	3	286	9106			Replace "non-extractive contributions to human well-being" with "contributions from wild organisms to human well-being through their non-extractive use"	Thanks for this suggested change. We have included it in the new version.
1079	Diaz, Sandra	3	286	9124			Replace "non-extractive contributions from nature" with "nature's contributions to people are obtained through the non-extractive use of organisms"	Thanks for this suggested change. We have included it in the new version.
1080	Perez Gil, Ramon (Mexico)	3	280	9127			the report or project A-001 Economic Importance of Terrestrial Vertebrates of Mexico. Mexico's Biodiversity Commission web page, <a href="http://www.conabio.gob.mx">www.conabio.gob.mx</a> . We insist it must be consulted for it touches on these issues for the specific case of Mexico.	Thank you for this suggesting of additional material to support the economic importance of wildlife. Unfortunately we have not been able to trace the report you mention on the <a href="http://www.gob.mx">gob.mx</a> page. However, regional and global estimates of the
1081	China	3	285	9309	285	9309	delete Taiwan, it is not a country but a part of China.	Thanks for this suggested change. This sentence no longer contains any country names and now refers to global regions.
1082	Botero-Arias, Robinson	3	291	9463	291	9463	Crocodiles and Caimans... Rio Negro Amazonas Brazil: Black caiman and Spectacle caiman : Anavilhanas National Park ICMBio: Captura de Jacares pode ajudar a avaliar turismo em Anavilhanas" ICMBio em Foco - n 549 (2020).	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made (e.g. crocodile watching tourism in India), we have chosen not to
1083	Brien, Matthew	3	290	9464	291	9465	Add to Table 3.22, Crocodiles, watching crocodiles - occurs in numerous locations in northern Australia (eg Adelaide River, Kakadu National Park, Mary River, Ord River, Daintree River), as well as other countries (eg Costa Rica, Mexico, USA).	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made (e.g. crocodile watching tourism in India), we have chosen not to
1084	Brien, Matthew	3	290	9464	291	9465	Add to Table 3.22, Turtles - Mon Repos and Heron Island, Australia	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made (e.g. turtle watching tourism in Brazil, Mexico etc), we have chosen not to
1085	Ryan, Mark	3	295	9585	295	9593	Are all these figures solely related to non-extractive wildlife uses?	Thank you for this point. We have clarified in text where these figures do not distinguish between extractive and non-extractive tourism.

1086	Perez Gil, Ramon (Mexico)	3	295	9611	295	9612	I think the statement is skewed, in Mexico it is not the presence of larger mammals what makes the difference in the people visiting the protected areas. It should be explicit if that refers exclusively to certain countries in Africa.	Thanks for this suggested change. We have clarified the wording to refer to Eurasia and Africa specifically.
1087	Botero-Arias, Robinson	3	297	9674	297	9676	Interaction of the tourist with wildlife in a income source for the local people in Anavilhanas National Park, Amazonas Brazil. The contact ( catching and handle) with black and spectacle caimans are part of the tourism visits at the park ICMBio: Captura de Jacares pode ajudar a avaliar turismo em Anavilhanas" ICMBio em Foco - n 549 (2020).	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it here.
1088	Perez Gil, Ramon (Mexico)	3	297	9689	297	9693	The same is true for the case of the protected areas (and non protected sites) where the Monarch Butterfly winters in Mexico. The visitors are allowed to only some colonies and for limited time, in groups of people, the local community acts as the mandatory guides and as the guards or park rangers. The places that can be visited shift from year to year, not always exactly the same, and they may vary even during the wintering season while the butterflies are there and start moving around.	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it here.
1089	Perez Gil, Ramon (Mexico)	3	297	9700	298	9704	The changes in behaviour of the "visited" animals have forced changes also in Mexico's whaleshark tourism. The tour operators both in the Baja California and the Yucatán Peninsulas which are among the best sites to swim with these creatures, have changed their policy and now the touching of the Whale Shark (Rhincodon typus), is forbidden, which was common practice just one year ago, the arguments are the change in animal's behaviour due to the excess of visitors. I personally feel it is not the number of humans but also the behaviour of the swimmers while in the presence of the whales.	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it here.
1090	Guillemain, Matthieu	3	299	9775	299	9776	See the discussion about difference between "effect" and "impact" in <a href="http://documents.irevues.inist.fr/handle/2042/55674">http://documents.irevues.inist.fr/handle/2042/55674</a>	Thank you for this comment. We have captured the essence of the distinction between "effect" [on individuals] and "impact" [the ramifications at the population level] that the paper highlights in the text. We have not distinguished
1091	Perez Gil, Ramon (Mexico)	3	302	9898	302	9903	I disagree entirely with this partial view of the Monarch Butterfly case. David Barkin's information is quite old. Indeed illegal logging has been a problem, unsolved in many places, even now some people still illegally cut trees. Please refer to	Thank you for the comment. We disagree that we have presented an incomplete view. We have acknowledged that the Monarch Butterfly Biosphere Reserves are a flagship case and have made significant conservation and livelihood
1092	Perez Gil, Ramon (Mexico)	3	302	9904	302	9906	For additional reflections on the subject refer to the case of the Sierra Gorda Biosphere Reserve The stewardship success story of Mexico's hidden garden · This region is a UNESCO Biosphere Reserve: The Sierra Gorda Biosphere Reserve, Mexico's most ecologically diverse protected area. 13 feb. 2018 <a href="https://blog.nationalgeographic.org">https://blog.nationalgeographic.org</a> · Please visit: <a href="https://sierragorda.net">https://sierragorda.net</a> · .... <a href="https://planetacarbononeutral.org">https://planetacarbononeutral.org</a> <a href="https://sustainabletravel.org">https://sustainabletravel.org</a> · worlds inspiring places sierra gorda ... also the GEF site where their project is shown <a href="https://www.thegef.org">https://www.thegef.org</a> · biodiversity conservation project in the sierra gorda biosphere reserve. Sierra Gorda Biosphere Reserve - ArcGIS StoryMaps <a href="https://storymaps.arcgis.com">https://storymaps.arcgis.com</a> · stories	Thank you for your suggestion. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made, and not crucial to our critical evaluation, we have chosen not to include it. See point above.

1093	Hurley, Patrick	3	305	9997	308	5192	This section appears to focus specifically overwhelmingly on formal learning and plants, which is problematic from my perspective studying urban foraging and having read some of the civic ecology literature. If this continues to overlook the many informal and experiential ways, including among non-expert individuals and communities of practice, such as bird watchers and foragers, it would be helpful to state this explicitly. Otherwise, I would suggest adding in at least one paragraph that speaks to the ways that gathering and other activities discussed above in the my suggestions for an urban foraging paragraph facilitate social ecological learning, particularly for non-indigenous peoples. Note that this is a theme in work on urban foraging from studies in Seattle, Washington, USA (Poe et al. 2015) and Berlin, Germany (Palliwoda et al. 2016) cited above. See also Hurley et al. 2015. Whose urban forest (above). But also note that these activities cross-over the neat non-extractive/extractive divide carved out for this section. Sometimes urban foraging activities are solely centered on learning, but can involve some "sampling" of foods, while at other times they center on active harvests.	Thank you for this comment. This is valuable insight. We have included text in this section to clarify that informal learning and knowledge transfer occurs in other uses and practices.
1094	White, Michael	3	306	10036	306	10041	I've done several zooniverse projects ~ one on stranded marine litter 'taught' AI to recognise different types of plastic debris so imagery analysis could later be automated	Thank you for making this point. It does not seem to require changes to the text.
1095	China	3	307	10093	307	10093	Change "Hong Kong" to "Hong Kong, SAR of China"	Thank you for the comment. We have amended the text and removed mention of Hong Kong.
1096	Laze, Kuenda	3	307	10112	307	10112	Environmental education and long-life learning could be mentioned. They may respectively increase the connection of children and adults with nature.	Thank you for making this point. As we have addressed this topic in the text, it does not seem to require changes to the text.
1097	Orenstein, Ronald	3	308	10124	308	10131	Please consult: Cherkaoui, S. I., Boukherouk, M., Lakhali, T., Aghzar, A., & El Youssefi, L. (2020). Conservation Amid COVID-19 Pandemic: Ecotourism Collapse Threatens Communities and Wildlife in Morocco. E3S Web of Conferences, 183, 0–7.	Thank you for these suggestions. We have expanded on the impacts of the covid-19 pandemic on non-extractive use of wild species and included Spenceley et al 2021 and Rondeau et al 2020, amongst others, in the revised section.
1098	Wells, Geoff	3		10222		10230	Another way to ensure that the partial nature of scientific information does not lead to bad decisions is to combine it with other types of knowledge, including indigenous knowledge, and to have pluralistic and interdisciplinary forms of assessment. This	Thank you for your comments. Necessary revisions have been incorporated as per your suggestion to highlight the pluralistic and participatory assessment of trade-offs.
1099	Svizzero, Serge	3	311	10244	311	10250	section 3.4.3.1 is about intra/practice or intra use trade-offs and synergies. The example (line 10250) opposing capture fisheries and aquaculture seems therefore not adapted to the topic of the section because aquaculture is neither a practice nor a use	Thank you for your comment about aquaculture not being a practice or use included in the scope of the assessment. However, we are of the opinion that given the significant impact of aquaculture on fisheries as a practice and its
1100	Germany	3	312	10291	312	10293	Figure 3.67: Please elucidate abbreviations used.	Thanks for this suggested change. We have included it in the new version.
1101	Orenstein, Ronald	3	313	10302	313	10305	There should be some discussion of negative synergies that can lead to unsustainable use (eg logging roads providing access to bushmeat hunters).	Thank you for your suggestion but we are unable to include it because what you refer to as negative synergy is actually discussed as trade-offs in this section. We have already discussed about how trade-offs may arise from conflicting
1102	Svizzero, Serge	3	314	10376	314	10378	I suggest adding that While LEK is clearly a public good, its production and transmission across foragers and generations of foragers becomes uncertain when sharing is removed by the market. Foraging seems therefore unsustainable in the long term	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.
1103	Perez Gil, Ramon (Mexico)	3	315	10408	315	10412	We believe there are not 3 pillars, not even 4 as policy was added. There are 9 dimensions on sustainability. Please refer to project A-001 Economic Importance of Terrestrial Vertebrates of Mexico. The results of this research account for 90 practices	Thank you for your comment. We are unable to add a lot of text due to word restrictions but we have incorporated your suggestion by highlighting that "sustainability is multidimensional but the essence of it can be captured by

1104	Webb, Grahame	3	317	10472	321	10664	Some general points on extractive uses (wild or domestic) versus tourism that maybe should be considered: 1. A serious constraint for conventional agricultural or wildlife "production", in remote areas is the costs and logistics of freight to	Thank you for this insight. Points 2 and 3 have been covered previously in Section 3.2.4.1. Recreation > Considerations for sustainable recreational use.
1105	Orenstein, Ronald	3	317	10478	317	10479	I would dispute this statement. Many areas where whale watching is popular (eg Cape Cod, USA) were classic whaling areas in the past. Iceland, which still hunts whales, also gains revenue from whale watching as you note below; see also Einarsson, N. (2009).	Thank you for this comment & your reference substantiations. We have removed the disputed portion of the sentence.
1106	Orenstein, Ronald	3	317	10507	317	10508	Attitudes towards whaling in Japan may have more to do with politics and an intense publicity campaign than with any wide-scale resurgence; see Butler-Stroud, C. (2016). What Drives Japanese Whaling Policy? Frontiers in Marine Science, 3(June), 1–4.	Thanks for this comment. It is a valid concern and we have caveated the section in line with the reviewer's point.
1107	Miketa, Madison	3	318	10541	318	10544	It is incorrect so say that a "key element of arguments against hunting has been that such extractive practices are repugnant because of ethical issues concerning the killing of wild species." This statement ignores the plethora of evidence that trophy	Thank you for this suggestion. We have added some more clarity on the negative impacts and included some of the suggested references. We have also amended the text.
1108	Ryan, Mark	3	318	10543	318	10544	Surely the concerns are not around the "ethical issues concerning the killing of wild species" but rather "ethical issues concerning certain types of harvesting of wild species". This needs to be specific as there are many instances where "killing" might be	Thank you for this comment. We have edited the text as per the reviewer's suggestion.
1109	Bercovitch, Fred	3	319	10554	319	10559	Arguments in favor of hunting do not equate with evidence that hunting constitutes 'sustainable use' of resources. Hunting, fishing, boating, hiking, wildlife watching, camping all produce income. So does the illegal sale of guns, drugs, people, and	Thank you for this comment. The US Department 2020 reference has been removed and the text has been edited. We have also clarified throughout the text that sustainability is not only an economic issue.
1110	Ryan, Mark	3	319	10569	319	10570	The following text assumes that hunting is not a form of tourism, which it is: "Because tourism is not viable in all the places where hunting happens...". This sentence needs to be rectified such that hunting is part of the tourism activities and not separate.	Thank you for bringing this to our attention. The text has been clarified throughout.
1111	Bercovitch, Fred	3	319	10582	320	10597	Once again, this report commits PLAGIARISM. The paragraph copies word-for-word the ABSTRACT from Naidoo et al. (2016) without providing any context, so I will provide some context. Most importantly from the standpoint of Chapter 3, Naidoo et al.	Thank you for bringing this to our attention. We have checked the abstract and edited our characterisation, but we needed to use quite a bit of the same wording to be precise. We disagree with the sustainability argument, which is not being
1112	Orenstein, Ronald	3	319	10583	319	10591	This is a much more accurate summary of the Naidoo paper than the one noted in comment 78 above.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
1113	Bercovitch, Fred	3	320	10598	320	10615	An identical problem occurs in this paragraph to the one raised in the prior comment, i.e., neither of the two studies cited discuss 'sustainability' of hunting as a conservation management tactic, while both studies focus on the economics of trophy hunting.	Thank you for this comment. Our opinion is that the economic arguments around sustainability are important, but we have added some additional text to explain that. We have also added more text on the non-economic aspects of sustainability
1114	Bercovitch, Fred	3	320	10616	320	10617	Contrary to the statement that "It is important to recognise that the choices will not always be between hunting tourism and wildlife watching", what is important is that the choices made should be based upon mechanisms for sustainable use of resources for	Thank you for this comment. We have amended the text to provide more context and nuance in discussions around sustainability.
1115	Orenstein, Ronald	3	320	10616	320	10617	This paragraph assumes that both hunting and wildlife watching are equally sustainable; if this is not true then the costs of unsustainable activity must be factored in to provide a reliable comparison.	Thank you for this valuable comment. We have incorporated text that speaks to your point about the costs of unsustainable activities being factored into trade-off comparisons.
1116	Webb, Grahame	3	321	10641			The whole concept of ensuring there are diverse reasons for people to benefit from sharks, and value them, versus restricting uses and beneficiaries to a small number of eco-tourism operators, can be short-sighted. For example when Killer Whales	Thank you for this comment. Yes, we agree and thus, when referring to the growth of the shark tourism industry, we refer to it's potential to "mitigate" the detrimental effects of shark fishing, not "replace" shark fishing. The interesting references
1117	Kenward, Robert	3		10659		10659	10659. "cultural practices that result in conservation"	Thank you for your suggestion. The positive feedback is greatly appreciated by the chapter authors.
1118	Bercovitch, Fred	3	321	10665	325	10822	Section 3.4.4 is missing one of the most crucial aspects for SU. Nothing is mentioned about how documenting the population recruitment rate of a species/population is essential to establish an a priori baseline in order to evaluate whether or not trophy	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.

1119	Wells, Geoff	3		10675			There is also an issue that boundaries that delineate units of scale (e.g. ecozones, de jure/formal administrative boundaries) do not always correspond to the reality of the ecosystems or human use which are instead (at best) 'soft' (as opposed to 'hard')	Thank you for your comment and also providing two references. We have added clarifying text to the trade-offs section and the two references as well.
1120	Webb, Grahame	3	322	10682	322	10701	While this is clearly true, in terms of building a sustainable use program around a resource, there is a very real need to establish some basic characteristics of the resource, before building a program around it. For many resources "market demand" is	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made,
1121	Bliss, Cebuan	3	322	10709	323	10740	What is missing is a multi/inter species justice dimension in this narrative. Can sustainable development really be accomplished without taking animals' own interests into account e.g. I. V.-H. (2020). The 18th sustainable development goal. Earth System	Thank for your valuable comment. We have added some text to the section to highlight the points you have raised.
1122	Webb, Grahame	3	324	10759			It perhaps should be mentioned that this is a highly context-specific issue, and no silver bullet exists. "What Works" in one context may be completely different in another. For example, Indigenous people in Australia living traditional lives have access	Thank you for you suggestion which we have used to add some text to highlight the significane of context-specificity, and that there are no silver bullet exists. "What Works" in one context may be completely different in another.
1123	Webb, Grahame	3	324	10783	324	10786	This clearly is a "wicked problem", in which risk and uncertainty are constant companions, and the idea that this can all be broken down in a reductionist way I think is an unrealistic expectation that takes enormous resources. The answer to "what if" is sometimes	Thanks you for this comment which we have incorporated by adding text to highlight that multiple elements of governance help ensure dynamic problem-solving abilities based on values, principles, institutions and practices
1124	Webb, Grahame	3	325	10831			Need brackets around the reference?	Thanks for this suggested change. We have included in the new version.
1125	Perez Gil, Ramon (Mexico)	3	326	10844	326	10872	May I commend the team of authors for the summary of the lessons learned from trade-offs & synergies	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
1126	Webb, Grahame	3	326	10844			It could be argued that these exact same guidelines apply to sustaining farming and many other businesses. Unfortunately, despite all manner of risk assessment, the ability of any management scheme to manage its way out of unforeseen novel	Thank you for your comment, but this does not make sense with regards to the text so we have disregarded it
1127	Wells, Geoff	3		10844			Is a key lesson also that, due to uncertainty and the plurality of values and information on wild species, addressing trade-offs requires inclusive adaptive co-governance that is sensitive to power dynamics, principles of justice and equity? E.g. as outlined	Thank you for your suggestion. We have added your suggested point as an additional key lesson.
1128	Kenward, Robert	3		10861		10861	10861. "as a whole, and hence the total areas of land conserved by beneficiaries of sustainable use".	Thank you for your suggestion, but we chose not to change the text.
1129	Bercovitch, Fred	3	326	10874	327	10883	Section 3.5 omits the key 'knowledge gap' that has been re-iterated multiple times in this commentary: the lack of information about population recruitment rates means that trophy hunting cannot be considered 'sustainable' because it is undertaken in the	Thank you for suggetsed change. We have included sustainable use of wild speices only at the species level, not at the genetic level.
1130	Bohm, Monika	3	326	10874	326	10874	In the section on knowledge gaps somewhere, it may be good to reiteratre that we know less about inland fisheries than marine fisheries.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
1131	Hurley, Patrick	3	326	10874	328	10989	Although I was invited to review this chapter for my expertise on urban foraging, my other area of expertise is on natural amenity landscape change and conservation practices (particularly in the exurban U.S., but also in western Turkey). Scholars in this area	Thank you for suggetsed change. We have included sustainable use of wild speices only at the species level, not at the genetic level.
1132	Kershaw, Francine	3	326	10874	331	11077	In line with our previous comments for Chapter 3, genetic information and genetic indicators represent a key knowledge gap, challenge, and research need that would be helpful to acknowledge in the assessment.	Thank you for suggetsed change. We have included sustainable use of wild speices only at the species level, not at the genetic level.
1133	Orenstein, Ronald	3	326	10875	426	10875	Missing from the issue of knowledge gaps is a consideration of a precautionary approach to use when knowledge is unavailable.	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.

1134	Svizzero, Serge	3	327	10892	327	10902	Concerning problems and solutions related to economic valuation of wild biodiversity and natural ecosystems, I suggest the following reference: Tisdell, C.A. (2015), Sustaining biodiversity and ecosystem functions. Economic Issues. Edward Elgar,	Thank you for your comment. We have cited another reference of the Tisdell, C.A. (2015) The conservation and loss of wild biodiversity and natural ecosystems: basic economic issue based on Extract of the reference.
1135	Webb, Grahame	3	327	10892	327	10920	It seems important here to establish the economic value of wildlife, relative to basic economic value of a daily salary, and the investment required to achieve it, along supply chains. That is, if the standard wage in \$USD2.00 a day, and the benefit is	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.
1136	Bohm, Monika	3	327	10906	327	10906	exchange "taxonomic knowledge" with simply "knowledge"? Or "knowledge on conservation status and use is severely lacking for invertebrates...."	Thanks for this suggested change. We have included in the new version.
1137	Anissimoff, Michael	3	328	10929	328	10932	What is meant by crucial data? Suggest defining the types of data.	Thank you for suggested change of wording. It is an improvement in the Final Draft.
1138	Bercovitch, Fred	3	329	10990	330	11012	The uncertainty has been specifically addressed in the Precautionary Principle based upon the 1992 Rio Declaration on Environment and Development: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be	Thank you for the comments. The section on trophy hunting has been thoroughly revised.
1139	Malsch, Kelly	3	329	10990	330	11012	To know if use/trade is sustainable, we need the broader understanding of local/national/global trade/use -- both legal and illegal. I think this section could be explained more fully. There is a lot written about IUU fishing / fishery overexploitation. Through	Thank you for this suggestion. We have included the suggested reference "Tittensor et al. 2020, DOI: 10.1111/conl.12724" in the revised version.
1140	Vitale, Jessica	3	329	10996			Extraneous semicolon after "reptiles"	Thank you for your suggested comment. We have improved in the new version
1141	Vitale, Jessica	3	329	10996			It's not clear to me why Harfoot et al. 2018 is referenced here - the paper does mention "data-poor fisheries" but this is in reference to another analysis Costello et al 2012 ("Status and Solutions for the World's Unassessed Fisheries") and not the	Thank you for your comment. We have replaced with Castello et al. 2012.
1142	China	3	330	11001	330	11008	In China the term 'wild meat' does not have a direct correspondence with the concept of hunting and fishing for meat consumption. Meat from non-poultry and livestock may be treated as unconventional meat in Chinese culture, but a large part of it	Thank you for your suggested comment. We have deleted example of China in the new version.
1143	Webb, Grahame	3	330	11041			"or vice versa"	Thank you for suggested change of wording. We have rephrased it by adding "and vice versa".
1144	Webb, Grahame	3	331	11052	331	11063	In all societies, it seems some species contribute positively to society for both intrinsic values and utility values. Some Indigenous societies revere crocodiles, which contribute to cultural and traditional values, others utilise them, others are a mixture.	Thank you for your comment. The positive feedback is greatly appreciated by chapter authors.
1145	Perez Gil, Ramon (Mexico)	3	332	11078	334	11196	In contrast, I believe this section all together is redundant and not needed. Throughout the document this challenges and priorities have been mentioned.	The subsection "3.6 Challenges and research priorities" presents in brief synthesis of the chapter related to challenges and research priorities. We have chosen to include this subsection.
1146	Dereliev, Sergey	3	332	11080	332	11080	Section 3.6.1.1 suggests that datasets are available to assess sustainability of harvest, they vary across regions/countries. There is need to strengthen this statement as we believe that available datasets are not sufficient in terms of quantity or quality or both for	Thank you for your comment. The positive feedback is greatly appreciated by chapter authors.
1147	Webb, Grahame	3	332	11081	332	11086	"to evaluate" (?). Is it not "Fundamental challenges in assessing the role of sustainable use in biodiversity conservation and sustainable economic development beyond 2010, are the lack of guiding principles derived from analysis of spatial and temporal	Thank you for this suggested change. We have included it in the new version.
1148	Lerambert, Adeline	3	332	11087	332		If this is referring to trade relating to small scale subsistence level hunting this should be made clear. Many informal (unmonitored, untaxed and frequently illegal) markets such as bushmeat markets in central Africa are large scale, commercially driven, run	Thank you for this suggested change. We have included it in the new version.

1149	Stewart, Davyth	3	332	11087	332	11094	This section needs a clear definition of what is meant by "informal trade". It appears to refer to small scale subsistence level hunting and trade at the local level, and this should be clarified. Many informal (unmonitored, untaxed and frequently illegal) markets	Thank you for this suggestion. The term "illegal practices" is defined in the Glossary as "Illegal is defined in the context of this assessment when it violates laws and regulations."
1150	Trocchi, Valter	3	333	11122	333	11124	In Europe after the Second World War the ungulates that have had a strong increase (Apollonio et al., 2010; Perco F., 2020), also following numerous reintroduction projects. The spread of ungulates in Europe is at the origin of the recent wolf range	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
1151	Bercovitch, Fred	3	333	11125	333	11127	The Conclusion in 3.6.1.5 undermines the entire Chapter because it is based upon an opinion and not on fact. The statement that "...trophy hunting seems to be a good trade-off between wild species exploitation and biodiversity management" is shocking in	Thank you for suggested change. We have thoroughly revised the section in the new version. in the final version.
1152	Lerambert, Adeline	3	333	11125	333	11126	'Well managed' is the exception rather than the rule. Rework: '...however, some trophy hunting can be...'	Thank you for suggested change of wording. We have rephrasedd the sentence accordingly.
1153	Miketa, Madison	3	333	11125	333	11127	If trophy hunting is "the subject of intense debate," then I don't think it's accurate to also say that "trophy hunting seems to be a good trade-off." Acknowledging that trophy hunting is intensely debated also signifies that it may not be a good trade-off,	Thank you for suggested change of wording. We have rephrasedd the sentence accordingly.
1154	Miketa, Madison	3	333	11125	333	11127	If trophy hunting is "the subject of intense debate," then I don't think it's accurate to also say that "trophy hunting seems to be a good trade-off." Acknowledging that trophy hunting is intensely debated also signifies that it may not be a good trade-off,	Thank you for suggested change of wording. We have rephrasedd the sentence accordingly.
1155	Orenstein, Ronald	3	333	11125	333	11126	If trophy hunting is the subject of intense debate, as you say, it is not accurate to say that it seems to be a good trade-off. That is taking sides in the debate. I would add "according to its advocates".	Thank you for suggested change of wording. We have rephrasedd the sentence accordingly.
1156	Svizzero, Serge	3	333	11125	333	11127	unclear punctuation in this sentence,	Thank you for suggested change. We have rephrasedd the sentence accordingly.
1157	Lerambert, Adeline	3	333	11126	333	11127	Unclear - what trade off is being exemplified here? Perhaps for clarity better worded as: '...biodiversity conservation' as opposed to 'biodiversity management'	Thank you for suggested change of wording. We have rephrasedd the sentence accordingly.
1158	Webb, Grahame	3	332	11127			Hunting becomes unsustainable when it causes species abundance on a trajectory of ongoing decline.	Thank you for this suggested change. We have included it in the new version.
1159	Bercovitch, Fred	3	333	11127	333	11127	The statement "Unsustainable hunting is a key factor in driving some species to declines" has been pointed out multiple times in my comments and is a primary reason for doubting whether trophy hunting is 'sustainable'. Once a species has entered the	Thank you for suggested change. We have thoroughly revised the section in the new version. in the final version.
1160	Kristina, Rodina	3	333	11127	333	1127	Supporting numbers can be added. See from Coad 2019 report: Nearly 20% of the IUCN Red List's threatened and near threatened species are directly threatened by hunting (Maxwell et al. 2016),	Thank you for this suggested change. We have included Coad et al. (2019) Report reference in the new version.
1161	Kenward, Robert	3		11128		11128	It is surprising that this section starts with the "challenge" of "destructive" woodcarving (which at least in the case of quality sculpture results in carbon sequestration) rather than e.g. commercial felling of rainforests!	Thank you for your comment. The full section was improved and we feel that your comment was addressed.
1162	Germany	3	333	11142	333	11146	It is true that methods for documenting species identity and origin are widely unavailable or insufficient. However, there are increasing research efforts in Germany to develop respective methods to identify species and their origin based on DNA	Thank you for this suggested change. We have included it in the new version.
1163	Laze, Kuenda	3	333	11142	333	11146	There is an advanced technology used for money banknote production and verification that makes very hard money banknote reproduction. Technology can easily help in this. Patents in Progress: How optics enlighten our lives:	Thank you suggestion. We could not find the page.

1164	Webb, Grahame	3	333	11148			In the context of sustainably utilising nature for economic and other benefits, nature tourism has created a growing demand ....	Thank you for suggested change. We have rephrasedd the sentence accordingly.
1165	Webb, Grahame	3	333	11152			Comma after intelligence.	Thank you for suggested change. We have corrected the sentence in the final version.
1166	Laze, Kuenda	3	334	11156	334	11162	Applied science /Innovation could be added.	We cannot add additional text to the chapter due to word length restrictions.
1167	Webb, Grahame	3	334	11157	335	11196	It could be argued strongly, from a science perspective, that a key, future research priority has to be to vastly increase the knowledge base on the ways in which wildlife populations actually respond to harvests. This is poorly understood with many species	Thank you for your comment. The positive feedback is greatly appreciated by chapter authors. We have included suggested text in the chapter; however, information on references are incomplete.
1168	Svizzero, Serge	3	334	11164	334	11170	In this paragraph, everything is about fisheries while there are also research priorities about hunting, gathering (...); for instance, to which extent the practice of urban foraging could be used in order to inform/sensibilise people about the conservation of wild species	Thank you for this suggestion. The examples given are only a few representatives. Also we can't add more text and reference due to word length restrictions.
1169	Trocchi, Valter	3	334	11181	334	11184	This need is shared, in particular as regards the protection of the genetic biodiversity of some native or endemic taxa. In Italy, thanks to hunting interest, it was possible to recover the Lepus corsicanus, the Lepus europeus meridiei, the Capreolus capreolus	Thank you for this suggestion. Action Plans and Strategies have been covered in Chapter 6.
1170	Orenstein, Ronald	3	333	11186	333	11190	There should be some consideration of the effect of governance in this section, including corruption, inadequate enforcement of laws and principles etc.	Thank you for this suggestion. Effect of governance has been covered in Chapter 6.
1171	Cardoso, Betina	3	335	11191	335	11196	In 3.6.2.5 Integrating indigenous local knowledge. This paragraph and the references (at the end) could contribute to the discussion: A large number of peasant and indigenous territories in the world are rich in biocultural diversity, and this interrelation between	Thank you for your comment. The positive feedback is greatly appreciated by chapter authors. We have included suggested text in the chapter.
1172	Kenward, Robert	3		14164		14164	14164. The citation as "Lindsey, Peter, Alan, J." does not conform with the more standar "Lindsay, P.A." here and results in an atypical citation as "Peter Alan Lindsay" in the text.	Thank you for your comment. The citation was corrected in the text.
1173	Kenward, Robert	3		139		139	139 "... to habitats (well-established), ecosystem services more broadly, and carbon footprint."	
1174	Kenward, Robert	3		5454		5454	feedback is	This comment is incomplete and therefore cannot be addressed further.
1175	Kenward, Robert	3		5658		5658	5658 delete "of"	Thank you, but this does not make sense with regards to the text so we have disregarded it
1176	Kenward, Robert	3		5835		5835	5835 spelling "discussing"	Thank you for your suggestion. The positive feedback is greatly appreciated by the cahpter authors.
1177	Kenward, Robert	3		6069		6069	6069. Delete "provide"	Thank you for your suggestion. The positive feedback is greatly appreciated by the cahpter authors.
1178	Kenward, Robert	3		6119		6119	6119. "... increasing in certain ..."	Thank you for your suggestion. The positive feedback is greatly appreciated by the cahpter authors.

1179	Kenward, Robert	3		6256		6256	6256 "Legality or illegality of canned hunting [?] often depends ..."	Thank you for your suggestion. The positive feedback is greatly appreciated by the chapter authors.
1180	Kenward, Robert	3		6266		6266	6266. "... more than 20 ..."	Thank you for your suggestion. The positive feedback is greatly appreciated by the chapter authors.
1181	Kenward, Robert	3		6403		6403	6403. "... is known to be low ..."?	Thank you for your suggestion. The positive feedback is greatly appreciated by the chapter authors.
1182	Kenward, Robert	3		6466		6466	6466 insert "falconry" for reasons explained at line 5454.	Thank you, but this does not make sense with regards to the text so we have disregarded it
1183	Kenward, Robert	3		6555		6555	6555 "... it remains insufficient ... more damage" is clearer if written "growth in non-lethal activities is desirable because it has [least impact]/[less impact than hunting] on the [species]/[animals] concerned"?	Thank you for your suggestion. The positive feedback is greatly appreciated by the chapter authors.
1184	Kenward, Robert	3		6573		6573	6573. Spelling "exact"	Thank you for your suggestion. The positive feedback is greatly appreciated by the chapter authors.
1185	Kenward, Robert	3		9509		9509	9509 "beneficiaries of" = "sufferers from"?	Thank you for your suggestion. The positive feedback is greatly appreciated by the chapter authors.
1186	Webb, Grahame	3	30	Box 3.1	32	Box 3.1	This correctly lists "TERRESTRIAL ANIMAL HARVESTING", whereas previously only the term HUNTING was used.	Thank you for this comment.
1187	Webb, Grahame	3	30	Box 3.1	32	Box 3.1	For GATHERING, the extent of harvest as a function of area per country is used. In HARVESTING, so such direct measures are used. Yet fundamental indices are whether the targeted wild population abundance and biomass are "increasing, decreasing or	Thank you for this comment. This is now acknowledged and presented in the discussion of Box 3.1
1188	Costello, Mark	3	50	Fig 3.22			not sure what this is telling us, legend does not provide sufficient explanation.	Thank you for your comment. Legend has been expanded to explain further.
1189	Costello, Mark	3	53	Fig 3.22			not entirely clear what this is an is telling us. The related text is complicated.	Thank you for your comment. The figure caption has been expanded and clarified.
1190	Costello, Mark	3	81	fig 3.25			This shows all stocks have declined and so does not agree with some of the text.	Thank you for your comment. This figure shows catch time series with synchronous oscillations of distant stocks worldwide, with high and low levels catch periods. The authors (Izquierdo-Peña et al. 2019) discuss the issue of
1191	Costello, Mark	3	19	fig 3.7			this does nto support the headline statement in the executive summary that stocks are recovering. Catch is also subsidised and this is not catch per unit effort which may show a decline.	Thanks for this comment, however the figure is not about stock recovery, it is about production. The trend in catch should not be expected to reflect changes in abundance, in well managed regions catch is declining as fishing pressure
1192	Webb, Grahame	3	27	Fig. 3.10			Caption needs to explain more.	Thank you for this comment. Caption of the figure is explained
1193	Webb, Grahame	3	168	Fig. 3.47			Suggest the figure legend is more extensive so can clearly understand what it is saying – and meaning.	Thank you for the comments. Text has been added for clarity of interpretation.

1194	Webb, Grahame	3	177	Fig. 3.48			Legend needs to refer specifically to IUCN Red List, if this is the key source, because the decline itself does not necessarily mean it is threatened. The explanation in the fisheries section (P42 1129-p122 3598) explains. That is, to maximise use, and stimulate a	Thank for your comment, this figure can not be modified as is taken from the literature and reference cited accordingly.
1195	GATHERING	GATHERING	GATHERING	GATHERING	GATHERING	GATHERING	GATHERING	GATHERING
1196	HUNTING	HUNTING	HUNTING	HUNTING	HUNTING	HUNTING	Terrestrial Animal Harvesting	HUNTING
1197	LOGGING	LOGGING	LOGGING	LOGGING	LOGGING	LOGGING	LOGGING	LOGGING
1198	Webb, Grahame	3	9	Table 3.1	10	Table 3.1	There is no category for "harvesting". With reptiles harvesting may not be for food or pets (??), but for economic exchange so people can buy food or pets. Varanids, pythons, crocodiles are all good examples where uses are sustainable. CITES should be a	Thank you for this suggestion. International trade is addressed as a driver in chapter 4
1199	Costello, Mark	3	178	table 3.12			throughout I suggest limit % to whole % (22% not 21.6%) to make more readable and concise, and the decimal places may also give a false sense of accuracy.	Thanks for the comment. The text has been updated accordingly.
1200	Aebischer, Nicholas	3	195	Table 3.14, UK row	195	Table 3.14, UK row	Mensah & Eloffsson (2017) is not the primary reference for the UK, so is not an appropriate reference to give for UK. Instead, give a reference to the most recent work on the subject, which is PACEC (2014. The Value of Shooting: The Economic, Environmental and	Thank you for your comment, we chose to keep the reference that was found at the time of the literature review.
1201	Costello, Mark	3	4				Much of the Exec Summary is very good material. But it is rather long and should aim to be one page or at most 2, not 4.	Thank you for your comment. This was improved in the final version of the assessment but as the chapter is quite long, the executive is also longer than for other chapters.
1202	Webb, Grahame	3	6				It seems reasonable to establish that "subsistence use" is a critical bottom line. But for most Indigenous people 100% subsistence is no longer possible and importation makes up the difference (which costs money). Increasing subsistence from	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. We cannot add additional text to the chapter due to word length restrictions. As this is another example to support a point already made,
1203	Costello, Mark	3	9				Geat summary of information in the Table, thank you. Major omissions are the Sea Around US Project fishery databases and FishBase (for species information) which are cited later, so why not here?	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. These sources are detailed in the fishing section (3.3.1)
1204	Guillemain, Matthieu	3	9				The content of cell "Number of sp used"/"Hunting" is unclear: 187 wild animals but 4500 birds?	Thanks for this suggestion. This has been corrected in table 3.1
1205	Guillemain, Matthieu	3	9				The content of cell "Number of sp used"/"Hunting" is unclear: 187 wild animals but 4500 birds?	repeated
1206	Burgess, Neil	3	13				Unclear why the use of the figure showing the distribution of the data and not the use of the figure from the paper showing what the trends in used and unused species is. The paper has been worked on and should be published this year and more graphics	Thank you for this suggestion. We preferred to show data sources here and trends will come up later. As far as the new paper we have chosen not to include it in the assessment, as literature cited is upto 2020
1207	China	3	13		13		supplementary materials- Change "Hong Kong" to "Hong Kong, SAR of China"	Thanks for this suggested change. We have included it in the new version.
1208	Costello, Mark	3	13				the information in pages 12 and 13 is impressive and useful. Well done.	Thank you for this comment. Positive comments are very much appreciated

1209	China	3	18		18	supplementary materials - Change "Taiwan" to "Taiwan, Province of China"	Thank you for your comment. This was updated in the final version of chapter 3.
1210	Costello, Mark	3	18			the limitation of this section to FAO and exclusion of peer reviewed literature and other sources (notably SAUP) undermines the credibility of this section. These only represent selected data reported by countries to FAO and exclude most fished species	Thank you for your comment. The FAO landings data are the global standard, the SAUP data are the product of a small research team and is not widely accepted. There is almost no difference in estimates of fish landings between the FAO
1211	Kershaw, Francine	3	24		25	While the list of indicators includes one related to genetic resources (#9 in Table 2; "Indicator 2.5.1. Number of plant and animal genetic resources for food and agriculture secured in either medium or long-term conservation facilities (wild sp.)"), the lack of	Thank you for your comment. We agree that genetic information is an important component of biodiversity assessment. However, this assessment is on the sustainable use of wild species and thus focuses on the use of the
1212	Burgess, Neil	3	25			Amending the above comment for page 13 - I can see the graphic is included here. As above, I would advise contacting Louise McRea to access the latest versions in the paper to be published soon Louise McRae <Louise.Mcrae@ioz.ac.uk>	Thank you for this comment, However we can not add papers that were not published yet.
1213	Costello, Mark	3	31			Lots of good peer reviewed literature cited here. Why not in fishery section? Are FAO data and reports independently peer reviewed? IF not they are "grey literature" and should not be prioritised over peer reviewed studies.	Thanks for this comment. We now moved a paragraph from the small-scale fisheries section to this section, which provides overviews on catches and contributions of coastal and freshwater small-scale fisheries based on peer-reviewed
1214	Malsch, Kelly	3	31			For indicators - see also proposed indicators for Post-2020 Global Biodiversity Framework: <a href="https://www.cbd.int/doc/c/a6d3/3108/88518eab9c9d12b1c418398d/sbsta-24-inf-16-en.pdf">https://www.cbd.int/doc/c/a6d3/3108/88518eab9c9d12b1c418398d/sbsta-24-inf-16-en.pdf</a>	Thank you for suggesting this reference. The reference is now included.
1215	Costello, Mark	3	43		44	the wording of these legal history suggests that these agreements actually work. For example the Code of Conduct on responsible fisheries does not "minimising fishery impacts" by itself; it only advises countries and industry how to do so. Please word	Thank you for your comment. The text explaining the code of conduct has been revised to state that it "calls for the sustainable use of aquatic ecosystems and promotes the conservation of biodiversity of ecosystems by minimizing
1216	Vadrot, Alice	3	43		50	Interesting work that may be relevant to understand failures in fishery management  Webster, D.G. 2015. Beyond the Tragedy: Evolution and Sustainability in Global	Thank you for your comment. The section reviewing causes of ineffective fisheries management includes more current publications that provide similar conclusions as proposed in the two recommended publications. We have not cited these
1217	Vadrot, Alice	3	43		50	Maybe also add reference to ongoing negotiations for a new treaty for the protection and sustainable use of marine biodiversity beyond national jurisdiction. Important paper here: Crespo, G.O., Dunn, D.C., Gianni, M. et al. High-seas fish biodiversity is slipping	Thank you for your comment. The ABNJ treaty negotiations is not directly relevant to the content in this section.
1218	Costello, Mark	3	54			excellent text here citing primary peer reviewed literature. It seems prior sections were written by different people and not integrated.	Thanks for your comment. Yes, the sections on large and small-scale fisheries were written by different experts, considering these are two different fisheries systems. We made some efforts to better integrate these sections.
1219	Costello, Mark	3	57			I applaud this review. But should it not be first published in a peer reviewed journal before being assessed by IPBES?	Thank you for your comment. However this review was made for the purposes of the assessment. The authors will try to publish it later on, as a follow up to the release of the assessment.
1220	Costello, Mark	3	65			The text could be usefully reduced here and elsewhere by not telling what it did not do or cover, and just focus on what it can tell us.	Thank you for your comment. We made some editing to reduce the text on this direction and moved considerations of what the review could not cover to the knowledge gaps section.
1221	Costello, Mark	3	67			These regional sections are rather tedious and full of lengthy reference citations. Could they be summarised in a table, and the references numbered?	Thank you for your comment. Please note that such large table summarizing all studies already exists, it is the Supplementary Material Table S3.1, which is in the Supplementary Material and is cited throughout the text, but
1222	Burgess, Neil	3	72			In this general area the text on fisheries is really quite long	Thank you for your comment. We are not sure to which area the reviewer refers, but we shortened the section 3.2.0.2. 3.2.0.2 The role of indigenous and local knowledge in small-scale fisheries from 1610 to 1392 words. However, please
1223	Costello, Mark	3	74			What about whale hunting in Iceland and Norway? Should box 3.3 be cited here	Thank you for your comment. Box 3.3 is about Indigenous whaling. The final sentence does mention Faroese whalers, and the text has been revised to state that the Faroese are not Indigenous.

1224	Costello, Mark	3	86			87	Figure needs a lot more explanation.	Thank you for your comment. Some details were added to the figure caption
1225	Costello, Mark	3	88				SAUP is now cited here but strangely not previously. The text consists of saying what study by study said without any integration, synthesis or critical assessment. There is a huge literature on fisheries and no need to repeat it here. Instead critically	Thank you for your comment. The authors are aware that an integration of papers published worldwide should be better than the use of integrative papers. Within this fisheries section, this could be done for small scale fisheries. We
1226	Costello, Mark	3	88				another sentence making excuses for lack of data - there is sufficient literature on these fleets and papers to make a critical assessment	Thank you for your comment. The authors are aware that an integration of papers published worldwide should be better than the use of integrative papers. Within this fisheries section, this could be done for small scale fisheries. We
1227	Costello, Mark	3	91				Nice summary in this Box. Pity more the the text was not like this.	Thanks a lot for your comment.
1228	Vaglica, Valentina	3	130				citations need to be formatted. Different style are used.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
1229	Vaglica, Valentina	3	130				suggesting the use of "common name" instead of 'name' in table 3.8.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
1230	Vaglica, Valentina	3	131				table 3.8. Number of listed species. I assume the + refers to the number of species listed in App II when species are listed both in App I and II; some groups, such as cacti, are listed in both appendices but there is no +.	Thanks for this comments, the number refers to species in the taxa, we therefore revise the table to make it clear.
1231	Vaglica, Valentina	3	133				many parties to CITES set annual quotas. Export quotas for Turkey and Georgia are now obsolete. Suggesting to check Species+ for the latest published annual quotes. Quotes are also applied to a large number of species, not only to Galanthus.	Thank you for your comment. The feedback is greatly appreciated by the chapter authors. We provide the source and date of accessing the data.
1232	Guillemain, Matthieu	3	178				The Danish data seems odd: cattle and pigs are not hunted wild animals, and Danish people do not eat 88kg wild meat per year, right?	Thank you for your comment. This is corrected accordingly
1233	Louette, Michel	3	186		201		Negative impact of some aspects of recreational hunting: Pringle, H., Wilson, M., Calladine, J. & Siriwardena, G.M. 2019. Associations between gamebird releases and general predators. <i>Journal of Applied Ecology</i> . 56 (8). doi - 10.1111/1365-	Thank you for your comment. We have corrected the text accordingly.
1234	Guillemain, Matthieu	3	187				Table 3.13. not totally found of this table, which may let the reader believe that any harvest of these exemplified species is sustainable. Clearly not the case for all long-lived mammals, or even for some waterfowl for exemple... There are success	Thank you for your comment. This was modified and the table was renamed "Examples of populations of wild mammals that have recovered in areas where hunting management is in place even though global trends may be
1235	Guillemain, Matthieu	3	194				Table 3.14. There seems to be several errors in this table. For example, 150-200 hunters in France??? The number is estimated to be 1 million. Russia: twice as many people employed than the actual number of hunters? Canada: more than 50 000 hunters:	Thank you for your comment. While we recognize that the estimation is low, these were the numbers retrieved from literature at the time.
1236	Guillemain, Matthieu	3	195				Table 3.15: again, very strange values: the cost of the trophy, for example, seems to be per trophy in the US (2659\$) but at national scale in Finland (85 million Euros). The number of trophies per country is also not on the same scale (6 millions in the US, 9-12	Thank you for your comment. These were the numbers retrieved from literature at the time and there is indeed a strong disparity between what is reported.
1237	Guillemain, Matthieu	3	197				Table 3.16: again, very strange figures here. I doubt that most commercial market for US Deer is international trade; this time it is 429 000 red deers for Germany (compare with previous table)	Thanks for the comment. This table has been deleted.
1238	Guillemain, Matthieu	3	199				Is it really illegal everywhere?	Thank you for the comment. The text provides examples of the legal practice of canned hunting. In addition, the legislation of many countries does not regulate it in any way. Only the most odious forms of canned hunting are banned,

1239	Guillemain, Matthieu	3	201				How can you can-hunt a bird?	Thank you for your comment. Added: "Birds, such as pheasants and ducks, are reared in pens and hand-fed until they are released just before the hunt begins" (Phelps, N. Canned hunts. In: The Global Guide to Animal Protection,
1240	Cedergren, Jonas	3	213				What is artisanal harvesting methods. Also, please define the other technology levels that you use	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors. We have included your suggestion within the new version
1241	Cedergren, Jonas	3	216				The introductory part on forestry is totally unreadable. It needs to be rewritten in its entirety by somebody with knowledge about forestry	Thank you for your concern for clarity in the text. We agree that the text should be accessible to a range of stakeholders.
1242	Cedergren, Jonas	3	224				Too much attention to reduced impact logging. It has rarely been practiced as prescribed by donor agencies. You do not mention that the normal logging practices vary quite a bit between continents, logging rates and staff involved. I have seen logging	Thank you for making this point. It does not seem to require changes to the text. through the typology, we believe that the differences of logging based on scales are reflected. Various case studies are also referred to to show the differences in
1243	Cedergren, Jonas	3	224				I am a bit surprised that the FAO working paper "Rethinking forest concessions seems not to have been referred to in its final form, but rather in the draft form.	Thank you for this comment. The text referring to forest concessions has been changed.
1244	Cedergren, Jonas	3	234				Silvicultural practioeces of examples quoted are not explained, and they are the technical keys to sustainability.; Simply stating volumes harvested is not enough.	Thank you for this comment. The section has been re-written.
1245	Cedergren, Jonas	3	252				It would be interesting to have major concessionaires mentioned. What sort of companies are engaged in this kind of forestry? I believe many readers would like to know that.	Thank you for this comment. The section has been re-written.
1246	Guillemain, Matthieu	3	291				Table 3.22: line on Cranes: exact term is sandhill cranes, for North America. But this species does not occur in Germany (where it is Common crane instead)	Thanks for this suggested change. We have amended the text to reflect the correction.
1247	Malsch, Kelly	3	326		327		In order to know whether use/trade is sustainable, information on the population status (at national/global levels) would be needed in order to know what level of trade is sustainable. This basic knowledge gap, seems to be missing from the list. It is touched	Thank you for your comment. The feedback is greatly appreciated by the chapter authors.
1248	Malsch, Kelly	3	180-181				It's unclear what "CITES, 2012" is referring to - I can't find it in the reference list.	Thank you for your comment. The references was completed and finalised for the last version of the chapter 3.
1249	Costello, Mark	3	Contents				Goes to too many levels of detail. Need to bring to one or at most two pages.	Thank you. We follow IPBES structure and format.
1250	Butchart, Stuart	3	General				BirdLife International, IUCN, Traffic, UNEP-WCMC and Cambridge University are currently undertaking a CCI-funded "Quantitative global review of the bird trade" <a href="https://www.cambridgeconservation.org/cci-collaborative-fund-for-">https://www.cambridgeconservation.org/cci-collaborative-fund-for-</a>	Thank you for your suggestion. Trade issue as driver has been discussed in detail in CH4, please refer to CH4.
1251	Butchart, Stuart	3	General				The title of this chapter refers to "implications for wild species" but nowhere in the chapter is there an overall summary of how sustainable use (in all its forms) of species (in all groups) is. The most comprehensive indicator available for measuring the	Thank you for this comment. IUCN Red List is described as data source
1252	Rosenberg, Andrew	3	General				this chapter says nothing about climate change affecting status and trends. That needs explanation	Climate change affecting status and trends is covered in CH4, for details see Ch4).
1253	Mahoney, Shane	3	References				Mahoney, Shane P. & Geist, Valerius (Eds.). (2019). The North American Model of Wildlife Conservation. Johns Hopkins University Press. This volume not only describes many of the wildlife rescues and	Thank you for this suggestion. The recommended book was not available in the websearch.

1254	Baumflek, Michelle	3	Section on Energy				This section on Energy is well organized and well written.	Thank you for your suggestion. The positive feedback is greatly appreciated by the chapter authors.
1255	Baumflek, Michelle	3	Sections 3.1 and 3.2				The introductory materials on Gathering in Sections 3.1 and 3.2 for this chapter are well thought out and easy for a reader to understand. The authors have done a commendable job of highlighting some of the main lessons, providing key data	Thank you for your suggestion. The positive feedback is greatly appreciated by the chapter authors.
1256	Baumflek, Michelle	3	Subsection on Handicrafts				This subsection on Handicrafts would benefit from an introductory paragraph or two on the use of plants as handicrafts in many places/cultures before moving into the specific example of golden grass. Similar to my comment in the Natural Cloth and dyes- as a	Thank you for the suggestion. The systematic literature review provides us a few cases about the sustainable use of plants for handicrafts by gathering. It is very hard for us make some general statement.
1257	Baumflek, Michelle	3	Subsection on Handicrafts				Is basketry considered a handicraft here? If so, important to highlight the importance to Indigenous peoples around the world. In a North American context, access to basketry materials is an issue of main concern for Tribes and First Nations. It is a source	Thank you for the suggestion. We have included the case in the new version.